



College
of Medicine
& Medical
Sciences

CMMS



جامعة الخليج العربي
Arabian Gulf University

College of Medicine and Medical Sciences

Bibliography, Abstracts and Citations of Articles Published in Peer-Reviewed Journals

2012-2016

Volume III

**Arabian Gulf University
College of Medicine and Medical Sciences**

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Preface

Since the establishment of the College of Medicine and Medical Sciences at the Arabian Gulf University in 1982, the university has fostered basic and applied research that responds to priority health needs in the Gulf Cooperation Council (GCC) countries. This has been at the core of the university's mission and goals. In this context, and as part of College's promotion and advancement of health research in the region, the College has published every five years, since 2002, a bibliography of the publications of full-time faculty members. This book is the third publication in this series covering the period from 2012 to 2016. Published papers cover a wide range of topics from basic sciences, clinical medicine and medical education, and are in line with the research needs of the region. These papers were published in local, regional and international journals. It is gratifying that many of the publications are in renowned journals having wide readership and high impact factors. Special acknowledgement is due to Professor Randah Hamadeh, Vice Dean, Graduate Studies and Research for her meticulous efforts in the compilation this volume. I also extend, with pride, my congratulations to all my colleagues at the College of Medicine and Medical Sciences, whose research efforts are reflected in this publication.

Dr. Khaled S. Tabbara

Acting Dean, College of Medicine and Medical Sciences
Arabian Gulf University

December 31, 2017

Introduction

It is my pleasure to introduce the third volume of the College of Medicine and Medical Sciences (CMMS) publication series entitled “Bibliography, Abstracts and Citations of Articles Published in Peer Reviewed Journals” by CMMS fulltime faculty members for the period from 1st January 2012 to 31st December 2016. The first two volumes were published in 2007 and 2013 covering the years 2000-2011. These publications affirm the value that the Arabian Gulf University (AGU) leadership and CMMS faculty members have to excellence in research and its importance in academia. The scientific research accomplishments of the College should be perceived in the context of the relatively small number of fulltime faculty members, whose average was 50 during these years. Yet they have managed to publish papers and books locally, regionally and internationally with the majority of the publications in journals indexed in internationally recognized data bases like Medline, Scopus and Embase with high impact factors.

The bibliography excludes publications from part-time faculty members. Thus, the current list of articles is an underestimate of the publications of the College. The five-year publications are cited according to the Vancouver Style and are alphabetically arranged by first authors' names with CMMS authors shown in bold. The citation is followed by a website link and an abstract when available. The bibliography also includes books and book chapters and an alphabetical index with CMMS authors and the corresponding page numbers of their publications as well as an index for their affiliated departments.

It is aspired that researchers in the region and globally will benefit from this publication in their future research and that further collaborations emerge with CMMS researchers in topics of mutual interest.

The bibliography will be available in hard copy and online at the AGU website with links to citation sources.

Professor Randah Ribhi Hamadeh

Vice Dean for Graduate Studies and Research
College of Medicine and Medical Sciences
Arabian Gulf University

December 30, 2017

Acknowledgements

I would like to express my sincere gratitude to all the current and former CMMS fulltime faculty members who contributed to this scientific publication. The help provided by Dr. Huda Omran is appreciated. Special thanks go to Mr. Amer Shareef for his secretarial assistance.

Authors Bibliographical Citations and Abstracts
(CMMS, AGU fulltime faculty authors are in bold)

Author/s	Abdeen ZA, Jadallah AS, Al-Qahtani MH, Albashbishi HA, Hamadeh RR.
Title	Sleeping patterns among Arabian Gulf University medical students.
Journal	Arab Gulf Journal of Scientific Research. 2013; 31(1): 53-58.
Available at	http://connection.ebscohost.com/c/articles/110604595/sleeping-patterns-among-arabian-gulf-university-medical-students

ABSTRACT

Introduction: Good sleeping patterns have a positive effect on students' performance and their mental and physical abilities. However, some students do not give themselves the proper rest with many not getting the proper eight hours of sleep at night. A recent study on the Arabian Gulf University (AGU) pre-clerkship medical students indicated that they had insufficient hours of sleep and late sleeping hours. The aim of this study was to provide baseline data of all AGU medical students' sleeping patterns. Methods: A 50% sample of students registered during the academic year 2009-2010 was chosen proportional to medical year, gender and nationality by multistage stratified sampling technique. A self-administered questionnaire designed for the purpose of this study was used. Results: The study Results indicate that AGU medical students' sleeping patterns are not good as 42% of the students viewed their sleeping quality as "good", and their sleeping hours are suboptimal. The majority (75%) of the students reported that their sleep is affected particularly by examination and assignments. over one fourth of the students attended AGU or AGU related outside activities without sleeping at night for at least once per week , with year 4 students having the highest proportion. Conclusion: The Results of this study indicate that AGU medical students do not adopt a good sleeping pattern. Intervention for improving these habits would be mainly through The Student Affairs Office, Counseling Unit and advisory system. Emphasis on good sleeping habits and time management should start during the orientation week for year 1 and throughout the year for year 4 medical students.

Author/s	Abduljabbar D, Faqih F, A-Mahmeed M, Al-Sayed N, Alnasir F.
Title	Types and risk factors of cervical cancer.
Journal	Bahrain Medical Bulletin. 2014; 36(2): 94-96.
Available at	http://www.bahrainmedicalbulletin.com/june_2014/Types_Risk.pdf

ABSTRACT

Objective: To determine the types of cervical cancer and risk factors among women and the possible relationship between the risk factors and each specific type of cervical cancer. Setting: Salmaniya Medical Center, Bahrain. Design: A Retrospective, Descriptive Cross-Sectional Study. Method: All patients who were diagnosed with cervical cancer by positive cytology test during 2006 to 2010 were included. Data were collected from the patients' record and from various investigation reports using a predefined questionnaire. Result: The total number of women with cervical cancer from 2006 to 2010 was 34. The highest prevalence rate was in 2006 (4 per 100,000), age ranged from 31 to 84 years; 25 (74 %) were Bahrainis. Nineteen (56%) had squamous cell carcinoma and 11 (32%) had adenocarcinoma including one case of adenosquamous carcinoma. Thirteen (38.2%) patients with squamous cell carcinoma were older than 50 years. Six (17.6%) patients with adenocarcinoma and adenosquamous carcinoma were younger than 50 years. Conclusion: There is a low but rising prevalence of cervical cancer in Bahrain (from 0.6 to 4 per 100,000) from 2006 to 2010. It is recommended that attending physicians should take proper detailed history from all cancer cases that include all possible risk factors. Since half of the sample population were found to have positive family history of any cancer, screening of the first-degree relatives for cervical cancer is important. A future study with a larger sample and a control group is recommended to be carried out to establish causality between cervical cancer and their possible risk factors.

Author/s	Abdulla MH, Bakhiet M , Lejon V, Andersson J, McKerrow J, Al-Obeed O, Harris RA.
Title	TLTF in cerebrospinal fluid for detection and staging of T. b. gambiense infection.
Journal	PLoS One. 2013; 8(11):e79281.
Available at	http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0079281&type=printable

ABSTRACT

Background: Trypanosome-derived lymphocyte triggering factor (TLTF) is a molecule released by African trypanosomes that interacts with the host immune system, Resulting in increased levels of IFN- γ production. Methodology/Principal findings: TLTF and anti-TLTF antibodies were assessed in sera and cerebrospinal fluid (CSF) from patients infected with *Trypanosoma brucei gambiense* (T. b. gambiense) in an attempt to identify alternative markers for diagnosis and stage determination of human African trypanosomiasis or sleeping sickness. Seventy-four serum and sixty-one CSF samples from patients with parasitologically confirmed infection and known disease stage along with 13 sera and CSF from uninfected controls were tested. In serum the levels of anti-TLTF antibodies were unrelated to the disease stage. In contrast, levels of anti-TLTF antibodies in CSF were higher in intermediate/late stages than in early stage disease patients. Specificity of the detected antibodies was assessed by inhibition of TLTF bioactivity as represented by its ability to induce IFN- γ production. Additionally, TLTF was detected in CSF from late stage patients by Western blotting with the anti-TLTF specific monoclonal antibody MO3. Conclusion/ Significance: These findings suggest a new possibility for disease diagnosis with focus on involvement of the CNS through detection of TLTF and anti-TLTF antibodies in the CSF.

Author/s	Abdul-Razzak KK, Abu-Taleb AA , Al-Husban A, Kufoof LT.
Title	Nutrition education and osteoporosis risk factors in early decades of life.
Journal	American Journal of Educational Research. 2013; 1(3):63-67.
Available at	http://pubs.sciepub.com/education/1/3/1/

ABSTRACT

Objective: To examine the effectiveness of nutrition course on dairy products, fruits and vegetables frequency consumption in university female students. Method: A total of 152 pharmacy students who were enrolled in a course of nutrition at the school of pharmacy involved in the study. Frequency consumption of dairy products, fruits and vegetable were collected and analyzed before and after the course of nutrition. Results: After the course of nutrition, a statistically significant ($P < 0.05$) increase in consumption for milk, dairy products, fruits and vegetable was found. Conclusion: Class-based nutrition education can be an effective strategy to motivate young adult toward dietary behaviors modification to maximize bone peak bone mass and in turn reduces the risk of osteoporosis.

Author/s	Abdul Razzak R.
Title	A preliminary study on the trail-making test in Arabic-English bilingual young adults.
Journal	Applied Neuropsychology. 2013; 20(1): 53-60.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/23373685

ABSTRACT

The Trail-Making Test (TMT) is used in different neuropsychological test batteries. It consists of two parts: TMT-Part A, which tests visual scanning and psychomotor speed, and TMT-Part B, which assesses more complex cognitive processes. TMT normative data have been established in many non-Arab countries either using the original English version or a version developed with the native language. The aim of this study was to compare TMT performance between the English TMT and a constructed Arabic TMT in young Arabic-English bilingual college students from three Arabian Gulf states. Scores from 83 participants who took the English TMT and 52 who took the Arabic TMT were included. Arabic TMT (both parts) scores were significantly poorer compared with English TMT scores. Arabic TMT scores were also poorer than were other norms for this age group and education level, but they were better than those reported from another study using the Arabic TMT. Moreover, there were nonsignificant differences in performance between participants from these three countries; however, these findings are inconclusive as sample sizes were small. These findings suggest that Arabic TMT norms cannot be unified for all Arabic countries, and separate Arabic TMT norms including all age groups and education levels must be established for each Arabic country.

Author/s	Abdul Razzak R.
Title	Asymmetric rod and frame effect on the computerized rod and frame test under time pressure.
Journal	International Journal of Brain and Cognitive Sciences. 2013; 2(3): 45-50.
Available at	http://article.sapub.org/10.5923.j.ijbcs.20130203.02.html

ABSTRACT

This study tested the effects of perceived time pressure on subjective visual vertical (SVV) perception in college healthy male students. Delayed down-weighting of inaccurate visual cues has been implicated in age-induced overreliance on visual information, which may be disruptive for postural control. Accordingly, I hypothesized that under time pressure, participants may not have enough time to downgrade the distracting visual input from the tilted frame and display larger rod-and-frame effects (RFE) on a computerized rod and frame test (CRAF), with a virtual line of two endpoints and a precision of 0.5°. All participants were right handed, with 31 in the normal time (NT) and 29 in the time pressure (TP) experimental conditions. Results showed that the feeling of acting under time pressure induced rightward SVV adjustments (counter clockwise (CCW) SVV estimates) in the nontilted frame context and an increased rod and frame effect (RFE), but only significantly with a right tilt of the frame. This indicates an increased tendency for CCW SVV estimates and marked asymmetries in the magnitude of the frame effects for left and right frame tilt under time pressure. In view of these findings I believe that quick actions may provoke abnormal weighting of cues mediating verticality perception due to an asymmetrical processing of visual information leading to an inefficient integration of sensory information in brain areas involved in SVV representation under time pressure. These findings may prove significant at a postural level for visually dependent individuals who may need to carry out postural orientation corrections quickly within environments rich with obliquely oriented visual cues.

Author/s	Abdul Razzak R , Bagust J, Docherty S, Hussein W, Hassan Z , Al-Kafaji G , Alotaibi A M.
Title	Apreliminary study on whether HbA1c levels can predict visual dependence for spatial orientation in asymptomatic type 2 diabetic patients.
Journal	International Journal of Diabetes Research. 2016; 5(3): 54-61.
Available at	http://eprints.bournemouth.ac.uk/24445/

ABSTRACT

Introduction: Diabetes-induced vestibular dysfunction has been commonly reported, and asymptomatic patients with type 2 diabetes display higher degrees of perceptual visual dependence for spatial orientation than healthy controls. This study aims to assess whether HbA1c can predict such visual dependence in the diabetic patients. Methods and Materials: Diabetic patients were divided into 2 groups: 22 subjects with “good” (HbA1c < 7%) and 25 with “poor” (HbA1c ≥7%) glycemic control. Otolithic vestibular function was tested using the computerized rod-and-frame test (CRFT) and results for the two diabetic groups were compared to 29 healthy controls. Results: When the frame was tilted, the diabetic group with “good” glycemic control had largest positioning errors, with a significant difference only in comparison to the control group. The “good” glycemic group exhibited larger degree of asymmetry under titled frame condition. Although HbA1c was not associated with vestibular asymmetry in any diabetic group, it was significantly associated with visual dependence in the “good” glycemic group. During frame tilts, 10 diabetic patients had positioning errors above the reference range of 3.3°, 8 of which belonged to the “good” glycemic diabetic group. Conclusions: Diabetes disease processes may affect vestibular symmetry during visuo-vestibular conflicts, even in asymptomatic diabetics within the recommended glycemic range. The weak correlations between HbA1c and CRFT parameters may indicate that HbA1c cannot fully predict visual dependence or asymmetry on the CRFT in patients with diabetes, and different glycemic disorders may affect vestibular dependent spatial orientation in diabetic patients.

Author/s	Abdul Razzak R , Elmteri A, Elkanderi T, Ishaq F, Eljasem M, AlDuraie S, Al-Boloushi J, Elbanay F, Eldabos A.
Title	Preliminary blood pressure screening in a representative sample of extremely obese Kuwaiti adolescents.
Journal	Journal of Obesity. 2013; 20(1):53-60.
Available at	https://www.hindawi.com/journals/job/2013/968754/

ABSTRACT

A relationship between blood pressure (BP) and obesity has been found in young adults, but no data are available for adolescents in Kuwait. 257 adolescent (11-19 years) participants were categorized into two groups according to their BMI; 48 nonobese (21 males: 43.7% and 27 females: 56.3%) with mean age of 15.61 ± 2.40 years and 209 obese (128 males: 61.25% and 81 females: 38.75%) with mean age of 15.02 ± 2.82 years. The mean BMI was 21.7 ± 2.23 kg/m² for the nonobese group and 34.47 ± 4.70 kg/m³ for the obese group. Most BP measures based on a single screening were significantly higher in the obese group. The prevalence of elevated BP was significantly higher in the obese subjects (nonobese: 13%; obese: 63%; $P < 0.0001$). In the obese group, there was a significant positive correlation between total sample BMI and all BP measures except the pulse pressure. There was a similar rate of elevated blood pressure between males and females (64% versus 60%; $P = 0.66$). For both isolated systolic elevated BP and isolated diastolic elevated BP, the prevalences were comparable between the males (systolic: 42%; diastolic: 5%) and females (systolic: 34%; diastolic: 14%). Only systolic BP was positively correlated with BMI in obese adolescent males (Spearman $r = 0.18$; $P < 0.05$), with a significant correlation between BMI with diastolic (Spearman $r = 0.22$; $P < 0.05$) and mean BP (Spearman $r = 0.21$; $P < 0.05$) in females.

Author/s	Abdul Razzak R, Hussein W.
Title	Postural visual dependence in asymptomatic type 2 diabetic patients without peripheral neuropathy during a postural challenging task.
Journal	Journal of Diabetes and its Complications. 2016; 30(3):501-506.
Available at	https://www.sciencedirect.com/science/article/pii/S105687271500505X?via%3Dihub

ABSTRACT

Increasing evidence indicates that diabetes may negatively affect vestibular function, and postural control more so under postural challenging conditions. Healthy and diabetic subjects were compared on visual control of posture during a postural challenging task. Methods: Forty-eight asymptomatic patients with type 2 diabetes free of peripheral neuropathy and 29 age-matched normal subjects were compared on postural stability on a high-density foam block with computerized posturography. Sway parameters were measured and Romberg ratios calculated and compared between the two groups. Results: For subjects who succeeded in maintaining balance, all sway parameters were larger in the diabetics with vision available. With eye closure, only the sway area was almost significantly larger and of greater variability in diabetics, but with a smaller and less variable Romberg ratio. Among the two groups and visual conditions, the tightest anteroposterior-mediolateral (AP-ML) coupling was found in diabetics during eye closure. Differences in anthropometric factors did not influence postural sway. Conclusion: Despite the smaller Romberg ratios in diabetics than controls, findings still suggest greater but masked postural visual dependence in diabetics faced with postural challenging situations due to subclinical vestibular deficits. They also indicate that diabetics may be vulnerable before any clinical signs of peripheral neuropathy arise to falls on unstable surfaces especially in poorly lit areas, and may require to employ other complex postural tactics such as stiffening to maintain their balance.

Author/s	Abdul Razzak R , Bagust J, Docherty S, Hussein W, Al-Otaibi A.
Title	Augmented asymmetrical visual field dependence in asymptomatic diabetics: evidence of subclinical asymmetrical bilateral vestibular dysfunction.
Journal	Journal Diabetes Complications. 2015; 29(1):68-72.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/25301547

ABSTRACT

Background: Diabetes negatively affects the vestibular system in many ways, with vestibular dysfunction (VD), a co-morbidity with a high prevalence in diabetics. Procedures: The ability to perceive subjective visual vertical (SVV), as a sign of vestibular dysfunction, and visual field dependence was measured using a computerized rod and frame test (CRAF). Alignment errors recorded from 47 asymptomatic Type II diabetics (no vertigo or falls, without peripheral neuropathy or retinopathy) were compared to 29 healthy age matched (46-69years) controls. Findings: Visual field dependence was significantly larger and more asymmetrical in the diabetics than controls. In the absence of any visual references, or when a vertical reference frame was provided, SVV perception was accurate in both groups, with no significant difference between the controls and diabetics. During tilted frame presentations, the proportion of subjects with either SVV deviations, or an asymmetry index, larger than an upper limit derived from the control data was significantly greater in diabetics than controls. Conclusion: These Results suggest that the decreased ability to resolve visuo-vestibular conflict in asymptomatic diabetic patients (free of retinopathy and peripheral neuropathy) compared to controls may be related to diabetic complications affecting vestibular structures and thus causing a decompensation of subclinical vestibular asymmetries.

Author/s	Abdulrazzak RL , Bagust J, Dochertyb S, Hasan Z , Irshadc Y, Rabiah A.
Title	Menstrual phase influences gender differences in visual dependence: a study with a computerised rod and frame test.
Journal	Journal of Cognitive Psychology. 2014; 27(1):80-88.
Available at	http://www.tandfonline.com/doi/abs/10.1080/20445911.2014.976227?journalCode=pecp21#preview

ABSTRACT

Previous mechanical Rod and Frame Test (RFT) studies suggested gender and menstrual cycle effects on visual vertical perception with evidence from other studies on spatial tests showing large gender effects in their original form and a decreased gender difference effect on the computerised versions. We investigated whether gender and menstrual cycle effects on visual dependence can be maintained on a computerised version of the RFT (CRFT) in 30 males, 30 females in the follicular phase and 22 females in the midluteal phase. No difference was found between the errors of the male and female groups in the presence of an untilted frame (0° , Frame 0°). With a tilted frame (Frame $\pm 18^\circ$) presentation, males and females in the follicular phase had significantly smaller errors than females in the midluteal phase. These results confirm findings of a male advantage on the RFT and also indicate that menstrual cycle phase does affect gender differences in visual dependence on the CRFT; thus, caution with RFT results is recommended when female subjects are involved.

Author/s	Abu-Hijleh T, Gammoh E, Al-Busaidi AS, Malalla ZH, Madan S, Mahmood N, Almawi WY.
Title	Common variants in the sex hormone-binding globulin (SHBG) gene influence SHBG levels in women with polycystic ovary syndrome.
Journal	Annals of Nutrition and Metabolism. 2016; 68(1):66-74.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26600064

ABSTRACT

Background: Decreased sex hormone-binding globulin (SHBG) levels were associated with polycystic ovary syndrome (PCOS). SHBG polymorphisms associated with reduced SHBG production were tested for their association with PCOS, but with inconclusive Results. We tested whether altered SHBG levels and SHBG variants were associated with PCOS. Methods: The study subjects included 242 women with PCOS and 238 control women. SHBG genotyping was done by real-time PCR. Results: Higher minor allele frequency of rs13894, rs858521 and rs727428 was seen in PCOS cases, and significant differences in rs858521 and rs727428 genotypes distribution were seen between PCOS cases and controls. Multivariate regression analysis confirmed the association of only rs727428 with PCOS. Though it was not statistically significant, serum SHBG levels were reduced according to rs727428 genotypes in PCOS cases than in controls. Carriage of rs727428 minor allele was associated with significant increases in free/bioactive testosterone in PCOS cases. Seven-locus (rs9898876-rs13894-rs858521-rs1799941-rs6257-rs6259-rs727428) haplotype analysis showed increased frequency of GCCGTGA, GTCGTGA and GTCATGG, and reduced frequency of GTCGTGG haplotypes in PCOS cases than in controls, thus conferring disease susceptibility and protective nature to these haplotypes, respectively. Conclusion: Specific SHBG variants affecting serum SHBG levels and SHBG haplotypes are associated with PCOS, suggesting the role for SHBG as PCOS candidate gene.

Author/s	Abulfatih Ali NM, Hamadeh RR.
Title	Improving the accuracy of death certification among secondary care physicians.
Journal	Bahrain Medical Bulletin. 2013; 35(2): 56-59.
Available at	http://www.bahrainmedicalbulletin.com/june_2013/Improving_Accuracy.pdf

ABSTRACT

Objective: To assess the impact of an educational intervention on the accuracy of death certification of secondary healthcare physicians in Bahrain. Setting: Secondary Health Care, Ministry of Health. Design: Interventional study. Method: Twenty-seven secondary healthcare physicians were invited to attend an interactive workshop about death certificate completion. They were asked to complete a death certificate based on a Case-scenario at the start and after the end of the workshop. The errors made by the physicians were compared before and after the intervention. Result: Five (18.5%) physicians had some type of training about death certificate completion and 3 (11.1%) were aware of the death certificate completion guidelines. A highly significant ($p < 0.001$) reduction in errors prior to the intervention and after was revealed, 25 (92.6%) errors versus 11 (40.7%). The most frequent error was listing the mechanism but it markedly dropped to one-third following the workshop. Conclusion: The number of errors has declined after attending the workshop. Training physicians in death certificate completion would improve the accuracy of mortality statistics.

Author/s	Ahmad M, Jairajpuri DS , Aeri V, Jairajpuri ZS, Akhter S, Jain M, Sharma M.
Title	Protective effect of caesalpinia bonducella (Linn.) Seed kernel extract in streptozotocin-induced hyperglycaemia and oxidative damage in Wistar Rats.
Journal	International Journal of Pharmaceutical Sciences and Research 2016; 7(8): 3406-3422.
Available at	http://ijpsr.com/bft-article/protective-effect-of-caesalpinia-bonducella-linn-seed-kernel-extract-in-streptozotocin-induced-hyperglycaemia-and-oxidative-damage-in-wistar-rats/?view=fulltext

ABSTRACT

Evidence implicates hyperglycemia induced oxidative stress as a key factor in the pathogenesis of both microvascular and macrovascular complications in the body. Our main objective behind this study was to explore the beneficial effect of *Caesalpinia bonducella* seed kernel extract on Streptozotocin-induced hyperglycaemia and oxidative damage in rats. Rats were made hyperglycemic by single intravenous injection of Streptozotocin 40mg/kg of body weight. Hyperglycemic rats treated with extract in three different doses of 200, 400 and 600 mg/kg of body weight orally for 21 days shows a significant decrease in blood glucose, HbA1c, free amino groups whereas an increase in serum insulin level, liver glycogen contents with a significant improvement in glucose tolerance. Furthermore, above extract supplementation significantly decreases the pancreatic thiobarbituric acid-reactive substances levels along with an increase in superoxide dismutase, catalase and glutathione contents in pancreatic tissues in treatment groups when compared with control hyperglycemic rats. Treatment with above extract has lessened the severities of degenerative changes in pancreas and also in the liver tissues as compared to that of untreated control rat with hyperglycemia. Our results suggest that the ethanolic extract of *Caesalpinia bonducella* seed kernel improves the antioxidant defense under hyperglycemic condition and also exhibit strong anti-hyperglycaemic effect in dose dependent manner.

Author/s	Ahmed J, Mehraj V, Jeswani GK, Ur Rehman S, Shah SM, Hamadeh R.
Title	Parental and school influences on physical activity levels of high school students in Hyderabad, Pakistan.
Journal	Journal of Ayub Medical College Abbottabad. 2016; 28(1): 110-115.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27323574

ABSTRACT

Background: Childhood physical activity (PA) is an important determinant of health in adults which is influenced by the environment in and outside of home. We aimed to determine the contribution of parental and school factors on student's PA in this study. Methods: This cross sectional study was conducted on students attending public and private schools in Hyderabad, Pakistan. A random sample of 246 girls and 255 boys in grade six to ten were selected from ten schools. The PA was assessed through face to face interviews by using the adapted School Health Action Planning and Evaluation System (SHAPES) questionnaire. Results: 40% of the students either walked to or rode on a cycle to travel to their school and 62% students performed individual exercises after school. They spent 6.2 and 5.3 hours on moderate and hard PA per week. About 57% of the mothers and 47% fathers of the students did some mild to moderate exercise 4 times in the week prior to the interview. Students were physically active if they lived in a nuclear family, had believed they had better athletic ability, participated in sports in and out of school and performed moderate exercises ($p < 0.05$). Conclusion: In Conclusion parental support to PA was significantly associated with students' being physically active both within and outside schools.

Author/s	Ahmed SK, Mahmood N, Malalla ZH, Alsobyani FM, Al-Kiyumi IS, Almawi WY.
Title	C-reactive protein gene variants associated with recurrent pregnancy loss independent of CRP serum levels: a case-control study.
Journal	Gene. 2015; 569(1):136-140.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/?term=C-reactive+protein+gene+variants+associated+with+recurrent+pregnancy+loss+independent+of+CRP+serum+levels%3A+A+case-control+study

ABSTRACT

The aim of this study is to investigate the association of recurrent pregnancy loss (RPL) with altered C-reactive protein (CRP) serum levels, and genetic variation in CRP gene. This was a retrospective case-control study, involving 275 women with three or more consecutive pregnancy losses, and 290 age-matched control women, who were recruited from outpatient obstetrics/gynecology clinics. CRP serum levels (hs-CRP) were determined by latex-enhanced nephelometry, and CRP genotyping was done by allelic discrimination. Mean serum CRP levels were higher in RPL cases than in control women, and carriage of the (minor) T allele of rs2794520 was associated with significant increase in CRP levels ($P=0.017$). Minor allele frequency (MAF) of rs7553007 was significantly different between RPL cases and control women, and was associated with reduced risk of RPL after adjusting for BMI and menarche. There was a significant enrichment of minor allele-carrying genotypes of rs1130864 and rs1417938 SNPs, and reduced frequency of minor allele-carrying genotypes of rs876537, rs2794520, and rs7553007 in RPL cases, thus assigning RPL-susceptible and -protective nature to these genotypes, respectively. Carriage of (minor) T allele of only rs2794520 was associated with significant increase in CRP levels. CRP variants that influenced circulating CRP levels in chronic inflammatory conditions are also associated with RPL, pointing to CRP as RPL candidate gene.

Author/s	Ahmed J, Rehman US, Mughal F.
Title	Assessment of dietary behavior of high school students of an urban setting in Pakistan.
Journal	Int J Health Sci (Qassim). 2016 Oct; 10(4): 548–555.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5085350/pdf/ijhs-10-4-548.pdf

ABSTRACT

Objectives: Exposure to energy dense foods increases the risk of obesity and non communicable disease in adult life. We conducted this study to assess the dietary behavior among class six to ten school students of government and private schools in Pakistan. Methodology: This cross-sectional study was conducted in a sub district of Hyderabad, Pakistan using a questionnaire to measure food frequency by interviewing them through a recall method. A total of 504 male and female students of 6-10 grades were selected by simple random sampling method. Results: We found that 83% children did not bring lunch from home to school and 44% ate at a fast food outlet during the school time. We also found that 31% schools allowed some food chain restaurant to sell fast food to students during recess hours and schools took their students to such restaurants for fun and eating trips for on an average of 1.8±0.8 times a week. More than half of the students ate breakfast and lunch at home less than three times a week. We also found that children ate vegetables and fruit least frequently whereas starch and meat containing foods more frequently and in greater amounts. Conclusions: School children in our sample were exposed to high density fast foods and ate vegetable and fruits less frequently and could access fast foods much easily during school hours. Most did not bring lunch to school. Many schools facilitated the students to be exposed to fast foods by letting fast food companies to operate inside schools or by arranging student trips to the fast food outlets.

Author/s	Al Araibi A, Shirazi A, Alsada H, Salama I, Alamm M, Ali M, Behzad M, Radhi M, Hamadeh RR.
Title	Pre- employment screening of expatriate food handlers.
Journal	Bahrain Medical Bulletin. 2015; 37(3):215.
Available at	http://www.bahrainmedicalbulletin.com/september_2015/AGU-4.pdf

ABSTRACT

Background: In 2010, the total population of the Kingdom of Bahrain was 1.234 million, 54% were expatriates. Since expatriates constitute over half of the population, the importance of screening has increased. All expatriates undergo two sessions of screening, the first in their home country in clinics approved by the Gulf Cooperation Council and the second prior to employment in Bahrain. Various screening tests are performed in Bahrain, including HIV, Hepatitis A, B, and C viruses, Syphilis, and Tuberculosis. Objective: To determine the proportion of false negative screening amongst food handlers. Design: A Cross-Sectional Study. Setting: Al-Razi Health Center, Bahrain. Method: Expatriate food handlers were screened at Al-Razi health center from 1 January to 31 December 2013. A simple random sampling technique was applied. Four hundred ninety-seven medical records were reviewed, and relevant information was abstracted on a specifically designed abstract form. The proportions of positive and negative Results for each test were compared by country and gender. Result: There were no notable demographic discrepancies. However, the majority of food handlers came from India, 171 (34%), males were the majority, 381 (77%). The percentage of false negatives amongst those screened in their home countries compared to the Al-Razi tests was 29 (6.0%). India registered the highest percentage of false negatives, 12 (2.5%). The differences by countries were not statistically significant. Conclusion: The study revealed that false negatives certificates were less than expected.

Author/s	Al-Awadi AM, Sarray S, Arekat MR , Saleh LR, Mahmood N, Almawi WY .
Title	The high-molecular weight multimer form of adiponectin is a useful marker of polycystic ovary syndrome in Bahraini Arab women.
Journal	Clinical Nutrition ESPEN. 2016; 13:e33-e38.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/28531566

ABSTRACT

We tested if decreased total and high molecular weight (HMW)-adiponectin, and altered HMW/total adiponectin ratio (HMWR) constitute reliable markers of polycystic ovary syndrome (PCOS) among Bahraini Arab women. Methods Case-control study involving 122 Bahraini Arab women with PCOS and 89 ethnically-matched control women. PCOS was evaluated according to 2003 Rotterdam criteria. Total and HMW-adiponectin were measured by ELISA. Results Compared to controls, women with PCOS had significantly reduced plasma HMW-adiponectin, and HMWR, more so than total adiponectin. Logistic regression analysis revealed that HMW-adiponectin and HMWR, more than total adiponectin, were negatively associated with PCOS. ROC area-under-the-curve for predicting PCOS were larger for HMW-adiponectin (0.679 ± 0.037), and HMWR (0.653 ± 0.039), than total adiponectin (0.537 ± 0.041). Regression analysis confirmed the association of low HMW-adiponectin and HMWR with PCOS. HMW-adiponectin and HMWR inversely correlated with age, BMI, hirsutism, insulin, HOMA-IR, and positively correlated with serum LDL-cholesterol. Total adiponectin was negatively correlated with waist-hip ratio and serum LH levels. Conclusion Reduction in adiponectin plasma levels is an independent risk factor for PCOS. Changes in HMW-adiponectin serum levels and HMW/total adiponectin ratio are better markers for the presence of PCOS, when compared with total adiponectin.

Author/s	Al Azme A, Shome DK , Salem AH , AlFadhli S, Al Bannay S, Jaradat A .
Title	Thrombomodulin gene proximal promoter polymorphisms in premature acute coronary syndrome patients in Bahrain.
Journal	Blood Coagulation & Fibrinolysis. 2015; 26(8):919-924.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/26226255

ABSTRACT

Thrombomodulin is expressed on endothelial cells and monocytes (mTM) where it has an anticoagulant function. Enzymatic cleavage from the cell surface produces soluble thrombomodulin (sTM) in plasma. Abnormal levels of sTM and mutations in the thrombomodulin gene (THBD) are linked to cardiovascular disease. The aim of this study was to investigate THBD proximal promoter mutations and levels of sTM and mTM in men presenting with premature acute coronary syndrome (ACS). This prospective cross-sectional study included 100 adult men with premature ACS (age <55 years) and 60 healthy age-matched controls. Plasma sTM was assayed by ELISA. mTM expression was assessed by flow cytometry with CD141 antibody. The -33 G/A polymorphism was identified by PCR-restriction fragment length polymorphism analysis and the THBD proximal promoter region was sequenced. Significantly lower sTM ($P < 0.001$) and higher mTM ($P < 0.001$) were seen in ACS patients. Heterozygous THBD promoter polymorphisms -33 G/A and -9/-10 GG/AT were found in eight patients and five control individuals. In patients and control individuals, allele frequencies of A were 0.02 and 0.025, and that of AT were 0.025 and 0.017, respectively. There were no significant associations of these polymorphisms with ACS, sTM levels or mTM expression. THBD polymorphisms -33 G/A and -9/-10 GG/AT are present in low frequency in our patient population, and are more frequent in the South Asians as compared to the Arabs. The frequency of -33 G/A is lower, whereas that of -9/-10 GG/AT is higher than that reported in the Orientals. The presence of THBD proximal promoter polymorphisms do not explain variations in levels of sTM and mTM in this patient population.

Author/s	Al Dallal FH, Grant IN.
Title	Postnatal depression among Bahraini women: prevalence of symptoms and psychosocial risk factors.
Journal	Eastern Mediterranean Health Journal. 2012 May; 18(5):439-445.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Postnatal+depression+among+Bahraini+women%3A+prevalence+of+symptoms+and+psychosocial+risk+factors .

ABSTRACT

The prevalence of postnatal depression in Bahrain is unknown and screening for known risk factors does not take place. This study estimated the prevalence of postnatal depressive symptoms and the associated risk factors among a random sample of Bahraini women attending primary health care centres with their babies for the 8-week child check-up. The Arabic version of the Edinburgh Postnatal Depression Scale (EPDS) was used with a cut-off score of $>$ or $=$ 12 for depression. The prevalence of postnatal depressive symptoms among 237 mothers was 37.1%. No significant relationships were identified between depression symptoms and any of demographic variables or pregnancy/birth characteristics studied. However, several psychosocial risk factors were significantly associated with postnatal depression and, after multiple regression analysis, a history of depressive symptoms and perceived lack of support from the husband remained significant factors. Further studies that include diagnostic assessments are needed to confirm these findings.

Author/s	Aldhufairi F, Almarabheh A.
Title	The psychology of optimism and pessimism on a sample of student in the Applied College in the State of Kuwait
Journal	Egyption Journal of Contemporay Psychology and Human Sciences. 2013; 24:125-161.
Available at	No link available.

ABSTRACT

No abstract available.

Author/s	Alfulaj AR, Alnasir FA.
Title	Type A and B personalities from a psychological perspective among medical students.
Journal	Psycology Research. 2014; 4(7): 559-566.
Available at	https://www.scribd.com/document/342367779/Type-A-Type-B

ABSTRACT

Research in the last two decades has shown that people with Type A personality are astronomically competitive, self-critical of performances, endeavor for perfectionism in their vocations, and strive toward goals in their lives without feeling a sense of bliss. Type A individuals will eventually suffer from cardiovascular diseases and heart attacks at an earlier age compared with those with Type B personality who are more inclined to be genial, relaxed, and internally fixated on their feelings and emotions. The main Objective of this study was to ascertain the prevalence of Type A/B personalities among a first-year students who opt to study medicine. Methods: Seventy-seven year one medical students registered in the Arabian Gulf University, Bahrain during the academic year 2013-2014 were randomly selected to be involved in this study. Students completed a pre-designed questionnaire that included measures for Type A and Type B behaviors by using JAS (the Jenkins Activity Survey). Results: The number of female and male students was 49 (63.6%) and 28 (36.4%) respectively. Their ages ranged between 17 and 20 years with a mean of 17.8 years. Six different Arab nationalities were represented. The study found that the students with Type A personality exceeded those with B (59 (76.6%) vs. 18 (23.4%)). No significant relationship was found between personality type and other demographic characteristics except for a mild significant relationship ($p < 0.053$) with sex with more females having Type A than males. Conclusion: The majority of the studied medical students are of Type A personality betokening that such future careers, such as medicine, require extensive commitment and are opted conventionally by students who have Type A personalities. It was also found that more females have Type A than B personality characteristics, a finding that is contrary to the prevalent understanding of the Arab-Islamic society in the context that Arab women are oppressed and less decisive about their future.

Author/s	Algahtani H, Buraik Y, Dab'baghA.
Title	Psychotherapy in Saudi Arabia: Its history and cultural context.
Journal	Journal of Contemporary Psychotherapy. 2016; DOI 10.1007/s10879-016-9347-2.
Available at	http://link.springer.com/article/10.1007/s10879-016-9347-2

ABSTRACT

The introduction of modern mental healthcare standards and services in the Kingdom of Saudi Arabia (KSA), has resulted in a gradual shift towards a more positive perspective on mental health issues and related services, and has increased the demand for qualified mental health professionals and psychological interventions (WHO 2016). Despite recent advances in mental healthcare services, psychopharmacology remains the main treatment modality for the majority of mental health issues in KSA. Psychotherapy has had a rather slow developmental trajectory in KSA, and its provision requires an understanding of many specific aspects of Saudi culture (Dubovsky 1983). This paper will shed light on the historical development and current challenges of psychiatric and psychological services and the availability of psychotherapy in KSA. By offering an explication of a selection of local social phenomena, this paper will attempt to explain how unique Saudi cultural constructs and social contexts influence the training, perception, and practice of psychotherapy in the country, outlining existing challenges as well as some expected future directions.

Author/s	Algahtani HM, Jahrami HA.
Title	The experience and severity of premenstrual syndrome among a Saudi sample using a newly developed Arabic language scale.
Journal	The Arab Journal of Psychiatry. 2014; 25(1):33-39.
Available at	http://connection.ebscohost.com/c/articles/96738046/experience-severity-premenstrual-syndrome-among-saudi-sample-using-newly-developed-arabic-language-scale

ABSTRACT

Background: Premenstrual Syndrome (PMS) has been described widely in the medical literature with limited reports on its prevalence and severity in the Arabian Gulf region. Method: The present study is a cross-sectional study conducted between 1st July 2013 and 5th August 2013. An Arabic scale was developed according to DSM-IV-TR criteria for PMS with the aim of evaluating PMS experience and severity among a Saudi sample. The scale has 23 items evaluating psychological symptoms, physiological symptoms, and impairment of functioning. The scale was distributed to 350 women in the following cities of Saudi Arabia: Dammam, Dhahran, Safwa, Jeddah, and Riyadh. Only 278 women completed the scale. Result: Cronbach alpha coefficients were greater than 0.8 indicating excellent internal consistency. Convergent and discriminant validity were measured using the cross correlation approach and items defining each domain significantly correlated with each other. The majority of the sample had mild to moderate psychological and physical symptoms with some mild impairment in functioning (mainly daily routine and relationships). Psychological symptoms were more prevalent than physical symptoms, but the difference was not major. Conclusion: Results indicate that 99% of the sample was found to suffer from PMS symptoms with the majority of women experiencing mild symptoms (48.9%). The rates of moderate and severe PMS were 44.6% and 5.6% respectively.

Author/s	Al-Garf AA, Al-Haddad M K , Al-Garf RA.
Title	Family physicians and the need for advanced training in psychological and psychiatric problems in primary health care.
Journal	Journal of the Bahrain Medical Society. 2013; 24(2):83-85.
Available at	No link available

ABSTRACT

The World Health Report 2001 clearly pointed out that mental and neurological conditions cause a significant amount of morbidity globally. It is estimated that 450 million people are affected by mental, neurological and substance-abuse disorders. A large proportion of these people live in developing countries. It is further estimated that the burden of disease from neuropsychiatric conditions measured by disability-adjusted life years (DALY's) is increasing from 9% of the total disease burden in 1990 to a projected figure of 14% in 2020.

Author/s	Al-Ghareeb SM, EI-Agroudy AE , Al Arrayed SM, Al Arrayed A, Alhellow HA.
Title	Risk factors and outcomes of new-onset diabetes after transplant: single-centre experience.
Journal	Experimental and Clinical Transplantation. 2012; 10(5):458-65.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22943190

ABSTRACT

Objective: We sought to study the prevalence, risk factors, and long-term prognosis of posttransplant diabetes mellitus. Materials and Methods: We studied all patients with end-stage renal disease without diabetic nephropathy who received a kidney transplant and were followed-up at our center since 1983 (n=218; age, 44.3 ± 13.1 y). Patients with new-onset diabetes after transplant were compared to kidney transplant recipients without risk factors for diabetes mellitus. Patients with new-onset diabetes after transplant were divided into subgroups according to time of onset (early; < 90 d vs late, ≥ 90 d). Results: In total, 73/218 patients (33%) developed new-onset diabetes after transplant. Patients with new-onset diabetes after transplant were significantly older (51.2 ± 11.4 vs 40.7 ± 12.5 y; P < .001) and had a tendency to have a higher body mass index (29.6 ± 8.7 vs 21.6 ± 7.8 kg/m²; P = .05) than those that did not have new-onset diabetes after transplant. In multivariate analysis, age (P < .001), hepatitis C virus infection (P < .05), family history of diabetes mellitus (P < .03), and tacrolimus use (P < .001) were independent risk factors. Five- and 10-year death censored patient survival rates were worse in those that had new-onset diabetes after transplant compared with controls (log rank, 0.04), whereas there was no difference in outcomes between the early and late subgroups. Conclusion: The prevalence of new-onset diabetes after transplant was 33%. Age, body weight at time of transplant, tacrolimus use, family history of diabetes mellitus, and hepatitis C virus infection are independent risk factors for new-onset diabetes after transplant. New-onset diabetes after transplant has a negative effect on patient survival, irrespective of the time of onset and duration of diabetes.

Author/s	Al-Habboubi HH, Mahdi N, Abu-Hijleh TM, Abu-Hijleh FM, Sater MS, Almawi WY.
Title	The relation of vascular endothelial growth factor (VEGF) gene polymorphisms on VEGF levels and the risk of vasoocclusive crisis in sickle cell disease.
Journal	European Journal of Haematology. 2012; 89(5):403-409.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22925497

ABSTRACT

Objective: The association of vascular endothelial growth factor (VEGFA) variants and VEGF secretion with sickle cell disease (SCD) vasoocclusive crisis (VOC) was investigated in 210 VOC patients and 114 pain-free control patients. Methods: VEGFA -2578C/A (rs699947), -460T/C (rs833061), -1154G/A (rs15703060), -634G/C (rs2010963), 398G/A (rs833068), 497G/A (rs833070), -583T/C (rs3025020), and 936C/T (rs3025039) were carried out by real-time PCR. Results: Higher frequency of rs2010963 C-allele, rs833068 A-allele, and rs3025020 C-allele and significant differences in rs2010963, rs833068, and rs3025020 genotype distribution were seen in VOC than steady-state patients. Increased VOC risk was seen with rs2010963 as heterozygous and more as homozygous, and in rs833068 and rs3025020 homozygous carriers. While there were no differences in VEGF levels between VOC and steady-state controls, there was a progressive decline in serum VEGF in rs2010963 and rs833068 heterozygous and homozygous genotypes, but an opposite trend was seen in VOC patients. Haploview analysis revealed high LD between rs699947, rs833061, rs1570360, rs2010963, rs833068, and rs833070, but weak or no LD between rs3025020 and rs3025039 and other SNPs. Six locus (rs699947/rs833061/rs1570360/rs2010963/rs833068/rs833070) VEGFA haplotype analysis identified haplotype 111111 to be negatively (OR = 0.68) and haplotype 111222 to be positively (OR = 1.89) associated with VOC. rs2010963, rs833068, and rs3025020 were correlated with VOC type, while rs3025020 was correlated with hospitalization, VOC treatment, and duration. Conclusion: Specific VEGFA variants contribute to the pathogenesis of SCD VOC.

Author/s	Al-Hakeem HAM, Al-Othman SN, Al-Jamea LM, Abdulla Radhi G, Bu-Ali SAR, Al-Nasir FA.
Title	Knowledge and behavior of primary school teachers towards attention deficit hyperactivity disorder.
Journal	Bahrain Medical Bulletin. 2013; 35(3):136-138.
Available at	https://platform.almanhal.com/Files/2/35175

ABSTRACT

Background: School teachers in Bahrain have never received any educational programs about attention deficit hyperactivity disorder (ADHD) except for a workshop which was conducted for primary school social supervisors in 2005. Objective: To evaluate the knowledge of primary school teachers of ADHD, attitude and behavior towards ADHD students. Design: Cross-Sectional study. Setting: Primary Schools in Bahrain. Method: One hundred fifty-eight randomly selected governmental primary school teachers completed the questionnaire about knowledge and attitude towards ADHD. Result: Eighty-four (53.2%) of the teachers were knowledgeable about ADHD. Their main sources of knowledge about ADHD were newspapers and magazines. Conclusion: Teachers' Knowledge of ADHD was found to be less than optimal.

Author/s	Al-Harbi EM, Farid EM, Darwish AH, Gumaa KA, Giha HA.
Title	Women transmits type 2 diabetes mellitus (T2DM) more than men: evidences from parental inheritance of T2DM among Bahrainis.
Journal	Experimental and Clinical Endocrinology & Diabetes. 2016; 124(7):424-30.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27219877

ABSTRACT

Introduction: Heritability in type 2 diabetes mellitus (T2DM) is observed but not well understood. Methods: In this study, family history and clinical/biochemical data from 789 Bahrainis (418 T2DM, 371 controls) was analyzed. Fasting blood glucose (FBG) and HbA1c were measured and angiotensin-converting enzyme (ACE) and methylene tetrahydrofolate reductase (MTHFR) polymorphisms (SNPs) were analyzed. Results: Patients compared to controls have higher proportions of diabetic mothers (50.2% vs. 32.7%, $p=0.005$), fathers (35.2% vs. 12.1%, $p<0.001$) and siblings (56% vs. 15.3%, $p<0.001$). The proportions of diabetic mothers was higher than the proportions of diabetic fathers among the patients (50.2% vs. 35.2%, $p<0.001$) and the controls (32.7% vs. 12.1%, $p<0.001$). Patients born to diabetic mothers compared to the other patients were smaller in age at the time of enrollment in this study ($p=0.005$), and at onset of T2DM ($p<0.001$), and also had higher FBG ($p=0.033$). Interestingly, the prevalence of T1DM was highest amongst the siblings of the controls compared to patients ($p=0.04$). Finally, the heterozygote I/D genotype of the ACE gene was over expressed in patients born to diabetic mothers when compared to patients born to diabetic fathers, $p=0.007$. Conclusion: There was strong clustering of T2DM in families, with significant dominant maternal role in transmission of T2DM and associated severity markers. Patients (T2DM) born to diabetic mothers were genetically and phenotypically different from the other patients.

Author/s	Al-Harbi EM, Farid EM, Gumaa KA , Singh J.
Title	Genotypes and allele frequencies of angiotensin converting enzyme (ACE) insertion/deletion polymorphism among bahraini population with type 2 diabetes mellitus and related diseases.
Journal	Molecular and Cellular Biochemistry. 2012; 362(1-2): 219-223.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22081332

ABSTRACT

Insertion/deletion (I/D) polymorphism, of a 287-bp Alu repetitive sequence in intron 16 of the angiotensin-converting enzyme (ACE) gene has been shown to be associated with different types of diseases and has been widely investigated in different populations with different ethnic origins. Various reports were published suggesting inter-ethnic variations in the frequency of allelic forms of the ACE gene. The goal of this study was to test the distribution of alleles and the different genotypes of ACE (I/D) polymorphism in Bahraini subjects and compare the Results with those obtained from other population studies. The Bahraini population is an Arabic peninsula population with a high prevalence of T2DM and hypertension. A total of 560 unrelated Bahraini individuals were recruited in this study and the presence (insertion)/absence (deletion) (I/D) polymorphism of a 287-bp Alu1 element inside intron 16 of the ACE gene was done by PCR-based assays and the presence or absence of the genotypes were analyzed by the gel electrophoresis. The distribution of II, ID, and DD genotypes showed differences among Bahraini subjects, and the frequency of the D allele was significantly ($P < 0.05$) higher in the studied group. The Results obtained for the D allele are consistent with those obtained from previous studies among Arabs, Africans, and Caucasians, but differs significantly ($P < 0.05$) from those in Japanese and Chinese, thus proving the ethnic variation in the distribution of the ACE alleles in different populations.

Author/s	Al-Hashimi, DA, Al-Roomi K , Al-Sayyad AS.
Title	Reasons for under-reporting of notifiable communicable diseases in the Kingdom of Bahrain: a health-centers based survey.
Journal	Journal of the Bahrain Medical Society. 2014; 25 (2):75-79.
Available at	https://www.cabdirect.org/cabdirect/abstract/20143318164

ABSTRACT

Background: Poor compliance by physicians with communicable diseases reporting is a worldwide phenomenon. In Bahrain, there are limited data regarding thoroughness and completeness of the current communicable diseases reporting system. Objective: To identify reasons for noncompliance with reporting of notifiable communicable diseases by primary healthcare physicians practicing in the Ministry of Health (MoH) primary health care centers. Methods: This is a cross-sectional study. Two hundred and forty-one self-administered questionnaires were distributed to all primary health care physicians practicing in all primary care health centers of the Ministry of Health. The questionnaires included items regarding socio-demographic and practice-related characteristics, self-reported practice related to communicable diseases reporting and reasons for noncompliance with reporting requirements. Results: The response rate was 93%; the mean age of the respondents was 43±8.36 years. The period of experience in clinical practice ranged from 1 to 35 years with a mean of 12.84±7.86 years. Lack of feedback on notified cases, forgot to notify, and not sure of diagnosis were cited by more than half of the physicians as reasons for noncompliance with communicable diseases reporting. Conclusion: The findings suggest that there are several reasons for noncompliance with reporting requirements. Revising the current notification procedure to resolve some of the reasons is vital to enhance communicable diseases reporting in Bahrain.

Author/s	Ali HM, Attar DM, Al-Abdulwahid F, Juma FA, Al-Mezail HI, Al-Jalahma JA, Al-Shaikh RR, Hussain SS, Al-Mail SAA, Al-Omari WAT, Kamal A.
Title	Comparison between the first and sixth year medical students in the Arabian Gulf University of Bahrain regarding anxiety and depression.
Journal	International Neuropsychiatric Disease Journal. 2014; 2(2): 85-93.
Available at	http://sciencedomain.org/abstract/3313

ABSTRACT

A cross sectional study involving all year 1 and 6 medical student of Arabian Gulf University in Bahrain in the year 2011-2012 was performed by self reporting anxiety and depression using HADS forms. The results showed that 33.96 % of year 1 and 55.07% of year 6 students showed anxiety, while student of year 1 and 6 showed 18.87% and 31.88% depression state respectively. Statistically the anxiety and depression were significantly higher in year 6 compared to year 1 students (Analysis of Variance ANOVA, $p < 0.05$). Neither of these mental states were significantly different in males and females students. The averaged score of male medical student was 9.64 ± 0.4 for anxiety and 8.01 ± 0.4 for depression compared to 9.88 ± 0.5 and 8.13 ± 0.5 which were scored in females for anxiety and depression respectively (ANOVA $p \leq 0.05$). It is concluded that the stress associated with studying medicine is continuous and accumulative during the years of the study and that medical students confrontation with extra stressors related to their studies in addition to the normal daily stressors of life making them more vulnerable to anxiety and depression states.

Author/s	Ali NMA, Hamadeh RR.
Title	Physicians' knowledge and practices in death certificate completion in the Kingdom of Bahrain.
Journal	Journal of the Bahrain Medical Society. 2013; 24(1):17-23.
Available at	http://www.academia.edu/33908171/Physicians_Knowledge_and_practices_in_death_certificate_completion_in_the_Kingdom_of_Bahrain

ABSTRACT

Background: The high percentage of ill-defined causes of death has always been a problem in Bahrain. This affects the quality of vital statistics and misguides policy makers when prioritizing health problems and allocating resources in disease prevention and control. Objectives: The objectives of the study were to assess the knowledge and practices of physicians in the completion of death certificates at Salmaniya Medical Complex (SMC). Methods: The study group consisted of a cross-section of physicians at SMC. A simple random sample of 204 physicians was selected and a self-administered questionnaire, whose reliability was 0.7 based on Cronbach's Alpha, was distributed. Results: The majority (91.3%) had MBBS as a qualification and 62.9% graduated in the year 2000 or in subsequent years. Forty-eight percent of the physicians had experience of 5 years or less and 51.1% were internal medicine specialists. Seventy two percent of the respondents were unaware of the death certificate completion guidelines and 97.2% didnot know the coding system used for the causes of death in Bahrain. Based on the criteria used for assessment of the respondents' performance levels in completing death certificates, it was observed that 83.1% achieved a suboptimal level. Moreover, 81% of the physicians had not received any formal training in this regard during their practice. Conclusion: Physicians in SMC lack adequate knowledge, training and experience in completing death certificates. The accuracy of death certificates in SMC would improve if the process of death certification were revised in light of these factors, and that physicians received appropriate training to complete death certificates.

Author/s	Ali S, Malik A, Shahid M , Bhargava R.
Title	Pulmonary aspergillosis and aflatoxins in chronic lung diseases.
Journal	Mycopathologia. 2013; 176(3-4): 287-294.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/23948964

ABSTRACT

Fungal infections of lung have become increasingly common during the last few decades. Aspergillosis and the role of aflatoxins in various chronic lung diseases have not been extensively studied. Bronchoalveolar lavage (BAL) samples and sera from 40 patients of chronic lung diseases were analyzed for galactomannan antigen (GM) and aflatoxin by enzyme-linked immunosorbent assay. Direct microscopy and culture of BAL samples were also done to detect the *Aspergillus* species. Results revealed that 15 (37.5 %) of the 40 patients had growth of *Aspergillus* on BAL culture. Out of these culture-positive cases, 13 (86.7 %) patients were positive for galactomannan antigen also. About 62.5 % cases did not show growth of *Aspergillus* in BAL culture. However, galactomannan antigen could be detected in 20 % of these patients. Overall, 20 % patients were diagnosed as proven invasive fungal disease (IFD), 32.5 % were of probable IFD, 17.5 % of possible IFD. *Aspergillus* growth was observed in 100 % of proven and 53.8 % of probable IFD cases. Galactomannan antigen was found in 100 % cases of proven and 76.9 % of probable IFD. Ten (25 %) patients were found to be positive for aflatoxins. It was detected in 6 (40 %) of culture-positive cases. About 62.5 % of the cases with proven IFD and 46.1 % of probable IFD had aflatoxin in their samples. Aflatoxin positivity was found to be more in patients with proven IFD than in probable IFD, and higher level of aflatoxins was detected in cases with proven IFD. Significant difference was observed in aflatoxin positivity among food grain workers when compared to other occupations.

Author/s	Alimoradi H, Matikonda SS, Gamble AB, Giles GI, Griesh K.
Title	Hypoxia responsive drug delivery systems in tumor therapy.
Journal	Current Pharmaceutical Design. 2016; 22(19):2808-2820.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26898739

ABSTRACT

Hypoxia is a common characteristic of solid tumors. It is mainly determined by low levels of oxygen resulting from imperfect vascular networks supplying most tumors. In an attempt to improve the present chemotherapeutic treatment and reduce associated side effects, several prodrug strategies have been introduced to achieve hypoxia-specific delivery of cytotoxic anticancer agents. With the advances in nanotechnology, novel delivery systems activated by the consequent outcomes of hypoxia have been developed. However, developing hypoxia responsive drug delivery systems (which only depend on low oxygen levels) is currently naïve. This review discusses four main hypoxia responsive delivery systems: polymeric based drug delivery systems, oxygen delivery systems combined with radiotherapy and chemotherapy, anaerobic bacteria which are used for delivery of genes to express anticancer proteins such as tumor necrosis alpha (TNF- α) and hypoxia-inducible transcription factors 1 alpha (HIF1 α) responsive gene delivery systems.

Author/s	Al-Kafaji G, Al Naieb ZT, Bakhiet M.
Title	Increased oncogenic microRNA-18a expression in peripheral blood of patients with prostate cancer: a potential role as new noninvasive biomarker.
Journal	Oncology Letters. 2016; 11(2): 1201-1206.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4734205/

ABSTRACT

MicroRNAs have been demonstrated to be stably detectable in peripheral blood, thus representing important sources of non-invasive biomarkers of various diseases, including cancer. Recently, microRNA-18a (miR-18a) has been revealed to be highly expressed in prostate cancer (PC) tissues, acting as an oncogenic miRNA. The present study evaluated miR-18a expression in the peripheral blood of patients with PC, patients with benign prostatic hyperplasia (BPH), and healthy individuals, to assess the feasibility of using peripheral blood miR-18a as a potential non-invasive biomarker for PC. Total RNA was extracted from peripheral whole blood samples from 24 PC patients, 24 BPH patients and 23 healthy control individuals. The expression of miR-18a was assessed by reverse transcription quantitative polymerase chain reaction. The Results revealed that miR-18a expression was significantly higher in PC patients than in BPH patients and healthy controls [fold change (mean \pm standard deviation), 5.5 \pm 1.4 for PC, 1.5 \pm 0.5 for BPH and 1.2 \pm 0.6 for controls; $P < 0.005$]. Higher miR-18a expression was strongly associated with PC [odds ratio (OR), 4.602; 95% confidence interval (CI), 2.194–9.654; $P = 0.001$], but was not significantly associated with BPH (OR, 1.2; 95% CI, 0.7–2.02; $P = 0.332$). Despite the small number of patients, which limits the statistical power of the study, higher miR-18a expression was observed to be significantly correlated with certain clinicopathological parameters, including Gleason score > 7 and pathological tumor stage 3/4 ($P < 0.005$). A receiver operating characteristic (ROC) analysis revealed that miR-18a discriminated PC patients from BPH patients and healthy controls [area under the curve (AUC), 0.805; 95% CI, 0.704–0.906]. Furthermore, use of the ROC curve to discriminate PC from BPH patients yielded an AUC of 0.878 (95% CI, 0.783–0.972). In summary, the present Results indicate that miR-18a expression is significantly increased in peripheral blood of patients with PC compared with that of BPH patients and healthy individuals, and that higher miR-18a expression is associated with progression of PC. Peripheral blood oncogenic miR-18a may serve as a potential novel non-invasive biomarker for PC that also facilitates discrimination between PC and BPH.

Author/s	Al-Kafaji G, Al-Mahroos G, Abdulla Al-Muhtaresh H, Sabry MA, Abdul Razzak R, Salem AH.
Title	Circulating endothelium-enriched microRNA-126 as a potential biomarker for coronary artery disease in type 2 diabetes mellitus patients.
Journal	Biomarkers. 2016; 11:1-11.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27321479

ABSTRACT

Circulating microRNAs (miRNAs) have been shown as promising biomarkers for various diseases. We investigated the predictive potential of circulating endothelium-enriched miR-126 in type 2 diabetes patients (T2D) without chronic complications and T2D patients with coronary artery diseases (CAD). The expression levels of circulating miR-126, determined by quantitative real time PCR, were decrease in peripheral blood of T2D patients and T2D with CAD compared with healthy controls. MiR-126 strongly associated with T2D and CAD, negatively correlated with LDL in CAD patients and differentiated between T2D patients, T2D patients with CAD and healthy subjects. Circulating miR-126 may serve as a biomarker for predicting patients with T2D and diabetic CAD.between PC and BPH.

Author/s	Al-Kafaji G , Al-Mahroos G, Al-Muhtaresh H. A, Skrypnyk C , Sabry MA , Ramadan AR.
Title	Decreased expression of circulating microRNA-126 in patients with type 2 diabetic nephropathy: a potential blood-based biomarker.
Journal	Experimental and Therapeutic Medicine. 2016; 12: 815-822.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27446281

ABSTRACT

Circulating microRNAs (miRNAs) have been proposed as promising biomarkers for multiple diseases. miR-126 is reported to be associated with type 2 diabetes mellitus (T2D), diabetic nephropathy (DN) and end stage renal disease. The aim of this study was to investigate the expression of circulating miR-126 and to assess its potential as a blood-based biomarker for DN in T2D patients. In 52 patients with T2D without history of DN (with normoalbuminuria), 50 patients with T2D and DN (29 with microalbuminuria and 21 with macroalbuminuria), and 50 non-diabetic healthy controls, the expression of circulating miR-126 in peripheral whole blood was evaluated by quantitative polymerase chain reaction. The expression levels of circulating miR-126 were significantly decreased in T2D patients and further decreased in DN patients compared with those in the controls. Multivariate logistic regression analysis confirmed the independent association of lower miR-126 levels with T2D [adjusted odds ratio (OR), 0.797; 95% confidence interval (CI), 0.613-0.960] and DN (adjusted OR, 0.513; 95% CI, 0.371-0.708). miR-126 levels were associated with the degree of albuminuria and showed significantly low expression in DN patients with microalbuminuria (adjusted OR, 0.781; 95% CI; 0.698-0.952) and further lower expression in DN patients with macroalbuminuria (adjusted OR, 0.433; 95% CI, 0.299-0.701), respectively compared with T2D patients with normoalbuminuria. miR-126 levels negatively correlated with albuminuria positively with glomerular filtration rate ($P < 0.05$), and in addition, negatively correlated with fasting glucose, glycated hemoglobin, triglyceride and LDL ($P < 0.05$). Stepwise multiple regression analysis identified albuminuria as a significant predictor of miR-126 ($P < 0.001$). miR-126 in peripheral blood yielded area under the receiver operating characteristic curves of 0.854 (95% CI, 0.779-0.929) and 0.959 (95% CI, 0.916-1.000) in the differentiation of DN patients from T2D patients and DN patients from non-diabetic controls respectively. These data suggest that decreased expression of circulating miR-126 is associated with the development of DN in T2D patients, and may be a promising blood-based biomarker for DN risk estimation.

Author/s	Al-Kafaji G, Al-Mahroos G, Alsayed N, Hasan Z, Nawaz S, Bakhiet M.
Title	Peripheral blood microRNA-15a is a potential biomarker for type 2 diabetes mellitus and pre-diabetes.
Journal	Molecular Medicine Report. 2015; 12(5):7485-7490.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26460159

ABSTRACT

MicroRNAs (miRNAs) are small non-coding RNAs that function as crucial regulators of gene expression. Recently, dysregulation of miRNA expression in the blood has been demonstrated to be associated with various diseases, including type 2 diabetes mellitus (T2D), suggesting a potential for their use as biomarkers of disease prognosis. The present study examined the expression levels of T2D associated miR 15a in peripheral whole blood samples from patients with T2D, pre diabetes individuals exhibiting impaired fasting glucose (IFG) and impaired glucose tolerance (IGT), as well as healthy control subjects, in order to investigate the potential of peripheral blood plasma miR 15a as a biomarker for the prediction of T2D and pre diabetes. The present study included 24 patients with T2D, 22 IFG/IGT individuals and 24 healthy controls. The expression levels of miR 15a were analyzed by reverse transcription-quantitative polymerase chain reaction. The Results indicated that the peripheral blood miR 15a expression levels were significantly decreased in patients with T2D and IFG/IGT individuals, compared with healthy control subjects ($P < 0.05$). As determined by multivariate logistic regression analysis, lower miR 15a expression was significantly associated with T2D (odds ratio [OR]; 95% confidence interval [CI]: 0.51; 0.16 0.73, respectively; $P < 0.05$) and pre diabetes (OR; 95% CI: 0.56; 0.23 0.79, respectively; $P < 0.05$). This association remained statistically significant following adjustment for age, body mass index and hypertension, as well as other biochemical indicators. Furthermore, a receiver operating characteristic analysis revealed that blood miR 15a distinguished patients with T2D and IFG/IGT individuals from healthy controls (area under the curves; 95% CI: 0.864; 0.751 0.977 and 95% CI: 0.852; 0.752 0.953, respectively). These Results demonstrated that peripheral blood miR 15a expression levels were significantly lower in patients with T2D and IFG/IGT individuals, compared with healthy individuals. Thus, miR 15a in peripheral whole blood may serve as a potential biomarker for T2D and pre-diabetes.

Author/s	Al-Kafaji G, Golbahar J.
Title	High glucose-induced oxidative stress increases the copy number of mitochondrial DNA in human mesangial cells.
Journal	Biomed Research International. 2013; 2013:1-8.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23984405

ABSTRACT

Oxidative damage to mitochondrial DNA (mtDNA) has been linked to the pathogenicity of diabetic nephropathy. We tested the hypothesis that mtDNA copy number may be increased in human mesangial cells in response to high glucose-induced reactive oxygen species (ROS) to compensate for damaged mtDNA. The effect of manganese superoxide dismutase mimetic (MnTBAP) on glucose-induced mtDNA copy number was also examined. The copy number of mtDNA was determined by real-time PCR in human mesangial cells cultured in 5 mM glucose, 25 mM glucose, and mannitol (osmotic control), as well as in cells cultured in 25 mM glucose in the presence and absence of 200 μ M MnTBAP. Intracellular ROS was assessed by confocal microscopy and flow cytometry in human mesangial cells. The copy number of mtDNA was significantly increased when human mesangial cells were incubated with 25 mM glucose compared to 5 mM glucose and mannitol. In addition, 25 mM glucose rapidly generated ROS in the cells, which was not detected in 5 mM glucose. Furthermore, mtDNA copy number was significantly decreased and maintained to normal following treatment of cells with 25 mM glucose and MnTBAP compared to 25 mM glucose alone. Inclusion of MnTBAP during 25 mM glucose incubation inhibited mitochondrial superoxide in human mesangial cells. Increased mtDNA copy number in human mesangial cells by high glucose could contribute to increased mitochondrial superoxide, and prevention of mtDNA copy number could have potential in retarding the development of diabetic nephropathy.

Author/s	Al-Kafaji G, Sabry MA, Bakhiet M.
Title	Increased expression of mitochondrial DNA-encoded genes in human renal mesangial cells in response to high glucose-induced reactive oxygen species.
Journal	Molecular Medicine Report. 2016; 13(2):1774-1780.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26719045

ABSTRACT

Reactive oxygen species (ROS)-mediated disruption of mitochondrial respiratory function has been implicated in the complications of diabetes. The present study examined changes in the gene expression of mitochondrial DNA (mtDNA)-encoded subunits of electron transport chain complexes in response to high glucose-induced ROS overproduction in an in vitro model of diabetic nephropathy using human renal mesangial cells. Mitochondrial ROS generation was assessed by confocal microscopy and flow cytometry in the cells following culture in 5 and 25 mM glucose. The mRNA expression levels of nicotinamide adenine dinucleotide dehydrogenase 2 (ND2) of complex I, cytochrome b (CYTB) of complex III, cytochrome c oxidase (COI) of complex IV and ATPase 6 of complex V were analyzed by reverse transcription-quantitative polymerase chain reaction. The protein expression levels of ND2, CYTB, COI and ATPase 6 were analyzed by western blotting. A significant increase in mitochondrial ROS production was observed in the cells cultured in 25 mM glucose, compared with cells cultured in 5 mM glucose ($P<0.05$). The mRNA expression of ND2, CYTB, COI and ATPase 6 was significantly increased following culture in 25 mM glucose, compared with the cells cultured in 5 mM glucose ($P<0.05$). This increase in mRNA expression was accompanied by significant increases in protein expression following incubation in 25 mM glucose ($P<0.05$). The increase in mtDNA-encoded gene expression in the electron transport subunits following exposure to high glucose-induced ROS may be a compensatory response mechanism for the decline in mitochondrial function, which may be important in the development of diabetic nephropathy through enhanced ROS generation.

Author/s	Al-Kafaji G, Sabry MA, Skrypyk C.
Title	Time-course effect of high-glucose-induced reactive oxygen species on mitochondrial biogenesis and function in human renal mesangial cells.
Journal	Cell Biology International. 2016; 40(1):36-48.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26251331

ABSTRACT

The present study investigated the time-course effect of high-glucose-induced reactive oxygen species (ROS) on mitochondrial biogenesis and function in human renal mesangial cells and the effect of direct inhibition of ROS on mitochondria. The cells were cultured for 1, 4, and 7 days in normal glucose or high glucose in the presence and absence of Mn(III)tetrakis(4-benzoic acid)porphyrin chloride (MnTBAP) or catalase. Mitochondrial ROS production was assessed by confocal microscope. mtDNA copy number and peroxisome proliferator-activated receptor gamma coactivator-1 alpha (PGC-1 α), nuclear respiratory factors 1 (NRF-1), and mitochondrial transcription factor A (TFAM) transcripts were analyzed by real-time PCR. PGC-1 α , NRF-1, and TFAM proteins were analyzed by Western blotting. Mitochondrial function was determined by assessing mitochondrial membrane potential and adenosine triphosphate (ATP) levels. High glucose induced significant increases in mitochondrial superoxide and hydrogen peroxide (H₂O₂) at day 1, which remained significantly elevated at days 4 and 7. The copy number of mtDNA and expression of PGC-1 α , NRF-1, and TFAM were significantly increased at 1 day in high glucose but were significantly decreased at 4 and 7 days. A progressive decrease in mitochondrial membrane potential was observed at 1, 4, and 7 days in high glucose, and this was associated with decreased ATP levels. Treatment of cells with MnTBAP or catalase during high-glucose incubation attenuated ROS production and reversed the alterations in mitochondrial biogenesis and function. Increased mitochondrial biogenesis in human renal mesangial cells may be an early adaptive response to high-glucose-induced ROS, and prolonged ROS production induced by chronic high glucose decreased mitochondrial biogenesis and impaired mitochondrial function. Protection of mitochondria from high-glucose-induced ROS may provide a potential approach to retard the development and progression of diabetic nephropathy.

Author/s	Al Khaja KAJ
Title	Antihypertensive drug procurement trends from 1995 to 2004: Transition over a decade.
Journal	Bahrain Medical Bulletin. 2012; 34(2): 61-65.
Available at	http://www.bahrainmedicalbulletin.com/june_2012/Antihypertensive.pdf

ABSTRACT

Objective: To evaluate antihypertensive procurement trends in Bahrain from 1995 to 2004. Setting: Pharmacology and Therapeutics, Arabian Gulf University/Directorate of Material Management, Ministry of Health. Design: A retrospective audit study based on the data from the Directorate of Material Management, Ministry of Health (MOH), Bahrain. Method: A review of the annual antihypertensive drug procurement data from 1995 to 2004 was performed. Result: The procurement rate of angiotensin converting enzyme inhibitors (ACEIs), diuretics and alpha-blockers, significantly increased while the rate of calcium channel blockers (CCBs), methyldopa and hydralazine declined during this decade. Beta-blockers were the top-ranked agents in both 1995 and 2004. Significant interclass changes were evident: increase in procurement of long-acting ACEIs, CCBs and indapamide associated with a decline in shortacting ACEIs, CCBs and thiazide and thiazide-like diuretics in 2004. Angiotensin-II receptor blocker (ARB) – valsartan was introduced in 1999. The procurement of fixed-dose combinations (FDCs) increased from 0.9% in 1995 to 3.4% in 2004, associated with a significant decline in Moduretic and Brinerdin and by introduction of Co-Diovan, Preterax and Bi-Preterax. High cost due to renin-angiotensin-aldosterone inhibitors (ACEIs and ARBs) accounted for approximately half of the total antihypertensive drugs budget. According to Ministry of Health budget, the annual drug budget for antihypertensive drugs increased from 6.7% in 1995 to 14.1% in 2004. During that decade, there was a rapid annual growth rate for diuretics, CCBs and FDCs. Conclusion: The antihypertensive procurement strategy has qualitatively improved; there is a shift towards selection of more rational long-acting antihypertensives and FDC products. Analysis of drug procurement trend should be a critical component of national drug policy.

Author/s	Al Khaja KAJ, Sequeira RP, Alkhaja AK, Damanhori AH.
Title	Antihypertensive drugs and male sexual dysfunction: a review of adult hypertension guideline recommendations.
Journal	Journal of Cardiovascular Pharmacology and Therapeutics. 2016; 21(3): 233-244.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/26450998

ABSTRACT

Background: Published clinical practice guidelines have addressed antihypertensive therapy and sexual dysfunction (SD) in many different ways. Objective: In this systematic review, we evaluated guidelines that address antihypertensive drug-associated SD, guideline recommendations, and recent guideline trends. Methods: Thirty sets of guidelines for hypertension management in adults that had been published in the English language since 2000 were reviewed. The primary outcome measure was antihypertensive-associated SD potential, which was independently evaluated using specific questions by 2 authors in a nonblinded standardized manner. Results: Sexual dysfunctions associated with thiazide-class diuretics, β -blockers, and centrally acting sympathoplegics were addressed by half of the guidelines reviewed. There is no clarity on β -blockers and thiazide-class diuretics because one-third of the guidelines are vague about individual β -blockers and diuretics, and there is no statement on third-generation β -blockers and thiazide-like diuretics that can improve erectile function. The revised guidelines never use terms such as loss of libido, ejaculatory dysfunction, lack of orgasm, and priapism. Summary versions of guidelines are inadequate to reflect the key interpretation of the primary guidelines on SD associated with antihypertensives, even in the major guidelines that were updated recently. Therapeutic issues such as exploring SD in clinical history, assessing SD prior to and during treatment with antihypertensives, substituting the offending agents with alternatives that possess a better safety profile, intervening with phosphodiesterase-5 inhibitors, and avoiding the concomitant use of nitrovasodilators are superficially addressed by most guidelines, with the exception of 2013 European Society of Hypertension/European Society of Cardiology and Seventh Joint National Committee recommendations. Conclusion: Future guideline revisions, including both full and summary reports, should provide a balanced perspective on antihypertensive-related SD issues to improve the impact of hypertension treatment guidelines on patient care and quality of life.

Author/s	Al Khaja KAJ, Al-Haddad MK, Sequeira RP, Al-Offi AR.
Title	Antipsychotic and anticholinergic drug prescribing pattern in psychiatry: extent of evidence – based practice in Bahrain.
Journal	Pharmacology & Pharmacy. 2012; 3(4): 409-416.
Available at	http://www.scirp.org/JOURNAL/PaperInformation.aspx?paperID=23601&

ABSTRACT

The aim of this study is to determine the antipsychotic prescribing pattern and the prevalence of concurrent anticholinergic prescribing in a psychiatric referral hospital. A retrospective audit of prescriptions issued for outpatients was carried out at the Psychiatric Hospital, the only facility that provides psychiatric services for both inpatients and outpatients in the Kingdom of Bahrain. Antipsychotic monotherapy was prescribed for 89.2% patients, whereas polytherapy with two- and three-drugs in 10.4% and 0.4%, respectively. Atypical antipsychotics were prescribed more often (67.7%) than typical antipsychotics. Risperidone and haloperidol were the most frequently prescribed antipsychotics. Long-acting risperidone injection was the only depot preparation prescribed. The mean antipsychotic dose expressed as chlorpromazine equivalent (CPZeq; mg/day) was 242 (220 for monotherapy and 414 for polytherapy). The prevalence of high dose antipsychotic (mean CPZeq > 1000 mg/day) was 1.8%, prescribed at a mean CPZeq dose of 1531 (1925 for monotherapy and 1137 for polytherapy), mainly attributed to haloperidol. Anticholinergics were co-prescribed for almost two third of patients receiving antipsychotics, particularly for those on polytherapy (monotherapy 57.3%; polytherapy 87.5%). Antipsychotic polytherapy, high dose and co-prescription of an oral with a depot antipsychotic preparation were strongly associated with concurrent prescription of anticholinergics. Procyclidine and orphenadrine were the most often prescribed anticholinergics. In Bahrain, antipsychotic monotherapy is a common practice for outpatients with psychotic disorders. Some of the antipsychotic polytherapies, dosage strategies, and high prevalence of anticholinergic use are therapeutic issues that need to be addressed to foster evidence-based prescribing practice.

Author/s	Al Khaja KAJ, James H, Sequeira RP.
Title	Effectiveness of an educational intervention on prescription writing skill of preclerkship medical students in a problem-based learning curriculum.
Journal	Journal of Clinical Pharmacology. 2013; 53(5):483-490.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23386462

ABSTRACT

Medical school training for students in pharmacotherapy is suboptimal and junior doctors are not confident to prescribe drugs. This study evaluated the effectiveness of an optional educational intervention on prescribing skill of pre-clerkship medical students in a problem-based learning (PBL) program. Performance was assessed in seven end-unit Objective structured practical examinations (OSPE). Physician-related prescription components (PRCs) and drug-related prescription components (DRCs) were assessed. The performance of students who attended the intervention sessions (attendees) and non-attendees was compared. Approximately half of the students attended the sessions. PRCs were written appropriately by most of the students. DRCs were written less competently by both attendees and non-attendees, specifically the dosage form, quantity to be dispensed and directions. Performance on individual DRCs was significantly better for attendees compared to non-attendees. The mean total score for all prescription components of attendees was significantly greater than that of non-attendees. The percentage of high achievers was significantly greater for attendees. A positive correlation was found between student attendance and the total score. An optional educational intervention during the preclerkship phase is an important determinant of prescribing performance of medical students.

Author/s	Al Khaja KAJ, Sequeira RP, Al Khaja AK, Damanhori AHH.
Title	Drug treatment of hypertension in pregnancy: a critical review of adult guideline recommendations.
Journal	Journal of Hypertension. 2014; 32(3):454-463.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24384846

ABSTRACT

This review evaluates the guideline recommendations for the management of hypertension in pregnancy as presented by 25 national/international guidelines developed for the management of arterial hypertension in adults. There is a general consensus that oral α -methyl dopa and parenteral labetalol are the drugs of choice for nonsevere and severe hypertension in pregnancy, respectively. Long-acting nifedipine is recommended by various guidelines as an alternative for first-line and second-line therapy in nonsevere and severe hypertension. The safety of β -blockers, atenolol in particular, in early and late stages of pregnancy is unresolved; their use is contraindicated according to several guidelines. Diuretic-associated harmful effects on maternal and fetal outcomes are controversial: their use is discouraged in pregnancy. It is important to develop specific guidelines for treating hypertension in special groups such as adult females of childbearing age and sexually active female adolescents to minimize the risk of adverse effects of drugs on the fetus. In several guidelines, the antihypertensive classes, recommended drug(s), intended drug formulation, and route of administration are not explicit. These omissions should be addressed in future guideline revisions in order to enhance the guidelines' utility and credibility in clinical practice.

Author/s	Al Khaja KAJ, Sequeira RP, Damanhori AH.
Title	Medication prescribing errors pertaining to cardiovascular/antidiabetic medications: a prescription audit in primary care.
Journal	Fundamental & Clinical Pharmacology. 2012; 26(3): 410-417.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/21265878

ABSTRACT

This study was carried out to identify the medication prescribing errors (MPEs) pertaining to cardiovascular/antidiabetic medications in prescriptions issued to hypertensive and diabetic hypertensive patients. A retrospective, nationwide audit of prescriptions (n = 2773) issued by primary care physicians (n = 194) of 20 health centres in Bahrain was carried out. Approximately one-quarter of prescriptions ordered by two-thirds of primary care physicians had errors. No significant differences with respect to overall errors were evident in prescriptions ordered by the family physicians and general practitioners. The most common error (in 8.0% of prescriptions) was prescribing β -blockers or diuretics (thiazide) or their combinations to patients on lipid-lowering drugs. Prescribing multiple antihypertensives, often with a similar mechanism, accounted for 2.2% errors: approximately half of these (1.45%) were two angiotensin-converting enzyme inhibitors (ACEIs) co-prescribed and/or ACEIs plus angiotensin-II receptor blockers. In 0.7% of prescriptions, β -blockers were ordered to patients on salbutamol treatment. High-dose metformin (3 g/day) was prescribed to approximately 4% diabetic hypertensives; of these, many were elderly patients. Prescribing high-dose glibenclamide (median dose 15 mg) to the elderly accounted for 3.6% of the overall errors. Polypharmacy, such as aspirin along with an immediate-release dipyridamole, was prescribed occasionally (0.25%), particularly by the general practitioners (P = 0.0139). MPEs are common in primary care, in Bahrain. Some of these prescribing errors have the potential to harm patients. Effective measures to detect and prevent such errors are needed to improve the quality of health care. Standard treatment guidelines and educational interventions are important strategies to achieve these goals.

Author/s	Al Khawaja S, Ismaeel A , Botta G, Senok AC.
Title	The prevalence of congenital and perinatal cytomegalovirus infections among newborns of seropositive mothers.
Journal	Journal of Infection in Developing Countries. 2012; 6(5):410-415.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/22610707

ABSTRACT

Introduction: This study aimed to determine the prevalence of congenital and perinatal human cytomegalovirus (HCMV) infections among newborns in two major neonatal intensive care units (NICU) in Bahrain. Methodology: One hundred newborns comprised of 84 preterm and 16 term babies admitted to the NICUs were enrolled in the study. During the first six weeks of life, urine and saliva was obtained from the babies weekly and serial breast milk samples were obtained from the mothers. Maternal serum HCMV IgG was measured. Virus isolation and detection was done by shell vial culture and nested PCR. Results: Maternal HCMV IgG-seropositivity was 100%. Eight HCMV infections were detected comprising of three congenital and five perinatal infections. Congenital HCMV infection was found in preterm (2/84; 1.9%) and term (1/16; 6.3%) babies. HCMV DNA was detected in breast milk samples obtained during the first 10 days postpartum from all mothers whose babies had congenital HCMV. Forty-nine women provided breast milk samples between four and six weeks post-partum and HCMV DNA was detected in the breast milk of 11 women. Five (45.5%) of these eleven were mothers of babies with perinatal HCMV infection. There was no significant difference in the detection of HCMV using shell vial culture versus nested PCR Method. Conclusion: The findings indicate occurrence of congenital and perinatal HCMV transmission in this setting of high maternal seropositivity. The use of shell vial culture and PCR amplification for HCMV screening in the NICU for rapid detection of infection during the early postnatal period is recommended.

Author/s	Al-Khaja KAJ, Sequeira RP, Al-Haddad MK, Al-Offi AR.
Title	Psychotropic drug prescribing trends in Bahrain: implications for sexual functions.
Journal	International Journal of Clinical Medicine. 2012; 3:276-282.
Available at	http://file.scirp.org/pdf/IJCM20120400011_66696436.pdf

ABSTRACT

Treatment-emergent sexual dysfunction is a frequent adverse effect of many psychotropic drugs. We have analyzed the prescribing trends and the likelihood of psychotropic-associated sexual dysfunction in outpatients with depression or other psychotic disorders treated by psychiatrists. A retrospective prescription audit was conducted at the Psychiatric Hospital, the only psychiatric facility in Bahrain that offers both inpatient and outpatient services. Psychotropic associated sexual dysfunction was graded as negligible (0), moderate (2+), moderately severe (3+) and uncertain (U) for anti-depressants, and for antipsychotics as no effect (0), very low (1+), moderate (2+), moderately severe (3+) and uncertain (U) effect. As antidepressant monotherapy, a significant trend towards prescribing selective serotonin reuptake inhibitors (SSRIs; 3+) and selective norepinephrine reuptake inhibitors (SNRIs; 3+) in females, and tricyclic antidepressants (TCAs; 2+) in males was apparent. Atypical antidepressant mirtazapine (0) monotherapy was rarely prescribed. Mirtazapine with SSRIs or SNRI was the most often prescribed combinations followed by TCAs with other antidepressants. Risperidone (0 to 3+), an atypical antipsychotic, was the most popular antipsychotic prescribed to augment antidepressants; there was no gender-based difference. Clozapine (0) and olanzapine (1+) were rarely prescribed to augment antidepressant therapy. In Bahrain, the psychotropic prescribing trends suggest that there is a need to optimize drug therapy to achieve the therapeutic goal with minimal adverse impact on sexual function.

Author/s	Al Khawaja S, Ismaeel A , Botta G, Senok AC.
Title	The prevalence of congenital and perinatal cytomegalovirus infections among newborns of seropositive mothers.
Journal	Journal of Infection in Developing Countries. 2012; 6(5):410-415.
Available at	http://www.ncbi.nlm.nih.gov/pubmed/22610707

ABSTRACT

Introduction: This study aimed to determine the prevalence of congenital and perinatal human cytomegalovirus (HCMV) infections among newborns in two major neonatal intensive care units (NICU) in Bahrain. Methodology: One hundred newborns comprised of 84 preterm and 16 term babies admitted to the NICUs were enrolled in the study. During the first six weeks of life, urine and saliva was obtained from the babies weekly and serial breast milk samples were obtained from the mothers. Maternal serum HCMV IgG was measured. Virus isolation and detection was done by shell vial culture and nested PCR. Results: Maternal HCMV IgG-seropositivity was 100%. Eight HCMV infections were detected comprising of three congenital and five perinatal infections. Congenital HCMV infection was found in preterm (2/84; 1.9%) and term (1/16; 6.3%) babies. HCMV DNA was detected in breast milk samples obtained during the first 10 days postpartum from all mothers whose babies had congenital HCMV. Forty-nine women provided breast milk samples between four and six weeks post-partum and HCMV DNA was detected in the breast milk of 11 women. Five (45.5%) of these eleven were mothers of babies with perinatal HCMV infection. There was no significant difference in the detection of HCMV using shell vial culture versus nested PCR Method. Conclusion: The findings indicate occurrence of congenital and perinatal HCMV transmission in this setting of high maternal seropositivity. The use of shell vial culture and PCR amplification for HCMV screening in the NICU for rapid detection of infection during the early postnatal period is recommended.

Author/s	Al-Khaja KAJ.
Title	Antihypertensive drug procurement trends between 1995-2004: transition over a decade in Bahrain.
Journal	Bahrain Medical Bulletin. 2012; 34(2): 61-65.
Available at	http://www.bahrainmedicalbulletin.com/june_2012/Antihypertensive-Abstract.pdf

ABSTRACT

Objective: To evaluate antihypertensive procurement trends in Bahrain from 1995 to 2004. Setting: Pharmacology and Therapeutics, Arabian Gulf University/Directorate of Material Management, Ministry of Health. Design: A retrospective audit study based on the data from the Directorate of Material Management, Ministry of Health (MOH), Bahrain. Method: A review of the annual antihypertensive drug procurement data from 1995 to 2004 was performed. Result: The procurement rate of angiotensin converting enzyme inhibitors (ACEIs), diuretics and alpha-blockers, significantly increased while the rate of calcium channel blockers (CCBs), methyldopa and hydralazine declined during this decade. Beta-blockers were the top-ranked agents in both 1995 and 2004. Significant interclass changes were evident: increase in procurement of long-acting ACEIs, CCBs and indapamide associated with a decline in shortacting ACEIs, CCBs and thiazide and thiazide-like diuretics in 2004. Angiotensin-II receptor blocker (ARB) – valsartan was introduced in 1999. The procurement of fixed-dose combinations (FDCs) increased from 0.9% in 1995 to 3.4% in 2004, associated with a significant decline in Moduretic and Brinerdin and by introduction of Co-Diovan, Preterax and Bi-Preterax. High cost due to renin-angiotensin-aldosterone inhibitors (ACEIs and ARBs) accounted for approximately half of the total antihypertensive drugs budget. According to Ministry of Health budget, the annual drug budget for antihypertensive drugs increased from 6.7% in 1995 to 14.1% in 2004. During that decade, there was a rapid annual growth rate for diuretics, CCBs and FDCs. Conclusion: The antihypertensive procurement strategy has qualitatively improved; there is a shift towards selection of more rational long acting antihypertensives and FDC products. Analysis of drug procurement trend should be a critical component of national drug policy.

Author/s	Almawi WY, Al-Shaikh FS, Melemedjian OK, Almawi AW.
Title	Protein Z, an anticoagulant protein with expanding role in reproductive biology.
Journal	Reproduction. 2013; 146(2): R 73-80.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23690629

ABSTRACT

Protein Z (PZ) is a vitamin K-dependent factor characterized by its homology to other vitamin K-dependent factors (factors VII, IX, and X, protein C and protein S), but lacks any enzymatic activity. Instead, PZ acts as a cofactor for the inhibition of factor Xa through the serpin PZ-dependent protease inhibitor (ZPI). PZ deficiency is associated with a procoagulant state, highlighted by excessive FXa secretion and thrombin production, and is linked with several thrombotic disorders, including arterial vascular and venous thromboembolic diseases. A role for the PZ-ZPI complex in the regulation of physiological pregnancy has been demonstrated, highlighted by the progressive elevation in PZ levels in the first trimester of gestation, which then steadily decline toward delivery. An association between altered plasma PZ concentrations and adverse pregnancy outcomes (recurrent miscarriage, stillbirth, preeclampsia, intrauterine growth restriction, and placental abruption) has been reported. The mechanism by which PZ deficiency leads to adverse pregnancy outcomes is not clear, but it is multifactorial. It may be attributed to the anti-PZ IgG and IgM autoantibodies, which apparently act independently of classical antiphospholipid antibodies (lupus anticoagulant, anticardiolipin, and anti- β 2-glycoprotein I antibodies). PZ deficiency has also been reported to be constitutional, and a number of variants in the PROZ (PZ) gene and SERPINA10 (ZPI) gene are linked with specific adverse pregnancy complications. This review summarizes the relationship between adverse pregnancy outcomes and acquired and constitutional PZ-ZPI deficiency, in order to understand whether or not PZ deficiency could be considered as a risk factor for poor pregnancy outcomes.

Author/s	Almawi WY , Gammoh E, Malalla ZH, Al-Madh SA.
Title	Analysis of VEGFA variants and changes in VEGF levels underscores the contribution of VEGF to polycystic ovary syndrome.
Journal	PLoS One. 2016; 11(11): e0165636.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5112863/pdf/pone.0165636.pdf

ABSTRACT

Background: Vascular endothelial growth factor (VEGF) contributes to the pathogenesis of polycystic ovary syndrome (PCOS), and genetic variations in VEGFA gene were suggested to contribute to VEGF secretion and PCOS. Aim: To evaluate the association of altered VEGF levels, stemming from the presence of specific VEGFA variants, with altered risk of PCOS. Subjects and Methods: Retrospective case-control study, performed between 2012-2015. Study subjects comprised 382 women with PCOS, and 393 control subjects. ELISA measured VEGF levels; genotyping of VEGFA variants was done by allelic exclusion. Results: Among the 12 tested VEGFA SNPs, minor allele frequency of only rs3025020 was significantly higher in PCOS cases than control women. Increased and reduced PCOS risk was seen with rs3025020 and rs2010963 genotypes, respectively. Increases and reduction in VEGF levels were associated with rs3025020 and rs2010963, respectively. Increased fasting insulin and HOMA-IR, and bioactive testosterone were linked with rs3025020, while carriage of rs2010963 was linked with reduction in fasting insulin, and free and bioactive testosterone. Of the 12 VEGFA variants, 9 were in LD, thus allowing construction of 9-locus haplotypes. Increased frequency of CAACAGCGA haplotype was seen in PCOS cases, after controlling for BMI, free and bioactive testosterone, SHBG, free insulin and HOMA-IR. Conclusion: This study confirms the contribution of altered VEGF secretion, resulting from genetic variation in VEGFA gene into the pathogenesis of PCOS. This supports a role for VEGF as PCOS candidate locus.

Author/s	Almawi WY , Guarino BD, Al-Sulaiti MA, Al-Busaidi AS, Racoubian E, Finan RR.
Title	Endothelial nitric oxide synthase gene variants and haplotypes associated with an increased risk of idiopathic recurrent miscarriage.
Journal	Human Fertility. 2013; 16(3):200-206.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24047197

ABSTRACT

We investigated the association of endothelial nitric oxide synthase (NOS3) polymorphisms rs2070744 (-786T> C), 27-bp repeat 4b/4a, rs1799983 (Glu298Asp), rs3918188 (-734C> A), and rs743507 (113G> A) with idiopathic recurrent miscarriage (IRM). This was a case-control study involving women with confirmed IRM (n = 296), and 305 age- and ethnically matched control women. NOS3 rs2070744, rs1799983, rs3918188, and rs743507 genotyping was done by TaqMan assays; NOS3 4b/4a genotyping was done by PCR-ASA. A higher frequency of -786C and 298Asp alleles was seen in IRM cases, which remained associated independently with IRM on multivariate analysis. Allele and genotype distribution of 4b/4a, rs3918188 (-734C> A) and rs743507 (113A> G) were comparable between IRM cases and control women. Taking homozygous wild-type genotype as a reference, regression analysis confirmed the association of Glu298Asp and -786T/C, and rs743507 homozygous carriers with IRM risk. Marked linkage disequilibrium was seen between tested NOS3 variants, thus allowing the construction of 5-locus [-786T> C/4b4a/ Glu298Asp/-734C> A/113G> A] haplotypes. Taking the common T4bGCA haplotype as a reference, multivariate analysis confirmed the positive association of C4bTCG haplotype with IRM, after controlling for traditional covariates. Genetic variation at the NOS3 locus represents a genetic risk factor for increased susceptibility to IRM.

Author/s	Almawi WY , Hubail B, Arekat DZ, Al-Farsi SM, Al-Kindi SK, Arekat MR , Mahmood N, Madan S.
Title	Luteinizing hormone/choriogonadotropin receptor and follicle stimulating hormone receptor gene variants in polycystic ovary syndrome.
Journal	Journal of Assisted Reproduction And Genetics. 2015 ;32(4):607-614.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25649397

ABSTRACT

Purpose: Previous studies identified follicle-stimulating hormone receptor (FSHR) and luteinizing hormone/choriogonadotropin receptor (LHCGR) genes as polycystic ovary syndrome (PCOS) susceptibility loci, which was dependent on the racial/ethnic Background of studied population. We investigated the association of genetic variants in FSHR and LHCGR with PCOS in Bahraini Arab women. Methods: A retrospective case-control study, involving 203 women with PCOS, and 211 age- and ethnically-matched control women. FSHR and LHCGR genotyping was done by allelic exclusion Method (real-time PCR). Results: Significantly lower frequencies of heterozygous LHCGR rs7371084 and FSHR rs11692782 genotype carriers were seen between women with PCOS vs. controls, and increased frequency of heterozygous homozygous LHCGR rs4953616 genotype carriers were detected between women with PCOS compared to control women. Limited linkage disequilibrium was noted among LHCGR and FSHR SNPs, and 2 blocks were constructed: the first (Block 1) spanning 61 kb contained the six tested LHCGR SNPs, and the second (Block 2) spanning 298 kb contained four of the five tested FSHR SNPs. Higher frequency of LHCGR GTCAAG haplotype was seen in women with PCOS compared to controls; the frequencies of the remaining LHCGR haplotypes, and all FSHR haplotypes were similar between cases and controls. Conclusion: This is the first study to confirm the association of novel LHCGR (rs7371084, rs4953616) and FSHR (rs11692782) SNPs with PCOS. The differential association of LHCGR and FSHR variants with PCOS confirms the racial/ethnic contribution to their association with PCOS.

Author/s	Almawi WY , Nemr R, Keleshian SH, Ectay A, Saldanha FL, AIDoseri FA, Racoubian E.
Title	A replication study of 19 GWAS-validated type 2 diabetes at-risk variants in the Lebanese population.
Journal	Diabetes Research and Clinical Practice. 2013; 102(2):117-122.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24145053

ABSTRACT

Aim: Recent genome-wide association scans (GWAS) and replication studies have expanded the list of validated type 2 diabetes (T2DM) susceptibility loci. We replicated T2DM association of 19 SNPs from 15 candidate loci in Lebanese Arabs. Methods: Case-control association study, comprising 995 T2DM patients and 1076 control participants. We genotyped by the allelic discrimination method 19 SNPs in/near ADAM30, NOTCH2, THADA, TMEFF2, COL8A1, ADAMTS9-AS2, WFS1, JAZF1, SLC30A8, KCNQ1, LOC387761, ALX4, TSPAN8, FTO, and HNF1. Results: Allele frequencies of the tested SNPs were comparable with those of Caucasians. COL8A1 rs792837 ($P=2.9 \times 10^{-9}$), KCNQ1 rs2237892 ($P=1.8 \times 10^{-18}$) and rs2237895 ($P=0.002$), ALX4 rs729287 ($P_c=7.5 \times 10^{-5}$), and HNF1 rs4430796 ($P=0.003$) were significantly associated with T2DM, with similar effect sizes to those of Europeans. While FTO rs8050136 and rs17817449, ADAMTS9 rs4607103, and WFS1 rs10010131 were initially associated with T2DM, this was lost upon multiple testing correction. The remaining variants were not associated with T2DM, possibly resulting from insufficient power to detect smaller allele effects. Conclusion: In addition to previous findings on the association of IGF2BP2, CDKAL1, TCF7L2 variants with T2DM among Lebanese, here we extend these by validating the association of five additional loci with T2DM in Lebanese Arabs.

Author/s	Almawi WY , Saldanha FL, Mahmood NA, Al-Zaman I, Sater MS , Mustafa FE.
Title	Relationship between VEGFA polymorphisms and serum VEGF protein levels and recurrent spontaneous miscarriage.
Journal	Human Reproduction. 2013; 28(10): 2628-2635.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23900206

ABSTRACT

Study Question: Is recurrent spontaneous miscarriage (RSM) associated with changes in vascular endothelial growth factor (VEGF) serum levels, and with polymorphisms in the VEGFA gene? Summary Answer: Reduced serum VEGF levels, and VEGFA -460T/C (rs833061), 398G/A (rs833068), -583T/C (rs3025020) variants, were associated with RSM. What is Already known: Reduced expression of VEGF has been linked with spontaneous miscarriage, likely due to defective fetal and placental angiogenesis. Since VEGF production is in part inherited, VEGFA polymorphisms associated with altered VEGF secretion have been investigated for their association with RSM, often with variable Conclusion. Study Design, Size, Duration: A retrospective case-control study, which was conducted between January 2011 and April 15, 2012. Participants/ Materials, Setting, Methods: Subjects comprised 296 women with RSM (mean age: 31.6 ± 5.4 year), and 305 age-matched (mean age: 31.6 ± 4.9 year) control Arab women, who had attended outpatient obstetrics and gynecology clinics in two teaching hospitals in Bahrain. VEGFA -2578C/A (rs699947), -460T/C (rs833061), -1154G/A (rs15703060), -634G/C (rs2010963), 398G/A (rs833068), 497G/A (rs833070), -583T/C (rs3025020) and 936C/T (rs3025039) genotyping was done by real-time PCR, with defined clusters; VEGF serum levels were measured by ELISA. Main Results and the Role of Chance: Higher minor allele frequency (MAF) and genotype distribution of -460T/C [corrected P (Pc) = 0.003], 398G/A (Pc = 0.016) and -583T/C (Pc < 0.001) single nucleotide polymorphisms (SNPs) were seen in RSM cases than control women. Increased RSM risk was seen with homozygous -460T/C and 398G/A SNPs and with heterozygous -583T/C, which had a stronger effect when homozygous. Serum VEGF levels were significantly reduced in RSM cases compared with control women (P = 0.016), and correlated with -460T/C, 398G/A and -583T/C genotypes. Haploview analysis revealed heterogeneity in linkage disequilibrium between VEGFA variants, and two blocks were identified: Block 1 comprising -2578C/A, -460T/C and -1154G/A, while Block 2 contained -634G/C, 398G/A, 497G/A, -583T/C and 936C/T. Both negatively and positively RSM-associated 3-locus (Block 1) and 5-locus (Block 2) VEGFA

haplotypes were identified, after controlling for a number of covariates. Limitation, Reasons for Caution: The study was retrospective and can only demonstrate association and not a cause-effect relationship. Furthermore, it was limited to Bahraini Arabs, thereby necessitating parallel studies on other ethnic groups. Wider Implication of the Findings: Reduced VEGF secretion, and specific VEGFA variants may contribute to the pathogenesis of RSM. However, the association of VEGFA SNPs with RSM appears to be independent of their association with altered VEGF serum levels. The differential association of VEGFA variants with RSM is in line with previous findings on the contribution of ethnicity/racial Background to genetic association studies.

Author/s	Al Mahroos FT, Al-Sahlawi HS, Al-Amer E, Mahmood NA, Sandhu AK, Sharida HE, Nagalla DS, Jaradat AA , Jibrel SO, Bin Jamal SA, Al-Haddad FA.
Title	Prevalence and risk factors for vitamin D deficiency among mothers in labor and their newborns.
Journal	Bahrain Medical Bulletin 2013; 35(2): 60-65.
Available at	http://www.bahrainmedicalbulletin.com/june_2013/Prevalence_Risk.pdf

ABSTRACT

Background and Objectives: Vitamin D deficiency is recognized as a global public health problem. Studies of vitamin D levels in mothers in labor and their newborns in Bahrain are lacking. The aim of this study is to identify the prevalence of vitamin D (25(OH)D) deficiency among mothers in labor and their newborns in Bahrain. Design: A cross-sectional multicenter study. Setting: Four Public and Four Private Maternity Hospitals in Bahrain. Method: The study was conducted in April 2012. It included mothers in labor and their newborns. Differences between the subgroups were analyzed using Chi-Square or Student's t-test as appropriate. Linear regression analysis was used to evaluate independent predictors of 25(OH)D level. Result: The study included 403 mothers and 403 newborns. Overall prevalence of 25(OH) D deficiency (<50 nmol) was 358 (88.8%) of the mothers and 364 (90.3%) of the newborns. The mean maternal alkaline phosphatase level was significantly higher than the neonatal level and the maternal mean calcium was significantly lower than the neonatal level. Significant association with vitamin D deficiency was found among Bahraini and non-Bahraini Arab mothers, delivering in public rather than private hospital, living in flats, low education, the use of veil, gravida ≥ 4 , not using multivitamins, vitamin D or calcium supplements. Conclusion: Vitamin D deficiency among mothers and their newborns is high. This mandates increasing awareness, vitamin D supplementation among mothers in labor and their infants; in addition to the introduction of vitamin D fortification of dairy products and flour at the national level.

Author/s	Almesri N, Das NS, Ali ME, Gumaa K, Giha HA.
Title	Independent associations of polymorphisms in vitamin D binding protein (GC) and vitamin D receptor (VDR) genes with obesity and plasma 25OHD3 levels demonstrate sex dimorphism.
Journal	Applied Physiology, Nutrition and Metabolism. 2016;41(4):345-353.
Available at	http://www.nrcresearchpress.com/doi/abs/10.1139/apnm-2015-0284?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub%3Dpubmed&#.WkydY1WWaM-

ABSTRACT

We investigated a possible association between polymorphisms in vitamin D binding protein (GC) and vitamin D receptor (VDR) genes and obesity in Bahraini adults. For this purpose, 406 subjects with varying body mass indexes (BMIs) were selected. Plasma levels of 25-hydroxyvitamin D3 (25OHD3) were measured by chemiluminescence immunoassay. Six single nucleotide polymorphisms, 2 in the VDR gene (rs731236 TC and rs12721377 AG) and 4 in the GC gene (rs2282679 AC, rs4588 CA, rs7041 GT, and rs2298849 TC), were genotyped by real-time polymerase chain reaction. We found that the rs7041 minor allele (G) and rare genotype (GG) were associated with higher BMI ($p = 0.007$ and $p = 0.012$, respectively), but they did not influence 25OHD3 levels. However, the minor alleles of rs2282679 (A) and rs4588 (C) were associated with low 25OHD3 plasma levels ($p = 0.039$ and $p = 0.021$, respectively), but not with BMI. Having categorized the subjects based on their sex, we found that (i) rs7041 GG associated with high BMI in females ($p = 0.003$), (ii) rs4588 CC associated with high BMI in females ($p = 0.034$) and low 25OHD3 levels in males ($p = 0.009$), and (iii) rs12721377 AA associated with low 25OHD3 levels in females ($p = 0.039$). Notably, none of the common haplotypes (6 in the GC gene and 3 in the VDR gene) were associated with BMI. Therefore, polymorphisms in the GC (rs2282679, rs4588, rs7041) and VDR (rs12721377) genes were independently associated with obesity and 25OHD3 levels with a clear sex dimorphism.

Author/s	Al-Mohsen Z, Grant N , Obaidat MA, Al-Farra H, Budhaish N, Al-Farra W.
Title	Attending to women's sexual health in Bahrain: does physician's gender make a difference?
Journal	Eastern Mediterranean Health Journal. 2012 18(7):786-790.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22891529

ABSTRACT

There is a rising incidence of sexually transmitted infections (STIs) in Bahrain. This study aimed to determine physician practices with regard to sexual and reproductive health in women in the primary care setting in Bahrain, and to ascertain if physician gender affected these. The study included all eligible Ministry of Health family physicians (217) in 2006 and data were collected by a self-completed questionnaire; the response rate was 90.3%. Over half (58%) of the responding physicians were female. Male physicians did not undertake gynaecological examinations nor carry out STI screening procedures for asymptomatic women, and rates for women physicians were low (28.9% and 11.4% respectively). As regards to identification of and counselling for sexual health and STI risk factors, there were no differences between male and female physicians in addressing these issues with less than 25% doing so. All physicians would benefit from continuing education in the area of sexual medicine regardless of their gender.

Author/s	Al-Naieb Z.
Title	New advances in aminolevulinic acid in urology.
Journal	Medical & Surgical Urology. 2014; 3(2): e110.
Available at	http://www.omicsonline.org/open-access/new-advances-in-aminolevulinic-acid-in-urology-2168-9857.1000e110.pdf

ABSTRACT

No abstract available

Author/s	Al Nasir F.
Title	Ageing and pattern of population changes in the developing countries.
Journal	Middle East Journal of Age and Ageing. 2015;12(2):26-32.
Available at	http://www.me-jaa.com/July2015/Trends.pdf

ABSTRACT

Ageing is not a disease. It is a natural phenomenon that all species go through. Although, it continues to be not very well understood it is the process that transforms a salubrious person to a frail one, with decline in the efficiency of most of the body organs. Ageing usually impacts human health in a way that is more destructive to the body than any other disease. During ageing there is a continuous deterioration in the function of cells as time passes, increased vulnerability to challenges and high prevalence of occurrence of age-associated diseases that ultimately lead to decreased ability to survive and death. The number of old people worldwide is on the rise and according to WHO, "between 2000 and 2050, the proportion of the world's population over 60 years will double from about 11% to 22%, reaching an absolute number to over 3 billion in the same period". However, such increase will be seen more and faster in the developing than the developed countries despite the fewer dollars and the cost implications on the health and social services to be provided is high. The main reason for such rapid increase is the decrease in the mortality rate along with the increase in the average living age of people reflected directly on the total population size of such countries. In this paper the issue of the elderly people is highlighted and discussed in particular to their percentage of the total population and the forecast. It will also discuss issues related to health deterioration and disabilities as people tend to age, and the health needs of this sector of the population with its cost implications.

Author/s	Al Nasir FA.
Title	Historical & religious perspectives in dealing with AIDS.
Journal	JK- Practitioner. 2015; 20(1-2):1-6.
Available at	http://alhassanain.org/english/?com=content&id=1805

ABSTRACT

Acquired Immunodeficiency Syndrome is a serious medical and social problem that could be labeled as the plague of the century. But in many parts of the world still the subject of AIDS is considered as a taboo and HIV-positive people are mistreated. Such factors contribute to the fact that the number of AIDS cases may be underreported. Although, ethics have long been recognized as an essential requirement in the making of a physician, there are particular ethical issues in dealing with AIDS patients. Even though AIDS has only recently been recognized, Islamic writings offered clear ethical guidance in dealing with similar problems. The ancient physician Ishaq Ibn Ali Al-Ruhawi wrote extensively about ethics in his book, *Adab al-Tabib* (Ethics of a Physician). Outline of this book showed that issues of responsibility, ethical dilemmas, and patients and community's rights are not new to medicine. Such ethical issues are originated from the principles guidelines of the holy Quran. Islamic medical ethics draw their essence from Islamic teachings, which call for honesty, sound performance, and consciousness of God in every act. They are based on the principles of the sanctity of human life, body, the soul and safeguarding its privacy. It is quoted in Quran that "Whoever kills a human being not in lieu of another human being or because of mischief on earth is it as if he has killed all mankind; and whoever saves the life of a human being, it is as if he has saved the life of all mankind." An Islamic response to AIDS is directed mainly to prevent the disease by various measures; the most important of it is by having a sexual lifestyle that is prescribed by God. Muslim physicians have an obligation to continue caring for AIDS patients while taking the necessary precautions for themselves. They should also participate in preventive measures and education.

Author/s	Al Nasir FA.
Title	Effect of prevention on the psychological and physical complaints as stated by Dawood Elantaki.
Journal	The Journal of the Arabization Centre for Medical Sciences. 2013; 37: 60-65.
Available at	https://www.researchgate.net/publication/315729595_Effect_of_Prevention_on_the_Psychological_and_Physical_Complaints_as_Stated_by_Dawood_Elantaki_atrh_alwqayt_walhalat_alnfsyt_ly_alli_aljsdyt_nd_dawwd_alantaky

ABSTRACT

No abstract available

Author/s	Al Nasir FA.
Title	Health of migrant workers; a matter of concern.
Journal	Middle East Journal of Family Medicine. 2015; 13(2): 41-45.
Available at	http://www.mejfm.com/March%202015/Migrant.pdf

ABSTRACT

Over the past few decades, mobility of people around the world has been incrementing, from about 82 million in 1970 to 200 million in 2005. It customarily transpires to both developed (which is the majority, 60%) and developing countries for a more preponderant life opportunity. The most astronomically immense migrants were found to settle, in Europe followed by Asia and North America. In 2000, the European countries received 56.1 million migrants, Asia 49.9 million, North America 40.8 million and Africa 16.3 million. The Middle East, and in particular the Gulf countries (GCC) have had a tremendous influx of migrant workers (around 16 million, the majority, over 80%, were from Asia) due to its rapid development as reflected by marked increase in oil revenue. It is reported that over the past 10 years almost seven out of every ten members of the workforce in the GCC were foreigners. Health issues impacting migrant workers are intricate and numerous, especially, when some host countries perceive these workers as exploitable, frugal and flexible labor. Despite that most of them work in 3D jobs; Dirty, Dangerous and Degrading. They usually have poor living and safety conditions and the prominent consequential factor leading to their health disparities is the cultural differences affecting their health care seeking patterns, perception of health and compliance with treatment. In this review article the health quandaries of the migrant worker in the GCC countries and factors playing in worsening those conditions, are elaborated. Withal we endeavor to find how to compact such health issues for the benefit of both the workers and the nation.

Author/s	Al Nasir FA, Al-Falaj AA.
Title	Factors affecting juvenile delinquency in Bahrain.
Journal	Journal of General Practice. 2016; 4:229.
Available at	https://www.omicsonline.org/open-access/factors-affecting-juvenile-delinquency-in-bahrain-2329-9126-1000229.php?aid=67345

ABSTRACT

Kingdom of Bahrain is an island situated in the middle of the Gulf. The discovery of oil has led to the rapid modernization of the country and its prosperity. Such factors and others affected the lifestyle of the population and the traditional societal role with the transformation from the large extended families to a nuclear one. One of the many consequences of these changes was the increase in the prevalence of juvenile delinquency. In this study, there was an attempt to study this phenomenon and find out the most risk factors that may help in its occurrence. The Parental Acceptance/Rejection Questionnaire, which has been translated into Arabic and was used previously with other Arab populations, was administered to a group of 30 jailed juvenile offenders and compared to a similar cohort and number of high school students with no record of delinquency. The variables, including areas related to the family conditions, were studied comparing the two groups (the delinquent vs. non-delinquent). The Results indicate that there are relationships between juvenile delinquency and the parental demographic characteristics. More delinquent subjects had illiterate fathers (47%) ($p < 0.05$) and mothers (67%), ($p < 0.001$) than the non-delinquent. Fifty percent ($n=15$) of the non-delinquents reported that their fathers were professional versus 21% of the delinquents ($p < 0.05$). The familial relationships, conflicts, and practices were also related to the presence of delinquency. There was a less favorable interpersonal relationship between delinquents and their parents. With regards to family practices, the delinquents scored higher (1.932) than non-delinquents (1.69), indicating that the parents of delinquents were less involved in the lives of their children. Concerning emotional conflict, it was found that the delinquents scored higher ($M=2.18$) than non-delinquents ($M=1.68$); indicating more conflict was happening between their parents. In Conclusion, the risks of developing delinquency in juveniles were found to be very much related to the parental interpersonal relationships, their demographic characteristics and the socioeconomic status of the family.

Author/s	Al Nasir FA, Jaradat AA.
Title	Patient-centered care; physicians' view of obstacles against and ideas for implementation.
Journal	International Journal of Medical Research & Health Sciences. 2016; 5(4): 161-168.
Available at	http://www.ijmrhs.com/medical-research/patientcentered-care-physicians-view-of-obstacles-against-and-ideas-for-implementation.pdf

ABSTRACT

To implement proper family medicine practice and to get the best of it, the concept of patient-centered care (PCC) has to be put into use. Studies have found that one of the most important advantages of PCC is the increase in the patients' quality of life. PCC has been recognized as a marker of quality in health service delivery with its improvement. However, the physicians' belief is essential for its implementation. A cross-sectional study was done to find out what family physicians think of PCC and what they believe are the obstacles that block from its use in Bahrain. Twenty-eight family physicians (FPs) working in the primary health care centers were arbitrarily culled from a pool of doctors. To all a pre-designed questionnaire was sent that contained three parts; demographic information, type of facilities that they work and whether it is promoting PCC practice and the last was concerned with the physicians' view about the barrier against its implementation and what they celebrate that could avail in promoting it. The Results showed that the majority of the participants were family physicians working in governmental health centers. More than 85% knew the congruous definition of PCC and 96.4% thought that the most common barrier for not implementing PCC approach is the time constraint while almost 93% thought that the short duration of time of the consultation is another impediment for implementing PCC. Withal, 57.1% and 53.6% of FPs thought that language and the doctor's communication skills are other barriers respectively. Since the ultimate aim of provision of health care in any country is the optimal health of the population and since PCC practice could fortify and avail in achieving that goal, it is recommended that policy makers and health authorities are required to abstract all obstacles that works against implementing PCC and change the work environment in order to make it facile for the practitioners to apply PCC practice approach.

Author/s	Al Nasir FA, Jaradat AA.
Title	The effect of training in primary health care centers on medical students' clinical skills.
Journal	ISRN Family Medicine. 2013. 2013:1-5.
Available at	https://www.hindawi.com/journals/isrn/2013/403181/

ABSTRACT

Medical students' effective clinical skills training are an important goal of any medical school. When adequate, graduate doctors will have sufficient skills to consult a patient by taking proper history and conducting appropriate physical examination. The question under scrutiny is the optimal place for providing such training. Since the aim is to graduate general physicians, many literatures highlighted the importance of implementing such training in the primary health care centers. A special clinical skills training program was developed for the Year 4 pre-clerkship medical students of the Arabian Gulf University during the academic year 2011-2012. It was important for these students to acquire certain skills before transferring to the clerkship phase where they deal directly with patients. For the 130 students involved in this study, a self-assessment and clinical exam were conducted at the beginning and end of the program. The study showed that students benefited greatly from this training program with significant differences between their preexisting known skills and clinical skills acquired by the end of the program. Primary care centers are ideal places for optimal training because of small group training setting that is one tutor to two students and of the advantage that students face real patient environment.

Author/s	Al Nasir FA, Jaradat AA.
Title	Prediction of medical students' performance in the medical school.
Journal	Family Medicine & Medical Science Research. 2013; 2: 113.
Available at	https://www.omicsonline.org/open-access/prediction-of-medical-students-performance-in-the-medical-school-2327-4972.1000113.pdf

ABSTRACT

Getting admission to medical college is an arduous process and an expensive vocation to choose. One of the early steps in that process is to pass the test that more medical colleges are embracing. Since its inception, MCAT has undergone many revisions for its content and validity enabling it to select the appropriate students while reducing student attrition rate. This work is implemented in the College of Medicine of the Arabian Gulf University to study the possibility of early prediction of non-suitable students who may not be able to consummate their medical course and to investigate the extent to which the pre-admission tools and MCAT sub-scores predict the overall students' academic performance. In addition, to explore the influence of Year1 basic science courses on students' achievements in various stages of the medical school such as; at the B.Sc., in the clinical rotation and at the MD phase. A retrospective cohort study was conducted on 107 students who were enrolled in the academic year 2002-2003. Their academic records were traced from admission until graduation in 2008-2009. The Results showed that the student attrition rate is 12%, which is higher than reported values. It was also found that the AGU-MCAT English test, and the high school grades can predict students' performance in Year1 ($R^2=37.6\%$) while AGU-MCAT science test had a moderate effect ($R^2=21.2\%$). The Year1 AGPA predicted students' performance at the B.Sc. ($R^2=54.9\%$). The Interview part of the AGU-MCAT and the B.Sc. scores are paramount prognosticators of the students' performance in the clerkship Phase. In the MD the major predictor was the B.Sc. scores ($R^2=77.6\%$) while high school grades, high school science grades and the AGU-MCAT had very little effect. In Conclusion, both knowledge and personal attributes tested during admission as well as Year 1 are important in predicting the student's future success. The attrition rate, which was found to be high, could have been averted if the prone student has been discovered early or felicitous admission procedures were made for the selection of appropriate students.

Author/s	Alsaeed I, Al-Somali F, Sakhnini L, Aljarallah OS, Hamdan RM, Bubishate SA, Sarfaraz ZK, Kamal A.
Title	Autism-relevant social abnormalities in mice exposed perinatally to extremely low frequency electromagnetic fields.
Journal	International Journal of Development Neuroscience. 2014 Oct; 37:58-64.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24970316

ABSTRACT

The incidence of autism spectrum disorders (ASD) has been rising, but the causes of ASD remain largely unidentified. Collective data have implicated the increased human exposure to electromagnetic fields (EMF) in the increasing incidence of ASD. There are established biological effects of extremely low-frequency (ELF) EMF, but the relation to ASD is not investigated enough. In this study we examined the effects of perinatal exposure to ELF EMF on some ASD-relevant behavioral parameters in mice. The EMF was delivered via a Helmholtz coil pair. Male BALB/C mice were used and divided into exposed and control groups (n = 8 and n = 9, respectively). Tests were used to assess sociability, preference for social novelty, locomotion, anxiety, exploratory behavior, motor coordination, and olfaction. The examined mice were all males and exposed to EMF during the last week of gestation and for 7 days after delivery. The exposed mice demonstrated a lack of normal sociability and preference for social novelty while maintaining normal anxiety-like behavior, locomotion, motor coordination, and olfaction. Exposed mice also demonstrated decreased exploratory activity. We concluded that these results are supportive of the hypothesis of a causal link between exposure to ELF-EMF and ASD; however, replications of the study with further tests are recommended.

Author/s	Al-Sayyad A, Hamadeh RR.
Title	The burden of climate-related conditions among laborers at Al Razi health center, Bahrain.
Journal	Journal of the Bahrain Medical Society. 2014; 25(1):5-8.
Available at	https://medicalsocbh.files.wordpress.com/2016/04/jbms-jan-2014.pdf

ABSTRACT

Background: The negative effects of climate change on human health and well-being are widely documented in recent literature. The poorest countries, and the most vulnerable and marginalized individuals, experience the worst consequences from climate change. Laborers are more prone to climate-related conditions (CRC) as they are considered one of the under-privileged populations with low salaries and unfortunate living and working conditions. Objectives: To measure the burden of CRC on health services in the main laborers' clinic in the Kingdom of Bahrain. Methods: A cross-sectional study of expatriate workers who attended Al-Razi Health Centre (ARHC) during the study period. A convenience sample was selected and a specific questionnaire was designed for the purpose of this study. The variables included in the questionnaire were age, gender, nationality, occupation, work setting, diagnosis including CRC, medications prescribed and length of sick leave given. CRC were identified and grouped by a panel of experts in line with the published literature. Results: Out of a total number of 3,715 visits during the study period, CRC visits represented 1,111 with a proportion of 29.9%. The majority (70%) of the CRC patients were working solely outdoors. Infectious diseases were the most common (62.9%) CRC followed by heat-related diseases (16.5%). Conclusion: CRC have a significant burden on the health services at ARHC. CRC appear not to be significantly associated with age, nationality or place of work of laborers.

Author/s	Al-Shaikh FS, Finan RR, Almawi AW, Mustafa FE, Almawi WY.
Title	Association of the R67X and W303X non sense polymorphisms in the protein Z-dependent protease inhibitor gene with idiopathic recurrent miscarriage.
Journal	Molecular Human Reproduction.2012; 18(3): 156-160.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22039093

ABSTRACT

Protein Z-dependent protease inhibitor (ZPI) is a 72 kDa single-chain serpin which inhibits the activated coagulation factors X and XI. Two non-sense polymorphisms of ZPI, R67X and W303X, were recently identified, and were linked with a prothrombotic state. Here, we investigated the association of the R67X (728C>T) and W303X (1438G>A) variants in the ZPI gene with recurrent spontaneous miscarriage (RSM). This was a case-control study involving a total of 288 women with a history of two consecutive or ≥ 3 non-consecutive pregnancy losses between 8 and 12th week of gestation, along with 304 age-matched and ethnically matched multiparous control women, with no personal or family history of pregnancy complications. The minor allele frequency of R67X ($P = 0.003$) and W303X ($P = 0.014$) were higher in RSM cases than in control women. Both single-nucleotide polymorphisms were significantly associated with RSM under the dominant genetic association model, and were in moderate linkage disequilibrium ($D' = 0.412$; $P < 0.001$). Taking the common (728)C/(1438)G haplotype as reference, multivariate analysis confirmed the positive association of (728)T/(1438)G [$P = 0.043$; odds ratio (OR) = 2.25; 95% confidence interval (CI) = 1.03-4.90], and (728)T/(1438)A ($P = 0.022$; OR = 3.93; 95% CI = 1.23-12.59) haplotypes with increased RSM risk. These differences remained significant after controlling for some covariates. These Results demonstrate that both ZPI R67X and W303X non-sense variants and specific ZPI haplotypes are significantly associated with RSM.

Author/s	Al-Shaikh FS, Sater MS , Finan RR, Racoubian E, Abu-Hijleh TM, Mustafa FE, Almawi WY .
Title	Protein Z variants associated with protein Z plasma levels and with risk of idiopathic recurrent miscarriage.
Journal	Reprod Sci. 2013; 20(9):1062-1068.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23420821

ABSTRACT

Protein Z (PZ) deficiency due to anti-PZ autoantibodies and/or mutations in PZgene was linked with adverse pregnancy outcomes, including idiopathic recurrent miscarriage (IRM). We investigated the association of rs3024718, rs3024719, rs3024731, rs3024778, rs3024772, and rs3024735 (G79A) PZ variants and changes in PZ levels in 287 women with IRM, and 308 control women. Of the 6 single nucleotide polymorphisms (SNPs) analyzed, higher minor allele frequency of rs3024735 (G79A) and rs3024731 were seen in IRM cases than in control women. Significantly higher frequencies of rs3024735/G79A G/A and A/A ($P < .001$), rs3024719 G/A ($P = .009$), and rs3024731 A/A ($P = .012$), but not rs3024718 ($P = .12$), rs3024778 ($P = .76$), or rs3024772 ($P = .27$) genotype carriers were seen between IRM cases versus control women, respectively, and was linked with reduced PZ levels. Six-locus (rs3024718/ rs3024719/ rs3024778/ rs3024731/ rs3024735/ rs3024772) PZhaplotypes analysis demonstrated increased frequency of GAGAAG and AGGTAG and reduced frequency of AGGTGC haplotypes in IRM cases, thereby conferring disease susceptibility and protective nature to these haplotypes, respectively. These Results demonstrate that specific PZSNPs and haplotypes are significantly associated with IRM.

Author/s	Alsmadi A, Al-Enizy K, Almarabheh A.
Title	The psychometric characteristics of academic intrinsic motivation inventory (CAIMI) for intermediate stage students in Saudi Arabia.
Journal	Journal of Modern Education Association (JMEA). 2012; 5(16):245-280.
Available at	https://www.arabresearcher.com/files/479.pdf

ABSTRACT

The study aimed to Investigate the validity and reliability indicators of (CAIMI) for intermediate Stage Students in Saudi Arabia. The study sample consisted of 1041) male and female) students in the schools of ministry of education and ministry of defense in Saudi Arabia. Those students attended the 1st , 2nd and 3rd intermediate classes in the academic years (2010).To achieve the study objectives, the items of the inventory were translated and then reviewed by specialized academics ,besides other indicators such as achievement scores and related subjects (i.e. :reading, math, social science , science and cumulative average) were Considered Correlation Coefficients were (0.59 , 0.30, 0.63, 0.55 , and 0.38) respectively. These values were statistically significant ($P < 0.01$) , Another additional correlation coefficient was computed between students performance on CAIMI and reading motivation Questionnaire and found 0.63 $P < 0.01$..The stability indicators were calculated through internal consistency coefficient using kronbach – Alpha . Alpha values of the five elements ranged between (0.69 and 0.81) while in the test and re-test approach the values were between (0.80 and 0.84). These values showed that the inventory has a good degree of significance and stability.

Author/s	Al-Wedaie F, Farid E, Tabbara K , El-Agroudy AE , Al-Ghareeb SM.
Title	T-regulatory cells in chronic rejection versus stable grafts.
Journal	Experimental Clinical Transplantation. 2015; 13 Suppl 1:170-176.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25894149

ABSTRACT

Objectives: Studying regulatory T cells in kidney allograft acceptance versus chronic rejection may help in the understanding of more mechanisms of immune tolerance and, in the future, may enable clinicians to induce immune tolerance and decrease the use of immunosuppressive drugs. The aim of the current study was to evaluate regulatory T cells in kidney transplant patients with stable graft versus transplant with biopsy-proven chronic rejection. Materials And Methods: The 3 groups that were studied included: kidney transplanted patients with no rejection episodes (n = 43); transplanted patients with biopsy-proven renal rejection (n = 27); and healthy age-matched nontransplanted individuals as controls (n = 42).The percentage of regulatory T cells (CD4+CD25+Foxp3+) in blood was determined by flow cytometry. Results: The regulatory T cell percentage was significantly lower in chronic rejection patients than control or stable graft groups. No significant difference was observed in regulatory T cell percentage between the stable graft and control groups. In the stable graft group, patients on rapamycin had a significantly higher regulatory T cell percentage than patients on cyclosporine. No effect of donor type, infection, or duration after transplant was observed on regulatory T cell percentage. Conclusion: The Results of the current study are consistent with previous studies addressing the function of regulatory T cells in inducing immunotolerance after kidney transplant. Considering the established role of regulatory T cells in graft maintenance and our observation of high regulatory T cell percentage in patients receiving rapamycin than cyclosporine, we recommend including rapamycin when possible in immunosuppressive protocols. The findings from the current study on the chronic rejection group support ongoing research of having treatment with regulatory T cells, which may constitute a novel, efficient antirejection therapy in the future.

Author/s	Alyusuf RH, Matouq JA, Taha S , Wazir JF.
Title	The pattern of expression and role of triiodothyronine (T3) receptors and type I 5'-deiodinase in breast carcinomas, benign breast diseases, lactational change, and normal breast epithelium.
Journal	Applied Immunohistochemistry Molecular Morphology. 2014;22(7):518-23
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24162265

ABSTRACT

Aim: To study the pattern of expression of triiodothyronine (T3) receptors and type I 5'-deiodinase in various breast pathologies comparing malignant and nonmalignant epithelia that include lactational change. Methods and Results: A retrospective study was performed on formalin-fixed, paraffin-embedded archival material from 146 cases of carcinomas, normal breast tissue, breast tissue showing lactational change, and benign breast lesions. Archive tissue blocks were selected and sections were cut for immunohistochemistry to study the expression of thyroid hormone receptor α -1 (THR- α 1) in the cytoplasm and nuclei of cells in tissues under study. Thick sections were cut for type I 5'-deiodinase evaluation using reverse transcriptional PCR. THR- α 1 showed no nuclear expression in the carcinoma group. Combined nuclear and cytoplasmic expression was seen in 47.6%, 63.4%, 64.3%, and 58.3% in the benign, fibrocystic, fibroadenoma, and lactational change groups, respectively, compared with only 17.4% of cases in the carcinoma group. This suggests deregulation of the thyroid hormone in breast cancer. Theories for the possible role of thyroid hormone in the pathogenesis of breast cancer are discussed. Type I 5'-deiodinase was not shown to be differentially expressed in malignant versus nonmalignant groups. Conclusions: Our study revealed substantial reduction in the protein expression profile of THRs in malignant versus nonmalignant mammary epithelium suggesting a possible role in breast cancer development. The presence of THRs in mammary epithelium seems to be protective against the development of breast cancer. This could serve as a potential prognostic and therapeutic target for breast cancer.

Author/s	Alzayani S.
Title	Experience of lifestyle changes among Middle Eastern graduate students in the United States.
Journal	European Journal of Educational Sciences. 2015; 2(1):37-85.
Available at	http://ejes.eu/wp-content/uploads/2016/01/2-6.pdf

ABSTRACT

High rates of health problems have been reported among undergraduate students, with increased stress levels among college undergraduates in the United States in several fields of study. Academic life stresses are believed to play an important role in the health of students, which may affect their learning abilities and educational performance on top of their health. Aim Understanding the effect of cultural and environmental changes on individual's behavior. Methods : Graduate students from the Middle East who spent two years in the United States were selected for interviews. Colaizzi's phenomenological descriptive Method of inquiry was adopted. Results: Thirty-eight statements were extracted from the interview and sorted into nine themes: Away from home: homesickness, school is challenging and stressful, it is not cold it is freezing, lack of physical activity, social norms vs. peer pressure, dietary patterns and available options, away from home and arriving to new home, time is money and day to day expenses. An exhaustive description was created from the themes and the formulated meanings and was adjusted and validated by the interviewees. The fundamental structure was developed accordingly. Conclusion : Despite changes in culture and environment, students' behavior and lifestyle have been affected in different ways, some were positively affected like being more time efficient and focusing more on work, and some were negatively affected like being under stress, eating unhealthy diet and physical inactivity. Students were aware of the changes in their lifestyle and were always trying to modify them.

Author/s	Alzayani S.
Title	Students calcium awareness program: a proposal of mobile devices health promotion program.
Journal	Journal of Scientific Research and Reports. 2016; 9(6):1-6. DOI:10.9734/JSRR/2016/17348.
Available at	http://www.sciencedomain.org/abstract/12365

ABSTRACT

Aims: The aims of this health promotion program are to increase the knowledge and awareness regarding calcium dietary intake among college students and to positively change their attitude towards it. Methodology: This health promotion program is designed to target the undergraduate university students (18-22 year old). The program will be delivered to the students through their mobile devices by downloading a free mobile app directly from the internet to their smart phones and tablets. The logic model used in the educational program (Intervention) is to increase participants knowledge and awareness regarding calcium (Determinant), to assist them in selecting their dietary options rich in calcium (Behavior) and eventually prevent osteoporosis and fractures (Health Goal). The behavioral theory used is health belief model, as we aim to create enough concern regarding this health issue and make the participants to really feel that they will be vulnerable to osteoporosis in the future, therefore making the behavioral changes look beneficial for them. Discussion and Evaluation: Program evaluation will be divided into two phases, process; using app statistics, and summative; using a non-experimental evaluation with pre- and post-tests that will be submitted by the participants through the app.

Author/s	Alzayani S, Hamadeh RR.
Title	Risky driving behaviors among medical students in the Middle East: identifying areas for intervention.
Journal	International Journal for Innovation Education and Research. 2015; 3-3:42-49.
Available at	https://www.researchgate.net/publication/274372877_Risky_Driving_Behaviors_among_Medical_Students_in_the_Middle_East_Identifying_Areas_for_Intervention

ABSTRACT

A cross sectional study was conducted on medical students enrolled in the Arabian Gulf University in the Kingdom of Bahrain. The Objective was to describe medical students' risk-taking behaviors while driving and to provide recommendations for promoting safe driving behaviors among them. A self administered anonymous questionnaire was used, which included questions on demography and driving behaviors. Medical students demonstrated risk taking behaviors while driving, as 40.1% of them did not use their seatbelts, 49.6% speeded (>100km/hr), 54.7% talked on their mobile phones and 45.9% wrote/read text messages while driving. Female students had lower driving risk taking behaviors compared to males. Driving risk taking behaviors declined as students progressed in their medical years. Saudi and Kuwaiti students had more risk taking behaviors than other nationalities. Driving risk taking behaviors cluster among students according to gender, medical year and nationality. Urgent interventions are needed to promote safe driving behaviors among students.

Author/s	Alzayani S, Hamadeh RR.
Title	Tobacco smoking among medical students in the Middle East: identifying areas for intervention.
Journal	International Journal for Innovation Education and Research. 2015; 3-2:72-78.
Available at	https://www.researchgate.net/publication/273316930_Tobacco_Smoking_among_Medical_Students_in_the_Middle_East_Identifying_Areas_for_Intervention

ABSTRACT

A cross sectional study was conducted on medical students enrolled in the Arabian Gulf University in the Kingdom of Bahrain. The Objective was to describe medical students' tobacco smoking behavior and to provide recommendations for promoting a healthy lifestyle among them. A self administered anonymous questionnaire was used, which included questions on demography and tobacco smoking behavior. The study showed that 10.8% only of the medical students were current smokers, either on daily or occasional basis. However, 27.0% of the males were current smokers compared to 4.2% of the females ($p < 0.001$). The mean and median ages of starting to smoke were 17.43 ± 2.3 and 18 years, respectively. The prevalence of smoking was higher among students of years 3 and 4 than in years 1 and 2. Tobacco smoking behaviors cluster among students according to gender and medical year. Urgent interventions are needed to promote smoking cessation among medical students.

Author/s	Alzayani S, Hamadeh RR.
Title	Dietary behaviors among medical students in the Middle East: Identifying areas for intervention.
Journal	British Journal of Education. 2015; 8(1):9-17.
Available at	http://www.sciencedomain.org/abstract/8586

ABSTRACT

Aims: The Objective of the study was to describe the Arabian Gulf University medical students dietary patterns and to provide recommendations for promoting healthy dietary behaviors and lifestyle among the students. Study Design and Place of Study: A cross sectional study was conducted on medical students enrolled in the Arabian Gulf University in the Kingdom of Bahrain. Methodology: A self-administered anonymous questionnaire was used, which included questions on demography and dietary behaviors. Results: Of the 535 medical students who were enrolled in years 1-4, 443 responded to the questionnaire thus Resulting in a 82.8% response rate. One third of the students of both sexes had breakfast for 3-5 days per week. Seventy two percent of the males and 75.2% of the females had lunch for 6-7 days per week, while 23% of male students had lunch for 3-5 days per week compared to 19.4% of their female counterparts. Half of male and female students had dinner 6-7 days per week, and 39.7% of the males had it for 3-5 days per week compared to 28.9% of the female students. When looking at specific nutritional items, there were significant differences by gender, nationality, medical year and accommodation status. Conclusion: Dietary patterns and behaviors cluster among students according to gender and medical year, nationality and accommodation status. Urgent interventions are needed at AGU to promote healthy dietary patterns and behaviors among medical students.

Author/s	Alzayani S, Hamadeh RR.
Title	Body mass index and physical activity of medical students: A cross-sectional study at the Arabian Gulf University.
Journal	Journal of Applied Life Sciences International. 2015; 3(1):1-6.
Available at	http://www.sciencedomain.org/abstract/9191

ABSTRACT

Aims: The aim of the study was to present the Arabian Gulf University (AGU) medical students physical activity and body mass index; and to provide recommendations for promoting physically active lifestyle among the students. Study Design and Place of Study: A cross sectional study was conducted on medical students enrolled in the AGU in the Kingdom of Bahrain. Methodology: A self-administered anonymous questionnaire was used, which included questions on demography, anthropometry (height and weight) and physical activity. Results: Of the 535 pre-clerkship medical students (Years 1 to 4), 443 responded to the questionnaire thus Resulting in a 82.8% response rate. The weight of the medical students in this study was mostly (57.5%) in the normal range (Body Mass Index from 18.5 to 24.9). Moreover, 13.3% were under weight, 18.5% over weight and 10.7% obese. More than half of the AGU medical students (54.3%) practiced physical activity during the week prior to interview. Among those who practiced physical activity, the majority walked, ran and played team-sports. Conclusion: The study showed statistically significant differences in BMI and physical activity between male and female students. Urgent interventions are needed to promote a physically active lifestyle among medical students to improve their wellbeing. Universities should consider having policies on the promotion of the students' wellbeing and healthy behavioral patterns, providing counseling services at the university and university housings for healthy lifestyle habits and weight control, including physical health in the students' health counseling services and in the medical curriculum. Further, they should establish a health club for the students in the university campus to practice physical activity and exercise.

Author/s	Alzayani S, Hamadeh RR.
Title	Sleeping patterns among medical students in the Middle East: Identifying areas for intervention.
Journal	Advances in Research. 2015; 5(6):1-7.
Available at	http://www.sciencedomain.org/abstract/11250

ABSTRACT

Aims: The Objective of the study was to describe the Arabian Gulf University medical students' sleeping patterns and to provide recommendations for promoting healthy and better sleeping patterns among the students. Study Design and Place of Study: A cross sectional study was conducted on medical students enrolled at the Arabian Gulf University in the Kingdom of Bahrain. Methodology: A self-administered anonymous questionnaire was used, which included questions on demography and sleeping patterns. Results: Of the 535 medical students who were enrolled in years 1-4, 443 responded to the questionnaire thus Resulting in a 82.8% response rate. The study showed that 40.2% of the medical students were attending the College without sleep at all for at least one day during the week. There were significant differences by gender, nationality, and accommodation status. Conclusion: Sleeping patterns cluster among students according to gender, nationality and accommodation status.

Author/s	Alzoubi H, Khabour OF, Salah HA, Hasan Z.
Title	Vitamin E prevents high-fat high-carbohydrates diet-induced memory impairment: the role of oxidative stress.
Journal	Physiology & Behavior. 2013;119: 72–78.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23769690

ABSTRACT

Memory and learning are impaired by imbalanced diet consumption. High-fat high-carbohydrate diet (HFCD) induces oxidative stress, which Results in neuronal damage and interference with synaptic transmission; hence, a decline in cognitive function. Vitamin E is a fat soluble antioxidant that is believed to have positive effects on learning and memory. In this study, we tested the hypothesis that chronic administration of vitamin E prevents learning and memory impairment induced by HFCD. In addition, possible molecular targets for HFCD, and vitamin E that lead to cognitive effects were examined. Vitamin E and/or HFCD were concurrently administered to animals for 6 weeks. Thereafter, behavioral studies were conducted to test the spatial learning and memory using radial arm water maze (RAWM). Additionally, brain derived neurotrophic factor (BDNF) level and antioxidant markers were assessed in the hippocampus. The Results of this project revealed that HFCD impairs both short-term and long-term memories ($p < 0.05$). The administration of vitamin E prevented the memory impairment induced by HFCD consumption ($p < 0.05$). The consumption of HFCD reduced activities of hippocampal superoxide dismutase (SOD) and catalase ($p < 0.05$); whereas the levels of thiobarbituric acid reactive substances (TBARS) and oxidized glutathione (GSSG) were elevated ($p < 0.05$). The administration of vitamin E normalized the effect of HFCD on the oxidative stress markers. None of the treatments induced changes in the levels of BDNF or glutathione peroxidase (GPx). In Conclusion, HFCD induces memory impairment, and the administration of vitamin E prevented this impairment probably through normalizing antioxidant mechanisms in the hippocampus.

Author/s	Archibald M, Pritchard T, Nehoff H, Rosengren RJ, Greish K , Taurin S.
Title	A combination of sorafenib and nilotinib reduces the growth of castrate-resistant prostate cancer.
Journal	International Journal of Nanomedicine. 2016; 11:179.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26811677

ABSTRACT

Castrate-resistant prostate cancer (CRPC) remains incurable due to the lack of effective therapies. Several tyrosine kinases have been implicated in the development and growth of CRPC, as such targeting these kinases may offer an alternative therapeutic strategy. We established the combination of two tyrosine kinase inhibitors (TKIs), sorafenib and nilotinib, as the most cytotoxic. In addition, to improve their bioavailability and reduce their metabolism, we encapsulated sorafenib and nilotinib into styrene-co-maleic acid micelles. The micelles' charge, size, and release rate were characterized. We assessed the effect of the combination on the cytotoxicity, cell cycle, apoptosis, protein expression, tumor spheroid integrity, migration, and invasion. The micelles exhibited a mean diameter of 100 nm, a neutral charge, and appeared highly stable. The micellar TKIs promoted greater cytotoxicity, decreased cell proliferation, and increased apoptosis relative to the free TKIs. In addition, the combination reduced the expression and activity of several tyrosine kinases and reduced tumor spheroid integrity and metastatic potential of CRPC cell lines more efficiently than the single treatments. The combination increased the therapeutic potential and demonstrated the relevance of a targeted combination therapy for the treatment of CRPC. In addition, the efficacy of the encapsulated drugs provides the basis for an in vivo preclinical testing.

Author/s	Ashoor L, Alnasir F , Grant N.
Title	Children abuse: factors affecting case reporting by physicians.
Journal	Bahrain Medical Bulletin. 2012; 34(3): 133-136.
Available at	http://www.bahrainmedicalbulletin.com/september_2012/Child-Abuse.pdf

ABSTRACT

Objective: To identify the factors inhibiting first contact physicians (primary care physicians, pediatricians and emergency physicians) from reporting child abuse to Child Protection Committee in 2008. Design: Cross sectional descriptive study. Setting: Salmaniya Medical Complex and health centers. Method: The study was conducted during the months of June and July 2008. A proportionate stratified sample of 190 physicians was drawn from first contact physicians (primary care physicians, pediatricians and emergency doctors) working in the public sector. Data of physicians' personal and professional characteristics, awareness of parental behaviors, risk factors and clinical features of child abuse, inhibiting factors for reporting and preferred course of action were collected by a pre-structured self administered questionnaire. Result: Only 140 physicians completed the questionnaires. All physicians revealed an acceptable level of awareness of clinical presentation and risk factors of child abuse. Primary care physicians scored 1.20 ± 0.48 compared to emergency doctors who scored 0.93 ± 0.49 . Females scored 1.25 ± 0.38 , while males scored 1.01 ± 0.56 . Board certified physicians scored 1.19 ± 0.47 , which is higher than others. Physicians' apprehension, avoidance of a conflict with the family and lack of knowledge about reporting were found to be the most important factors for inhibiting reporting. Conclusion: Physicians' apprehension of reporting children abuse, mainly to avoid conflict with the family and lack of knowledge of reporting mechanisms were found to be the most important factors. It is recommended to support the physicians in decision-making in the practice setting and to attend communication skill workshop, dealing with family conflicts, educational initiatives and child abuse reporting.

Author/s	Babbs C, Roberts NA, Sanchez-Pulido L, McGowan SJ, Ahmed MR, Brown JM, Sabry MA , WGS500 Consortium, Bentley DR, McVean GA, Donnelly P, Gileadi O, Ponting CP, Higgs DR, Buckle VJ.
Title	Homozygous mutations in a predicted endonuclease are a novel cause of congenital dyserythropoietic anemia type I.
Journal	Haematologica.2013; 98(9): 1383-1387.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23716552

ABSTRACT

The congenital dyserythropoietic anemias are a heterogeneous group of rare disorders primarily affecting erythropoiesis with characteristic morphological abnormalities and a block in erythroid maturation. Mutations in the CDAN1 gene, which encodes Codanin-1, underlie the majority of congenital dyserythropoietic anemia type I cases. However, no likely pathogenic CDAN1 mutation has been detected in approximately 20% of cases, suggesting the presence of at least one other locus. We used whole genome sequencing and segregation analysis to identify a homozygous T to A transversion (c.533T>A), predicted to lead to a p.L178Q missense substitution in C15ORF41, a gene of unknown function, in a consanguineous pedigree of Middle-Eastern origin. Sequencing C15ORF41 in other CDAN1 mutation-negative congenital dyserythropoietic anemia type I pedigrees identified a homozygous transition (c.281A>G), predicted to lead to a p.Y94C substitution, in two further pedigrees of SouthEast Asian origin. The haplotype surrounding the c.281A>G change suggests a founder effect for this mutation in Pakistan. Detailed sequence similarity searches indicate that C15ORF41 encodes a novel restriction endonuclease that is a member of the Holliday junction resolvase family of proteins.

Author/s	Bagust J, Docherty S, Abdul Razzak R.
Title	Rod and frame alignment times increase when the frame is tilted.
Journal	Psychology and Behavioral Sciences.2013; 2(2): 66-72.
Available at	https://pdfs.semanticscholar.org/3618/c0c79f6ac717a26b5ff4968ea248d289576d.pdf

ABSTRACT

The Rod and Frame test measures an individual's subjective assessment of visual vertical and horizontal in the presence of a surrounding tilted frame. Attention has focused upon the effects of the surrounding frame upon spatial accuracy (Spatial Frame Effect). We have investigated if the tilted frame also affects the time that subjects take to make the alignment (Temporal Frame Effect). Results: 125 subjects performed a computerised Rod and Frame test to investigate the effects of a tilted frame on subjective visual vertical and horizontal. In addition the program recorded the time taken to make each alignment. For most subjects the mean Spatial Frame Effect was small (vertical 1.62, SD 0.93; horizontal 1.9, SD 1.43). The mean time taken to make alignments in the presence of a tilted frame was longer than when the frame was not tilted (vertical, +3.4s, SD 4.4; horizontal, +3.2s, SD 4.5). Differences in the times taken when the rod and frame were presented congruently and incongruently could be fully accounted for by the differences in steps needed to move the rod to its final alignment. No relationship was found between the spatial accuracy and the time to make the alignment and there was no relationship between the Spatial and Temporal Frame Effects. Conclusion: This study suggests that the Spatial, and Temporal, Frame Effects provide information about different aspects of the process of resolving conflicting visual information when making judgments on alignment. In everyday functions such as the maintenance of balance or susceptibility to motion sickness, the increased time taken may be as important as spatial accuracy.

Author/s	Bagust J, Docherty S, Abdul Razzak R.
Title	Re: "High variability of the subjective visual vertical test of vertical perception, in some people with neck pain-Should this be a standard measure of cervical proprioception?"
Journal	Manual Therapy. 2015; 20(6):e18.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26453504

ABSTRACT

No abstract available

Author/s	Bakhiet M.
Title	Genomic detection and characterization of a potential therapeutic biomarker in Bahraini patients with multiple sclerosis.
Journal	Multiple Sclerosis and Related Disorders 2014;3(6):767-768.
Available at	http://www.sciencedirect.com/science/article/pii/S2211034814001199

ABSTRACT

We detected differentially expressed novel genes in MS Bahraini patients with aim to investigate pathogenesis of the recently emerged MS in our population. Out of about 50,000 genes, the hypothetical transmembrane protein-66 gene (TMEM66) exhibited 3 times more expression in MS patients than healthy subjects. We cloned the TMEM66 gene and its protein showed marked immunologic activity relevant to MS since significant proliferation ($p < 0.05$) and augmented induction of the proinflammatory cytokines IL-6, IFN-I, TNF-II and the chemokines CCL5/CCR5, MIP-1, MIP-1 were recorded, but not the anti-inflammatory cytokine IL-4 or IL-2 suggesting a role of TMEM66 in the pathogenesis of the disease.

Author/s	Bănescu C, Iancu M, Trifa AP, Dobreanu M, Moldovan VG, Duicu C, Tripon F, Crauciuc A, Skrypnik C , Bogliș A, Lazar E.
Title	Influence of XPC, XPD, XPF, and XPG gene polymorphisms on the risk and the outcome of acute myeloid leukemia in a Romanian population.
Journal	Tumor Biology: 2016; 37(7):9357-9366.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26779634

ABSTRACT

XPC, XPD, XPF, and XPG genes are implicated in the nucleotide excision repair (NER) system. Gene polymorphisms in NER repair system may influence the individual's capacity to recognize and repair DNA lesions, thus increasing the cancer risk. We hypothesized that these gene polymorphisms might influence the probability of developing acute myeloid leukemia (AML). We investigated the XPC, XPD, XPF, and XPG gene polymorphisms in 108 AML cases and 163 healthy controls. Also cytogenetic analyses besides FLT3 and DNMT3A mutations status were investigated. We found that variant genotypes (heterozygous and homozygous) of XPD 2251A > C and 22541A > C and the heterozygous genotype of XPG 3507G > C were associated with the risk of developing AML (OR = 2.55; 95% CI = 1.53-4.25; p value <0.001; OR = 1.66, 95 % CI = 1.02-2.72; p value = 0.047, and OR = 2.36; 95 % CI = 1.32-4.21; p value = 0.004, respectively). No association was found between white blood cell counts, FLT3, DNMT3A mutations, cytogenetic risk group, and variant genotypes of none of the analyzed polymorphisms. Variant homozygous XPF 673C > T genotype was associated with higher dose of cytosine arabinoside treatment administrated to AML patients (p value = 0.04). No differences were found regarding survival time and variant genotype in the investigated gene polymorphisms with the exception of XPD 2251A > C. In Conclusion, XPD 22541A > C, XPD 2251A > C, and XPG 3507G > C gene polymorphisms confer susceptibility to AML, while XPC 2920A > C, XPF-673C > T, XPF 11985A > G are not associated with AML.

Author/s	Barker-Collo S, Bennett DA, Krishnamurthi RV, Parmar P, Feigin VL, Naghavi M, Forouzanfar MH, Johnson CO; GBD 2013 Writing Group and GBD 2013 Stroke Panel Experts Group (Abera SF, Akinyemi RO, Al-Shahi Salman R [...] Hamadeh RR , et al).
Title	Sex differences in stroke incidence, prevalence, mortality and disability-adjusted life years: Results from the Global Burden of Disease Study 2013.
Journal	Neuroepidemiology. 2015; 45(3): 203-14. doi: 10.1159/000441103. Epub 2015 Oct 28.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26505984

ABSTRACT

Background: Accurate information on stroke burden in men and women are important for evidence-based healthcare planning and resource allocation. Previously, limited research suggested that the absolute number of deaths from stroke in women was greater than in men, but the incidence and mortality rates were greater in men. However, sex differences in various metrics of stroke burden on a global scale have not been a subject of comprehensive and comparable assessment for most regions of the world, nor have sex differences in stroke burden been examined for trends over time. Methods: Stroke incidence, prevalence, mortality, disability-adjusted life years (DALYs) and healthy years lost due to disability were estimated as part of the Global Burden of Disease (GBD) 2013 Study. Data inputs included all available information on stroke incidence, prevalence and death and case fatality rates. Analysis was performed separately by sex and 5-year age categories for 188 countries. Statistical models were employed to produce globally comprehensive Results over time. All rates were age-standardized to a global population and 95% uncertainty intervals (UIs) were computed. Findings: In 2013, global ischemic stroke (IS) and hemorrhagic stroke (HS) incidence (per 100,000) in men (IS 132.77 (95% UI 125.34-142.77); HS 64.89 (95% UI 59.82-68.85)) exceeded those of women (IS 98.85 (95% UI 92.11-106.62); HS 45.48 (95% UI 42.43-48.53)). IS incidence rates were lower in 2013 compared with 1990 rates for both sexes (1990 male IS incidence 147.40 (95% UI 137.87-157.66); 1990 female IS incidence 113.31 (95% UI 103.52-123.40)), but the only significant change in IS incidence was among women. Changes in global HS incidence were not statistically significant for males (1990 = 65.31 (95% UI 61.63-69.0), 2013 = 64.89 (95% UI 59.82-68.85)), but was significant for females (1990 = 64.892 (95% UI 59.82-68.85), 2013 = 45.48 (95% UI 42.427-48.53)). The number of DALYs related to IS rose from 1990 (male = 16.62 (95% UI 13.27-19.62), female = 17.53 (95% UI 14.08-20.33)) to 2013 (male

= 25.22 (95% UI 20.57-29.13), female = 22.21 (95% UI 17.71-25.50)). The number of DALYs associated with HS also rose steadily and was higher than DALYs for IS at each time point (male 1990 = 29.91 (95% UI 25.66-34.54), male 2013 = 37.27 (95% UI 32.29-45.12); female 1990 = 26.05 (95% UI 21.70-30.90), female 2013 = 28.18 (95% UI 23.68-33.80)). Interpretation: Globally, men continue to have a higher incidence of IS than women while significant sex differences in the incidence of HS were not observed. The total health loss due to stroke as measured by DALYs was similar for men and women for both stroke subtypes in 2013, with HS higher than IS. Both IS and HS DALYs show an increasing trend for both men and women since 1990, which is statistically significant only for IS among men. Ongoing monitoring of sex differences in the burden of stroke will be needed to determine if disease rates among men and women continue to diverge. Sex disparities related to stroke will have important clinical and policy implications that can guide funding and resource allocation for national, regional and global health programs.

Author/s	Ben Ali Gannoun M, Bourrelly S, Raguema N, Zitouni H, Nouvellon E, Maleh W, Brahim Chemili A, Elfeleh R, Almawi W , Mahjoub T, Gris JC.
Title	Placental growth factor and vascular endothelial growth factor serum levels in Tunisian Arab women with suspected preeclampsia.
Journal	Cytokine. 2016; 79:1-6.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26702929

ABSTRACT

The angiogenic factors vascular endothelial growth factor (VEGF) and placental growth factor (PIGF) play a central role in the process of angiogenesis. We evaluated the association of free PIGF and free VEGF levels and the risk of preeclampsia (PE) among Tunisian Arab women, and established the range of VEGF and PIGF in normal healthy pregnancies, between 24 and 42weeks of gestation. This retrospective case-control study included 345 women with PE, and 289 women with uncomplicated pregnancies. PIGF and VEGF plasma levels were quantitated by commercially-available ELISA. Compared to control women, plasma PIGF concentrations were lower in women with PE at all gestation age intervals ($P < 0.0001$), compared to VEGF levels which were significantly lower in women with PE but only during early gestation age intervals ([29-32[and [32-35]). High odds for developing PE, and correspondingly higher associations, were associated with low PIGF values (less than the 5(th) percentile), at all gestation age intervals. The only exception was recorded for the [29-32 [interval, which was not statistically significant. PIGF testing, recorded at 29-37weeks of gestation, had a higher specificity (93-100%) than sensitivity, and the positive predictive values ranged from 90% to 100% for 24-37weeks of gestation. This indicates that it mainly detects non-PE healthy women as well, and thus may be useful as a screening test, though currently unreliable for diagnostic purposes. Reduced PIGF levels during different gestation age intervals, and reduced VEGF levels during early gestation age intervals are also associated with subsequent development of PE in our population; the gestational age interval adjusted-5(th) percentiles of PIGF provide reference ranges for this marker in normal pregnancy.

Author/s	Ben Ali Gannoun M, Zitouni H, Raguema N, Maleh W, Gris JC, Almawi W , Mahjoub T.
Title	Association of common eNOS/NOS3 polymorphisms with preeclampsia in Tunisian Arabs.
Journal	Gene. 2015; 569(2):303-307.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26049094

ABSTRACT

We investigated the association of endothelial nitric oxide synthase (NOS3) polymorphisms -786T>C, 27-bp repeat 4b/4a, and Glu298Asp with preeclampsia (PE). This was a case-control study involving 345 unrelated Tunisian women with PE and 289 unrelated age- and ethnically matched control women. The -786C allele was significantly increased in PA patients when compared to healthy controls (P=0.015). In contrast, MAF of Glu298Asp (P=0.103) and 4b/4a (P=0.168) were not significantly different between the study groups. Higher frequencies of heterozygous Glu298/298Asp and homozygous -786T/-786T genotypes were seen in PE cases compared to healthy subjects. The combination of genotypes 221 (-786T>C, Glu298Asp, 4a/4a) was more in PE cases compared with control women (17.68% vs. 8.36%; P=0.029). Multivariate regression analysis confirmed this association. Genetic variation at the NOS3 locus represents a genetic risk factor for increased susceptibility to PE.

Author/s	Ben Khalaf N, Taha S , Bakhiet M , Fathallah MD.
Title	A central nervous system-dependent intron-embedded gene encodes a novel murine fyn binding protein.
Journal	PLoS One. 2016; 22; 11(2):e0149612.
Available at	http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0149612

ABSTRACT

The interplay between the nervous and immune systems is gradually being unraveled. We previously reported in the mouse the novel soluble immune system factor ISRAA, whose activation in the spleen is central nervous system-dependent. We also showed that ISRAA plays a role in modulating anti-infection immunity. Herein, we report the genomic description of the *israa* locus, along with some insights into the structure-function relationship of the protein. Our findings revealed that *israa* is nested within intron 6 of the mouse *zmiz1* gene. Protein sequence analysis revealed a typical SH2 binding motif (Y102TEV), with Fyn being the most likely binding partner. Docking simulation showed a favorable conformation for the ISRAA-Fyn complex, with a specific binding mode for the binding of the YTEV motif to the SH2 domain. Experimental studies showed that in vitro, recombinant ISRAA is phosphorylated by Fyn at tyrosine 102. Cell transfection and pull-down experiments revealed Fyn as a binding partner of ISRAA in the EL4 mouse T-cell line. Indeed, we demonstrated that ISRAA downregulates T-cell activation and the phosphorylation of an activation tyrosine (Y416) of Src-family kinases in mouse splenocytes. Our observations highlight ISRAA as a novel Fyn binding protein that is likely to be involved in a signaling pathway driven by the nervous system.

Author/s	Ben-Hadj-Khalifa S, Lakhali B, Mahjoub T, Almawi WY.
Title	Contribution of coagulation factor VII R353Q, -323P0/10 and HVR4 polymorphisms to coronary artery disease in Tunisians.
Journal	Journal of Thrombosis and Thrombolysis.2013; 35 (2): 243-249.
Available at	https://www.sciencedirect.com/science/article/pii/S1110863016300775

ABSTRACT

We examined the contribution of two factor VII (FVII) bi-allelic (R353Q, -323P0/10) and one tandem repeat (HVR4) polymorphisms to the risk of coronary artery disease (CAD) in Tunisians. Study subjects comprised 308 CAD patients and 312 age-, gender- and ethnically-matched controls. Regression analysis was used in assessing the FVII association to CAD risk. While the distribution of -323P0/10 alleles and genotypes were comparable between cases and controls, marginal association of the R353Q variant was noted, with the Q allele (19.1 vs. 23.8%; $P = 0.05$) and Q allele-containing genotypes (R/Q + Q/Q; 33.8 vs. 48.0%) being slightly under-represented in cases than in controls. On the other hand, four alleles of FVII microsatellite HVR4 were detected at variable frequencies in Tunisians, and comprised H6 (63.2%), H7 (33.8%), and to lesser extents H5 (1.9%) and H8 (0.8%). Of these, the H7 variant was under-represented in patients [$P = 0.038$; OR (95%CI) = 0.75 (0.58-0.97)]. Of the major genotypes detected (H6/H6, H6/H7, H7/H7) only H6/H6 was positively associated with CAD [$P = 0.047$; OR (95%CI) = 1.39 (1.00-1.94)]. In Conclusion, our study underscores the role of polymorphisms in the FVII gene in modulating the susceptibility to CAD in (North African) Tunisian Arabs

Author/s	Ben-Hadj-Khalifa S, Lakhal B, Nsiri B, Mahjoub T, Almawi WY.
Title	Factor VII levels, R353Q and -323P0/10 factor VII variants, and the risk of acute coronary syndrome among Arab-African Tunisians.
Journal	Molecular Biology Report. 2013; 40(5): 3793-3798.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23275237

ABSTRACT

The importance of the extrinsic haemostatic system, of which factor VII/VIIa (FVII/FVIIa) is a key constituent, in acute coronary syndrome (ACS) is well recognized. The contribution of FVII gene variants R353Q and -323P0/10, and altered FVII plasma levels to the risk of ACS was investigated in a North African Tunisian Arab cohort consisting of 308 ACS cases and 312 age-, gender- and ethnically-matched control subjects; FVII antigen levels were determined by ELISA. Regression analysis was used in assessing the association of FVII variants and changes in FVII levels to the overall risk of ACS. Significantly higher FVII antigen levels were seen in ACS patients ($P < 0.001$), and were associated with ACS and with ACS severity, and this association was confirmed by multivariate regression analysis, after adjusting for a number of confounders (BMI, smoking, systolic blood pressure, hypertension, diabetes, and glucose, cholesterol, and triglycerides levels). While the carriage of 353Q allele, was associated with significant reduction in FVII plasma levels, the distribution of the R353Q genotypes was comparable between cases and control subjects, thereby indicating that altered FVII levels, independent of R353 variant, were associated with increased risk of ACS. In contrast, the -323Ins variant, while not associated with altered FVII plasma levels, was associated with ACS, following adjustment for BMI, smoking, systolic blood pressure, hypertension, diabetes, and glucose, cholesterol, triglycerides and FVII levels. In summary, elevated FVII levels, and the -323P0/10 but not R353Q polymorphism, constitute risk factors for ACS.

Author/s	Ben-Salem A, Ajina M, Suissi M, Daher HS, Almawi WY , Mahjoub T.
Title	Polymorphisms of transcription factor-7-like 2 (TCF7L2) gene in Tunisian women with polycystic ovary syndrome (PCOS).
Journal	Gene. 2014; 533(2):554-557.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24157263

ABSTRACT

Background and Aims: Polycystic ovary syndrome (PCOS) is a common endocrine disorder that affects women in their child-bearing age, and is often associated with insulin resistance and type 2 diabetes (T2DM). Given the overlap between PCOS and T2DM, we investigated the association of transcription factor-7-like 2 (TCF7L2) variants rs4506565, rs7903146, rs12243326, and rs12255372 with the susceptibility to PCOS. Subjects and Methods: Study subjects comprised 119 Tunisian women with PCOS (mean age 29.8±4.7years), and 150 control women (mean age 30.6±5.9years). TCF7L2 genotyping was done by the allelic discrimination/real-time PCR Method. Results: Minor allele frequencies (MAFs) of rs4506565 (P=0.61), rs7903146 (P=0.68), rs12243326 (P=0.56), and rs12255372 (P=0.60) were comparable between PCOS cases and control subjects. As the four tested TCF7L2 variants were in linkage disequilibrium, 4-locus (rs4506565, rs7903146, rs12243326, rs12255372) haplotype analysis demonstrated that haplotype 2111 was initially negatively associated with PCOS [P=0.035; OR (95% CI)=0.13 (0.02-0.85)], which was later lost upon correcting for multiple comparisons [Pc=0.248]. Conclusion: Our data suggest that there is weak or no contribution of TCF7L2 gene polymorphism to PCOS in Tunisian women. Further studies with larger samples are necessary to confirm this observation.

Author/s	Bibi A, Ahmed J , Zaman T, Kumar R, Khan SA, Hamid S.
Title	Perceived quality of pharmacy services among outpatients of a tertiary care hospital in Islamabad.
Journal	Pak J Public Health. 2015; 5 (4): 21-25.
Available at	https://www.researchgate.net/publication/292564442_Perceived_quality_of_pharmacy_services_among_outpatients_of_a_tertiary_care_hospital_in_Islamabad

ABSTRACT

Background: Exploitation and abusive handling of children through child labour is an important issue which has evaded the attention of global, national and local authorities. Research reveals that child labor is a common phenomenon which runs widely and deeply. This study aims to describe children exploitation through child labor in district Vehari, Pakistan. Methods: We conducted this cross sectional study in both the rural and urban settings of the three tehsils of district Vehari, during the months of May and June 2013. A total of 542 children living in difficult circumstances employed in 11 work categories (94.1% male; average age 13 years) were interviewed using semi-structured questionnaires. Information on socio-demographic characteristics of children, health outcomes, financial exploitation and exposure to physical and sexual abuse was collected. Results: We found that 100% of study subjects were being forced to work and financially exploited for working more than average working hours, i.e. 10.78 (± 2.58) hours a day for just Rupees 1000-2500(US\$9.72-24.30) per month as wages. For physical abuse, 8.5% of children reported being subjected by the employers and the family members. However, no sexual abuse was reported. Large family size and illiteracy were found to be important predisposing factors. Conclusion: We conclude that exploitation of underprivileged children through child labor is an issue in Vehari. This has evaded the attention of the national and local authorities though there is enough legislation in Pakistan. Keywords: Child abuse, mistreatment, employment, developing country.

Author/s	Bohlaiga A, Al-Kakhli B, Al-Mattar H, Al-Bahrani I, Al-Lowaim K, Al-Baqshi M, Al-Harathi N, Al-Harbi R, Al-Moumen S, Al-Hammad Z, Al-Nasser Z , Alnasir F.
Title	Prevalence and risk factors of abuse against married women in Eastern Saudi Arabia.
Journal	Journal of General Practice. 2014; 2:2.
Available at	https://www.omicsonline.org/open-access/prevalence-and-risk-factors-of-abuse-against-married-women-in-eastern-saudi-arabia-2329-9126.1000150.pdf

ABSTRACT

Background: Domestic abuse against a female is considered an anomalous department; however it is still an obnubilated quandary. Its prevalence rate is very high reaching up to 59% in certain communities. This study was done with the main Objective of ascertaining the rate of women abuse in both Al-Dammam and Al-Ahsa cities of Saudi Arabia and to explore the associated risk factors to it. Materials and Methods: A cross-sectional study was conducted on a convenient sample of 348 married Saudi women aged between 18 and 50 years, who have one child or more and live in the designated cities. The data were amassed by betokens of a pre-designed questionnaire. Results: The prevalence of women abuse was found to be around 19%, but reached to 33% when added to it the response of women to the abuse cognate questions. The highest rate was among women aged 40 years and older. The most mundane type of abuse was that of multiple types that accounted to 49% (which included verbal, physical and others). Vituperation accounted for 35.8% and physical, emotional, and psychological accounted for 7.5% each. Abuse was higher among lower educated couples and in families with poor economic status. Only a moiety of the abused women sought help, and most did so from their families (71%) and friends (17.8). Very few reported to the police. Conclusion: The prevalence of abuse against women is underestimated, as many women did not admit frankly being abused while they did answer abuse cognate questions. Since this type of violence affects the stability of the family and the well-being of the victim, it is recommended to establish utilize multi disciplinary programs aiming at raising the cognizance level of the society against this eccentric demeanor. Educating current and future couples and opportune training of health care providers.

Author/s	Bosley TM, Alorainy IA, Oystreck DT, Hellani AM, Seidahmed MZ, Osman Mel F, Sabry MA , Rashed MS, Al-Yamani EA, Abu-Amero KK, Salih MA.
Title	Neurologic injury in isolated sulfite oxidase deficiency.
Journal	The Canadian Journal of Neurological Sciences.2014; 41(1):42-48.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24384336

ABSTRACT

Background: We review clinical, neuroimaging, and genetic information on six individuals with isolated sulfite oxidase deficiency (ISOD).Methods: All patients were examined, and clinical records, biochemistry, neuroimaging, and sulfite oxidase gene (SUOX) sequencing were reviewed. Results: Data was available on six individuals from four nuclear families affected by ISOD. Each individual began to seize within the first week of life. neurologic development was arrested at brainstem reflexes, and severe microcephaly developed rapidly. neuroimaging within days of birth revealed hypoplasia of the cerebellum and corpus callosum and damage to the supratentorial brain looking like severe hypoxic-ischemic injury that evolved into cystic hemispheric white matter changes. Affected individuals all had elevated urinary S-sulfocysteine and normal urinary xanthine and hypoxanthine levels diagnostic of ISOD. Genetic studies confirmed SUOX mutations in four patients.Conclusion: ISOD impairs systemic sulfite metabolism, and yet this genetic disease affects only the brain with damage that is commonly confused with the clinical and radiologic features of severe hypoxic-ischemic encephalopathy.Lésions neurologiques dans le déficit isolé en sulfite oxydase.

Author/s	Bourguiba-Hachemi S, Ashkanani TK, Kadhem FJ, Almawi WY , Alroughani R, Fathallah MD.
Title	ZFAT gene variant association with multiple sclerosis in the Arabian Gulf population: A genetic basis for gender-associated susceptibility.
Journal	Molecular Medicine Report. 2016;14(4):3543-3550.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27572828

ABSTRACT

Single nucleotide polymorphisms (SNPs) are useful genetic markers to investigate the onset of multiple sclerosis (MS). A genome wide association study identified 7 SNPs associated with interferon β therapy response, however, not with MS risk in a Spanish population. To investigate these findings in a different cohort, the 7 SNPs were investigated in an Arabian Gulf population. The SNPs were analyzed in 268 subjects (156 patients and 112 healthy volunteers) from the Arabian Gulf region using restriction fragment length polymorphism-polymerase chain reaction (PCR) and KBioscience Competitive Allele Specific PCR genotyping methods. Associations between the SNPs and MS were investigated using logistic regression. The present study observed, for the first time, that in an Arabian Gulf population, the ZFAT rs733254 polymorphism (T>G) is a gender specific risk marker for MS. ZFAT was associated with MS in women but not in men. The G variant was highly associated with the risk of MS [odds ratio (OR)=2.38 and 95% confidence interval (CI), 1.45 3.91]; P=0.0014]. Whereas variant T was a significantly protective factor [OR=0.420 (95% CI, 0.25 0.69); P=0.0014, recessive model]. The findings of the present study provide a genetic basis for the gender associated susceptibility to MS. In addition, this MS-associated rs733254 SNP may predict MS onset in females from the Arabian Gulf population.

Author/s	Cartwright R, Brown H, Rizk DE.
Title	Patient reported outcome measures after incontinence and prolapse surgery: are the pictures painted by the ICIQ and PGI-I accurate? [Editorial Comment].
Journal	International Urogynecology Journal. 2016; 27:507-508.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26755053

ABSTRACT

Comment on: Discrepancies between patient-reported outcome measures when assessing urinary incontinence or pelvic-prolapse surgery.

Author/s	Chakravarty MM, Waleed H, Al-Bu-Ali, Abdul Latif N , Abu-Hijleh MF, Ganguly PK.
Title	Applying the pythagorean model to derive a correction factor for estimating minimal competence with greater fidelity.
Journal	Journal of Education and Practice. 2012; 3(16): 34-40.
Available at	http://www.iiste.org/Journals/index.php/JEP/article/view/3693

ABSTRACT

We propose an alternate psychometric Method for judging minimal competence using core knowledge as a major variable. Utilizing the 'Pythagorean' model, we offer to establish a mathematically valid relationship between a borderline candidate's scores in test items reflecting core knowledge, desirable or higher knowledge, and the total raw score obtained in a given test. Using this Method, it is possible to establish a mathematical relationship between the above variables and derive a positive integer, named herein as the Correction Factor (CF) that would help in providing a better means to identify minimal competence with greater fidelity.

Author/s	Costantini E, Brubaker L, Cervigni M, Matthews CA, O'Reilly BA, Rizk D , Giannitsas K, Maher CF.
Title	Sacrocolpopexy for pelvic organ prolapse: evidence-based review and recommendations.
Journal	European Journal of Obstetrics Gynecology Reproductive Biology. 2016; 205:60-65.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27566224

ABSTRACT

Sacrocolpopexy is considered a reference operation for pelvic organ prolapse repair but its indications and technical aspects are not standardized. A faculty of urogynecology surgeons critically evaluated the peer-reviewed literature published until September 2015 aiming to produce evidence-based recommendations. PubMed, MEDLINE, and the Cochrane Library were searched for randomized controlled trials published in English language. The modified Oxford data grading system was used to assess quality of evidence and grade recommendations. The Delphi process was implemented when no data was available. Thirteen randomized, controlled trials were identified, that provided levels 1 to 3 of evidence on various aspects of sacrocolpopexy. Sacrocolpopexy is the preferred procedure for vaginal apical prolapse (Grade A), monofilament polypropylene mesh is the graft of choice and the laparoscopic approach is the preferred technique (Grade B). Grade B recommendation supports the performance of concomitant procedures at the time of sacrocolpopexy. Grade C recommendation suggests either permanent or delayed sutures for securing the mesh to the vagina, permanent tackers or sutures for securing the mesh to the sacral promontory and closing the peritoneum over the mesh. A Delphi process Grade C recommendation supports proceeding with sacrocolpopexy after uncomplicated, intraoperative bladder or small bowel injuries. There is insufficient or conflicting data on hysterectomy (total or subtotal) or uterus preservation during sacrocolpopexy (Grade D). Sacrocolpopexy remains an excellent option for vaginal apical prolapse repair. The issue of uterine preservation or excision during the procedure requires further clarification. Variations exist in the performance of most technical aspects of the procedure.

Author/s	Damanhori AH, Al Khaja KAJ , Sequeira RP , Alkhaja AK.
Title	Temporal changes in antihypertensive prescribing trend in Bahrain over a decade: emerging issues in iatrogenic sexual dysfunction
Journal	International Journal of Clinical Pharmacology Therapeutics. 2014; 52(3):245-254.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24424110

ABSTRACT

Objective: To elucidate temporality of antihypertensive drug prescribing trends over a decade in terms of emerging views on iatrogenic sexual dysfunctions (SD). Methods: The antihypertensive prescribing trend in 2007 was compared with baseline data collected in 1998 using prescription audit. Results: Angiotensin converting enzyme (ACE) inhibitors were deemed first and second ranked antihypertensives for patients with diabetic hypertension and hypertension in 2007, respectively. Between 1998 and 2007 β -blockers such as atenolol, and methyldopa use has declined in both male and female patients. In 2007, the rate of prescribing atenolol at inappropriately high doses has declined as compared to 1998, especially in males. Methyldopa overall use has declined in 2007, although it is often prescribed to females. Compared to baseline of 1998 there was a significant upturn in diuretic use. Nonetheless the trend towards prescribing indapamide ≤ 1.5 mg/day and 12.5 mg/day hydrochlorothiazide, at doses least likely to cause SD, was evident in both male and females. This trend appears to be related to the use of fixed-dose combinations (FDCs) and antihypertensive combination therapies which have significantly increased in recent years ($p < 0.0001$). Conclusion: With respect to the prescribing rate and dose appropriateness, antihypertensives that are likely to cause SD appear to be more rationally prescribed in 2007 as compared to 1998. Introducing FDCs had an important role in resurgence of appropriate low dose of drugs implicated with SD and diuretic-based antihypertensive combination therapies.

Author/s	Dar OA, Hasan R, Schlundt J, Harbarth S, Caleo G, Dar FK , Littmann J, Rweyemamu M, Buckley EJ, Shahid M, Kock R, Li HL, Giha H , Khan M, So AD, Bindayna KM , Kessel A, Pedersen HB, Permanand G, Zumla A, Røttingen JA, Heymann DL.
Title	Exploring the evidence base for national and regional policy interventions to combat resistance.
Journal	The Lancet. 2015; 387(10015):285-295.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26603921

ABSTRACT

The effectiveness of existing policies to control antimicrobial resistance is not yet fully understood. A strengthened evidence base is needed to inform effective policy interventions across countries with different income levels and the human health and animal sectors. We examine three policy domains-responsible use, surveillance, and infection prevention and control-and consider which will be the most effective at national and regional levels. Many complexities exist in the implementation of such policies across sectors and in varying political and regulatory environments. Therefore, we make recommendations for policy action, calling for comprehensive policy assessments, using standardised frameworks, of cost-effectiveness and generalisability. Such assessments are especially important in low-income and middle-income countries, and in the animal and environmental sectors. We also advocate a One Health approach that will enable the development of sensitive policies, accommodating the needs of each sector involved, and addressing concerns of specific countries and regions.

Author/s	Dashti M, Alhamar AY, Shawky H, Bakhiet M.
Title	Effectiveness of combined empirical therapies and double IUI procedures in treatment of male factor infertility.
Journal	Andrology. 2013; 2(2):1-5.
Available at	https://www.omicsonline.org/open-access/effectiveness-of-combined-empirical-therapies-and-double-iui-procedures-in-treatment-of-male-factor-infertility-2167-0250-2-112.pdf

ABSTRACT

Objective: Current information on using anti-estrogenic compounds, antioxidant vitamins and minerals in treatment of male factor infertility still remains controversial. Herein, we investigated the pregnancy outcome in male factor infertile patients using a combination of non-specific empiric modalities and Intra Uterine Insemination (IUI) procedures. Subjects and Methods: The study involved a group of 33 infertile couples with mild male factor infertility who previously failed two IUI attempts. The patients received tamoxifen, vitamin E, zinc, and selenium for three months prior to their third IUI treatment cycle. Four important parameters were mainly noted: sperm concentration, motility, forward progression and the percentage normal forms. Results: There was no difference between these parameters in semen samples of our study group in the first and second IUI treatment cycles ($p < 0.96$, $p < 0.23$, $p < 0.59$, $p < 0.84$ respectively). However, after completion of the empiric therapy course and in the third IUI treatment cycle, significant differences in overall values for the four semen parameters were detected in comparison to the earlier two IUI cycles (range $p < 0.005$ to $p < 0.0005$), except for semen volume and sperm normal forms, resulting in a chemical pregnancy rate of 30.3%, a clinical pregnancy rate of 21.2% and a delivery rate of 18.1%. Grouping the female patients according to the Body Mass Index (BMI) showed imperative differences in pregnancy outcome, yet there was no clear effect of age over pregnancy success rates in our study group. Conclusion: Combined empirical therapies can improve semen parameters in infertile men with mild male factor. Double insemination procedures with improved semen samples, can contribute in increasing the chances of pregnancy and life birth more significantly in females with lower BMI.

Author/s	Dendana M, Hizem S, Magddoud K, Messaoudi S, Zammiti W, Nouira M, Almawi WY , Mahjoub T.
Title	Common polymorphisms in the P-selectin gene in women with recurrent spontaneous abortions.
Journal	Gene. 2012; 495(1): 72-75.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22192915

ABSTRACT

Background: To investigate possible associations of P-selectin polymorphisms with idiopathic recurrent pregnancy loss (RPL). Methods: Study subjects comprised 270 consecutive RPL cases attending outpatient maternity services, and 322 multiparous control women. P-selectin genotyping was done by PCR-RFLP and PCR-ASA Methods. Results: The P-selectin variants rs1800807, rs1800805, and rs6127, were in Hardy Weinberg equilibrium, and low linkage disequilibrium was noted between the three studied SNPs. The frequency of rs6127 A allele ($P < 0.001$), but not rs1800807 C allele ($P = 0.957$) or rs1800805 A allele ($P = 0.760$), was higher in RPL cases than in control women. Significant differences in the distribution of rs6127 ($P < 0.001$), but not rs1800807 ($P = 0.444$) or rs1800805 ($P = 0.391$) genotypes were seen between cases and controls, and only rs6127 showed a significant association with RPL, with increments of 2.65 and 4.96 in disease risk seen for heterozygous and homozygous carriers, respectively. Among the 8 three-locus Pselectin haplotypes constructed (rs1800807/rs1800805/rs6127), increased frequency of GGG ($P_c = 0.0249$), CGG ($P_c = 0.0256$), and CAG ($P_c = 0.0174$) haplotypes, and lower frequency of CGA haplotype ($P_c = 0.0091$) were seen in RPL cases, thus conferring disease susceptibility and protective nature to these haplotypes, respectively. Conclusions: P-selectin gene polymorphisms and haplotypes contribute to RPL development.

Author/s	Dendana M, Messaoudi S, Hizem S, Jazia KB, Almawi WY , Gris JC, Mahjoub T.
Title	Endothelial protein C receptor 1651C/G polymorphism and soluble endothelial protein C receptor levels in women with idiopathic recurrent miscarriage.
Journal	Blood Coagulation Fibrinolysis. 2012; 23(1):30-34.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22036807

ABSTRACT

High levels of soluble endothelial protein C receptor (EPCR) induce coagulation dysfunction by inhibiting protein C activation, and activated protein C (APC) activity. We tested whether EPCR 1651C/G promoter variant and changes in plasma soluble EPCR levels are risk factors for idiopathic recurrent spontaneous miscarriage (RSM). A case-control study involving 283 RSM cases and 380 age and BMI-matched control women. EPCR 1651C/G genotyping was performed by PCR-RFLP method. Plasma-soluble EPCR levels were measured with ELISA. The 1651G allele frequency and C/G genotype were significantly higher in RSM cases than controls; none of the cases or control participants was a 1651G/G homozygote. Lower soluble EPCR levels were seen in RSM cases compared to controls, and higher soluble EPCR levels were seen in 1651C/G compared to 1651C/C carriers in cases and controls. Lower soluble EPCR levels were seen in cases, both in 1651C/C ($P = 0.0046$) and 1651C/G ($P = 0.0032$) genotype carriers. Multivariate analysis demonstrated strong association of EPCR 1651C/G [$P = 0.011$; adjusted odds ratio (aOR) (95% confidence interval [CI] = 3.13 (1.31-7.60)], but not soluble EPCR plasma levels [$P = 0.067$; aOR (95% CI) = 1.01 (1.00-1.10)], with increased RSM risk. In addition, smoking was independently associated with increased RSM risk [$P = 0.002$; aOR (95% CI) = 2.86 (1.48-5.52)]. EPCR 1651C/G polymorphism and elevated soluble EPCR levels but low soluble EPCR levels increase the risk of idiopathic RSM. Replication studies on other racial groups, and other EPCR gene variants, are warranted.

Author/s	Derbas A, Jahrami H, Al-Haddad MK , Qaheri S.
Title	Survey of burnout amongst drug and alcohol unit staff.
Journal	Bahrain Medical Bulletin. 2013; 35(1):1-9.
Available at	https://pdfs.semanticscholar.org/e0e5/efa90333eaec1685252288b4783ec3a08200.pdf

ABSTRACT

Background: Burnout has a special significance in healthcare where staff experience psychological, emotional and physical stress. Burnout has major behavioral and health implications. Objective: To evaluate the extent to which the staff employed in Drug and Alcohol Unit is affected by burnout. Setting: Drug and Alcohol Unit, Psychiatric Hospital, Bahrain. Design: The study is a cross-sectional survey, incorporating a standardized measurement of burnout (Maslach Burnout Inventory: MBI). Method: All staff in the Drug and Alcohol Unit (N=31) were surveyed using the Maslach Burnout Inventory questionnaire in October 2011. Maslach Burnout Inventory (MBI) is designed to assess the three components of the burnout syndrome: emotional exhaustion, depersonalization and reduced personal accomplishment. Result: Twenty-four (77.4%) responded, their result indicates a medium level of burnout. The degree of burnout among the staff working in the Drug and Alcohol Unit was low compared to the staff working in General Adult Psychiatry Unit. Personal accomplishment was high in Drug and Alcohol compared to General Adult Psychiatry. Conclusion: The degree of burnout as well as emotional exhaustion in the staff working in the Drug and Alcohol Unit was lower compared to the staff working in General Adult Psychiatry. Dealing with patients' psychological problems, feelings of isolation, lack of support, lack of reward, long hours of work and psychological morbidity leads to higher degree of burnout.

Author/s	Dharap AS, Salem AH, Fadel RR , Osman MA, Chakravarty M, Abul Latif N, Abu-Hijleh MF.
Title	Facial anthropometry in an Arab population.
Journal	Bahrain Medical Bulletin. 2013. 35(2): 69-73.
Available at	http://www.bahrainmedicalbulletin.com/june_2013/Facial_anthropometry.pdf

ABSTRACT

Objective: To measure the inter-alar width of the nose, the maxillary inter-canine distance and mouth width of an Arab sample and evaluate the ethnic variations. Design: A prospective study. Setting: College of Medicine and Medical Sciences, Arabian Gulf University, Bahrain. Method: One hundred sixty-eight young adult Arab subjects (51 males and 117 females), from five countries of the Gulf Cooperation Council (GCC), were selected randomly from undergraduate medical students during the academic year 2009/2010. Mouth, nose and teeth dimensions were measured using Vernier caliper; for each subject, three measurements were taken and the average was recorded. Result: The mean inter-alar width of the nose was 35.06 mm (37.14 mm in males and 33.21 mm in females). The mean maxillary inter-canine distance was 37.96 mm (39.66 mm in males and 36.38 mm in females). The mean mouth width was 50.66 mm (52.85 mm in males and 48.63 mm in females). The maxillary inter-canine distance was 75% of mouth width; therefore, the mouth width is a reliable predictor of the maxillary inter-canine distance and vice versa in the Arab population. Comparison between nationals from different GCC countries showed that Bahraini males had significantly wider mouths than Saudi Arabian males ($P=0.034$). Conclusion: GCC Arab males had significantly wider noses, broader maxillary arches and wider mouths than females ($P<0.001$). Anterior maxillary arches were found to be wide in males and females, which seems to be an ethnic characteristic in Arabs of this region.

Author/s	Diab D, Hassan AB , Al-Harbi EM, Garadah T, Khamis A, Madani A, Bakheit M.
Title	Genotypic analysis in Bahraini sickle cell patients with hypovitaminosis D.
Journal	International Journal of Current Research. 2014; 6(07)7508-7514.
Available at	http://www.journalcra.com/article/genotypic-analysis-bahraini-sickle-cell-patients-hypovitaminosis-d

ABSTRACT

Background: Patients with sickle cell disease (SCD) had a low serum level of vitamin D. Also, genotypic analysis in Bahraini SCD patient has not been investigated. Aim: To investigate gene polymorphisms (SNP) and to observe if genotyping, allelic discrimination or allele frequency have any effects on SCD patients compared to controls. Methods: For quantification of serum PTH, ELISA kits were used. Calcium (Ca), phosphate (Ph) and Alkaline Phosphatase (ALP) were measured using the auto analyzer (Cobas). Gene polymorphisms of VDR and PTH genes were investigated using real-time PCR. Results: Genotypic analysis in the VDR gene revealed complete absence of homozygous allele A (the mutant allele) among both SC patients and controls. AG genotypes was more frequent than the GG genotypes in patient and controls ($p < 0.012$). The percentage of allele A frequency was 61.4% and 66.1% within patient and controls, respectively with no statistical difference. Yet, the analysis showed no association within sex between genotypes and allele's frequency. In the PTH gene, the GG-genotype was more frequent than the AG genotype in patients and controls ($p < 0.022$). The percentage of A allele was 34.3% in patients and 25.8% in controls, but the difference was not significant. No association was found between GG genotype in sex and allele frequency and sex in PTH gene. Conclusion: In the VDR gene the AG genotype is associated with SCD, while in PTH gene the GG genotype is associated with SCD. There was no statistical difference in allele's frequencies between patients and controls in both VDR and PTH genes. Moreover, no association was found between VDR and PTH gene polymorphisms and their corresponding serum levels suggesting that allele A may be associated with vitamin D serum level.

Author/s	Donnellan C, Al Banna M, Redha N, Al Sharoqi I, Al-Jishi A, Bakhiet M, Taha S , Abdulla F.
Title	Association between metacognition and mood symptoms post stroke.
Journal	Journal of Geriatric Psychiatry Neurology. 2016; 29(4):212-220.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27056067

ABSTRACT

Introduction: The link between metacognition and mood has been well established, particularly in other conditions with psychological comorbidity, however, there is no evidence regarding this association in the area of stroke. Aim: The aim of this study was to examine the association between metacognition, based on the Self-Regulatory Executive Function model, and mood symptoms in the acute phase after stroke. Methods: One hundred thirty patients were recruited to a prospective stroke study in Bahrain, and n = 64 were assessed for mood and cognition. A neuropsychological battery of cognitive assessments included the following measures: the Mini-Mental State Examination, the Trail Making Test (A+B), and the Metacognition Questionnaire 30 (MCQ-30) for metacognition. The Hospital Anxiety and Depression Scale assessed mood symptoms, and stroke severity was measured using the National Institute of Health Stroke Severity Scale. Results: Total MCQ-30 scores were significantly associated with both anxiety ($r = .47, P = .001$) and depression ($r = .54, P < .0001$). The MCQ-30 subscales' cognitive confidence, cognitive self-consciousness, and uncontrollability/danger were the specific factors to be associated with mood symptoms ($P < .01$). Global cognition ($r = .32, P < .01$), but not executive function, was significantly associated with depression only. Metacognition remained a statistically significant correlate with depression ($\beta = .42, P < .0001$) and anxiety ($\beta = .51, P < .0001$) after adjusting for education and global cognition. Discussion: Metacognition is a better determinant of mood symptoms after stroke, especially in regions where illiteracy levels are high in older populations, in comparison to executive function and global cognition.

Author/s	Dudley A, Sater M , Le PU, Trinh G, Sadr MS, Bergeron J, Deleavey GF, Bedell B, Damha MJ, Petrecca K.
Title	DRR regulates AKT activation to drive brain cancer invasion.
Journal	Oncogene. 2014 Oct 9; 33(41):4952-4960.
Available at	https://www.nature.com/articles/onc2013436

ABSTRACT

Glioblastoma (GBM) is the most common and invasive adult brain cancer. The rapid invasion of cancer cells into the normal brain is a major cause of treatment failure, yet the mechanisms that regulate this process are poorly understood. We have identified a novel mechanism of brain cancer invasion. We show that downregulated in renal cell carcinoma (DRR), which is newly expressed in invasive gliomas, recruits AKT to focal adhesions. This DRR- induced pathological relocalization of AKT bypasses commonly altered upstream signaling events and leads to AKT activation and invasion. We also developed an oligonucleotide therapeutic that reduces DRR expression and prevents glioma invasion in an in vivo preclinical model of the disease. Our findings identify DRR as a novel GBM target and show that oligonucleotides targeting DRR is a novel therapeutic approach for the treatment of DRR-positive GBMs.

Author/s	EI-Agroudy AE , Al Arrayed SM, Al-Ghareeb SM, Farid E, Alhelow H, Abdulla S.
Title	Sirolimus-based, calcineurin inhibitor- free regimen in kidney transplant patients: An open-label, randomized, controlled trial.
Journal	European Journal of General Medicine. 2016;13(3):16-22.
Available at	http://www.ejgm.org/upload/sayil/1028/EJGM-01549.pdf

ABSTRACT

Background/Aim: We report a prospective, open-label, randomized study to evaluate the safety and efficacy of converting patients with stable renal function from Tacrolimus (Tac)-based regimen to a Sirolimus (SRL)-based regimen after kidney transplantation. Methods: Fifty eight low risk renal allograft recipients who were eligible to the study, 6 months posttransplant and receiving Tac, were randomly assigned to continue Tac (n=29) or convert to SRL (n=29). We evaluated the 3-year outcomes including patient and graft survival, graft function and safety profile. Results: 3-year patient and graft survival in SRL and Tac groups was 93.1% vs. 100% (P=0.04), and 89.7% vs. 100% (P=0.04), respectively. However, the SRL group had significantly better renal function, from the second year post-transplant until the last follow-up. Four (13.8%) patients in the SRL group and 3 (10.3%) in the Tac group (P=0.5) developed biopsy proven acute rejection. Mean urinary protein excretion increased significantly after SRL conversion. Diastolic blood pressure was significantly lower in patients who eliminated tacrolimus (80.4 vs. 75.6 mmHg) (P = 0.03). Mean hemoglobin concentrations decreased after SRL conversion and remained significantly lower from 12 months to 36 months (P=0.01). The mean serum cholesterol and triglyceride levels increased significantly in the SRL group, (P < 0.05). Conclusions: our experience demonstrates that conversion to sirolimus from calcineurin inhibitors (CNI)-based therapy may result in better renal function and blood pressure control in renal transplant recipients without an increased risk of acute rejection. However, these benefits have not resulted in a growing advantage in graft or patient survival.

Author/s	Elhannan S, Taha S , Khalaf NB, Bakheit H, Fathallah DM, Bakhiet M .
Title	Induction of dissociated cytokine profiles by ISRAA with selective critical involvement of ERK1/2 in its signaling functions.
Journal	International Journal of Molecular Medicine. 2015; 36(6):1583-1592.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26499109

ABSTRACT

The immune system-released activating agent (ISRAA) is an immune mediator activated as a Result of a nerve stimulus initiated by immune challenge. We have previously demonstrated that ISRAA and tumor necrosis factor (TNF) receptor 1 (TNFR1) share an interspecies-conserved motif (72% homology) that induces the apoptosis and proliferation of human peripheral blood mononuclear cells (hPBMCs) in a dose-dependent manner. In the present study, cytokine profiles were examined in response to the stimulation of hPBMCs with ISRAA. Furthermore, the signaling pathways induced by ISRAA were mapped. The Results revealed high measurable levels of TNF- α , interleukin (IL)-6, IL-8, IL-10 and interferon (IFN)- γ , but not IL-4, IL-17 (IL-17A) or transforming growth factor (TGF)- β . The analysis of signaling pathways revealed the activation of extracellular-regulated protein kinase (ERK)1/2 as a downstream signal in the mitogen activated protein kinase (MAPK) pathway during TNF α and IL-6 production and apoptosis, but not during proliferation following stimulation with ISRAA by triggering the Fas-associated protein with death domain (FADD). STAT3 was found to be unphosphorylated in the ISRAA stimulated hPBMCs, and STAT3 was ubiquitously expressed in unstimulated cells, suggesting that ISRAA has a protein inhibitor of activated STAT (PIAS)-like activity, by functioning as a negative regulator of the effects of STAT3 on the Janus kinase (JAK)/STAT pathway. The determination of the nature of cytokine responses together with the signaling pathways of cellular activity induced by ISRAA paves the way for the investigation of a potential target of ISRAA and for the development of novel therapeutic approaches for the treatment of immune-regulated disorders.

Author/s	El-Jardali F, Saleh S, Khodor R, Al Rub RA, Arfa C, Romdhane H B, Hamadeh RR.
Title	An institutional approach to support the conduct and use of health policy and systems research: The Nodal Institute in the Eastern Mediterranean Region.
Journal	Health Research Policy and Systems. 2015; 13:40.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26428084

ABSTRACT

Background: The use of health policy and systems research (HPSR) to support decision making in health systems is limited in the Eastern Mediterranean Region (EMR). This is partly due to the lack of effective initiatives to strengthen regional HPSR capacities and promote its use in decision making. This paper offers a structured reflection on the establishment and core functioning of a HPSR Nodal Institute for the EMR with specific focus on the approach used to support the conduct and use of HPSR. It seeks to gain better understanding of the activities conducted by the Nodal Institute, the Methods by which the Nodal Institute implemented these activities, and the outcomes of these activities. Methods: A multi-faceted approach was implemented by the Nodal Institute in collaboration with regional academic/research institutions, Sub-Nodes. The overall approach was a phased one that included the selection of Sub-Nodes, mapping of academic/research institutions in the EMR, stakeholders' meetings, and HPSR capacity building workshops, and culminated with a regional meeting. Results: The mapping of academic/research institutions in the EMR Resulted in the identification of 50 institutions, of which only 32 were engaged in HPSR. These institutions have the highest HPSR involvement in information/evidence (84%) and the lowest in human resources for health (34%). Their main HPSR focus areas included quality of healthcare services, patient safety, management of non-communicable diseases, and human resources for health. Regional HPSR challenges among these institutions were identified. The validation and ranking questionnaires Resulted in the identification of country-specific HPSR priorities according to stakeholders in three countries. From these Results, cross-cutting HPSR priorities among the countries related to primary healthcare, non-communicable diseases, human resources for health, as well as cross-cutting HPSR priorities among stakeholders and according to stakeholders of the countries, were extracted. Conclusion: The Nodal Institute in the EMR is a promising initiative to support the conduct and use of HPSR in health policies. The approach and findings reported in this paper allow for the development of opportunities towards the building of capacity for HPSR in the region and other countries and provide a roadmap for academic/research institutions interested in HPSR in the region.

Author/s	Ethisan P, Somrongthong R, Ahmed J , Chapman RS.
Title	Factors related to physical activity among the elderly population in rural Thailand.
Journal	Journal of Primary Care & Community Health. 2017; 8(2):71-76.
Available at	http://journals.sagepub.com/doi/pdf/10.1177/2150131916675899

ABSTRACT

Physical activity in later years of life is not only essential to healthy aging and independent functioning, but it also helps prevent chronic diseases. We aimed this cross-sectional study to assess the prevalence of physical activity and associated factors among rural elderly Thais. We conducted this study on a sample of 300 elderly in 2 rural districts of Phranakornsiayutthaya province in Thailand. The mean ages of participants were 67.5±6 years and 42% of them did not perform physical activity. Prevalence of vigorous and moderate intensity physical activity was 43.7% and 48.7%, respectively. About 43.7% elderly used any active transport and spent 2.81 hours on sedentary activities, daily. Females and those with enough income were 3.64 and 0.59 times, respectively, less likely to be physically active (P < .05). Our study concluded that almost half of the rural Thai elderly were physically inactive. Also male and wealthy elderly were less likely to be engaged in physical activity. We recommend for improved efforts to involve rural Thai elderly in physical activity by offering them opportunities for locally relevant recreational and leisure time physical activities, with special focus on males and higher income elderly.

Author/s	Fadel R, Othman M, Abu-Hijleh M, Sequeira R, Salem AH.
Title	Effects of topiramate administration on placenta of rat.
Journal	Bahrain Medical Bulletin. 2016; 38 (2): 90 – 93.
Available at	http://www.bahrainmedicalbulletin.com/june_2016/Effects_Topiramate.pdf

ABSTRACT

Background: Topiramate was classified as pregnancy category D, which means that it possesses a potential risk to the fetus. An increasing evidence points to the risk of development of cleft lip and/or cleft palate (oral clefts) in infants born due to Topamax (topiramate) during pregnancy. Objective: To evaluate the effects of the therapeutic doses of topiramate on the placental structure. Design: An Experimental Animal Study. Setting: Teratology Laboratory, Anatomy Department, CMMS, Arabian Gulf University. Method: Pregnant rats were treated with oral topiramate at doses of 50 and 100mg/Kg bodyweight. On day 20, the pregnant rats were sacrificed, and the placentae were collected and processed for histological evaluation. Result: Degenerative changes in all three layers of the placenta (decidual, basal and labyrinthine) were observed. In the decidual layer, deposition of fibrous and hyaline materials were found in the cells, in addition to vacuolization and hemorrhages. In the basal layer, the trophoblast cells (giant, basophilic and glycogen cells) showed vacuolization, cytolysis and cyst formation. In the labyrinthine layer, there was an increased fibrinoid material and fetal mesenchyme. In addition, degeneration of cells and congestion of blood vessels were evident. Conclusion: The deleterious effects of the therapeutic doses of topiramate on the placental structure may play a role in its teratogenicity. These placental changes are not dose dependent.

Author/s	Fadel R, Sequeira RP, Abu-Hijleh MF, Obeidat M, Salem A.
Title	Effect of prenatal administration of therapeutic doses of topiramate on ossification of ribs and vertebrae in rat fetuses.
Journal	Romanian Journal of Morphology and Embryology.2012; 53(2): 321-327.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22732801

ABSTRACT

There are few studies that have addressed the effects of prenatal exposure of topiramate on ossification of the bones derived from the paraxial mesoderm. This study aimed to evaluate skeletal ossification of ribs and vertebrae in 20-day-old rat fetuses after maternal exposure to two therapeutic doses of topiramate. Three groups of Sprague-Dawley pregnant rats were used: control, topiramate 50 mg/kg/day and topiramate 100 mg/kg/day treated groups. Topiramate was administered by gavage from day 6-19 of gestation. Fetuses were collected on day 20 by caesarean section. Fetal bones were stained with alizarin red and ossification was assessed. Results showed significant delayed ossification of ribs and vertebrae in topiramate-exposed fetuses at both doses and the effects were not dose dependent. In all examined groups, there was a direct correlation between the fetal weight and the number of complete ossified vertebral centers. Also, there were significant increases in skeletal abnormalities, particularly in ribs in both treated groups when compared to the control group. In Conclusion, therapeutic doses of topiramate should be taken cautiously during pregnancy as they lead to fetal growth restriction and increases abnormalities of axial skeleton in rat fetuses.

Author/s	Fadel R, Skrypnik C, Salem AH, Hijleh MA, Jaradat A, Sequeira R.
Title	Effects of topiramate on pregnancy outcome in rats.
Journal	Bahrain Medical Bulletin. 2016; 38(4): 214-218.
Available at	http://www.bahrainmedicalbulletin.com/December_2016/Effects_abstract_DEC2016.pdf

ABSTRACT

Background: Anti-epileptics taken during pregnancy might lead to low birth-weight and birth defects which could be associated with neonatal morbidity and mortality. Objective: To evaluate the effects of maternal exposure to therapeutic doses of topiramate on the growth of 20-day rat fetuses. Design: An Experimental Animal Study. Setting: Teratology Laboratory, Anatomy Department, College of Medicine and Medical Sciences, Arabian Gulf University, Bahrain. Method: Three groups of Sprague-Dawley pregnant rats were used in the experiment: control, Topiramate 50mg/Kg BW and Topiramate 100 mg/Kg BW. Topiramate was administered by intragastric intubation from day 6 through day 19 of gestation. Cesarean section was performed on day 20. Resorption was calculated, placental weight and umbilical cord length were measured. Fetuses were collected to assess their growth parameters: fetal weight (FW), biparietal diameter (BPD), crown-rump length (CRL) and head length (HL). Ponderal index and CRL/HL ratio were calculated to indicate the type of growth restriction. Result: The Topiramate treated groups showed an insignificant increase in the rate of resorption, a significant decrease in umbilical cord length, placental weight and highly significant reduction in fetal growth parameters. No significant changes were noticed in fetal growth parameters between Topiramate groups. A positive correlation was found between FW and UCL, PW, CRL, HL and BPD in all examined groups. Ponderal index and CRL/HL ratio indicate symmetrical growth restriction of the fetuses in both treated Topiramate groups. Conclusion: The doses of Topiramate, which were given to pregnant rats were equivalent to the human therapeutic range; the drug led to symmetrical fetal gross restriction with few abnormal fetuses and placentae. Topiramate attributed effects were not dose related. The drug should be taken with caution during pregnancy.

Author/s	Fadl MA, AlJishi AA, AlHarb I, Taha S, Bakhiet M.
Title	Association between methylenetetrahydrofolate reductase (MTHFR) gene (C677T) polymorphism and stroke predisposition in Bahraini population.
Journal	Int J Curr Sci. 2016; 19(2): E 59-65.
Available at	http://www.currentsciencejournal.info/issuespdf/Manal.pdf

ABSTRACT

The elevated plasma homocysteine level has been identified as a risk factor for cerebrovascular diseases. This hyperhomocysteinaemia occurs in part as a Result of polymorphism/s in methylene tetrahydrofolate reductase (MTHFR) gene. Of these polymorphisms is The C677T which may represent an important genetic risk factor in vascular diseases. This study assess the relationship between the presence of the C677T polymorphism of the MTHFR gene and the risk of stroke in Bahraini population. The study group consisted of 93 stroke patients and 105 age- and sex-matched control subjects free from stroke. The MTHFR gene mutation was detected by PCR followed by RFLP using Hinf I restriction enzyme. Of the stroke cases; 77.4% were found to have the C677T wild type homozygous (CC) and 22.6% being heterozygous (CT) and homozygous (TT) for the mutant type. The mutant genotypes (CT and TT) of the MTHFR did not differ between patients and control subjects (OR=0.49; 95% CI 0.26-0.92). This indicates that this mutation is unlikely to play a major role in stroke predisposition in our sample. On the other hand, high frequency of hypertensive (71.4%), diabetics (67%), heart diseases (30.2%) and having previous stroke (28.9%) was observed among stroke patients. Also high cholesterol level, sedentary life and smoking were common among patients (71.4, 85.4 and 35.5% respectively). Our Results suggest that these common risk factors exert more influence on stroke predisposition than the MTHFR C677T polymorphism in Bahraini population.

Author/s	Fakieh RA, Taha S , Bakhiet M.
Title	The role of IL-18, CCL5 and their receptors as diagnostic markers in breast cancer.
Journal	GERF Bulletin of Biosciences.2012; 3(2): 1-8.
Available at	http://journaldatabase.info/articles/role_il-18_ccl5_their_receptors_as.html

ABSTRACT

Interleukin-18 (IL-18) is a pro-inflammatory cytokine that has been suggested to be a prognostic factor in some cancer types. Also, CCL5 has been considered as a potential contributor to breast cancer progression. Using RT-PCR, this work examined the levels of IL-18, CCL5 and their receptors in patients with breast cancer (BCa) in Bahrain. In this study we compared tissues with and without metastasis to tissues from benign and normal breast. Formalin-fixed paraffin embedded breast tissues were obtained from 25 patients without metastasis, 20 patients with metastasis, 15 with benign tumor and 15 with normal breast tissues (total=75). IL-18/IL-18R expression in metastatic and non-metastatic group was significantly high when compared to control group.

Author/s	Farid E, Al-Wedaie F, Tabbara K , EI-Agroudy AE , Al-Ghareeb SM.
Title	Human leukocyte antigen G and renal allograft transplant.
Journal	Exp Clin Transplant. 2015;13 Suppl 1:371-376.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25894193

ABSTRACT

Objectives: Studying immune tolerance induced by HLA-G in kidney allograft acceptance may help understanding of its mechanisms, hoping in the future to booster it and decrease the immunosuppressive drugs given that are well known to have serious adverse effects. Materials and methods: The current study sought to evaluate soluble HLA-G in 3 groups: kidney transplanted patients with no rejection episodes, transplanted patients with biopsy-proven renal rejection, and healthy age-matched non transplanted individuals. Three groups were studied: kidney transplanted patients with no rejection episodes (n = 43); transplanted patients with biopsy-proven renal rejection (n = 27); healthy, age-matched, nontransplanted individuals as controls (n = 42). Soluble HLA-G level was measured in the serum by a quantitative sandwich enzyme linked immunosorbent assay. Results: sHLAG level was significantly higher in the transplanted patients compared with the control. Prograf and not cyclosporine or Rapamune had positive effects on sHLAG levels. Patients with chronic rejection had a significant lower level of sHLAG compared with a graft stable group. No effect of donor type, infection or duration posttransplant, on sHLAG levels was found. Conclusions: The Results of the current study are consistent with previous studies addressing the role of sHLAG in inducing immunotolerance postkidney transplant. The findings from the current study on the chronic rejection group, supports the on-going research of having a treatment with HLA-G/or derivate, which may constitute in the future a novel efficient antigraft rejection therapy.

Author/s	Farid EM, Hassan AB , Abalkhail AA, El-Agroudy AE , Al- Arrayed SM, Al-Ghareeb SM.
Title	Immunological aspects of biopsy-proven lupus nephritis in Bahraini patients with systemic lupus erythematosus.
Journal	Saudi J Kidney Dis Transpl. 2013; 24(6):1271-1279.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24231503

ABSTRACT

Lupus nephritis (LN) is a frequent and potentially serious complication of systemic lupus erythematosus (SLE) that may influence morbidity and mortality. Immunological investigations are aiding tools to the kidney biopsy findings in early diagnosis, in addition to monitoring the effect of therapy. The aim of the present study is to highlight the role of these investigations in a group of Bahraini patients and to determine whether there is any positive association between these findings and the outcome of LN. The current study is a retrospective case-control study of randomly selected 88 SLE patients, 44 with biopsy-proven LN and 44 without, acting as controls. All renal biopsies performed during the period from 1996 to 2012 were classified according to the World Health Organization classification. Immunological investigations analyzed are: Antinuclear antibodies (ANA), anti-ds DNA, anti-ENA, anti-cardiolipin antibodies (abs) and complement components C3, C4. Human leukocyte antigen (HLA) typing class II was performed on selected cases. All patients had positive ANA (100%). A significantly high frequency of anti-Smith abs among the non-LN group (43.18%) compared with the LN group (18.18%) was found ($P < 0.001$). On the other hand, the anti-Ro/SSA abs in the non-LN group was also found at a statistically higher frequency (20.45%) compared with that in the LN group (4.54%) ($P < 0.01$). Anti-ds-DNA abs were found to be higher in the LN group (84.09%) compared with the non-LN group (70.45%), but the difference was not statistically significant ($P = 0.082$). There was a positive association of ANA positivity and low C3 and or C4 in the studied group. In our study, 88.2% of the HLA typed patients had HLADR2, DR3 or both. In Conclusion, in our Arabic Bahraini SLE patients, the presence of anti-Smith, anti-Ro/SSA and anti-RNP antibodies and the absence of anti-dsDNA antibodies are independent predictive markers for renal involvement. However, more prospective studies with a larger number of patients are essential to ascertain those findings.

Author/s	Feigin VL, Krishnamurthi RV, Parmar P, Norrving B, Mensah GA, Bennett DA, Barker-Collo S, Moran AE, Sacco RL, Truelsen T, Davis S, Pandian JD, Naghavi M, Forouzanfar MH, Nguyen G, Johnson CO, Vos T, Meretoja A, Murray CJ, Roth GA; GBD 2013 Writing Group and GBD 2013 Stroke Panel Experts Group (Abera SF, Akinyemi RO, Al-Shahi Salman R, [...] Hamadeh RR , et al).
Title	Update on the global burden of ischemic and hemorrhagic stroke in 1990-2013: The GBD 2013 Study.
Journal	Neuroepidemiology. 2015; 45(3):161-176.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26505981

ABSTRACT

Background: Global stroke epidemiology is changing rapidly. Although age-standardized rates of stroke mortality have decreased worldwide in the past 2 decades, the absolute numbers of people who have a stroke every year, and live with the consequences of stroke or die from their stroke, are increasing. Regular updates on the current level of stroke burden are important for advancing our knowledge on stroke epidemiology and facilitate organization and planning of evidence-based stroke care. Objectives: This study aims to estimate incidence, prevalence, mortality, disability-adjusted life years (DALYs) and years lived with disability (YLDs) and their trends for ischemic stroke (IS) and hemorrhagic stroke (HS) for 188 countries from 1990 to 2013. Methodology: Stroke incidence, prevalence, mortality, DALYs and YLDs were estimated using all available data on mortality and stroke incidence, prevalence and excess mortality. Statistical models and country-level covariate data were employed, and all rates were age-standardized to a global population. All estimates were produced with 95% uncertainty intervals (UIs). Results: In 2013, there were globally almost 25.7 million stroke survivors (71% with IS), 6.5 million deaths from stroke (51% died from IS), 113 million DALYs due to stroke (58% due to IS) and 10.3 million new strokes (67% IS). Over the 1990-2013 period, there was a significant increase in the absolute number of DALYs due to IS, and of deaths from IS and HS, survivors and incident events for both IS and HS. The preponderance of the burden of stroke continued to reside in developing countries, comprising 75.2% of deaths from stroke and 81.0% of stroke-related DALYs. Globally, the proportional contribution of stroke-related DALYs and deaths due to stroke compared to all diseases increased from 1990 (3.54% (95% UI 3.11-4.00) and 9.66% (95% UI 8.47-10.70), respectively) to 2013 (4.62% (95% UI 4.01-5.30) and 11.75% (95% UI 10.45-13.31), respectively), but there was a diverging trend in developed and developing countries with a significant increase in DALYs and deaths in developing countries, and no measurable change in the proportional contribution of DALYs and deaths from stroke in developed countries. Conclusion: Global stroke burden continues to increase globally. More efficient stroke prevention and management strategies are urgently needed to halt and eventually reverse the stroke pandemic, while universal access to organized stroke services should be a priority.

Author/s	Feigin VL, Mensah GA, Norrving B, Murray CJ, Roth GA; GBD 2013 Stroke Panel Experts Group (Thift AG, Meretoja A, Stavreski B [...] Hamadeh RR, et al).
Title	Global burden of stroke and risk factors in 188 countries, during 1990–2013: A systematic analysis for the Global Burden of Disease Study 2013.
Journal	The Lancet Neurology; 2016; 15(9): 913–924.
Available at	http://www.thelancet.com/pdfs/journals/laneur/PIIS1474-4422(16)30073-4.pdf

ABSTRACT

Background: The contribution of modifiable risk factors to the increasing global and regional burden of stroke is unclear, but knowledge about this contribution is crucial for informing stroke prevention strategies. We used data from the Global Burden of Disease Study 2013 (GBD 2013) to estimate the population-attributable fraction (PAF) of stroke-related disability-adjusted life-years (DALYs) associated with potentially modifiable environmental, occupational, behavioural, physiological, and metabolic risk factors in different age and sex groups worldwide and in high-income countries and low-income and middle-income countries, from 1990 to 2013. Methods: We used data on stroke-related DALYs, risk factors, and PAF from the GBD 2013 Study to estimate the burden of stroke by age and sex (with corresponding 95% uncertainty intervals [UI]) in 188 countries, as measured with stroke-related DALYs in 1990 and 2013. We evaluated attributable DALYs for 17 risk factors (air pollution and environmental, dietary, physical activity, tobacco smoke, and physiological) and six clusters of risk factors by use of three inputs: risk factor exposure, relative risks, and the theoretical minimum risk exposure level. For most risk factors, we synthesised data for exposure with a Bayesian meta-regression Method (DisMod-MR) or spatial-temporal Gaussian process regression. We based relative risks on meta-regressions of published cohort and intervention studies. Attributable burden for clusters of risks and all risks combined took into account evidence on the mediation of some risks, such as high body-mass index (BMI), through other risks, such as high systolic blood pressure (SBP) and high total cholesterol. Findings: Globally, 90·5% (95% UI 88·5–92·2) of the stroke burden (as measured in DALYs) was attributable to the modifiable risk factors analysed, including 74·2% (95% UI 70·7–76·7) due to behavioural factors (smoking, poor diet, and low physical activity). Clusters of metabolic factors (high SBP, high BMI, high fasting plasma glucose, high total cholesterol, and low glomerular filtration rate; 72·4%, 95% UI 70·2–73·5) and environmental factors (air pollution and lead exposure; 33·4%, 95% UI 32·4–34·3) were the second and third largest contributors to DALYs. Globally, 29·2% (95% UI

28·2–29·6) of the burden of stroke was attributed to air pollution. Although globally there were no significant differences between sexes in the proportion of stroke burden due to behavioural, environmental, and metabolic risk clusters, in the low-income and middle-income countries, the PAF of behavioural risk clusters in males was greater than in females. The PAF of all risk factors increased from 1990 to 2013 (except for second-hand smoking and household air pollution from solid fuels) and varied significantly between countries. Interpretation; Our Results suggest that more than 90% of the stroke burden is attributable to modifiable risk factors, and achieving control of behavioural and metabolic risk factors could avert more than three-quarters of the global stroke burden. Air pollution has emerged as a significant contributor to global stroke burden, especially in low-income and middle-income countries, and therefore reducing exposure to air pollution should be one of the main priorities to reduce stroke burden in these countries.

Author/s	Feigin VL, Mensah GA, Norrving B, Murray CJ, Roth GA; GBD 2013 Stroke Panel Experts Group (Thift AG, Meretoja A, Stavreski B [...] Hamadeh RR, et al).
Title	Atlas of the global burden of stroke (1990-2013): The GBD 2013 Study.
Journal	Neuroepidemiology. 2015; 45(3): 230-236.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26505985

ABSTRACT

Background: World mapping is an important tool to visualize stroke burden and its trends in various regions and countries. Objectives: To show geographic patterns of incidence, prevalence, mortality, disability-adjusted life years (DALYs) and years lived with disability (YLDs) and their trends for ischemic stroke and hemorrhagic stroke in the world for 1990-2013. Methodology: Stroke incidence, prevalence, mortality, DALYs and YLDs were estimated following the general approach of the Global Burden of Disease (GBD) 2010 with several important improvements in methods. Data were updated for mortality (through April 2014) and stroke incidence, prevalence, case fatality and severity through 2013. Death was estimated using an ensemble modeling approach. A new software package, DisMod-MR 2.0, was used as part of a custom modeling process to estimate YLDs. All rates were age-standardized to new GBD estimates of global population. All estimates have been computed with 95% uncertainty intervals. Results: Age-standardized incidence, mortality, prevalence and DALYs/YLDs declined over the period from 1990 to 2013. However, the absolute number of people affected by stroke has substantially increased across all countries in the world over the same time period, suggesting that the global stroke burden continues to increase. There were significant geographical (country and regional) differences in stroke burden in the world, with the majority of the burden borne by low- and middle-income countries. Conclusions: Global burden of stroke has continued to increase in spite of dramatic declines in age-standardized incidence, prevalence, mortality rates and disability. Population growth and aging have played an important role in the observed increase in stroke burden.

Author/s	Fikree M, Hamadeh RR.
Title	Breast cancer risk assessment among Bahraini women.
Journal	Bahrain Med Bulletin. 2013; 35(1): 7-9.
Available at	http://www.bahrainmedicalbulletin.com/march_2013/breast-cancer.pdf

ABSTRACT

Objective: To estimate breast cancer risk among Bahraini women aged 35 years and older attending primary healthcare centers. Setting: Primary healthcare centers. Design: Cross sectional descriptive study. Method: One hundred seventy-two women aged 35 years and older were assessed for the risk of invasive breast cancer risk using the modified Gail model. The study was performed from 1 February to 31 May 2005. A questionnaire was used to collect information on five years and lifetime breast cancer risks. Result: Four percent of the women had a high risk ($\geq 1.76\%$) of breast cancer making them eligible for breast cancer health prevention strategies. A mean of 5 years risk ($0.7\% \pm 0.37$) and a mean of lifetime risk ($9.3\% \pm 3.0$) were computed. Conclusion: Four percent of the women aged ≥ 35 years had high breast cancer risk based on the Gail model which makes these women eligible for preventive strategies and close follow-up by specialists in the field.

Author/s	Fitzmaurice C, Dicker D, Pain A, [...], Hamadeh RR, et al.
Title	The global burden of cancer 2013.
Journal	JAMA Oncology. 2015; 1(4):505-527.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26181261

ABSTRACT

Importance: Cancer is among the leading causes of death worldwide. Current estimates of cancer burden in individual countries and regions are necessary to inform local cancer control strategies. Objective: To estimate mortality, incidence, years lived with disability (YLDs), years of life lost (YLLs), and disability-adjusted life-years (DALYs) for 28 cancers in 188 countries by sex from 1990 to 2013. Evidence Review: The general methodology of the Global Burden of Disease (GBD) 2013 study was used. Cancer registries were the source for cancer incidence data as well as mortality incidence (MI) ratios. Sources for cause of death data include vital registration system data, verbal autopsy studies, and other sources. The MI ratios were used to transform incidence data to mortality estimates and cause of death estimates to incidence estimates. Cancer prevalence was estimated using MI ratios as surrogates for survival data; YLDs were calculated by multiplying prevalence estimates with disability weights, which were derived from population-based surveys; YLLs were computed by multiplying the number of estimated cancer deaths at each age with a reference life expectancy; and DALYs were calculated as the sum of YLDs and YLLs. Findings: In 2013 there were 14.9 million incident cancer cases, 8.2 million deaths, and 196.3 million DALYs. Prostate cancer was the leading cause for cancer incidence (1.4 million) for men and breast cancer for women (1.8 million). Tracheal, bronchus, and lung (TBL) cancer was the leading cause for cancer death in men and women, with 1.6 million deaths. For men, TBL cancer was the leading cause of DALYs (24.9 million). For women, breast cancer was the leading cause of DALYs (13.1 million). Age-standardized incidence rates (ASIRs) per 100 000 and age-standardized death rates (ASDRs) per 100 000 for both sexes in 2013 were higher in developing vs developed countries for stomach cancer (ASIR, 17 vs 14; ASDR, 15 vs 11), liver cancer (ASIR, 15 vs 7; ASDR, 16 vs 7), esophageal cancer (ASIR, 9 vs 4; ASDR, 9 vs 4), cervical cancer (ASIR, 8 vs 5; ASDR, 4 vs 2), lip and oral cavity cancer (ASIR, 7 vs 6; ASDR, 2 vs 2), and nasopharyngeal cancer (ASIR, 1.5 vs 0.4; ASDR, 1.2 vs 0.3). Between 1990 and 2013, ASIRs for all cancers combined (except nonmelanoma skin cancer and Kaposi sarcoma) increased by more than 10% in 113 countries and decreased by more than 10% in 12 of 188 countries. Conclusions and Relevance: Cancer poses a major threat to public health worldwide, and incidence rates have increased in most countries since 1990. The trend is a particular threat to developing nations with health systems that are ill-equipped to deal with complex and expensive cancer treatments. The annual update on the Global Burden of Cancer will provide all stakeholders with timely estimates to guide policy efforts in cancer prevention, screening, treatment, and palliation.

Author/s	Fletcher S, Nosek MA, Rizk DEE.
Title	Mobility impairments and pelvic health disorders in women: the need for innovative treatment and research.
Journal	International Urogynecology Journal 2014;25(8):1003-1004.
Available at	http://link.springer.com/article/ 10.1007%2Fs00192-014-2428-4

ABSTRACT

No abstract available

Author/s	Forouzanfar M H, Alexander L, Anderson HR, [...], Hamadeh RR , et al.
Title	Global, regional and national comparative risk assessment of 79 behavioural, environmental /occupational and metabolic risks or clusters of risks in 188 countries 1990-2013: a systematic analysis for the GBD 2013.
Journal	The Lancet. 2015; 386(10010):2287-323.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26364544

ABSTRACT

Background: The Global Burden of Disease, Injuries, and Risk Factor study 2013 (GBD 2013) is the first of a series of annual updates of the GBD. Risk factor quantification, particularly of modifiable risk factors, can help to identify emerging threats to population health and opportunities for prevention. The GBD 2013 provides a timely opportunity to update the comparative risk assessment with new data for exposure, relative risks, and evidence on the appropriate counterfactual risk distribution. Methods: Attributable deaths, years of life lost, years lived with disability, and disability-adjusted life-years (DALYs) have been estimated for 79 risks or clusters of risks using the GBD 2010 Methods. Risk-outcome pairs meeting explicit evidence criteria were assessed for 188 countries for the period 1990-2013 by age and sex using three inputs: risk exposure, relative risks, and the theoretical minimum risk exposure level (TMREL). Risks are organised into a hierarchy with blocks of behavioural, environmental and occupational, and metabolic risks at the first level of the hierarchy. The next level in the hierarchy includes nine clusters of related risks and two individual risks, with more detail provided at levels 3 and 4 of the hierarchy. Compared with GBD 2010, six new risk factors have been added: handwashing practices, occupational exposure to trichloroethylene, childhood wasting, childhood stunting, unsafe sex, and low glomerular filtration rate. For most risks, data for exposure were synthesised with a Bayesian meta-regression Method, DisMod-MR 2.0, or spatial-temporal Gaussian process regression. Relative risks were based on meta-regressions of published cohort and intervention studies. Attributable burden for clusters of risks and all risks combined took into account evidence on the mediation of some risks such as high body-mass index (BMI) through other risks such as high systolic blood pressure and high cholesterol. Findings: All risks combined account for 57·2% (95% uncertainty interval [UI] 55·8-58·5) of deaths and 41·6% (40·1-43·0) of DALYs. Risks quantified account for 87·9% (86·5-89·3) of cardiovascular disease DALYs, ranging to a low of 0% for neonatal disorders and neglected tropical

diseases and malaria. In terms of global DALYs in 2013, six risks or clusters of risks each caused more than 5% of DALYs: dietary risks accounting for 11·3 million deaths and 241·4 million DALYs, high systolic blood pressure for 10·4 million deaths and 208·1 million DALYs, child and maternal malnutrition for 1·7 million deaths and 176·9 million DALYs, tobacco smoke for 6·1 million deaths and 143·5 million DALYs, air pollution for 5·5 million deaths and 141·5 million DALYs, and high BMI for 4·4 million deaths and 134·0 million DALYs. Risk factor patterns vary across regions and countries and with time. In sub-Saharan Africa, the leading risk factors are child and maternal malnutrition, unsafe sex, and unsafe water, sanitation, and handwashing. In women, in nearly all countries in the Americas, north Africa, and the Middle East, and in many other high-income countries, high BMI is the leading risk factor, with high systolic blood pressure as the leading risk in most of Central and Eastern Europe and south and east Asia. For men, high systolic blood pressure or tobacco use are the leading risks in nearly all high-income countries, in north Africa and the Middle East, Europe, and Asia. For men and women, unsafe sex is the leading risk in a corridor from Kenya to South Africa. Interpretation: Behavioural, environmental and occupational, and metabolic risks can explain half of global mortality and more than one-third of global DALYs providing many opportunities for prevention. Of the larger risks, the attributable burden of high BMI has increased in the past 23 years. In view of the prominence of behavioural risk factors, behavioural and social science research on interventions for these risks should be strengthened. Many prevention and primary care policy options are available now to act on key risks.

Author/s	Forouzanfar MH, Afshin A, Alexander LT, [...], Hamadeh RR, et al.
Title	Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015.
Journal	The Lancet 2016; 388 (10053): 1659–1724.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27733284

ABSTRACT

Background: The Global Burden of Diseases, Injuries, and Risk Factors Study 2015 provides an up-to-date synthesis of the evidence for risk factor exposure and the attributable burden of disease. By providing national and subnational assessments spanning the past 25 years, this study can inform debates on the importance of addressing risks in context. Methods: We used the comparative risk assessment framework developed for previous iterations of the Global Burden of Disease Study to estimate attributable deaths, disability-adjusted life-years (DALYs), and trends in exposure by age group, sex, year, and geography for 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks from 1990 to 2015. This study included 388 risk-outcome pairs that met World Cancer Research Fund-defined criteria for convincing or probable evidence. We extracted relative risk and exposure estimates from randomised controlled trials, cohorts, pooled cohorts, household surveys, census data, satellite data, and other sources. We used statistical models to pool data, adjust for bias, and incorporate covariates. We developed a metric that allows comparisons of exposure across risk factors—the summary exposure value. Using the counterfactual scenario of theoretical minimum risk level, we estimated the portion of deaths and DALYs that could be attributed to a given risk. We decomposed trends in attributable burden into contributions from population growth, population age structure, risk exposure, and risk-deleted cause-specific DALY rates. We characterised risk exposure in relation to a Socio-demographic Index (SDI). Findings: Between 1990 and 2015, global exposure to unsafe sanitation, household air pollution, childhood underweight, childhood stunting, and smoking each decreased by more than 25%. Global exposure for several occupational risks, high body-mass index (BMI), and drug use increased by more than 25% over the same period. All risks jointly evaluated in 2015 accounted for 57·8% (95% CI 56·6-58·8) of global deaths and 41·2% (39·8-42·8) of DALYs. In 2015, the ten largest contributors to global DALYs among Level 3 risks were high

systolic blood pressure (211·8 million [192·7 million to 231·1 million] global DALYs), smoking (148·6 million [134·2 million to 163·1 million]), high fasting plasma glucose (143·1 million [125·1 million to 163·5 million]), high BMI (120·1 million [83·8 million to 158·4 million]), childhood undernutrition (113·3 million [103·9 million to 123·4 million]), ambient particulate matter (103·1 million [90·8 million to 115·1 million]), high total cholesterol (88·7 million [74·6 million to 105·7 million]), household air pollution (85·6 million [66·7 million to 106·1 million]), alcohol use (85·0 million [77·2 million to 93·0 million]), and diets high in sodium (83·0 million [49·3 million to 127·5 million]). From 1990 to 2015, attributable DALYs declined for micronutrient deficiencies, childhood undernutrition, unsafe sanitation and water, and household air pollution; reductions in risk-deleted DALY rates rather than reductions in exposure drove these declines. Rising exposure contributed to notable increases in attributable DALYs from high BMI, high fasting plasma glucose, occupational carcinogens, and drug use. Environmental risks and childhood undernutrition declined steadily with SDI; low physical activity, high BMI, and high fasting plasma glucose increased with SDI. In 119 countries, metabolic risks, such as high BMI and fasting plasma glucose, contributed the most attributable DALYs in 2015. Regionally, smoking still ranked among the leading five risk factors for attributable DALYs in 109 countries; childhood underweight and unsafe sex remained primary drivers of early death and disability in much of sub-Saharan Africa. Interpretation: Declines in some key environmental risks have contributed to declines in critical infectious diseases. Some risks appear to be invariant to SDI. Increasing risks, including high BMI, high fasting plasma glucose, drug use, and some occupational exposures, contribute to rising burden from some conditions, but also provide opportunities for intervention. Some highly preventable risks, such as smoking, remain major causes of attributable DALYs, even as exposure is declining. Public policy makers need to pay attention to the risks that are increasingly major contributors to global burden.

Author/s	Freije A, Saknini L, Ghafoor R A, Shaibani T A, Kamal A.
Title	Effects of short-term exposure to (1mT, 50 Hz) electromagnetic fields on calcium concentration in different brain regions of mice: The role of calcium channel blocker.
Journal	Bahrain Medical Bulletin. 2015; 37(2):92-96.
Available at	http://www.bahrainmedicalbulletin.com/June_2015/Effect.pdf

ABSTRACT

Objective: To evaluate the effect of short-term exposure to 50 Hz (1 mT) extremely low frequency electromagnetic fields (ELF EMFs) on the Ca²⁺ concentration in 4 different regions of the mice brain (cortex, cerebellum, hippocampus and brainstem). Setting: University of Bahrain, Arabian Gulf University. Design: Prospective Randomized Controlled Study. Method: Adult BALB/c male mice were exposed to 50 Hz (1 mT) ELF-EMFs for 2 hours/day for five consecutive days and were treated orally with the calcium channel blocker Amlodipine. Calcium was extracted from the mice brain tissues and the concentration of Ca²⁺ was determined using atomic absorption spectroscopy. Result: The effect of ELF EMFs exposure on the Ca²⁺ concentrations varied in different regions of the brain, with a significant increase (P<0.05) only in the hippocampus and the brainstem. This increase occurred during short-term exposure to ELF EMFs and the Ca²⁺ concentrations started to decrease during the interval of no exposure. Conclusion: The rise in Ca²⁺ concentration due to ELF EMFs exposure did not occur in mice treated with the calcium channel blocker Amlodipine. The increase in Ca²⁺ concentrations could have involved activation of the voltage-gated calcium channels (VGCCs) by ELF EMFs.

Author/s	Gabani SH, Garadah TS , Hassan AB, Jaradat AA, Al Alawi ME, Hasan ZA.
Title	Prevalence of atrial fibrillation in systolic heart failure, pulsed and tissue doppler echocardiographic abnormalities.
Journal	Bahrain Medical Bulletin. 2015; 37(2):92-96.
Available at	http://www.bahrainmedicalbulletin.com/June_2015/Effect.pdf

ABSTRACT

Background: Heart failure (HF) is a common clinical syndrome mostly due to the impaired ability of the Left Ven- tricle (LV) to eject blood with reduced cardiac output. Heart failure is called systolic (SHF) if left ventricle ejection fraction on echo-cardiogram is low (LVEF of $\leq 50\%$). Aim: To assess the echocardiographic characteristics of patients with SHF with Atrial Fibrillation (AF) and compare with those with Sinus Rhythm (SR) on 12 leads ECG. Furthermore, to evaluate the clinical and biochemical markers for the prediction of AF in SHF. Method: Over two years duration, each patient diagnosed with SHF was enrolled in the study (n = 354) based on admission code. AF or sinus rhythm on 12 leads ECG was documented on each patient. Multiple logistic regression analysis was applied to assess the risk ratio of different clinical and Doppler derived variables for the development of AF in SHF. Results: Out of the total hospital medical admissions of 14,674 patients, there were 354 patients with diagnosis of SHF, a prevalence of 2.4%. The incidence of AF on ECG was 109 (31%) patients in the whole study population and 245 (69%) in SR. M Mode echocardiogram in patients with SHF and AF compared with those in SR showed significant dilation of LV cavity in systole with LVESD of 5.72 ± 0.63 vs. 5.23 ± 0.76 cm, $P < 0.001$ and in Diastole LVEDD of 6.83 ± 0.51 vs. 6.58 ± 0.63 cm, $P < 0.001$. Pulsed Doppler echocardiogram showed a severe restrictive-pattern with shorter Deceleration Time (DT) of 163.73 ± 7.42 vs. 214.9 ± 31.81 msec, $P < 0.001$ and higher Pulse to Tissue Doppler ratio of E/Em of 14.26 ± 1.34 vs. 9.99 ± 1.27 , $P < 0.001$, and the serum level of Brain Natriuretic Peptide (BNP) hormone of 723.72 ± 13.45 vs. 686.98 ± 72.57 pg/ml, $P < 0.001$. The predictive risks (odd ratio) of different clinical variables for the development of AF in SHF were positive for high BNP > 500 pg/ml of 2.8, history of hypertension of 1.8, history of DM of 1.7, BMI > 28 of 1.4, LV hypertrophy on ECG of 1.3. Conclusions: The prevalence of Systolic Heart Failure in the study population was 2.4%. The prevalence of AF in the study population was 31%. The best predictors of AF in SHF were high BNP > 500 pg/ml, history of hypertension, Diabete Mellitus and LV Hypertrophy on ECG.

Author/s	Gaffas EM, Sequeira RP , Al Namla RA, Al Harbi KS.
Title	Test blueprints for psychiatry residency in training written examinations in Riyadh, Saudi Arabia.
Journal	Advances in Medical Education and Practice. 2012; 3 (1): 31-46.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3650869/

ABSTRACT

Background: The postgraduate training program in psychiatry in Saudi Arabia, which was established in 1997, is a 4-year residency program. Written exams comprising of multiple choice questions (MCQs) are used as a summative assessment of residents in order to determine their eligibility for promotion from one year to the next. Test blueprints are not used in preparing examinations. Objective: To develop test blueprints for the written examinations used in the psychiatry residency program. Methods: Based on the guidelines of four professional bodies, documentary analysis was used to develop global and detailed test blueprints for each year of the residency program. An expert panel participated during piloting and final modification of the test blueprints. Their opinion about the content, weight age for each content domain, and proportion of test items to be sampled in each cognitive category as defined by modified Bloom's taxonomy were elicited. Results: Eight global and detailed test blueprints, two for each year of the psychiatry residency program, were developed. The global test blueprints were reviewed by experts and piloted. Six experts participated in the final modification of test blueprints. Based on expert consensus, the content, total weight age for each content domain, and proportion of test items to be included in each cognitive category were determined for each global test blueprint. Experts also suggested progressively decreasing the weight age for recall test items and increasing problem solving test items in examinations, from year 1 to year 4 of the psychiatry residence program. Conclusion: A systematic approach using a documentary and content analysis technique was used to develop test blueprints with additional input from an expert panel as appropriate. Test blueprinting is an important step to ensure the test validity in all residency programs.

Author/s	Gammoh E, Arekat MR , Saldhana FL, Madan S, Ebrahim BH, Almawi WY .
Title	DENND1A gene variants in Bahraini Arab women with polycystic ovary syndrome.
Journal	Gene. 2015;560(1):30-33.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25626177

ABSTRACT

Recent genome-wide association studies and replication analyses reported an association between variants of DENND1A gene and polycystic ovary syndrome (PCOS), mostly in Asians. We therefore examined whether the common DENND1A SNPs rs10818854, rs2479106, and rs10986105 are associated with PCOS in Bahraini Arab population. This case-control study involved 191 women with PCOS diagnosed according to the Rotterdam criteria, and 202 control women. SNP genotyping was performed by the allelic discrimination in real-time PCR. The outcome was that the minor allele frequencies of SNPs rs10818854, rs2479106, and rs10986105 were similar between women with PCOS and control women ($P>0.05$), even before correcting for multiple testing, and none of the tested DENND1A SNPs were associated with PCOS under co-dominant, dominant, or recessive genetic models. None of the tested DENND1A variants were associated with PCOS features (hirsutism, insulin sensitivity, menses pattern, free testosterone, and free androgen index). Taking common GTA haplotype as reference (OR=1.00), [rs10818854/rs2479106/rs10986105] 3-locus haplotype analysis demonstrated lack of association of any of the DENND1A haplotypes with PCOS, even before correcting for multiple testing. To conclude we demonstrated lack of association of DENND1A SNPs rs10818854, rs2479106, and rs10986105, previously associated with PCOS in Asians, with PCOS in Bahraini Arab women.

Author/s	Gammoh E, Mahmood NA, Madan S, Ebrahim BH, Mustafa FE, Almawi WY.
Title	Transcription factor-7-like 2 gene variants affect the metabolic phenotypes of polycystic ovary syndrome.
Journal	Annals of Nutrition and Metabolism. 2015; 67(4):228-235.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26536002

ABSTRACT

Background: Polycystic ovary syndrome (PCOS) is a common endocrinopathy, which shares genetic features with type 2 diabetes mellitus (T2DM). Insofar as transcription factor 7-like 2 (TCF7L2) is consistently replicated T2DM susceptibility locus, this study evaluates whether common TCF7L2 variants are associated with PCOS and related metabolic features. Methods The association between TCF7L2 rs4506565, rs7903146, rs12243326, and rs12255372 SNPs and PCOS was tested in 242 women with PCOS and in 236 control women. Results: The allelic distribution of rs4506565, rs7903146, rs12243326, and rs12255372 TCF7L2 variants was not significantly different between women with PCOS and control women. The genotype distribution of the 4 TCF7L2 loci was comparable between PCOS cases and controls, irrespective of the genetic analysis model used (additive, dominant, recessive). Carriage of rs4506565 minor allele correlated with free insulin and homeostasis model assessment of insulin resistance, while the presence of rs12243326 and rs12255372 minor allele correlated with waist changes. Four-locus (rs4506565-rs7903146, rs12243326, and rs12255372) haplotype analysis identified PCOS-susceptible (ACTG) and -protective (TTTG) haplotypes, which remained significant after controlling for multiple comparisons and for key covariates. Conclusion Although individual TCF7L2 variants were not associated with the presence of PCOS in Bahraini women, specific TCF7L2 haplotypes were identified, which were both positively and negatively associated with PCOS.

Author/s	Garadah T, Hassan AB, Al Alawi M, Jaradat A, Sequeira R, Qureshi F.
Title	Surrogates of poor prognostic signs in adult patients with homozygous sickle cell disease: an echocardiographic study.
Journal	British Journal of Medicine and Medical Research. 2014; 4(26):11-20.
Available at	http://www.sciencedomain.org/abstract/4921

ABSTRACT

Background: Pulmonary Arterial hypertension (PAH) is a late complication in adult patients with homozygous sickle cell Anaemia (SCA). The early identification of PAH may be of paramount importance. Aim: This study is aimed at evaluating the usefulness of NT pro BNP in the assessment of diastolic function of RV in adult patients with sickle cell disease. It is also aimed at the assessment of the predictive risk of serum level of NT pro BNP hormone and ferritin with other pulsed and tissue Doppler indices for the development of pulmonary hypertension in patients with SCA. In addition, we measured the usefulness of tissue Doppler velocity of lateral annulus of tricuspid valve in the assessment of diastolic function of RV in adult patients with SCD. Method: In this cross sectional prospective study, 103 patients with homozygous SCD were studied and compared with age and gender matched healthy control. Every patient had a clinical assessment, pulsed and tissue Doppler evaluation. Blood samples were withdrawn for the level of haemoglobin, ferritin and NT pro BNP hormone. The mean difference between the two groups for echo Doppler and biometric variables were assessed. Multiple regression analysis applied for measuring the odds ratio of different biometric and Doppler variables for risk of PAH in SCD. Results: The study group consist of 103 patients with SCA, mean age of 28.52 ± 14.11 year, (range 14-42), with 68 male (66.0%) Patients with SCA compared with control had a significantly low diastolic pressure, lower haemoglobin level but high serum level ferritin and pro BNP hormone. Further, there was a significant increment in the left atrium area (LA), higher right ventricle (RV) wall thickness and diameter. The RV tricuspid annular systolic excursion (TAPSE) was high of 1.42 ± 0.21 vs. 1.11 ± 0.23 , $P < 0.05$. RV Pulsed Doppler data showed restrictive filling pattern with significant higher E wave velocity, higher early diastolic filling wave (E)/ atria wave velocity (A) ratio and short Deceleration Time (DT). Further, the ratio of upper pulmonary vein for systolic/diastolic Doppler velocity was significantly lower 1.5 ± 0.12 vs. 2.4 ± 0.11 , $p < 0.05$. The tissue Doppler of lateral annulus of tricuspid valve in SCA patients showed a significantly lower S wave of 6.7 ± 1.7 vs 11.3 ± 1.9 , $p < 0.01$, higher pulsed early velocity(E)/ early Tissue velocity (E-) ratio and lower atria wave

velocity (A). The incidence of pulmonary hypertension in SCD patients via tricuspid valve velocity defined as ≥ 2.5 m/s was 28%. There were positive correlation between the serum level of ferritin, NT pro BNP hormone and tricuspid valve velocity of ($r=0.38$) and ($r=0.43$) respectively. The odds ratio for development of PAH was 3.1 for E/E- ratio ≥ 13 , 2.5 for DT of <160 msec, 2.2 for Left ventricle mass Index (LVMI) >121 gm/M², 1.9 for ferritin $\geq 600\mu\text{g/l}$, 1.6cm for left atrial area ≥ 20 cm, 1.3 for pro- BNP $\geq 150\text{Pmol/L}$. Conclusion: Adult patients with SCA have normal Systolic function but increase of LV mass and restrictive diastolic dysfunction. RV has increase wall thickness, systolic and diastolic dysfunction of restrictive pattern. The prevalence of pulmonary hypertension in SCA is 28% with positive correlation between ferritin, pro BNP level and tricuspid valve velocity on echo. The risk of PAH in SCA patients is higher if the patient had on echo DT <160 msec, LVMI >121 gm/M², cm, E/E- ratio ≥ 13 or RV wall thickness >3 mm.

Author/s	Garadah TS, Hassan AB, Al Alawi M, Jaradat AA, Qurishi F, Alajmi A.
Title	QT Dispersion and QTc interval in patients with adult sickle cell disease: Electrocardiographic (EKG) and echocardiographic evaluation.
Journal	International Journal of Clinical Medicine. 2014; 5(10):550-557.
Available at	http://www.scirp.org/journal/PaperInformation.aspx?PaperID=45825

ABSTRACT

Background: QT dispersion (QTd) varies according to heterogeneity of recovery time in the myocardium, and the impact of iron overload on the QTd in adult patients with Sickle Cell Disease (SCD) is not clear. Aim: This cross-sectional study was designed to evaluate corrected QTc interval and QTd on 12 leads ECG in patients with SCD, and assess the LV systolic and diastolic function using Pulsed Doppler Echocardiogram. Method: All patients were evaluated clinically with pulse Doppler echocardiography. Twelve leads ECG were taken to measure QTd and QTc. Blood samples withdrawn to assess the blood level of ferritin and hemoglobin. Pearson correlation coefficient was used to measure the linear relationship between serum ferritin and QTd. Results: The study included patients with SCD (n = 70, age 15.7 ± 8.9 years), compared with age-matched healthy control group (n = 70, age 15.9 ± 8.9 years). In patients with SCD compared with healthy control group the QTc (msec) 416 ± 23.21 ms vs. 401 ± 24.12 (p = 0.75), and the QTd were slightly longer in SCD compared with the control of 43 ± 22.1 vs. 38 ± 20.16 msec, (p = 0.071) with no significant difference. M mode echo showed that SCD patients compared with control had higher LVMI gm/M² of 105 ± 10.3 vs. 83 ± 7.1, P = 0.001, larger LV end diastolic dimension (cm) of 5.5 ± 0.32 vs. 4.72 ± 0.35, p = 0.03, RV diameter (cm) of 2.8 ± 0.42 vs. 2.4 ± 0.31, (p = 0.041) and RV wall thickness (mm) of 0.31 ± 0.06 vs. 0.28 ± 0.03, (p = 0.024). Pulsed Doppler showed high LV transmitral E wave velocity of 85.23 ± 1.92 vs. 62.43 ± 1.67 m/s (p = 0.001), A wave (msec) 46.26 ± 4.7 vs. 56.24 ± 3.2 m/s, p = 0.032, with E/A ratio of 1.86 ± 0.01 vs. 1.10 ± 0.03, (p = 0.024) and DT of E wave (msec) of 156.43 ± 23.5 vs. 189.87 ± 19.5, (p = 0.031). Left ventricle ejection fraction percentage was similar between both groups, but SCD had significantly higher right ventricle tricuspid annular plane systolic excursion TAPSE (cm) of 1.23 ± 0.21 vs. 1.11 ± 0.23 cm (p = 0.02), and the tricuspid valve velocity showed significant higher velocity (m/s) in the SCD patients of 2.9 ± 0.14 vs. 1.7 ± 0.09, p = 0.004 indicating higher pulmonary artery pressure with calculated right ventricle systolic pressure of 38.64 vs. 16.56 mmHg. Conclusion: SCD patients compared with control have higher but not significant QT dispersion and corrected QT interval with a significantly larger LV mass and LV diastolic filling indices suggestive of restrictive diastolic pattern. These data indicate that LV diastolic abnormalities compromised initially in patients with SCD.

Author/s	Garadah TS, Hassan AB, Jaradat AA, Diab ED, Kalafalla HO, Kalifa AK, Sequeira RP, Alawadi AH.
Title	Predictors of abnormal bone mass density in adult patients with homozygous sickle-cell disease.
Journal	Clinical Medicine Insights: Endocrinology and Diabetes. 2015; 8:35-40.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4426937/pdf/cmcd-8-2015-035.pdf

ABSTRACT

Background: Adult patients with sickle-cell disease (SCD) often have multiple bone compactions causing tissue hypoxia and osteonecrosis. The impact on bone abnormalities lesion detected by bone mass density is not well defined. Aim: The study is a cross sectional, perspective was designed to assess the prevalence of abnormal BMD in adult Bahraini patients with SCD and to assess the predictive risk of different metabolic variables such as serum level of vitamin D3, testosterone, and parathyroid hormone in addition to lactate dehydrogenase (LDH), hemoglobin (Hb), and reticulocyte count for the development of abnormal bone density on dual X-ray absorptiometry (DXA) scan. METHOD: The study was conducted over the period of 12 months from first of January 2012 to end of December 2012. All patients were evaluated clinically for severity of SCD and abnormal bone mass density (BMD) using DXA scan. Blood samples were withdrawn for measuring the serum level of vitamin D3, testosterone, and parathyroid hormone in addition to Hb, LDH, and reticulocyte count. Multiple logistic regression analysis was used to assess risk prediction of different variables for the development of abnormal BMD on DXA with T-score ≤ -2.5 standard deviation (SD). Results: The study included Bahraini patients with SCD (n = 55, age 29.24 ± 9.47 years, male 60% and female 40%) compared with an age-matched healthy control group (n = 55, age 28.82 ± 8.64 years, with 62% male and 38% female). Of the 55 patients with SCD compared with the control group, there were 33 (58%) patients with low BMD and 2 (3%) in the control. Among the 33 patients with SCD and with low BMD, there were 20 (36%) with osteoporosis (T-score of ≤ -2.5 SD) and 13 (24%) with osteopenia (T-score of < -1 to -2.5 SD). The most affected site of low BMD was lumbar spine (55%), followed by the radius (30%) and neck of the femur (15%). SCD patients with osteoporosis compared with the healthy subjects had significantly lower body surface area (BSA, m²) of 1.4 ± 0.3 vs. 1.63 ± 0.5 BMI, low level of vitamin D3 of 21.11 ± 6.95 ng/mL vs. 46.2 ± 15.19 (P < 0.001), lower testosterone level of 1.34 ± 0.54 vs. 2.18 ± 0.56 ng/mL (P < 0.001), higher reticulocyte count (P < 0.001), and higher LDH level (P < 0.001). The low serum level of vitamin D3 (< 20 ng/mL) and low testosterone of < 0.9 ng/mL had risk prediction (odds ratio) of 1.14 and 1.2, respectively, for abnormal BMD in SCD. In the risk prediction of other variables of parathormone (PTH), LDH, and reticulocyte, were not significant. Conclusion: The prevalence of abnormal bone mass density (BMD) is high (60%) in Bahraini patients with SCD. There is significant low serum level of vitamin D3 and low testosterone hormone in those with very low bone mass density (BMD) (osteoporosis and T-score < -2.5). The low serum level of vitamin D3 (< 20 ng/mL) and low testosterone of < 0.9 ng/mL had risk prediction (odds ratio) of 1.14 and 1.2, respectively, for abnormal BMD in SCD.

Author/s	Garadah TS, Hassan AB, Jaradat AA, Sequeira RP, Alajmi A.
Title	Pro brain natriuretic peptide (BNP) hormone and tissue doppler abnormalities in patients with homozygous sickle cell disease in Bahrain: Echocardiographic study.
Journal	International Journal of Medicine 2014; 2(1):32-3.
Available at	http://www.sciencepubco.com/index.php/IJM/article/viewFile/2257/1112#pdfjs.action=download

ABSTRACT

Background: Pulse Doppler echocardiography has a diagnostic value in right and left ventricular function in patients with homozygous sickle cell disease (SCD), however the role of the tissue Doppler is unclear. Aim: To evaluate the diagnostic role of tissue Doppler in the assessment of right ventricle (RV) and left ventricular function in adult patients with SCD. And to study the prevalence of pulmonary hypertension (PAH) in patients with SCD using the tricuspid valve velocity on echocardiogram. Method: Seventy patients with homozygous SSD were compared with healthy control. Every patient had clinical assessment, had pulsed and tissue Doppler evaluation, in addition to assessing serum level of hemoglobin, ferritin and pro Brain Natriuretic Peptide (BNP). The mean difference between the two groups for tissue Doppler and biometric variables was assessed. Results: Seventy patients had SCD (mean age 28 years, 14-40) and 54 (77%) were males. The age and gender proportions were similar in both groups. Patients with SCD compared with the control had significantly low diastolic pressure, lower hemoglobin level, but high serum ferritin and pro BNP hormone. Furthermore, there was a significant increase in the diameter of left atrium, higher left ventricle mass index, and higher right ventricle diameter and wall thickness. The left ventricle ejection fraction percentage was similar between both groups, but SCD had significantly higher right ventricle tricuspid annular plane systolic excursion (TAPSE) of 1.42 ± 0.21 vs. 1.11 ± 0.23 cm ($P= 0.02$). The RV pulsed Doppler data showed restrictive filling pattern with significantly higher E wave, high E/A ratio and short Deceleration time ; likewise, the upper pulmonary vein systolic/diastolic velocity was significantly lower 1.5 ± 0.12 vs. 2.4 ± 0.11 cm ($p=0.002$). The tissue Doppler of lateral annulus of tricuspid valve and the septum mitral annulus in SCD patients showed a significant lower S wave, higher E/E-ratio and lower A wave. The incidence of pulmonary hypertension in SCD patients via tricuspid valve regurgitation (TVR) velocity of >2.6 m/s was 22 %. There was a positive correlation between serum level of ferritin, pro BNP and tricuspid valve regurgitation velocity ($r=0.35$) and ($r=0.43$) respectively. Conclusion: Adult patients with SCD had significant right ventricular dilation and increase wall thickness. The LV systolic function is normal but with RV systolic and diastolic dysfunction that was suggestive of restrictive pattern. The incidence of pulmonary hypertension in SCD was 22% with positive correlation between serum level of ferritin, pro BNP and the development of pulmonary hypertension.

Author/s	Garadah TS, Jaradat AA, Alalawi ME, Hassan AB.
Title	Hormonal and echocardiographic abnormalities in adult patients with sickle-cell anemia in Bahrain.
Journal	Journal of Blood Medicine. 2016 Dec 13; 7:283-289
Available at	https://www.dovepress.com/hormonal-and-echocardiographic-abnormalities-in-adult-patients-with-si-peer-reviewed-article-JBM

ABSTRACT

Background: Adrenal, thyroid, and parathyroid gland hormonal changes are recognized in children with homozygous (HbSS) sickle-cell anemia (SCA), but are not clear in adult patients with SCA. AIM: To assess the metabolic and endocrine abnormalities in adult patients with SCA and evaluate left ventricular (LV) systolic and diastolic functions compared with patients with no SCA and further study the relationship between serum levels of cortisol, free thyroxine (T4), and testosterone with serum ferritin. Materials and methods: The study was conducted on 82 patients with adult HbSS SCA compared with a sex- and age-matched control group. The serum levels of cortisol, parathyroid hormone (PTH), testosterone, thyroid-stimulating hormone (TSH), and free T4 were compared. Blood levels of hemoglobin, reticulocyte count, lactate dehydrogenase (LDH), calcium, alkaline phosphatase (ALP), vitamin D3, and ferritin were also compared. Pulsed Doppler echo was performed to evaluate the LV mass, wall thickness, and cavity dimensions with diastolic filling velocities of early (E) and atria (A) waves. Biometric data were analyzed as mean \pm standard deviation between the two groups. Multiple regression analysis was performed between serum levels of ferritin as independent variable and testosterone, cortisol, and thyroid hormones. Results: A total of 82 adult patients with HbSS SCA were enrolled who had a mean age of 21 ± 5.7 years, with 51 males (62%). Patients with SCA compared with the control group had significantly lower hemoglobin, body mass index, cortisol, vitamin D3, testosterone, and T4. Furthermore, there were significantly high levels of reticulocyte count, PTH, TSH, ferritin, LDH, ALP, and uric acid. The incidence of subclinical hypothyroidism and adrenal insufficiency was 7% and 4.8%, respectively, with hypogonadism 9.8% and vitamin D3 deficiency 61%. There were inverse relationships between ferritin as independent variable and serum levels of testosterone, T4, and cortisol, with regression coefficients of -0.49 ($P < 0.001$), -0.33 ($P < 0.001$), and -0.11 ($P < 0.92$), respectively. Conclusion: Patients with adult SCA had a high prevalence of in vivo hypoadrenalism (4.8%), hypogonadism (9.8%), and hypothyroidism (7%). There were significant inverse relationships between serum ferritin as independent variable and cortisol, testosterone, and T4. Pulsed Doppler echocardiography showed increased LV mass, with a restrictive LV diastolic pattern suggestive of diastolic dysfunction.

Author/s	Garadah TS, Jaradat AA, Mahdi NA, Hasan ZA, Das N.
Title	Adrenal gland dysfunction and myocardial tissue doppler echocardiographic abnormalities in patients with beta thalassemia major: cross sectional study.
Journal	International Journal of Medicine 2013; 1(2): 14-19.
Available at	http://www.sciencepubco.com/index.php/IJM/article/viewFile/975/752#pdfjs.action=download

ABSTRACT

Background: Adrenal, parathyroid gland and myocardial echocardiographic abnormalities are recognized with variable outcomes in patients with transfusion dependent Beta-Thalassemia major (β -TM). Aim: In this cross-sectional analytic study in patients with β -TM, we evaluate the left ventricle systolic and diastolic function using Pulsed Doppler (PD) and Tissue Doppler (DT) echocardiogram with simultaneous measurement of serum level of cortisol and parathyroid hormone. Methods: The study was conducted on patients with β -TM (n = 99, age 15.92 \pm 8.92 years) and compared with an age-matched controls (n = 98 age 15.79 \pm 8.94 years). In all participants echocardiographic indices of M mode and PD and TD were performed. Blood samples were withdrawn for measuring the serum cortisol, parathyroid and Ferritin. Correlation between the level of cortisol and ferritin level was evaluated. Results: Patients with β -TM compared with controls, have significantly thicker LV septal wall index of 0.65 \pm 0.26 vs. 0.44 \pm 0.2190, P<0.001 and LV posterior wall of 0.65 \pm 0.235 vs. 0.43 \pm 0.214, P< 0.001, with no significant dilation of LV cavity in systole and diastole. The systolic function of LVFE% was normal of 51.95 \pm 5.5 vs. 5.0 \pm 5.6, p=0.23. Furthermore patients with β -TM have higher E/A ratio (1.54 \pm 0.18 vs. 1.23 \pm 0.17, P<0.01) and shorter deceleration time (DT) (170.53 \pm 13.3 vs. 210.50 \pm 19.20 m sec, P<0.01). The ratio of transmitral E wave velocity to the tissue Doppler E wave at the basal septal mitral annulus (E/Em) was significantly higher in β -TM group (19.68 \pm 2.81 vs. 13.86 \pm 1.41, P<0.05). The tissue Doppler systolic wave (Sm) velocity and the early diastolic wave (Em) were significantly lower in β -TM group compared with controls with Sm, of 4.82 \pm 1.2 vs. 6.22 \pm 2.1 cm/sec, P<0.05 and (Em) of 3.51 \pm 2.7 vs. 4.12 \pm 2.5 cm/sec P<0.05, respectively). The tricuspid valve velocity was significantly higher in β -TM patients compared with controls (2.85 \pm 0.56 vs. 1.743 \pm 0.47 m/sec, respectively, P<0.01). The prevalence of adrenal insufficiency in patients with β -TM was 16 %, hypoparathyroidism of 4.5%. There was a weak negative correlation between serum level of cortisol and the serum Ferritin. Conclusion: Patients with β -thalassemia major had a high prevalence of subclinical adrenal insufficiency of 16%, hypoparathyroidism of 4.5% with weak negative correlation between the low level of cortisol \leq 160 nmol/L and high serum ferritin. Echocardiographic Pulsed Doppler showed a restrictive LV diastolic pattern suggestive of advanced diastolic dysfunction but preserved left ventricle systolic function.

Author/s	Garadah T, Jaradat A, Al Alawi ME, Hassan AB, Sequeira RP.
Title	Pain frequency, severity and QT dispersion in adult patients with sickle cell anemia: correlation with inflammatory markers.
Journal	Journal of Blood Medicine. 2016; 7: 7:255-261.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27843377

ABSTRACT

Background: Inflammatory markers are increased during vaso-occlusive crisis (VOC) in adult patients with sickle cell anemia (SCA), but this is not clear in clinical steady state. AIM: The present study aims to establish the frequency and intensity of bone pain episodes in adult patients with SCA in clinical steady state and to determine the correlation between different inflammatory markers, other variables including QT dispersion (QTd) and pain frequency and intensity in SCA. Patients and Methods: Patients were classified into two groups: group 1, those with more than three hospital admissions in the last 6 months, and group 2, those with no hospital admission. Pearson correlation between variables such as body mass index (BMI), level of tumor necrosis factor (TNF- α), interleukin-1 (IL-1), C-reactive protein (CRP), hemoglobin (Hb), reticulocyte count, white blood cell count (WBC), ferritin, lactate dehydrogenase (LDH), parathormone (PTH), vitamin D3 (25-OH cholecalciferol) and bone pain frequency with severity was evaluated. Results: Forty-six patients were enrolled in this study with a mean age of 18.47 \pm 5.78 years, with 23 patients in each group. Vitamin D3 and Hb were lower (17.04 \pm 5.77 vs 37.59 \pm 4.83 ng/L, P<0.01 and 7.96 \pm 0.3 vs 8.44 \pm 0.27 g/dL, P<0.01, respectively); the inflammatory markers showed significantly higher level of TNF- α , IL-1 and CRP (56.52 \pm 5.43 pg/ml, 44.17 \pm 4.54 pg/ml and 3.20 \pm 0.72 mg/L, respectively, P<0.05); WBC, LDH and reticulocyte count were also significantly higher and the QTd was higher (45.0 \pm 2.22 vs 41.55 \pm 0.8 ms, P<0.05) in group 1 when compared with group 2. Pearson correlation coefficient showed significant positive correlation between serum level of TNF- α and bone pain frequency (r=0.414, P<0.005) and serum level of IL-1 (r=0.39, P<0.008). Conclusion: There is a strong positive correlation between TNF- α , IL-1 and WBC and bone pain frequency in steady state in adult patients with SCA. CRP and low hemoglobin had weak positive correlation. QTd was significantly longer in patients who had hospitalizations with VOC.

Author/s	Garadah T, Mahdi NA, Jaradat AM, Hasan ZA, Nagalla DS.
Title	Thyroid function status and echocardiographic abnormalities in patients with beta thalassemia major in Bahrain.
Journal	Clinical Medicine Insights: Cardiology.2013; 7: 21-27.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23400522

ABSTRACT

Background: Thyroid gland dysfunction and echocardiographic cardiac abnormalities are well-documented in patients with transfusion dependent beta-thalassemia major (β -TM). AIM: This cross-sectional analytic study was conducted to investigate left ventricle (LV) diastolic and systolic function using pulsed Doppler (PD) and tissue Doppler (TD) echocardiography and correlate that with serum level thyroid stimulating hormone in patients with β -TM. Methods: The study was conducted on patients with β -TM (n = 110, age 15.9 ± 8.9 years) and compared with a control group (n = 109, age 15.8 ± 8.9 years). In all participants, echocardiographic indices of PD and TD were performed and blood samples were withdrawn for measuring the serum level of TSH, free T4, and ferritin. A linear regression analysis was performed on TSH level as the dependent variable and serum ferritin as independent. Stepwise multiple regression analysis was used to determine the odds ratio of different biochemical and echo variables on the risk of developing hypothyroidism. Results: Patients with β -TM compared with controls had thicker LV septal wall index (0.65 ± 0.26 vs. 0.44 ± 0.21 cm/M(2), $P < 0.001$), posterior wall index (0.65 ± 0.23 vs. 0.43 ± 0.21 cm/m(2), $P < 0.01$) and larger LVEDD index (4.35 ± 0.69 vs. 3.88 ± 0.153 mm/m(2), $P < 0.001$). In addition, β -TM patients had higher transmitral E wave velocity (E) (70.81 ± 10.13 vs. 57.53 ± 10.13 cm/s, $P = 0.02$) and E/A ratio (1.54 ± 0.18 vs. 1.23 ± 0.17 , $P < 0.01$) and shorter deceleration time (DT) (170.53 ± 13.3 vs. 210.50 ± 19.20 m sec, $P < 0.01$). Furthermore, the ratio of transmitral E wave velocity to the tissue Doppler E wave at the basal septal mitral annulus (E/Em) was significantly higher in the β -TM group (19.68 ± 2.81 vs. 13.86 ± 1.41 , $P < 0.05$). The tissue Doppler systolic wave (Sm) velocity and the early diastolic wave (Em) were significantly lower in the β -TM group compared with controls with Sm, 4.82 ± 1.2 vs. 6.22 ± 2.1 mm/sec, $P < 0.05$ and (Em), 3.51 ± 2.7 vs. 4.12 ± 2.5 mm/sec. $P < 0.05$, respectively). The tricuspid valve velocity was significantly higher in β -TM patients compared with controls 2.85 ± 0.56 vs. 1.743 ± 0.47 m sec, respectively, $P < 0.01$). The prevalence of subclinical hypothyroidism in patients with β -TM was 15.4%, with significantly higher mean serum TSH compared with controls (6.78 ± 1.5 vs. 3.10 ± 1.02 μ IU/mL, $P < 0.01$) and positively correlated with the serum ferritin level ($r = 0.34$, $P = 0.014$). On multiple regression analysis, the LV mass, LVEF%, and E/A ratio were not positive predictors of hypothyroidism in patients with β -TM. Conclusion: We conclude that patients with β -TM had a high prevalence of subclinical hypothyroidism of 15.4%. Thyroid stimulating hormone was significantly high and positively correlated with the serum ferritin level. Echo cardiographic pulsed Doppler showed a restrictive LV diastolic pattern suggestive of severe diastolic dysfunction with preserved left ventricle systolic function.

Author/s	Garadah TS, Mahdi NH, Al Alwai MA, Jaradat AA, Hasan ZA.
Title	Pulsed and tissue doppler echocardiographic abnormalities in patients with diastolic heart failure with and without atrial fibrillation .
Journal	International Journal of Clinical Medicine. 2012; 3: 661-668.
Available at	http://file.scirp.org/pdf/IJCM_2012123116052168.pdf

ABSTRACT

Background: Symptoms of heart failure (HF) are identical in both systolic (SHF) and diastolic heart failure (DHF). The prevalence of atrial fibrillation (AF) in heart failure varies in different studies depending on the criteria of enrollment and the use of echocardiographic parameters in the definition of HF. Aim: To assess the clinical characteristics of patients with DHF complicated by AF and compare with those with SHF in regard of echocardiographic abnormalities and causative agents. Furthermore, evaluate the clinical and biochemical markers for the prediction of AF in HF. Method: Over the duration of 12 months, each patient diagnosed as HF based on admission code was enrolled in the study. Patients were classified into two groups: group 1: DHF, with preserved LVPEF% > 50%, n = 204 (60%), and group 2, with SHF, with LVREF% ≤ 50%, n = 140 (40%). The presence or absence of AF on ECG was recorded. The predictive value of different clinical and biochemical variables for the development of AF was evaluated using logistic multiple regression analysis. Results: Three hundred and forty four eligible patients were admitted to hospital with heart failure out of 7650 who had other medical problems. The prevalence of HF in this population was 4.5%, those with DHF were 2.7% and SHF of 1.8%. The incidence of AF on ECG was 35% in the whole study population and 65% were in sinus rhythm (SR). The occurrence of AF was twice higher in DHF patients of 22% compared with 11% in SHF. Echo pulsed Doppler in DHF and AF compared with those in SR showed a severe restrictive pattern with significantly thick septum wall, higher LV mass index, shorter DT and higher E/e- ratio of 12.4 vs. 9.73, P < 0.05. The predictive risk (odd ratio) of different clinical variables for development of AF in HF was positive for LV hypertrophy on ECG of 2.4, history of hypertension of 1.6, history of DM of 1.4, BMI > 28 of 1.7. Conclusions: The prevalence of HF was 4.5% in the study population, with SHF of 1.8% and DHF of 2.7%. Patients with DHF and AF were older with a higher female ratio with severe restrictive pattern compared with those of SHF. The incidence of AF in the whole study was 35%. The best predictor of AF in HF was left ventricle hypertrophy followed by history of hypertension and DM.

Author/s	Giha HA , Nasr A, Iriemenam NC, Troye-Blomberg M, Berzins K, ElGhazali G.
Title	Lack of significant influence for FcγRIIa-RH131 or hemoglobin AA/AS polymorphisms on immunity and susceptibility to uncomplicated malaria and existence of marked linkage between the two polymorphisms in Daraweesh.
Journal	Microbes and Infection. 2012; 14(6): 537-544.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22289203

ABSTRACT

Malaria signature on human genome is marked by several gene polymorphisms. HemoglobinAS (HbAS) is known to protect against severe malaria, but barely proved to protect against uncomplicated malaria (UM). Similarly, the influence of FcγRIIa-RH131 polymorphism on malaria is controversial. Polymorphisms in both genes were examined and levels of IgG subclasses against four malaria antigens were measured for 250 Fulani's from Daraweesh, eastern Sudan. Morbidity data for up to nine years was available for 214 donors. Number of malaria episodes experienced by each individual during the study period was used as indicator for susceptibility to UM. PCR and RFLP were used for donors DNA genotyping and ELISA for antibodies measurement. Results revealed that neither FcγRIIa-RH131 alleles/genotypes nor HbAA/AS was significantly associated with malaria morbidity or with levels of IgG to test antigens. Both polymorphisms were in Hardy-Weinberg Equilibrium, interestingly, there was strong association between the two polymorphisms (linkage disequilibrium - LD) with $D' = 0.89$. The association between the two polymorphisms was confirmed by analysis of independent material from a neighboring village. In Conclusion, in Daraweesh both FcγRIIa-RH131 and HbAA/AS genotypes, independently or together, were not major markers for UM susceptibility, however, marked LD was observed between the two polymorphisms.

Author/s	Giha HA , Nasr AA, Iriemenam NC, Berzins K, Troye-Blomberg M, Arnot DE, Elghazali G
Title	A malaria serological map indicating the intersection between parasite antigenic diversity and host antibody repertoires.
Journal	European Journal of Clinical Microbiology & Infectious Diseases.2012; 31(11): 3177-3125.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22744729

ABSTRACT

A malaria vaccine targeting Plasmodium falciparum remains a strategic goal for malaria control. If a polyvalent vaccine is to be developed, its subunits would probably be chosen based on immunogenicity (concentration of elicited antibodies) and associations of selected antigens with protection. We propose an additional possible selection criterion for the inclusion of subunit antigens; that is, coordination between elicited antibodies. For the quantitative estimation of this coordination, we developed a malaria serological map (MSM). Construction of the MSM was based on three categories of variables: (i) malaria antigens, (ii) total IgG and IgG subclasses, (iii) different sources of plasma. To validate the MSM, in this study, we used four malaria antigens (AMA1, MSP2-3D7, MSP2-FC27 and Pf332-C231) and re-grouped the plasma samples into five pairs of subsets based on age, gender, residence, HbAS and malaria morbidity in 9 years. The plasma total IgG and IgG subclasses to the test antigens were measured, and the whole material was used for the MSM construction. Most of the variables in the MSM were previously tested and their associations with malaria morbidity are known. The coordination of response to each antigens pair in the MSM was quantified as the correlation rate (CR = overall number of significant correlations/total number of correlations × 100 %). Unexpectedly, the Results showed that low CRs were mostly associated with variables linked with malaria protection and the antigen eliciting the least CRs was the one associated with protection. The MSM is, thus, of potential value for vaccine design and understanding of malaria natural immunity.

Author/s	Golbahar J, Al-Ayadhi M, Das NM, Gumaa K.
Title	Sensitive and specific markers for insulin resistance, hyperandrogenemia, and inappropriate gonadotrophin secretion in women with polycystic ovary syndrome: a case control study from Bahrain.
Journal	International Journal of Women's Health. 2012; 4: 201-206.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22654525

ABSTRACT

Background: In women with polycystic ovary syndrome (PCOS), despite a high prevalence of insulin resistance, hyperandrogenemia, and disturbances in the secretion of gonadotrophin, the principal causes of biochemical abnormalities and the best endocrine markers for PCOS have not been fully identified. SUBJECTS AND Methods: Serum levels of insulin, glucose, follicle-stimulating hormone (FSH), luteinizing hormone (LH), total testosterone, estrogen, sex hormone-binding capacity (SHBG), and other related indices such as homeostasis model assessment, insulin glucose ratios, LH/FSH ratios, and the free androgen index (FAI) were determined and compared in women with PCOS (n = 50) and women without PCOS (n = 50). Results: In multivariate logistic regression analyses, among all insulin resistance indices, only hyperinsulinemia (odds ratio [OR] = 2.6; confidence interval [CI]: 1.3-5.2; P = 0.008) was significantly and independently associated with PCOS when adjusted for body mass index (BMI), hyperandrogenemia, and LH/FSH ratios. The LH/FSH ratio (OR = 5.4; CI: 1.2-23.0, P = 0.03) was the only marker among those indices for inappropriate gonadotrophin secretion that significantly and independently associated with PCOS when adjusted for BMI and hyperinsulinemia. Among those indices for hyperandrogenemia, FAI (OR = 1.1; CI: 1.0-2.7; P = 0.02) and SHBG (OR = 1.2; CI: 1.2-3.4; P = 0.03) were significantly and independently associated with PCOS when adjusted for BMI and hyperinsulinemia. In addition, receiver operating characteristic analysis showed that the best predictive markers for PCOS were insulin (area under the curve [AUC] = 0.944; CI: 0.887-0.989), FAI (AUC = 0.932; CI: 0.895-0.993), SHBG (AUC = 0.924; CI: 0.87-0.978), and LH/FSH ratios (AUC = 0.906; CI: 0.821-0.965). Conclusion: For insulin and LH/FSH ratios, FAI, and SHBG seemed the best predictors and markers for insulin resistance, inappropriate gonadotrophin secretion, and hyperandrogenemia, respectively, with high sensitivity and specificity for identifying Bahraini women with and without PCOS.

Author/s	Golbahar J , Al-Jishi E, Altayab D; Carreon E; Bakhiet M ; Al-Khayat H
Title	Selective Newborn Screening of Inborn Errors of Amino Acids, OrganicAcids and Fatty Acids Metabolism in the Kingdom of Bahrain.
Journal	Molecular Genetics and Metabolism.2013; 2: 98-101.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23916421

ABSTRACT

Mandatory newborn screening for metabolic disorders has not been implemented in most Middle Eastern countries. Early detection and treatment of inborn errors of metabolism can reduce mortality and minimize morbidity. Preliminary studies conducted in some parts of Middle East suggest that the incidences of inborn errors of metabolism are reported to be higher in the region than anywhere else in the world due to the consanguinity. In this study the incidence of inborn errors of amino acids, organic acids and fatty acids oxidation disorders was investigated from the Results of blood spot analysis of 1986 symptomatic children from 1st January 2008 to 31st of December 2011. Out of 1986 newborns screened 25 infants were diagnosed and confirmed with amino acids (n=11), organic acids (n=9) and fatty acids oxidation (n=5) disorders. Overall incidences based on number of live birth between 2008 and 2011 inclusive were 1:6000, 1:8000 and 1:14,000 for amino acids, organic acids and fatty acids oxidation disorders; respectively. Out of 25 infants diagnosed, 21 were the children of first cousin marriages. Results from this study suggest high incidence of inborn errors of amino acids, organic acids and fatty acids oxidation metabolism in Bahrain and significant contribution of consanguinity in inherited metabolic disorders. Mandatory screening for inborn errors of metabolism in Bahrain is highly recommended.

Author/s	Golbahar J, Al-Saffar N, Altayab D, Al-Othman S, Darwish A, Al-Kafaji G.
Title	Predictors of vitamin D deficiency and insufficiency in adult Bahrainis: a cross-sectional study.
Journal	Public Health Nutrition. 2014; 17(4):732-8.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23464685

ABSTRACT

Objective: High prevalence of hypovitaminosis D has been reported to be common in different regions of the Middle East. The Objective of the present study was to examine the predictors of vitamin D deficiency and insufficiency in Bahrainis. DESIGN: A cross-sectional study. Setting: Blood transfusion volunteers at a blood bank. SUBJECTS: Serum levels of total 25-hydroxyvitamin D, bone markers and other parameters such age, sex, season and clothing style in the 500 healthy Bahrainis were investigated. Results: In the entire cohort the prevalence of vitamin D deficiency was 49.4% and the relative risk of vitamin D deficiency increased significantly by 1.1, 1.2, 1.5, 1.7 and 1.2 fold with younger age group ($P = 0.03$), hyperparathyroidism ($P = 0.01$), low serum Ca ($P < 0.001$), warm and hot months of the year ($P < 0.0001$) and female sex ($P = 0.002$), respectively. In females the prevalence of vitamin D deficiency was 67.6% and the relative risk of vitamin D deficiency increased significantly by 1.1, 1.2, 1.2, 1.2 and 1.4 fold with younger age group ($P = 0.04$), hyperparathyroidism ($P = 0.03$), low serum Ca ($P = 0.001$), warm and hot months of the year ($P = 0.001$) and conservative clothing style ($P = 0.04$), respectively. In contrast, in males the prevalence of vitamin D deficiency was 31.2% and the relative risk of vitamin D deficiency was increased by 1.6 fold in warm and hot months of the year ($P < 0.0001$).Conclusions: High prevalence of low circulating levels of vitamin D and the relative risk factors associated with vitamin D deficiency and insufficiency observed in the present study suggest an urgent need for public health interventions including vitamin D food fortification in Bahrain.

Author/s	Golbahar J, Alsaffar N, Altayab D, Al-Othman S, Darwish A.
Title	Vitamin D status in adults: a cross-sectional study.
Journal	Bahrain Medical Bulletin. 2013; 35(1): 1-11
Available at	http://www.bahrainmedicalbulletin.com/march_2013/VitaminD-Status.pdf

ABSTRACT

Background: High prevalence of hypovitaminosis D has been reported to be common indifferent regions of the Middle East. Objective: The aim of this study is to examine vitamin D level in relation to age, sex, season, clothing and use of supplements among healthy adults. Design: A cross-sectional study. Setting: Blood Bank, Bahrain Defense Hospital. Method: This study was performed from February 2011 to January 2012. Vitamin D level was assessed in 500 healthy Bahrainis (250 males and 250 females) aged 15-65 years with no history of major organ diseases or any other health problems. The prevalence of vitamin D deficiency and insufficiency was determined according to the ranges of 25-hydroxyvitamin D (25(OH)D) recommended by the Institute of Medicine, USA. Result: The mean total serum of 25(OH)D was low (22.9 ± 10.1 nmol/L) and total serum of 25(OH)D concentrations in 49.4%, 37.0% and 13.6% of the participants were having <30.0 nmol/L (deficiency), between 30.0-50.0 nmol/L (insufficiency) and >50.0 nmol/L (optimal). Vitamin D deficiency was significantly higher in females 169 (67.6%) than males 78 (31.2%), $p < 0.0001$. The prevalence of vitamin D deficiency among younger age group, <30 years, 139 (53%) was significantly higher than older age group, >30 years, 108 (45.4%), $p < 0.001$. Vitamin D deficiency was significantly higher during October to March 121 (69.2%) than April to September 41 (12.5%), $p < 0.0001$. In this study only 68 (13.6%) had optimal level of vitamin D suggesting an alarming vitamin D deficiency in Bahrainis. Conclusion: This is the first population-based study in Bahrain that indicates vitamin D deficiency. It is recommended that fortification of food with vitamin D on a national basis is necessary to overcome such low levels of vitamin D in Bahrainis.

Author/s	Golbahar J, Altayab D, Carreon E, Darwish A.
Title	Association of vitamin D deficiency and hyperparathyroidism with anemia: a cross-sectional study.
Journal	Journal of Blood Medicine.2013; 4: 123-128.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24039460

ABSTRACT

Vitamin D deficiency and anemia are common in the Middle East, and vitamin D deficiency and hyperparathyroidism have been reported to be associated with an increased prevalence of anemia. In this study, the hypothesis that vitamin D deficiency and hyperparathyroidism may be associated with anemia in a Bahraini population was tested. Association of hyperparathyroidism and vitamin D levels (deficiency and insufficiency) with anemia was investigated in 421 Bahrainis (213 males and 208 females). In females, the prevalence of anemia was significantly associated with vitamin D deficiency independent of parathyroid hormone levels (odds ratio: 2.9; 95% confidence interval: 2.3-10.5; P = 0.001). In females, the prevalence of anemia appeared to be significantly associated with hyperparathyroidism (odds ratio: 2.1; 95% confidence interval: 1.2-3.7; P = 0.01); however, this significant association disappeared when adjusted for vitamin D deficiency (odds ratio: 1.6; 95% confidence interval: 0.75-6.5; P = 0.154). Results from this study suggest that vitamin D deficiency is independently associated with anemia in females but not males. Further studies to determine whether vitamin D supplementation could be used to treat anemia are warranted.

Author/s	Golbahar J, Altayab DD, Carreon E.
Title	Short-term stability of amino acids and acylcarnitines in the dried blood spots used to screen newborns for metabolic disorders.
Journal	Journal of Medical Screening. 2014; 21(1):5-9.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24531510

ABSTRACT

Objective: Tandem mass spectrometry is increasingly used in the Middle East in newborn screening for inborn errors of metabolism using dried blood spots. The sensitivity and specificity of this system for analyzing fatty and amino acids, screening for more than 40 metabolic conditions, is known. However, the short term stability of acylcarnitines and amino acids in dried blood spots in extreme heat and humid conditions is not well documented. We examined the short term effect of heat and humidity on the levels of 7 amino acids and 10 acylcarnitines used in newborn screening for inherited metabolic disorders. Methods: Dried blood spots were exposed with humidity <30% to temperatures of 4, room temperature, 37° C, and 45, and also with humidity >70% at 37° C and 45. Amino acids and acylcarnitines in the dried blood spots were analyzed by tandem mass spectrometry. Results: During the eight days of the study in high temperature and high humidity storage, most acylcarnitines and amino acids lost almost 50% of initial concentration. After eight days' exposure at 37 and 45 with humidity >70%, methionine was determined to be the most sensitive, and phenylalanine and leucine were the least sensitive amino acids. At 37 with humidity >70% C6 was the most sensitive and free carnitine (C0) was the least sensitive acylcarnitine; at 45 with humidity >70% C16 was the most sensitive and C0 was the least sensitive. Conclusion: Low humidity and low temperature conditions are required for transportation and storage of dried blood spots.

Author/s	Golbahar J, Das NM, Al-Ayadhi MA, Gumaa K.
Title	Leptin to adiponectin, adiponectin to leptin ratios, and insulin are specific and sensitive markers associated with polycystic ovary syndrome: a case control study from Bahrain
Journal	Metab Syndr Relat Disord. 2012; 10(2): 98-102.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22107332

ABSTRACT

Objective: Hyperinsulinemia and adipokines such as leptin and adiponectin with respective proatherogenic and antiatherogenic properties are reported to be the major contributors to pathogenesis of polycystic ovary syndrome (PCOS), including to the development of type 2 diabetes and coronary artery disease. In this study, the association of hyperinsulinemia, hyperleptinemia, hypoadiponectinemia, high leptin-to-adiponectin (L/A) and adiponectin-to-leptin (A/L) ratios as risk factors associated with PCOS in Bahraini women was investigated. Participants and Methods: Serum levels of insulin, leptin, adiponectin, cholesterol, triglyceride, A/L and L/A ratios were compared in women with PCOS and controls to investigate tentative and potential diagnostic markers for women with PCOS. Results: Insulin was significantly higher in PCOS cases than controls (15.0 ± 3.0 vs. 6.5 ± 1.72 , $P < 0.001$). Leptin was significantly higher in PCOS cases than in controls (39.9 ± 4.6 vs. 26.4 ± 3.4 , $P < 0.001$), whereas adiponectin was significantly lower in PCOS cases than in controls (8.7 ± 3.0 vs. 11.1 ± 3.6 , $P < 0.001$). In addition, L/A ratios were significantly higher in PCOS cases than in controls (4.8 ± 2.7 vs. 2.3 ± 1.6 , $P < 0.001$), whereas A/L ratios were significantly lower in PCOS cases than in controls (0.25 ± 0.08 vs. 0.50 ± 0.1 , $P < 0.001$). In multivariate logistic regression analyses, insulin [odds ratio (OR)=2.1, confidence interval (CI) 1.2-3.8, $P=0.01$], A/L (OR=1.6, CI 1.4-7.2, $P=0.03$), and L/A (OR=1.4, CI 1.2-2.0, $P=0.04$) were independently associated with PCOS. Receiver operating characteristic analyses showed that the best predictive markers for PCOS were insulin [area under the curve (AUC)=0.937, CI 0.887-0.989] L/A and A/L ratios (AUC=0.861, CI 0.786-0.936), indicating their high sensitivity and specificity for diagnosis of PCOS. Conclusion: In Bahraini women with PCOS, insulin, L/A, and A/L ratios seem to be the best markers to distinguish women with and without PCOS.

Author/s	Golbahar J, Mostafavi E.
Title	Association between low red blood cell 5- methyltetrahydrofolate and hyperhomocysteinaemia with hypertension: a cross-sectional study.
Journal	High Blood Press Cardiovasc Prev.2012; 19: 229-235.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23430668

ABSTRACT

Background: Hyperhomocysteinaemia and other risk factors associated with blood pressure have been reported in large community-based studies in different populations. However, it is not fully established whether hypertension is associated with high plasma total homocysteine levels (tHcy) or components of the homocysteine re-methylation pathway including vitamin B(12), plasma 5-methyltetrahydrofolate (5-MTHF) or red blood cell (RBC) 5-MTHF. AIM: In this study we tested the hypothesis that RBC 5-MTHF could be a marker for long-term folate status in the blood and low RBC 5-MTHF may be associated with hypertension. Methods: This was a cross-sectional study in a community-based setting and 492 males and 431 females were investigated. Systolic and diastolic blood pressures were determined and fasting blood samples were taken for determination of plasma tHcy, creatinine, uric acid, lipids, plasma 5-MTHF, RBC 5-MTHF and vitamin B(12). Results: In males, the risk of hypertension was significantly (95% CI 1.9, 8.7; p = 0.003) increased by 1.8-fold in the first quartile compared with the highest quartile of RBC 5-MTHF when adjusted for body mass index (BMI), age, dyslipidaemia, uric acid, creatinine, smoking, plasma tHcy and vitamin B(12). The risk of hypertension was also significantly increased (95% CI 1.1, 9.2; p = 0.03) by 1.1-fold in the highest quartile compared with the lowest quartile of plasma tHcy when adjusted for BMI, age, dyslipidaemia, uric acid, creatinine, smoking, plasma and RBC 5-MTHF and vitamin B(12). There were no associations of hypertension with plasma tHcy, and other components of the Hcy re-methylation pathway were observed in females. Conclusions: The association between hypertension and low RBC 5-MTHF was stronger than any other components of the homocysteine re-methylation pathway. Results from this study suggest that folate measurements in RBC seem to be the most reliable marker indicating 5-MTHF deficiency and disturbances in the Hcy re-methylation pathway in association with hypertension.

Author/s	Gomes MJ MSA, Salinas Casado J, Castro Diaz D, Figueiredo A, Singla A, Rosier P, Silva C, Fuente Carvalho L, Rizk D.
Title	Is lower urinary tract dysfunction an early marker of Portuguese type familial amyloidotic polyneuropathy in women? Preliminary results.
Journal	Archivos Espanoles de Urologia. 2014; 67(6):557-664.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25048588

ABSTRACT

Type 1 Portuguese Familial Amyloid Polyneuropathy was first observed in 1939 and described in 1951 by Corino Andrade. FAP is a rare autosomal dominant disease caused by a mutant gene in chromosome 18, characterized by a variant transthyretin in which valine is substituted for methionine at position 30 (ATTR V30M), affecting mainly young adults. ATTR V30M positivity does not imply disease, but the disease is only present with ATTR V30M in serum. The clinical manifestations of FAP on the pelvic floor and genitourinary system are frequent at early disease onset. Phenotypic diversity can depend on modulating agents in the deposition of the mutant TTR, such as incomplete penetration and environmental influence. Functional vesicourethral disorders appear to be primarily at the bladder filling phase, namely diminished bladder sensation, and associated with a decrease in detrusor contractility during the emptying phase. Unbalanced voiding takes place in this context, with high post-void residuals, increasing the rate of co-morbidity, namely recurrent urinary tract infections and chronic renal failure. This study describes the lower urinary tract dysfunctions in ATTR V30M positive carriers, particularly during the asymptomatic period and early stages of the disease, and additionally it describes its association with the clinical evolution of the disease. In the preliminary phase of the study, the lower urinary tract dysfunction in FAP-women may present itself as an early manifestation in asymptomatic patients. Uroflowmetry and the evaluation of post-voiding residual volume are non-invasive and low cost tests that should be done during routine initial evaluation. Reduced bladder sensation and poor detrusor contractility may be considered initial markers of FAP. The neurogenic factor (bladder afferent neurons) appears to be mechanical in nature with myogenic repercussions. This further aggravates the bladder underactivity secondary to pelvic efferent parasympathetic neuropathy and amyloid infiltration in the bladder wall. Early diagnostic and therapeutic intervention may avoid secondary end stage renal disease.

Author/s	Haagsma JA, Graetz N, Bolliger I, [...], Hamadeh RR, et al.
Title	The global burden of injury: incidence, mortality, disability-adjusted life years and time trends from the Global Burden of Disease study 2013.
Journal	Injury Prevention. 2016; 22(1):3-18.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26635210

ABSTRACT

Background: The Global Burden of Diseases (GBD), Injuries, and Risk Factors study used the disability-adjusted life year (DALY) to quantify the burden of diseases, injuries, and risk factors. This paper provides an overview of injury estimates from the 2013 update of GBD, with detailed information on incidence, mortality, DALYs and rates of change from 1990 to 2013 for 26 causes of injury, globally, by region and by country. Methods: Injury mortality was estimated using the extensive GBD mortality database, corrections for ill-defined cause of death and the cause of death ensemble modelling tool. Morbidity estimation was based on inpatient and outpatient data sets, 26 cause-of-injury and 47 nature-of-injury categories, and seven follow-up studies with patient-reported long-term outcome measures. Results: In 2013, 973 million (uncertainty interval (UI) 942 to 993) people sustained injuries that warranted some type of healthcare and 4.8 million (UI 4.5 to 5.1) people died from injuries. Between 1990 and 2013 the global age-standardized injury DALY rate decreased by 31% (UI 26% to 35%). The rate of decline in DALY rates was significant for 22 cause-of-injury categories, including all the major injuries. Conclusions: Injuries continue to be an important cause of morbidity and mortality in the developed and developing world. The decline in rates for almost all injuries is so prominent that it warrants a general statement that the world is becoming a safer place to live in. However, the patterns vary widely by cause, age, sex, region and time and there are still large improvements that need to be made.

Author/s	Habib F, Al-Roomi K , Al-Haddad MK .
Title	Risk factors associated with depression among Bahraini elderly in a primary healthcare setting.
Journal	Journal of the Bahrain Medical Society. 2013; 24(1):5-10.
Available at	https://www.cabdirect.org/cabdirect/abstract/20143021655

ABSTRACT

Background and Objectives: Studies on the prevalence and risk factors for depression among Bahraini elderly are sparse. This study was undertaken to describe the socio-demographic characteristics and disease status associated with depression in Bahraini elderly persons attending health centers. Subjects and Methods: This was a cross-sectional study of Bahrainis aged 60 or older attending four randomly selected health centers. Results: A history of psychiatric illness was significantly associated with depression ($P=0.02$, $OR=2.3$, $CI=1.2-4.8$), as was the presence of chronic diseases ($P=0.01$). The risk of depression was significantly higher among women than men $OR=4.3$, 95% ($CI=2.5-7.3$). Depressive symptoms were significantly related to widowhood and divorce status ($P<0.001$). Subjects who were illiterate or of low educational level reported more depressive symptoms ($P=0.04$). In general, socially isolated elderly persons were more prone to suffer from depression ($OR=2.2$, $CI=1.2-4.3$). Subjects who were providing support to their families reported significantly fewer depressive symptoms ($P=0.002$). Conclusion: Risk factors for depression identified in this population were: female gender, widowhood, divorce status, social isolation, a history of psychiatric illness, and the presence of chronic disease. Early recognition and management of depression among the elderly with these factors is strongly recommended.

Author/s	Hajjej A, Almawi WY , Hattab L, El-Gaaied A, Hmida S.
Title	HLA class I and class II alleles and haplotypes confirm the Berber origin of the present day Tunisian population.
Journal	PLoS One. 2015;10(8):e0136909.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26317228

ABSTRACT

In view of its distinct geographical location and relatively small area, Tunisia witnessed the presence of many civilizations and ethnic groups throughout history, thereby questioning the origin of present-day Tunisian population. We investigated HLA class I and class II gene profiles in Tunisians, and compared this profile with those of Mediterranean and Sub-Sahara African populations. A total of 376 unrelated Tunisian individuals of both genders were genotyped for HLA class I (A, B) and class II (DRB1, DQB1), using reverse dot-blot hybridization (PCR-SSO) Method. Statistical analysis was performed using Arlequin software. Phylogenetic trees were constructed by DISPAN software, and correspondence analysis was carried out by VISTA software. One hundred fifty-three HLA alleles were identified in the studied sample, which comprised 41, 50, 40 and 22 alleles at HLA-A,-B,-DRB1 and -DQB1 loci, respectively. The most frequent alleles were HLA-A*02:01 (16.76%), HLA-B*44:02/03 (17.82%), HLA-DRB1*07:01 (19.02%), and HLA-DQB1*03:01 (17.95%). Four-locus haplotype analysis identified HLA-A*02:01-B*50:01-DRB1*07:01-DQB1*02:02 (2.2%) as the common haplotype in Tunisians. Compared to other nearby populations, Tunisians appear to be genetically related to Western Mediterranean population, in particular North Africans and Berbers. In Conclusion: HLA genotype Results indicate that Tunisians are related to present-day North Africans, Berbers and to Iberians, but not to Eastern Arabs (Palestinians, Jordanians and Lebanese). This suggests that the genetic contribution of Arab invasion of 7th-11th century A.D. had little impact of the North African gene pool.

Author/s	Hamadeh RR.
Title	Smoking behavior of Arabian Gulf University medical students: impact of tobacco control policies and curriculum.
Journal	Journal of Bahrain Medical Society.2013; 24(2): 56-61.
Available at	https://www.researchgate.net/profile/Randah_Hamadeh/publication/236863056_Smoking_behavior_of_Arabian_Gulf_University_medical_students_Impact_of_tobacco_control_policies_and_curriculum/links/00b7d52531f02cec9c000000/Smoking-behavior-of-Arabian-Gulf-University-medical-students-Impact-of-tobacco-control-policies-and-curriculum.pdf

ABSTRACT

Background: A survey conducted in the early 1990s among medical students in the College of Medicine and Medical Sciences (CMMS), Arabian Gulf University (AGU), showed that 27.5% of the male students were smokers compared to 2.3% of their female counterparts. Several tobacco control actions have taken place since the time of that study as well as increased emphasis on tobacco-related issues in the curriculum. Objectives: The objectives of this study were to determine if changes had occurred in the smoking behavior of CMMS students following the increased tobacco control measures and the concerted efforts in the dissemination of tobacco-related education in the curriculum. Methods: Enrolled CMMS students during the academic year 2004-2005 were included in this study. The Global Health Professionals Survey self-administered questionnaire was used. Smokers were those who smoked any type of tobacco at the time of the study including daily and occasional use. Ex-smokers were students who did not smoke any type of tobacco during the study period and had quit for a period of at least six months. Mixed smokers were those who smoked both cigarettes and sheesha. Results from an earlier study were used for comparison as baseline data. Results: The prevalence of smoking among male students had increased from 27.5 % to 35.2% (p=0.096). A sharper rise had occurred among the females as the prevalence rate increased from 2.3% to 7.0% (p=0.028). The percentage of sheesha smoking was 31.3% among male students and 6.1% among female students compared to 8.8% and nil in the previous study (p<0.0001). There was no significant change in the prevalence of cigarette smoking in both sexes. Smoking was more prevalent among final year students (47.7%) in males and first year students (12.3%) in females. Conclusion: The rise in smoking among CMMS medical students is alarming and necessitates urgent intervention. Revision of the smoking curriculum to address the deficiencies in smoking cessation techniques and in promoting the exemplary role of medical students in society is required.

Author/s	Hamadeh RR.
Title	Waterpipe tobacco smoking among females: a Middle Eastern or a global epidemic?
Journal	Journal of Women's Health Care. 2016; 5:e119 2016; 5:1.
Available at	https://www.omicsgroup.org/journals/water-pipe-tobacco-smoking-among-females-a-middle-eastern-or-a-globalepidemic-2167-0420-1000e119.pdf

ABSTRACT

Cigarette smoking gained popularity among women decades after that of men and the prevalence rates of the latter increased Resulting in a narrower gender gap in some high-income countries [1]. However, global smoking rates have declined in men and women as well as daily cigarette smoking [2]. On the other hand, water pipe tobacco smoking (WTS) is considered as a global epidemic that was not anymore restricted to the Middle East and South East Asia but spread to Western countries [3,4]. In some Arab countries, the prevalence of WTS (shisha or narghile smoking as is called in most Arab countries) among adult females (8.9%) was more than four times that of males (2.0%) in the early eighties, with a lower prevalence among younger females than in earlier decades [5]. This may be explained by the popularity of cigarette smoking among Arab males and its social unacceptability for women. However, the gender gap for WTS narrowed and was almost closed in the early 2000's [6]. Moreover, it is alarming that WTS by pregnant Arab women ranges between 4.0-8.7% [7,8]. Recent literature shows that WTS has increased among Arab males and females with a wider gender gap. [7,9-12]. This is partly attributed to the prevention and control measures that focused on cigarette rather than tobacco smoking, the belief that shisha smoking is not as harmful as that of cigarettes and in being perceived as an acceptable alternative for those who wish to smoke tobacco or those who want to quit cigarette smoking. This may reflect the deficiency in school curricula and that of health professionals as the emphasis is on the hazards of cigarette smoking rather than all types of tobacco use. Further, the availability of different tobacco flavors and the exotic decorations on the shisha apparatus made it more attractive for the young along with the rise of shisha bars, lounges and café's. It is noteworthy that the socially and culturally embedded acceptance of Arab women's shisha smoking helped in making it regain its popularity particularly among the young though at a slower pace than that of men. Shisha smoking went beyond Arab and other Middle Eastern countries and gained popularity in European and American countries particularly among the young and with a narrower gender gap. The fact that 11.9% of the female university students were WTS compared to 17.9% among males from a recent United Kingdom study of six universities is disturbing [13]. Moreover, a prevalence of WTS reaching 25% and 16% among 11-15 year old school male and female students, respectively in Estonia is worrying [14]. With the success of tobacco control efforts that mainly targeted cigarette smoking and the increase of evidence on the health effects of WTS [15], immediate action should be taken to curb the WTS epidemic globally and from Arab countries in particular. Special attention should be given to Arab women and youth who are the most vulnerable.

Author/s	Hamadeh RR, Abulfatih NM, Fekri MA, Al-Mehza H.
Title	Epidemiology of female breast cancer among the Bahraini population: Bahrain Cancer Registry data.
Journal	Sultan Qaboos University Medical Journal. 2014; 14 (2): e176-182.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24790739/

ABSTRACT

Objectives: The aim of this study was to describe the epidemiology of breast cancer among the Bahraini female population in the years 2000-2010 and examine its health policy implications. Methods: All breast cancer cases in the Bahrain Cancer Registry from 1(st) January 2000 to 31(st) December 2010 were included. Results: There were 1,005 cases, 12.7% of which were detected by screening. The overall mean age at diagnosis was 50.9 years (95% confidence interval 50.1-51.6). The age-standardized incidence rate declined from 58.2 per 100,000 in 2000 to 44.4 per 100,000 in 2010. The majority of cases were infiltrating ductal carcinoma (76.9%). Of the registered cases, 44.1% and 48.1% had an unknown grade and stage, respectively. The five-year survival rate was 63 ± 2%. Conclusion: The low percentage of cases detected by screening merits further evaluation of Bahrain's screening programme. More effort should be made to reduce the proportion of unknown stage and grade breast cancers. Future research has to be directed towards understanding the reasons for Bahrain having the highest incidence rate of breast cancer in the Gulf Cooperation Council countries.

Author/s	Hamadeh RR, Ali NMA.
Title	Fatalities from road traffic accidents among the young in Bahrain.
Journal	Eastern Mediterranean Health Journal.2013; 19(10): 854-860.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Fatalities+from+road+traffic+accidents+among+the+young+in+Bahrain

ABSTRACT

In Bahrain and other Gulf countries, road traffic accidents (RTA) are recognized as a growing public health problem. This study described the trend of fatalities from RTA in Bahrain among those aged < 25 years from 2003-2010. The proportional mortality ratios of RTA deaths (up to 30 days from the accident) among the young were compared with those of all ages. The average proportion of young males killed by RTA in Bahrain during the 8-year period was 82.7%, with 2006 marking the lowest proportion among Bahraini nationals (72.2%) and the total population (79.2%). RTA fatalities constituted 51.3% among the Bahrainis, 20.2% of non-Bahrainis and 39.0% of all fatalities in both sexes combined. The young in Bahrain were 3.5 times more likely to die from RTA than the general population. This paper calls on policy-makers to consolidate efforts to control this public health problem.

Author/s	Hamadeh RR, Abulfatih NM, Fekri MA, Al-Mehza H.
Title	Epidemiology of female breast cancer among the Bahraini population: Bahrain Cancer Registry data.
Journal	Sultan Qaboos University Medical Journal. 2014; 14 (2): e176-182.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24790739/

ABSTRACT

Objectives: The aim of this study was to describe the epidemiology of breast cancer among the Bahraini female population in the years 2000-2010 and examine its health policy implications. Methods: All breast cancer cases in the Bahrain Cancer Registry from 1(st) January 2000 to 31(st) December 2010 were included. Results: There were 1,005 cases, 12.7% of which were detected by screening. The overall mean age at diagnosis was 50.9 years (95% confidence interval 50.1-51.6). The age-standardized incidence rate declined from 58.2 per 100,000 in 2000 to 44.4 per 100,000 in 2010. The majority of cases were infiltrating ductal carcinoma (76.9%). Of the registered cases, 44.1% and 48.1% had an unknown grade and stage, respectively. The five-year survival rate was 63 ± 2%. Conclusion: The low percentage of cases detected by screening merits further evaluation of Bahrain's screening programme. More effort should be made to reduce the proportion of unknown stage and grade breast cancers. Future research has to be directed towards understanding the reasons for Bahrain having the highest incidence rate of breast cancer in the Gulf Cooperation Council countries.

Author/s	Hamadeh RR, Al Ansari A, Jahrami H, Al Offi A.
Title	Cigarette and waterpipe smoking among adult patients with severe and persistent mental illness in Bahrain: a comparison with the National Non-communicable Disease Risk Factors Survey.
Journal	BMC Research Notes.2016, 9:77. DOI: 10.1186/s13104-016-1894-9.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4748568/

ABSTRACT

Background: Smoking has been associated with several types of mental illness namely schizophrenia, depression, bipolar disorders with a prevalence of smoking twice that of the general population. The study objective was to ascertain whether waterpipe tobacco smoking (WTS), cigarette smoking and all types of tobacco smoking are more common among Bahraini patients with severe and persistent mental illness (SPMI) than the general population. Methods: A cross-sectional study was conducted on 222 adult SPMI both in- and out- patients who attended the Psychiatric Hospital in Bahrain. A 29-item questionnaire, which included sociodemographic variables, pattern and history of psychiatric illness and a comprehensive smoking history, was used. Comparative smoking data were obtained from the Bahraini National Non-communicable Diseases Risk Factors Survey. Results: The prevalence of smoking of tobacco among SPMI patients was 30.2 % compared to 19.9 % in the general population. The corresponding values for cigarette smoking were 25.2, 13.8 %, respectively and for WTS, 11.3, 8.4 %, respectively. SPMI patients were 1.7 (95 % CI 1.3, 2.4 %) times more likely to be smokers, 2.1 (95 % CI 1.5, 2.9 %) times, cigarette smokers and 1.4 (95 % CI 0.9, 1.9 %) times WTS than the general population. SPMI patients smoked at a younger age and consumed more cigarettes than the general population. The mean age started smoking was lower among men than women, similar for cigarettes, and higher for WTS. Conclusions: The prevalence of smoking among patients with SPMI in Bahrain is twice that of the general population. The findings of the study have implications on the provision of healthcare to mentally ill patients in the country.

Author/s	Hamadeh RR, Al Roomi K.
Title	Air quality and seasonal variations in consultations for respiratory, allergic, dermatological and gastrointestinal diseases in Bahrain, 2007.
Journal	Eastern Mediterranean Health Journal. 2014; 20(5):309-316.
Available at	http://www.emro.who.int/emhj-vol-20-2014/volume-20-5/air-quality-and-seasonal-variations-in-consultations-for-respiratory-allergic-dermatological-and-gastrointestinal-diseases-in-bahrain-2007.html

ABSTRACT

Environmental health data in Bahrain are scarce. This study in 4 governorates of Bahrain aimed to establish baseline data on the seasonal prevalence of certain disease groups that are sensitive to climate (respiratory, allergic, dermatological and non-specific gastrointestinal diseases) over a 1-year period and to record local climate and air pollutant data for the same year. A 5% sample of medical records for those who attended primary health-care centres during 2007 was taken. Visit rates for all 4 diseases had peaks, in spring and in autumn, with the lowest rates in the summer season when the average temperatures were highest and average humidity was lower. Respiratory-related visits were highest when the air concentrations of SO₂ were highest. An ongoing surveillance system for climate-sensitive diseases should be initiated to monitor and relate health and environmental trends.

Author/s	Hamadeh RR, Al Roomi K, Al-Sayyad A.
Title	Foodborne climate- related diseases in Bahrain.
Journal	Journal of Bahrain Medical Society.2013; 24(3): 105-107.
Available at	https://www.cabdirect.org/cabdirect/abstract/20143302557

ABSTRACT

Background: There has been growing concern that climate change in Bahrain may have led to an increase in the incidence of foodborne diseases. However, scarcity of available data makes it difficult to plan effective interventions. Objectives: To determine the incidence rates of foodborne climate-related diseases in Bahrain and explore their seasonal variation. Methods: All reported foodborne climate-related diseases and the total population for Bahrain were identified for the period 2001-2009. Incidence rates per 100,000 and proportional incidence rates for these diseases by each year were calculated. The average monthly temperatures were compared during the study period. Results: There were 14,990 foodborne climate-related diseases among the total number (217,506) of notifiable diseases during the 9-year period with an average proportional incidence rate of foodborne climate-related diseases (PIRFCD) equal to 6.9%. When the months were grouped into seasons, the PIRFCD was 10.7%, 7.8%, 5.3% and 4.5% in the summer, autumn, winter and spring seasons, respectively for all the period. The temperature had a peak in the summer season which overlapped with the PIRFCD. The incidence rates per 100,000 for the foodborne diseases show a steep rise in 2002 (18.7/100,000) and a steady decline since 2005 to reach 7.2/100,000 in 2008. Conclusion: Little change has been observed in the incidence of foodborne climate-related diseases in Bahrain with highest rates in the summer season. Health authorities should take proactive measures to address this emerging challenge.

Author/s	Hassan AB, Garadah T, Jaradat A, Al Ajmi A, Alawi ME, Sequeira RP.
Title	Prevalence of vitamin D deficiency in patients with sickle cell disease in Bahrain.
Journal	International Journal of Medicine. 2013; 1(2): 23-28.
Available at	http://www.sciencepubco.com/index.php/IJM/article/view/1126

ABSTRACT

Background: Patients with sickle cell disease (SCD) had a low serum level of vitamin D. The prevalence and the impact of this observation in SCD patient's in Bahrain is not clear. Aim: To assess the prevalence of vitamin D deficiency (VDD) in homozygous patients with SCD, and to evaluate the clinical and biochemical predictors of occurrence of VDD in such patients. Methods: We evaluated the vitamin D status in 70 patients with confirmed diagnosis of SCD and compared them with an age matched control group. Serum level of vitamin D, parathormone (PTH), calcium, phosphate, alkaline phosphatase, haemoglobin (Hb), and uric acid were measured. Linear regression analysis was performed to assess the relation between PTH and vitamin D level. Multiple regression analysis was performed to assess the predictive value of gender, body mass index (BMI) >24, serum level of uric acid >400 $\mu\text{mol/L}$ and estimated glomerular filtration rate (eGFR) <60, for occurrence of vitamin D deficiency in patients with SCD. Results: The mean age of the study group was 28.85 ± 7.21 years compared with the control of 29.91 ± 4.3 years, $p=0.23$. There were 40 (57%) female SCD patients compared with 39 (55%) in the control. In patients with SCD, the serum level of vitamin D was sufficient, >50 nmol/L in 4 (5%) patients, insufficient > 27.5 - ≤ 50 nmol/L in 21 (30%) patients, deficient >12.5 - ≤ 27.5 nmol/L 35 (50%) and profoundly deficient ≤ 12.5 nmol/L in 10(15%). In the control group, those with sufficient level of vitamin D were 53 (75%), insufficient 21(30%) deficient of 10 (15%) and none with profound deficiency, respectively. The serum level of PTH and alkaline phosphatase were significantly higher in the SCD group compared with control group. The eGFR, Hb and were significantly lower, serum level of uric acid was significantly higher ($p < 0.05$ but no significant difference between serum level of calcium or phosphate. Linear regression analysis showed inverse relation between VDD (<25 nmol/L) and PTH ($r = -0.34$, $P < 0.001$). Multiple regression analysis showed female gender, BMI >24, hyperurecemia and low eGFR were positive predictor of VDD in patients with SCD. Conclusion: The risk of vitamin D deficiency among subjects with SCD-SS was 3.8 folds greater than control subjects; the prevalence of VDD in SCD was 95% and 25% in the control patients without SCD. On linear regression analysis, there is a significant inverse relation between serum levels of vitamin D and PTH in SCD patients. The female gender, BMI >24, hyperurecemia >400 $\mu\text{mol/L}$ and low eGFR <60 were positive predictor of VDD in patients with SCD.

Author/s	Hasan ZA, Abdel Razzak RL, Alzoubi KH.
Title	Comparison between the effect of propofol and midazolam on picrotoxin-induced convulsions in rat.
Journal	Physiology & Behavior 2014; 128:114-118.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24518860

ABSTRACT

Propofol is a short acting intravenous anesthetic that has been used in the treatment of status epileptics. However, the occurrence of seizures in epileptic and non-epileptic patients during recovery from propofol induced anesthesia suggests that propofol may have proconvulsant effects. We have previously shown that propofol displays anticonvulsant effects against picrotoxin (PTX) induced seizures during its peak sedative effects. The purpose of the present study was to compare the time course of the effect of intravenous administration of various doses (2.5, 5, and 10 mg/kg) of propofol and midazolam on PTX-induced seizures in adult female Sprague-Dawley rats. The latency to onset of clonic seizures induced by intraperitoneal injection of PTX was significantly increased by the highest dose of propofol and all doses of midazolam, suggesting that both agents display anticonvulsant effects. The anticonvulsant effects of propofol (10 mg/kg) lasted about 20 min and PTX-induced clonic seizures were observed thereafter and peaked within 30 min post drug administration. Clonic seizures progressed rapidly to tonic seizures leading to high rate of PTX-induced mortality. In midazolam (10 mg/kg) treated rats, clonic seizures were observed 25 min after drug administration and the number of rats exhibiting clonic seizures was highest within 40 min. However, clonic seizures did not progress into tonic seizures and thus, PTX-induced seizure related mortality was significantly reduced. In Conclusion, this study provides further evidence for the anticonvulsant effects of propofol and midazolam against PTX-induced seizures. Furthermore, the data of the current study showed that midazolam was more effective than propofol against PTX-induced tonic seizures.

Author/s	Hasan ZA, Alzoubi KH.
Title	Evaluating the effect of seizure induction on top of HFCD and or vitamin E administration on the levels of oxidative stress biomarkers in the Hippocampus.
Journal	The FASEB Journal. 2016; 30 (1) Supplement 918.5.
Available at	http://www.fasebj.org/content/30/1_Supplement/918.5.short?related-urls=yes&legid=fasebj;30/1_Supplement/918.5

ABSTRACT

There is increasing evidence that oxidative stress is a casual factor in different neurodegenerative disorders such as Alzheimer disease and epilepsy. We have previously shown that consumption of High-fat high-carbohydrate diet (HFCD) induces oxidative stress, which Results in hippocampal neuronal damage hence impairment of learning and memory, which was reversed by the antioxidant Vitamin E. The reported damage in the hippocampus caused by oxidative stress following consumption of HFCD could alter synaptic transmission in the hippocampus and may increase susceptibility to seizures. Recently, we showed that chronic consumption of HFCD increases, whereas Vitamin E decreases susceptibility to chemically induced seizures using the PTZ seizure threshold model in rats. The present study was undertaken to determine the effect of seizure induction on top of HFCD and/or Vitamin E consumption on the levels of oxidative stress biomarkers in the hippocampus. Male Wistar rats (250–300 gms) were randomly assigned into four groups: control, high-fat high-carbohydrate diet (HFCD), vitamin E (Vit E), and high-fat high-carbohydrate diet with vitamin E (HFCD + Vit E). Vitamin E and/or HFCD were concurrently administered to animals for 6 weeks. Thereafter, PTZ seizures were induced in half of the animals from each group, whereas the rest of the animals were kept as a control without seizure induction. Thirty minutes later, all animals were killed and hippocampus tissues were extracted for molecular analysis of oxidative stress biomarkers (GSH, GSSG, GSH/GSSG ratio, GPx, SOD, and catalase) using ELISA technique. Results revealed that PTZ seizures were associated with significant increases in oxidative stress biomarkers. These increases were amplified in rats consuming HFCD, whereas they were reduced in rats concurrently administered vitamin E. In rats chronically consuming HFCD and concurrently treated with vitamin E, PTZ seizures induced changes in oxidative stress biomarkers were similar to that in control animals. These data suggest that during the course of PTZ-induced seizure, prolonged consumption of HFCD increases susceptibility to oxidative stress in the hippocampus. Such an effect is being normalized by concurrent administration of vitamin E.

Author/s	Hasan ZA, Sequeira RP.
Title	Challenges of teaching physiology in an integrated curriculum.
Journal	Canadian Medical Education Journal.2012; 3(1): e73-e76.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4563640/

ABSTRACT

The transformation of a traditional discipline-based medical curriculum into a system-based integrated curriculum often poses dilemmas to faculty involved in teaching basic medical sciences. This paper examines the challenges of teaching physiology to medical students in a system-based curriculum. Some of these challenges include: defining the core curriculum, curriculum links, sequencing curriculum content, interdisciplinary integration, and student assessment. A number of relevant issues including defining the core physiology content, faculty expertise, and coping and adapting to curriculum transitions are discussed from a personal perspective. For successful implementation of a system-based curriculum and to overcome the challenges, educational issues should be debated in regional and international forums.

Author/s	Hawamdeh KY, Skrypnyk C.
Title	Multidisable people needs' profile- a comprehensive approach.
Journal	European Scientific Journal 2013; 9(33):139-150.
Available at	https://www.researchgate.net/publication/259358433_Multidisable_people_needs'_profile-_a_comprehensive_approach

ABSTRACT

Persons with multi disabilities are individuals of all ages who require extensive ongoing support in more than one major life activity to participate in integrated community settings. The study intended to identify the physical, educational, social and emotional needs of the multi disable people in an attempt to gain a better understanding of the factors influencing their life. A questionnaire with 80 items distributed on 4 domains, interviewing a wide spectrum of physical, educational, social and emotional needs of the persons with multi disabilities was used. The sample consisted of 43 multi disable children and youth, 24 males and 19 females, from four special education centers in Bahrain managing persons with different types of disabilities- motor, blindness and intellectual. Three centers had similar pattern with the social domain on the first rank, followed by educational, physical and emotional domains. More than half of the sample, 53.5% (23 cases) was in high need to be trained for daily care and independent skills. A high percentage of the persons were in need for speech therapy, 51.3% (22 cases). The medical follow up was the highest physical need for 48.8% persons, followed by hospitalization marked by 44.2% persons. Requirement of special educational tools was the highest on the educational domain needs. The society should take care of these domains- physical, social, emotional and educational, separately and in interaction, in order to offer a fundamental environment that can allow people with multi disabilities to do the best regarding their capabilities.

Author/s	Imam A.
Title	Undergraduate medical education in Bahrain.
Journal	Bahrain Medical Bulletin (Editorial).2012; 34(1): 5-6.
Available at	http://www.bahrainmedicalbulletin.com/march_2012/Editorial-March.pdf
ABSTRACT	
No abstract available	

Author/s	Imam A.
Title	Guideline for management of neonatal necrotising enterocolitis in resource limited countries.
Journal	Pakistan Paediatric Journal.2012; 36(4):180-191.
Available at	http://webcache.googleusercontent.com/search?q=cache:jUeiVITfJDwJ:pakpedsjournal.org.pk/download.aspx%3Fid%3DNzg%253D+&cd=1&hl=en&ct=clnk&gl=bh

ABSTRACT

Necrotising Enterocolitis (NEC) is the most common gastrointestinal emergency in preterm neonates and a major cause of morbidity and mortality in the developed world. Aga Khan University Hospital in Karachi has reported an incidence of 5% in infants weighing less than 2000 Grams at birth. Thus, NEC does not seem to be uncommon in Pakistani preterm infants. In this article we reviewed the literature and sought evidence of best management and prevention strategies for NEC. Although in the current literature we could not find any consensus we have attempted to use the best evidence available to formulate a guideline for management and prevention of NEC that would be applicable to a resource limited country such as Pakistan.

Author/s	Ismail S, Duckett J, Rizk D , Sorinola O, Kammerer-Doak D, Contreras-Ortiz O, Al-Mandeel H, Svabik K, Parekh M, Phillips C.
Title	Recurrent pelvic organ prolapse: international urogynecological association research and development committee opinion.
Journal	International Urogynecology Journal. 2016; 27(11):1619-1632.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27379891

ABSTRACT

Introduction and Hypothesis: This committee opinion paper summarizes available evidence about recurrent pelvic organ prolapse (POP) to provide guidance on management. Method: A working subcommittee from the International Urogynecological Association (IUGA) Research and Development Committee was formed. The literature regarding recurrent POP was reviewed and summarized by individual members of the subcommittee. Recommendations were graded according to the 2009 Oxford Levels of Evidence. The summary was reviewed by the Committee. Result: There is no agreed definition for recurrent POP and evidence in relation to its evaluation and management is limited. Conclusion: The assessment of recurrent POP should entail looking for possible reason(s) for failure, including persistent and/ or new risk factors, detection of all pelvic floor defects and checking for complications of previous surgery. The management requires individual evaluation of the risks and benefits of different options and appropriate patient counseling. There is an urgent need for an agreed definition and further research into all aspects of recurrent POP.

Author/s	Ismail S, Rizk DE.
Title	Patient and public involvement in urogynecology: a pause for reflection before taking a leap.
Journal	International Urogynecology Journal. 2015; 26(5):625–627.
Available at	http://link.springer.com/article/10.1007%2Fs00192-015-2651-7

ABSTRACT

No abstract available

Author/s	Jahan SKK , Mayanna MG, Kavitha BL, Patil A, Kumari PA.
Title	A rare case of translocation (12;22) (p13;q) in Ewing's sarcoma
Journal	Indian Journal of Medical and Paediatric Oncology. 2014; 35(1):89-90.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4080672/

ABSTRACT

Cytogenetic or immunohistochemical studies are often required to differentiate Ewing's sarcoma (ES) from other small round cell tumors. Herein we report a case of 13-year-old boy who presented with a large presacral lesion. Hemogram and biochemical parameters were normal except lactate dehydrogenase showing value of 96.40/IU/L, magnetic resonance imaging of the spine showed a large mass in presacral lesion (8 cm × 7 cm × 9 cm), with destruction of the sacrum (S2 S3 and S4) with interspinal extension. Bone scan showed multiple pelvic bone lesions, radiograph of chest, ultrasound of abdomen, pelvis and electrocardiogram were within normal limits. Bone marrow was not involved. Cells from the fine needle aspirate were cultured for short term using RPMI medium and karyotype obtained showed a t(12;22)(p12;q12) instead of the classic t(11;22). Diagnosis of ES was also confirmed by studies using immunohistochemistry for MIC2 which was positive, synaptophysin was inconclusive and leukocyte common antigen, desmin negative. This case provides evidence of the importance of chromosome 22, in the etiology of the disease.

Author/s	Jahrami H, Algahtani HM , Haji EA, Al Jeeb A, Saif Z, Al Salman A.
Title	Prevalence and impacts of premenstrual syndrome among Bahraini Women: a cross-sectional study using the Arab premenstrual syndrome scale (APMSS).
Journal	The Arab Journal of Psychiatry.2016; 27 (1): 67- 75.
Available at	http://arabjournalpsychiatry.com/wp-content/uploads/2016/04/May2016.pdf

ABSTRACT

Background: Premenstrual Syndrome (PMS) is a constellation of psychological, physical and behavioral symptoms that has been described in medical literature, with limited data in the Arab region, especially in the Arabian Gulf countries. Method: This is a cross-sectional study, which was conducted in Bahrain from June to July 2014. A random sample of 250 women was chosen, of which 200 responded and their data analyzed. The Arabic Premenstrual Syndrome Scale (APMSS) was used, which consists of 23 items describing psychological, physical and functional impairment features of PMS. Results: The mean age of the sample was 22 ± 4.5 . 99% had PMS symptoms, 100% had physical symptoms, 98.5% had psychological and 69% suffered from functional impairment. The majority (52%) suffered from moderate symptoms while mild symptoms were seen in 41% and only 6% had severe PMS. There was no statistically significant association between severity of symptoms and the sociodemographic, biometric or gynecological variables. Conclusion: The Results of the study showed that the majority of young women in the sample (93%) were suffering from mild (41%) to moderate (52%) PMS while severe symptoms were shown in only 6% of the participants.

Author/s	Jairajpuri DS, Almawi WY.
Title	MicroRNA expression pattern in pre-eclampsia (Review).
Journal	Molecular Medicine Reports. 2016; 13(3): 2351-2358.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26847841

ABSTRACT

Pre-eclampsia (PE), a pregnancy complication, is a leading cause of maternal and fetal morbidity and mortality. Although its exact etiology and pathogenesis remain elusive, PE Results from an interaction of inherited and non inherited factors. The clinical symptoms of PE appear post mid stage of gestation and, at present, there are no early signs/markers for its onset and progression. MicroRNAs function as gene regulators, and are involved in development and pathology. A burgeoning number of studies have highlighted microRNAs as potential biomarkers for minimal invasive assessment. However, it remains a matter of debate as to which microRNA type is involved in PE onset and progression, as well as the clinical utility of testing for these species. In the present review, we have summarized the latest findings on the association of PE with the aberrant expression of placental microRNAs; in particular, those that are detectable in the blood. The current understanding of the mechanisms of microRNA target gene interactions that underpin the involvement of microRNAs in the pathogenesis of PE is also discussed.

Author/s	Jairajpuri DS, Fatima S, Jairajpuri ZS.
Title	Glycation induced physicochemical changes in low-density lipoprotein and its role in promoting cholesterol accumulation in macrophages along with antiglycation effect of aminoguanidine.
Journal	Advances in Biological Chemistry. 2015; 5:203-214.
Available at	http://file.scirp.org/pdf/ABC_2015071515433321.pdf

ABSTRACT

The present study aimed at investigating physicochemical changes in modified LDL by sugars specifically fructose due to recent reports on its involvement in cardiovascular diseases and also glucose and their role in subsequent in vitro accumulation of cholesterol in macrophages. Antiglycation action of aminoguanidine was also investigated. LDL isolated from human blood was incubated with fructose or glucose and aminoguanidine where indicated. The physicochemical changes in modified LDL were detected by electrophoretic, spectroscopic and chemical analysis. Accumulation of cholesterol and its inhibitor in human monocyte-derived macrophages incubated with modified LDL was determined by HPLC. Results showed increased relative electrophoretic mobility, hyperchromicity at 280 nm, development of AGE fluorescence, decrease in free amino groups and increased carbonyl content in glycated LDL as compared to native LDL. Also total cholesterol accumulated in macrophages was more for glycated LDL as compared to native LDL. The magnitude of changes was more prominent in case of fructose as compared to glucose. Aminoguanidine showed remarkable restriction of glycation-induced alterations in LDL and also in accumulation of cholesterol in macrophages. The study thus proclaims that LDL-AGEs formed by fructose may contribute to accelerated initiation of diabetes induced atherosclerosis via foam cells generation and aminoguanidine may have therapeutic potential against it.

Author/s	Jairajpuri DS, Jairajpuri ZS.
Title	Isoferulic acid action against Glycation-Induced changes in structural and functional attributes of human high-density lipoprotein.
Journal	Biochemistry (Mosc). 2016 Mar; 81(3):289-295.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27262199

ABSTRACT

Glycation-induced high-density lipoprotein (HDL) modification by aldehydes can result in loss of its antiinflammatory/antioxidative properties, contributing to diabetes-associated cardiovascular diseases. Isoferulic acid, a major active ingredient of *Cimicifuga heracleifolia*, shows antiinflammatory, antiviral, antioxidant, and antidiabetic properties. Thus, this study investigated the antiglycation effect of isoferulic acid against compositional modifications of HDL and loss of biological activity of HDL-paraoxonase induced on incubation with different aldehydes. Protective effect of isoferulic acid was assessed by subjecting purified HDL from human plasma to glycation with methylglyoxal, glyoxal, or glycolaldehyde and varying concentrations of isoferulic acid. The effect of isoferulic acid was analyzed by determining amino group number, tryptophan and advanced glycation end-product fluorescence, thermal denaturation studies, carboxymethyl lysine content, and activity of HDL-paraoxonase. Concentration-dependent inhibitory action of isoferulic acid was observed against extensive structural perturbations, decrease in amino group number, increase in carboxymethyl lysine content, and decrease in the activity of HDL-paraoxonase caused by aldehyde-associated glycation in the HDL molecule. Isoferulic acid, when taken in concentration equal to that of aldehydes, was most protective, as 82-88% of paraoxonase activity was retained for all studied aldehydes. Isoferulic acid shows antiglycation action against aldehyde-associated glycation in HDL, which indicates its therapeutic potential for diabetic patients, especially those with micro-/macrovascular complications.

Author/s	Jairajpuri DS, Qadri S, Sharma V.
Title	Fortification of orange juice with withania somnifera and solanum nigrum extract- a potential functional fruit beverage and its quality evaluation.
Journal	Pakistan Journal of Food Sciences. 2015; 25(2):58-65.
Available at	https://www.omicsonline.org/proceedings/fortification-of-orange-juice-with-withania-somnifera-and-solanum-nigrum-extract-a-potential-functional-fruit-beverage-and-its-quality-evaluation-41351.html

ABSTRACT

Withania somnifera and Solanum nigrum, well known for their nutraceutical potential have been explored as a functional ingredient in a wide array of health foods and drinks. Processing of fruits and herbal botanicals into functional beverage is an emerging sector in food industry. The present study was undertaken to develop a functional ready to serve (RTS) beverage blend using Withania somnifera (Ashwagandha) and Solanum nigrum (Makoi) separately with orange (Citrus sinensis L.). Orange juice (85%), sucralose (10%), citric acid (0.1%), Withania somnifera and Solanum nigrum (6%), colouring (carmosine E122) (0.05%), flavouring propylene glycol (E1520) (0.05 %) were mixed in given proportion to prepare the blend with TSS of 8.2 °Brix. The product was bottled, pasteurized and stored at room temperature. The quality characteristics and storage stability of orange juice were compared with ashwagandha fortified beverage blend (AFBB) and Makoi fortified beverage blend (MFBB). Periodic analysis were carried out upto 90 days for various physicochemical parameters, nutritional profile, microbial quality, color and sensory acceptability. Both AFBB and MFBB exhibited more or less comparable quality characterstics both in fresh and in stored samples and both were acceptable till 90 days when stored at room temperature. The Results indicate that antioxidant rich Withania somnifera (AFBB antioxidant activity: 899±22.4 µmol TE/100 gms) and Solanum nigrum (MFBB antioxidant activity: 750±21.8 µmol TE/100 gms) could be successfully utilized to develop functional fruit beverage to improve quality of nutrition in today's lifestyle.

Author/s	James H, Al Khaja KA, Sequeira RP.
Title	Effective use of real-life events as tools for teaching-learning clinical pharmacology in a problem-based learning curriculum.
Journal	Indian Journal of Pharmacology. 2015; 47(3):316-321.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26069371

ABSTRACT

Aim: This paper describes how in a problem-based learning (PBL) medical curriculum, having identified the learning outcomes, problems can be developed from real-life events for teaching-learning clinical pharmacology topics for which PBL cases might be inadequate. Such problems can be very interesting and educational. Methodology: Using the story of the development and withdrawal of rofecoxib (Vioxx®), we developed a problem for undergraduate medical students to address important issues related to clinical pharmacology and therapeutics such as new drug development, preclinical testing, clinical trials, adverse drug reactions, professionalism, and critical appraisal of literature. These topics would otherwise be difficult to address in patient-based problems. Results: The evaluation of the problem based on pooled feedback from 57 tutorial groups, each comprising 8-10 students, collected over 5 years, supported the effectiveness of the problem. Conclusion: A systematic approach described in this paper can be used for the development and validation of educational material for introducing focal topics of pharmacology/ clinical pharmacology integrated with other disciplines in innovative medical (and other health profession) curricula.

Author/s	James H, Al Khaja KAJ, Tayem Y, Veeramuthu S, Sequeira RP.
Title	Understanding preclerkship students' poor performance in prescription writing.
Journal	Sultan Qaboos University Medical Journal. 2016; 16(2): 203-209.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4868520/pdf/squmj1605-e203-209.pdf

ABSTRACT

Objectives: This study aimed to explore reasons for poor performance in prescription writing stations of the Objective structured practical examination (OSPE) and absenteeism in prescription writing sessions among preclerkship medical students at the Arabian Gulf University (AGU) in Manama, Bahrain. Method: This descriptive study was carried out between September 2014 and June 2015 among 157 preclerkship medical students at AGU. Data were collected using focus group discussions and a questionnaire with closed- and open-ended items. Results: All 157 students participated in the study (response rate: 100.0%). The most frequently cited reasons for poor performance in OSPE stations were an inability to select the correct drugs (79.6%), treatment duration (69.4%), drug quantity (69.4%) and drug formulation (68.2%). Additionally, students reported inadequate time for completing the stations (68.8%). During focus group discussions, students reported other reasons for poor performance, including examination stress and the difficulty of the stations. Absenteeism was attributed to the length of each session (55.4%), lack of interest (50.3%), reliance on peers for information (48.4%) and optional attendance policies (47.1%). Repetitive material, large group sessions, unmet student expectations and the proximity of the sessions to summative examinations were also indicated to contribute to absenteeism according to open-ended responses or focus group discussions. Conclusion: This study suggests that AGU medical students perform poorly in prescription writing OSPE stations because of inadequate clinical pharmacology knowledge. Participation in prescription writing sessions needs to be enhanced by addressing the concerns identified in this study. Strategies to improve attendance and performance should take into account the learner-teacher relationship.

Author/s	James H, Tayem Y, Al Khaja KAJ, Veeramuthu S, Sequeira RP.
Title	Prescription writing in small groups as a clinical pharmacology educational intervention: perceptions of preclerkship medical students.
Journal	Journal of Clinical Pharmacology. 2016; 56(8):1028-1034.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26677798

ABSTRACT

Medical students do not perform well in writing prescriptions, and the 3 variables-learner, teacher, and instructional Method-are held responsible to various degrees. The Objective of this clinical pharmacology educational intervention was to improve medical students' perceptions, motivation, and participation in prescription-writing sessions. The study participants were second-year medical students of the College of Medicine and Medical Sciences of the Arabian Gulf University, Bahrain. Two prescription-writing sessions were conducted using clinical case scenarios based on problems the students had studied as part of the problem-based learning curriculum. At the end of the respiratory system subunit, the training was conducted in small groups, each facilitated by a tutor. At the end of the cardiovascular system subunit, the training was conducted in a traditional large-group classroom setting. Data were collected with the help of a questionnaire at the end of each session and a focus group discussion. A majority of the students (95.3% ± 2.4%) perceived the small-group Method better for teaching and learning of all aspects of prescription writing: analyzing the clinical case scenario, applying clinical pharmacology knowledge for therapeutic reasoning, using a formulary for searching relevant prescribing information, and in writing a complete prescription. Students also endorsed the small-group Method for better interaction among themselves and with the tutor and for the ease of asking questions and clarifying doubts. In view of the principles of adult learning, where motivation and interaction are important, teaching and learning prescription writing in small groups deserve a serious consideration in medical curricula.

Author/s	Janahi NM, Bakhiet M.
Title	Diabetic peripheral neuropathy: a common complication in diabetic patients.
Journal	Bahrain Medical Bulletin. 2015; 37(1):33-37.
Available at	http://www.bahrainmedicalbulletin.com/March_2015/DPN.pdf

ABSTRACT

Background: Diabetic Peripheral Neuropathy (DPN) is a common condition among people with diabetes mellitus (DM), which could result in foot ulceration and amputation. Objective: To evaluate Diabetic Peripheral Neuropathy among diabetic patients. Design: A Cross-Sectional Study. Setting: Royal Medical Services Bahrain Defence Force Hospital. Method: Five hundred randomly selected patients diagnosed with DM were included in the study from April 2012 to June 2012. Thorough neurological assessment (Neuropathy Symptom Score (NSS), Neuropathy Disability Score (NDS) and Vibration Perception Threshold (VPT)) was performed. Result: Five hundred were included in the study, 242 (48%) were males and 258 (52%) were females. The mean age was 55±14 years and the mean BMI was 35±9. Type I DM was present in 38 (8%) patients compared to 462 (92%) type II DM. Three hundred thirty-one (66%) patients had medical complications; the most common was DPN 186 (37%) followed by vascular insufficiency 141 (28%). Sixty (12%) DPN patients were undiagnosed. Conclusion: The study revealed that many DM patients have neuropathic complications and at substantial risk of developing foot ulceration. A number of patients with neuropathy were unaware of their condition.

Author/s	Janahi NM, Santos D, Blyth C, Bakhiet M , Ellis M.
Title	Diabetic peripheral neuropathy, is it an autoimmune disease?
Journal	Immunology Letters. 2015; 168(1):73-79.
Available at	http://www.sciencedirect.com/science/article/pii/S016524781530033X

ABSTRACT

Background: Autoimmunity has been identified in a significant number of neuropathies, such as, proximal neuropathies, and autonomic neuropathies associated with diabetes mellitus. However, possible correlations between diabetic peripheral neuropathy and autoimmunity have not yet been fully investigated. Objectives: This study was conducted to investigate whether autoimmunity is associated with the pathogenesis of human diabetic peripheral neuropathy. Research design and methods. A case-control analysis included three groups: 30 patients with diabetic peripheral neuropathy, 30 diabetic control patients without neuropathy, and 30 healthy controls. Blood analysis was conducted to compare the percentages of positive antinuclear antibodies (ANA) between the three groups. Secondary analysis investigated the correlations between the presence of autoimmune antibodies and sample demographics and neurological manifestations. This research was considered as a pilot study encouraging further investigations to take place in the near future. Results: Antinuclear antibodies were significantly present in the blood serum of patients with diabetic peripheral neuropathy in comparison to the control groups ($p < 0.001$). The odds of positive values of ANA in the neuropathy group were 50 times higher when compared to control groups. Secondary analysis showed a significant correlation between the presence of ANA and the neurological manifestation of neuropathy (Neuropathy symptom score, Neuropathy disability score and Vibration Perception Threshold). Conclusion: The study demonstrated for the first time that human peripheral diabetic neuropathy may have an autoimmune aetiology. The new pathogenic factors may lead to the consideration of new management plans involving new therapeutic approaches and disease markers.

Author/s	Jrah-Harzallah H, Ben-Hadj-Khalifa S, Almawi WY , Maaloul A, Houas Z, Mahjoub T.
Title	Effect of thymoquinone on 1,2-dimethyl-hydrazine-induced oxidative stress during initiation and promotion of colon carcinogenesis.
Journal	European Journal of Cancer. 2013; 49(5): 1127-1135.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23131834

ABSTRACT

We evaluated pre- and post-thymoquinone (TQ) treatment on 1,2-dimethyl-hydrazine (DMH)-induced oxidative stress during initiation and promotion of colon carcinogenesis. Wistar rats were induced with DMH (20mg/kg) for 10 or 20 weeks, and treated with TQ (5mg/kg). Following sacrifice, the colons were analysed for tumour development, reactive oxygen species (ROS) generation, lipid peroxidation [conjugated diene (CD) and malondialdehyde (MDA)], antioxidants [glutathione peroxidase (GPx), catalase (CAT), superoxide dismutase (SOD) and reduced glutathione (GSH)], and histological changes. Increased ROS levels and lipid peroxidation were seen during tumour initiation and promotion. All ROS-scavenging enzyme activities were increased upon shorter DMH treatment but not following longer treatment, while GSH amount was increased upon both treatments. Oxidative state perturbations were associated with moderate colon dysplasia and 30% tumour incidence at initiation and marked dysplasia and 100% tumour incidence at promotion. TQ pre-treatment restored completely DMH-induced oxidative stress at initiation and established histological changes and tumour development. It also abrogated oxidative status aggravation at promotion, and significantly reduced tumour incidence (67%). By comparison, TQ post-treatment corrected oxidative status and attenuated tumour development at initiation. It slightly reduced MDA and antioxidant level at promotion, with a slight reduction in tumour state and dysplasia degree. TQ is efficacious in protecting and curing DMH-induced initiation phase of colon cancer, while exerting a protective role at promotion. TQ effect seems to be related to its capacity in preventing DMH-induced oxidative stress. These in vivo Results support the notion that TQ may be of value as a chemo-preventive alternative in colorectal cancer patients.

Author/s	Kamal A, Ramakers GM, Altinbilek B, Kas MJ.
Title	Social isolation stress reduces hippocampal long-term potentiation: effect of animal strain and involvement of glucocorticoid receptors
Journal	Neuroscience. 2014; 3(256):262-270.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24161282

ABSTRACT

Background: Depressive patients show cognitive impairments that are strongly associated with cortisol levels and hippocampus functioning that interact via unknown mechanisms. In addition, a relation between depression and hippocampal synaptic plasticity was described. Methods: In the first experiment, strain-dependent effects of 72-h social isolation on long-term potentiation (LTP) in the CA1 area of the in vitro hippocampus, was determined. Extracellular field excitatory postsynaptic potentials were recorded and a brief high-frequency stimulation (100 Hz, 1s) was applied and recording resumed after the high frequency stimulation (HFS) for 30 min to determine the effect of HFS. In the second experiment we investigated the effect of 72 h of corticosterone treatment and the involvement of glucocorticoid receptors (GRs) in the effect of 72 h of social isolation on LTP in the CA1 area of hippocampus, in vitro. Result: Genetic Background has a major effect on the level of hippocampal LTP impairment in mice following social isolation. Data showed that the potentiation levels in socially housed (SH) A/J mice were significantly higher than the SH C57BL/6J mice (224.88 ± 16.65 , $131.56 \pm 6.25\%$ of the baseline values, $t(9)=2.648$, $p=0.026$). However, both strains showed depressed induction of potentiation when reared in an isolated environment for 72 h, and no significant difference was recorded between the two ($112.88 \pm 16.65\%$, and $117.91 \pm 3.23\%$ of the baseline values, respectively, $t(10)=0.618$, $p=0.551$). Social isolation increased corticosterone levels significantly and chronic corticosterone infusion in SH phenocopied the LTP impairments observed in socially isolated mice. Infusion of the GR antagonist RU38486 rescued the LTP-impairments following social isolation. Conclusion: These findings support the notion that increased levels of stress hormone act via the GR on hippocampal functioning and that, in this way, the cognitive deficits in mood disorders may be restored.

Author/s	Kamal A, Ramakers GM, Gispen WH, Biessels GJ.
Title	Hyperinsulinemia in rats causes impairment of spatial memory and learning with defects in hippocampal synaptic plasticity by involvement of postsynaptic mechanisms.
Journal	Experimental Brain Research.2013; 226 (1): 45-51.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23371746

ABSTRACT

In addition to its peripheral metabolic functions, insulin acts as a central neuromodulator and affects synaptic plasticity of the hippocampal neurons. In this study, hyperinsulinemic obese Zucker rats (OZR) with autosomal recessive mutation of the *fa*-gene were tested in water maze for learning and memory. The animals were then decapitated and hippocampal slices were prepared for electrophysiological examination. In the water maze test, the OZR performed less efficient than their lean control rats (LCR). The OZR showed prolonged latency and increased distance swam to reach a hidden platform. In the electrophysiological experiments, the hippocampal slices were examined for paired-pulse facilitation (PPF), long-term potentiation (LTP), and depression expression. The Results showed that while the PPF (thus mainly the presynaptic mechanisms) was not affected, the LTP expression (169.9 ± 16.6 vs. 310.7 ± 2.4 %) and the synaptic plasticity range (69.2 vs. 211.2 %) were both reduced in the OZR animals compared to the LCR. It is concluded that hyperinsulinemia in the OZR Resulted in defects in hippocampal synaptic plasticity associated with deterioration in spatial learning and memory functions.

Author/s	Kamal A, Ramakers GM, Gispen WH, Biessels GJ.
Title	Effect of chronic intracerebroventricular insulin administration in rats on the peripheral glucose metabolism and synaptic plasticity of CA1 hippocampal neurons.
Journal	Brain Research. 2012; 1435: 99-104.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22206925

ABSTRACT

In this study we examined the effects of sustained intra cerebroventricular insulin infusion on hippocampal synaptic plasticity in rats. Insulin was infused intracerebroventricularly in male Wistar rats (n=12) for 3 months using osmotic minipumps. A control group (n=12) received a sham operation. Insulin infusion led to an initial reduction in food intake and body weight gain, but these differences attenuated over 12 weeks. Insulin infusion did not affect fasting or non-fasting blood glucose levels. Field synaptic potentials recording from the hippocampus demonstrated a defect in the expression of long-term potentiation. Sharp electrode current-clamp recording showed that CA1 pyramidal cells fire action potentials in response to prolonged depolarizing current injection and those action potentials showed progressive broadening. The action potential broadening in the insulin-perfused animals were significantly longer than the control. The amplitude of slow after hyperpolarization (sAHP) was measured after manually “clamping” the cells at -65 mV and injecting currents to evoke a train of four APs. The sAHP amplitude was significantly longer than in the control animals. We conclude that local insulin infusion into the brain of rats had significant effects on synaptic plasticity in the absence of marked effects on systemic glucose levels. These Results indicate that long-term elevation of insulin levels can have adverse effects directly on the brain.

Author/s	Kammerer-Doak D, Rizk DE, Sorinola O, Agur W, Ismail S, Bazi T.
Title	Mixed urinary incontinence: international urogynecological association research and development committee opinion.
Journal	International Urogynecology Journal 2014; 25(10):1303-1312.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25091925

ABSTRACT

Background and Aim: The definition as well as the treatment of women with mixed urinary incontinence (MUI) is controversial. Since women with MUI are a heterogeneous group, the treatment of MUI requires an individual assessment of the symptom components: stress urinary incontinence, urinary urgency, urgency urinary incontinence, urinary frequency, and nocturia. The purpose of this paper is to summarize the current literature and give an evidence-based review of the assessment and treatment of MUI. Methods: A working subcommittee from the International Urogynecological Association (IUGA) Research and Development (R&D) Committee was formed. An initial document addressing the diagnosis and management of MUI was drafted based on a literature review. After evaluation by the entire IUGA R&D Committee, revisions were made, and the final document represents the IUGA R&D Committee Opinion on MUI. Results: This R&D Committee Opinion reviews the literature on MUI and summarizes the assessment and treatment with evidence-based recommendations. Conclusions: The diagnosis of MUI encompasses a very heterogeneous group of women. The evaluation and treatment requires an individualized approach. The use of validated questionnaires is recommended to assess urinary incontinence symptoms and effect on quality of life. Conservative therapy is suggested as a first-line approach; if surgery is contemplated, urodynamic investigation is recommended. Women undergoing surgical treatment for MUI need to be counselled about the possibility of persistence of urinary urgency, frequency and urge incontinence even if stress urinary incontinence is cured.

Author/s	Kassab SE, Alshafai AI, Salem AH , Otoom S.
Title	Relationships between the quality of blended learning experience, self-regulated learning, and academic achievement of medical students: a path analysis.
Journal	Advances Medical Education Journal. 2015; 6:27-34.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4293215/

ABSTRACT

Purpose: This study examined the relationships between the different aspects of students' course experience, self-regulated learning, and academic achievement of medical students in a blended learning curriculum. Methods: Perceptions of medical students (n=171) from the Royal College of Surgeons in Ireland, Medical University of Bahrain (RCSI Bahrain), on the blended learning experience were measured using the Student Course Experience Questionnaire (SCEQ), with an added e-Learning scale. In addition, self-regulated learning was measured using the Motivated Strategies for Learning Questionnaire (MSLQ). Academic achievement was measured by the scores of the students at the end of the course. A path analysis was created to test the relationships between the different study variables. Results: Path analysis indicated that the perceived quality of the face-to-face component of the blended experience directly affected the motivation of students. The SCEQ scale "quality of teaching" directly affected two aspects of motivation: control of learning and intrinsic goal orientation. Furthermore, appropriate course workload directly affected the self-efficacy of students. Moreover, the e-Learning scale directly affected students' peer learning and critical thinking but indirectly affected metacognitive regulation. The resource management regulation strategies, time and study environment, and effort regulation directly affected students' examination scores (17% of the variance explained). However, there were no significant direct relationships between the SCEQ scales and cognitive learning strategies or examination scores. Conclusion: The Results of this study will have important implications for designing blended learning courses in medical schools.

Author/s	Kassab SE, Fida M , Radwan A, Hassan AB , Abu-Hijleh M, O' Connor BP.
Title	Generalisability theory analyses of concept mapping assessment scores in a problem-based medical curriculum.
Journal	Medical Education. 2016; 50: 730-737.
Available at	http://onlinelibrary.wiley.com/doi/10.1111/medu.13054/abstract

ABSTRACT

Context: In problem-based learning (PBL), students construct concept maps that integrate different concepts related to the PBL case and are guided by the learning needs generated in small-group tutorials. Although an instrument to measure students' concept maps in PBL programmes has been developed, the psychometric properties of this instrument have not yet been assessed. Objectives: This study evaluated the generalisability of and sources of variance in medical students' concept map assessment scores in a PBL context. Methods: Medical students (Year 4, n = 116) were asked to construct three integrated concept maps in which the content domain of each map was to be focused on a PBL clinical case. Concept maps were independently evaluated by four raters based on five criteria: valid selection of concepts; hierarchical arrangement of concepts; degree of integration; relationship to the context of the problem, and degree of student creativity. Generalisability theory was used to compute the reliability of the concept map scores. Results: The dependability coefficient, which indicates the reliability of scores across the measured facets for making absolute decisions, was 0.814. Students' concept map scores (universe scores) accounted for the largest proportion of total variance (47%) across all score comparisons. Rater differences accounted for 10% of total variance, and the student \times rater interaction accounted for 25% of total variance. The variance attributable to differences in the content domain of the maps was negligible (2%). The remaining 16% of the variance reflected unexplained sources of error. Results from the D study suggested that a dependability level of 0.80 can be achieved by using three raters who each score two concept map domains, or by using five raters who each score only one concept map domain. Conclusions: This study demonstrated that concept mapping assessment scores of medical students in PBL have high reliability. Results suggested that greater improvements in dependability might be made by increasing the number of raters rather than by increasing the number of concept map domains.

Author/s	Kassab SE, Hassan N, Abu-Hijleh M, Sequeira RP.
Title	Lecturing skills as predictors of tutoring skills in a problem-based medical curriculum.
Journal	Advances in Medical Education & Practice. 2016; 7:1-6.
Available at	https://www.dovepress.com/lecturing-skills-as-predictors-of-tutoring-skills-in-a-problem-based-m-peer-reviewed-article-AMEP

ABSTRACT

Purpose: Recruitment of tutors to work in problem-based learning (PBL) programs is challenging, especially in that most of them are graduated from discipline-based programs. Therefore, this study aims at examining whether lecturing skills of faculty could predict their PBL tutoring skills. Methods: This study included evaluation of faculty (n=69) who participated in both tutoring and lecturing within particular PBL units at the College of Medicine and Medical Sciences (CMMS), Arabian Gulf University, Bahrain. Each faculty was evaluated by medical students (n=45±8 for lecturing and 8±2 for PBL tutoring) using structured evaluation forms based on a Likert-type scale (poor to excellent). The prediction of tutoring skills using lecturing skills was statistically analyzed using stepwise linear regression. Results: Among the parameters used to judge lecturing skills, the most important predictor for tutoring skills was subject matter mastery in the lecture by explaining difficult concepts and responding effectively to students' questions. Subject matter mastery in the lecture positively predicted five tutoring skills and accounted for 25% of the variance in overall effectiveness of the PBL tutors (F=22.39, P=0.000). Other important predictors for tutoring skills were providing a relaxed class atmosphere and effective use of audiovisual aids in the lecture. Conclusion: Predicting the tutoring skills based on lecturing skills could have implications for recruiting tutors in PBL medical programs and for tutor training initiatives.

Author/s	Kassebaum N, Bertozzi-Villa A, Coggeshall MS, [...], Hamadeh RR , et al.
Title	Global regional and national levels and causes of maternal mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013.
Journal	The Lancet 2014; 384(9947): 980-1004.
Available at	http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)60696-6/abstract

ABSTRACT

Background: The fifth Millennium Development Goal (MDG 5) established the goal of a 75% reduction in the maternal mortality ratio (MMR; number of maternal deaths per 100 000 livebirths) between 1990 and 2015. We aimed to measure levels and track trends in maternal mortality, the key causes contributing to maternal death, and timing of maternal death with respect to delivery. Methods We used robust statistical Methods including the Cause of Death Ensemble model (CODEm) to analyse a database of data for 7065 site-years and estimate the number of maternal deaths from all causes in 188 countries between 1990 and 2013. We estimated the number of pregnancy-related deaths caused by HIV on the basis of a systematic review of the relative risk of dying during pregnancy for HIV-positive women compared with HIV-negative women. We also estimated the fraction of these deaths aggravated by pregnancy on the basis of a systematic review. To estimate the numbers of maternal deaths due to nine different causes, we identified 61 sources from a systematic review and 943 site-years of vital registration data. We also did a systematic review of reports about the timing of maternal death, identifying 142 sources to use in our analysis. We developed estimates for each country for 1990–2013 using Bayesian meta-regression. We estimated 95% uncertainty intervals (UIs) for all values. Findings 292 982 (95% UI 261 017–327 792) maternal deaths occurred in 2013, compared with 376 034 (343 483–407 574) in 1990. The global annual rate of change in the MMR was -0.3% (-1.1 to 0.6) from 1990 to 2003, and -2.7% (-3.9 to -1.5) from 2003 to 2013, with evidence of continued acceleration. MMRs reduced consistently in south, east, and southeast Asia between 1990 and 2013, but maternal deaths increased in much of sub-Saharan Africa during the 1990s. 2070 (1290–2866) maternal deaths were related to HIV in 2013, 0.4% (0.2 – 0.6) of the global total. MMR was highest in the oldest age groups in both 1990 and 2013. In 2013, most deaths occurred intrapartum or postpartum. Causes varied by region and between 1990 and 2013. We recorded substantial variation in the MMR by country in 2013, from 956.8 (685.1–1262.8) in South Sudan to 2.4 (1.6–3.6) in Iceland. Interpretation Global rates of change suggest that only 16 countries will achieve the MDG 5 target by 2015. Accelerated reductions since the Millennium Declaration in 2000 coincide with increased development assistance for maternal, newborn, and child health. Setting of targets and associated interventions for after 2015 will need careful consideration of regions that are making slow progress, such as west and central Africa.

Author/s	Kassebaum NJ, Arora M, Barber RM, [...], Hamadeh RR , et al.
Title	Global, regional, and national disability adjusted life -years (DALYs) for 315 diseases and injuries and healthy life expectancy (HALE), 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015.
Journal	The Lancet 2016; 388 (10053): 1603–1658.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27733283

ABSTRACT

Background: Healthy life expectancy (HALE) and disability-adjusted life-years (DALYs) provide summary measures of health across geographies and time that can inform assessments of epidemiological patterns and health system performance, help to prioritise investments in research and development, and monitor progress toward the Sustainable Development Goals (SDGs). We aimed to provide updated HALE and DALYs for geographies worldwide and evaluate how disease burden changes with development. Methods: We used results from the Global Burden of Diseases, Injuries, and Risk Factors Study 2015 (GBD 2015) for all-cause mortality, cause-specific mortality, and non-fatal disease burden to derive HALE and DALYs by sex for 195 countries and territories from 1990 to 2015. We calculated DALYs by summing years of life lost (YLLs) and years of life lived with disability (YLDs) for each geography, age group, sex, and year. We estimated HALE using the Sullivan method, which draws from age-specific death rates and YLDs per capita. We then assessed how observed levels of DALYs and HALE differed from expected trends calculated with the Socio-demographic Index (SDI), a composite indicator constructed from measures of income per capita, average years of schooling, and total fertility rate. Findings: Total global DALYs remained largely unchanged from 1990 to 2015, with decreases in communicable, neonatal, maternal, and nutritional (Group 1) disease DALYs offset by increased DALYs due to non-communicable diseases (NCDs). Much of this epidemiological transition was caused by changes in population growth and ageing, but it was accelerated by widespread improvements in SDI that also correlated strongly with the increasing importance of NCDs. Both total DALYs and age-standardised DALY rates due to most Group 1 causes significantly decreased by 2015, and although total burden climbed for the majority of NCDs, age-standardised DALY rates due to NCDs declined. Nonetheless, age-standardised DALY rates due to several high-burden NCDs (including osteoarthritis, drug use disorders, depression, diabetes, congenital birth defects, and skin, oral, and sense organ diseases) either increased or remained unchanged, leading to increases in their relative ranking in

many geographies. From 2005 to 2015, HALE at birth increased by an average of 2·9 years (95% uncertainty interval 2·9-3·0) for men and 3·5 years (3·4-3·7) for women, while HALE at age 65 years improved by 0·85 years (0·78-0·92) and 1·2 years (1·1-1·3), respectively. Rising SDI was associated with consistently higher HALE and a somewhat smaller proportion of life spent with functional health loss; however, rising SDI was related to increases in total disability. Many countries and territories in central America and eastern sub-Saharan Africa had increasingly lower rates of disease burden than expected given their SDI. At the same time, a subset of geographies recorded a growing gap between observed and expected levels of DALYs, a trend driven mainly by rising burden due to war, interpersonal violence, and various NCDs. Interpretation: Health is improving globally, but this means more populations are spending more time with functional health loss, an absolute expansion of morbidity. The proportion of life spent in ill health decreases somewhat with increasing SDI, a relative compression of morbidity, which supports continued efforts to elevate personal income, improve education, and limit fertility. Our analysis of DALYs and HALE and their relationship to SDI represents a robust framework on which to benchmark geography-specific health performance and SDG progress. Country-specific drivers of disease burden, particularly for causes with higher-than-expected DALYs, should inform financial and research investments, prevention efforts, health policies, and health system improvement initiatives for all countries along the development continuum.

Author/s	Kassebaum NJ, Barber RM, Bhutta ZA, [...], Hamadeh RR, et al.
Title	Global, regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015.
Journal	The Lancet. 2016; 388 (10053): 1775–1812.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27733286

ABSTRACT

Background: In transitioning from the Millennium Development Goal to the Sustainable Development Goal era, it is imperative to comprehensively assess progress toward reducing maternal mortality to identify areas of success, remaining challenges, and frame policy discussions. We aimed to quantify maternal mortality throughout the world by underlying cause and age from 1990 to 2015. Methods: We estimated maternal mortality at the global, regional, and national levels from 1990 to 2015 for ages 10–54 years by systematically compiling and processing all available data sources from 186 of 195 countries and territories, 11 of which were analysed at the subnational level. We quantified eight underlying causes of maternal death and four timing categories, improving estimation methods since GBD 2013 for adult all-cause mortality, HIV-related maternal mortality, and late maternal death. Secondary analyses then allowed systematic examination of drivers of trends, including the relation between maternal mortality and coverage of specific reproductive health-care services as well as assessment of observed versus expected maternal mortality as a function of Socio-demographic Index (SDI), a summary indicator derived from measures of income per capita, educational attainment, and fertility. Findings: Only ten countries achieved MDG 5, but 122 of 195 countries have already met SDG 3.1. Geographical disparities widened between 1990 and 2015 and, in 2015, 24 countries still had a maternal mortality ratio greater than 400. The proportion of all maternal deaths occurring in the bottom two SDI quintiles, where haemorrhage is the dominant cause of maternal death, increased from roughly 68% in 1990 to more than 80% in 2015. The middle SDI quintile improved the most from 1990 to 2015, but also has the most complicated causal profile. Maternal mortality in the highest SDI quintile is mostly due to other direct maternal disorders, indirect maternal disorders, and abortion, ectopic pregnancy, and/or miscarriage. Historical patterns suggest achievement of SDG 3.1 will require 91% coverage of one antenatal care visit, 78% of four antenatal care visits, 81% of in-facility delivery, and 87% of skilled birth attendance. Interpretation: Several challenges to improving reproductive health lie ahead in the SDG era. Countries should establish or renew systems for collection and timely dissemination of health data; expand coverage and improve quality of family planning services, including access to contraception and safe abortion to address high adolescent fertility; invest in improving health system capacity, including coverage of routine reproductive health care and of more advanced obstetric care including EmOC; adapt health systems and data collection systems to monitor and reverse the increase in indirect, other direct, and late maternal deaths, especially in high SDI locations; and examine their own performance with respect to their SDI level, using that information to formulate strategies to improve performance and ensure optimum reproductive health of their population.

Author/s	Khalifa M, Noreen A, Ertelthaler K, Bandegi AR, Delpont R, Firdaus WJJ, Geethanjali FS, Luthra K, Makemaharn O, Pang RWC, Salem AH , Sasaki J, Schiefenhoewel W, Lingenhel A, Kronenberg F, Utermann G, Schmidt K.
Title	Lack of association of rs3798220 with small apolipoprotein(a) isoforms and high lipoprotein(a) levels in East and Southeast Asians.
Journal	Atherosclerosis. 2015; 242(2):521-528.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26302166

ABSTRACT

Objective: The variant allele of rs3798220 in the apolipoprotein(a) gene (LPA) is used to assess the risk for coronary artery disease (CAD) in Europeans, where it is associated with short alleles of the Kringle IV-2 (KIV-2) copy number variation (CNV) and high lipoprotein(a) (Lp(a)) concentrations. No association of rs3798220 with CAD was detected in a GWAS of East Asians. Our study investigated the association of rs3798220 with Lp(a) concentrations and KIV-2 CNV size in non-European populations to explain the missing association of the variant with CAD in Asians. Methods: We screened three populations from Africa and seven from Asia by TaqMan Assay for rs3798220 and determined KIV-2 CNV sizes of LPA alleles by pulsed-field gel electrophoresis (PFGE). Additionally, CAD cases from India were analysed. To investigate the phylogenetic origin of rs3798220, 40 LPA alleles from Chinese individuals were separated by PFGE and haplotyped for further SNPs. Results: The variant was not found in Africans. Allele frequencies in East and Southeast Asians ranged from 2.9% to 11.6%, and were very low (0.15%) in CAD cases and controls from India. The variant was neither associated with short KIV-2 CNV alleles nor elevated Lp(a) concentrations in Asians. Conclusion: Our study shows that rs3798220 is no marker for short KIV-2 CNV alleles and high Lp(a) in East and Southeast Asians, although the haplotype Background is shared with Europeans. It appears unlikely that this SNP confers atherogenic potential on its own. Furthermore, this SNP does not explain Lp(a) attributed risk for CAD in Asian Indians.

Author/s	Khalil I, Colombara D, Forouzanfar MH, [...], Hamadeh RR , et al.
Title	Burden of diarrhea in the Eastern Mediterranean Region, 1990-2013: Findings from the Global Burden of Disease Study 2013.
Journal	American Journal of Tropical Medicine and Hygiene. 2016; doi:10.4269/ajtmh.16-0339.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27928080

ABSTRACT

Diarrheal diseases (DD) are leading causes of disease burden, death, and disability, especially in children in low-income settings. DD can also impact a child's potential livelihood through stunted physical growth, cognitive impairment, and other sequelae. As part of the Global Burden of Disease Study, we estimated DD burden, and the burden attributable to specific risk factors and particular etiologies, in the Eastern Mediterranean Region (EMR) between 1990 and 2013. For both sexes and all ages, we calculated disability-adjusted life years (DALYs), which are the sum of years of life lost and years lived with disability. We estimate that over 125,000 deaths (3.6% of total deaths) were due to DD in the EMR in 2013, with a greater burden of DD in low- and middle-income countries. Diarrhea deaths per 100,000 children under 5 years of age ranged from one (95% uncertainty interval [UI] = 0-1) in Bahrain and Oman to 471 (95% UI = 245-763) in Somalia. The pattern for diarrhea DALYs among those under 5 years of age closely followed that for diarrheal deaths. DALYs per 100,000 ranged from 739 (95% UI = 520-989) in Syria to 40,869 (95% UI = 21,540-65,823) in Somalia. Our results highlighted a highly inequitable burden of DD in EMR, mainly driven by the lack of access to proper resources such as water and sanitation. Our findings will guide preventive and treatment interventions which are based on evidence and which follow the ultimate goal of reducing the DD burden.

Author/s	Khamdan HY, Aldallal KM, Almoosa EM, AlOmani NJ, Haider ASM, Abbas ZI, Haji AAM, Aljamri SZ, Hamadeh RR.
Title	The impact of menstrual periods on physical conditions, academic performance and habits of medical students.
Journal	Journal of Women's Health Care. 2014; 3:5. Doi: 10.4172/2167-0420.1000185.
Available at	https://www.omicsgroup.org/journals/the-impact-of-menstrual-period-on-physical-condition-academic-performance-and-habits-of-medical-students-2167-0420.1000185.php?aid=30388

ABSTRACT

Background: Menstrual period is a critical time in the life of females. It influences different daily life aspects, including physical status, academic performance, mood, diet, exercise and sleep pattern. Few studies were conducted to investigate its impact on medical students. Objective: To determine the impact of the menstrual period on female medical students. Methods: This is a cross sectional study on Arabian Gulf University medical students. A self-administered questionnaire was developed for the purpose of this study. It included the following variables: socio-demographic characteristics, menstrual history, academic performance and habits (sleeping, appetite, exercise, mood and social relationships) during the menstrual period. The questionnaires were distributed to two hundred twenty-six female medical students during the academic year 2011-2012. Results: The mean age of menarche of the study population was 12.7 ± 1.5 years. The majority (90.7%) of the students experienced symptoms during their menstrual period, with the commonest five being abdominal cramps (90.7%), backache (82.7%), tiredness (80.4%), pelvic pain (74.0%) and bloating (65.2%) Pain was reported as the most common cause of exercise discontinuation during menstruation (42.86%). The menstrual period affected their amount of sleep (73.3%), sleep quality (60%), diet (73.8%) and exercise (60.7%). Academic performance was affected as well; study time (76.0%), concentration (65.8%), group activities (58.1%), examination performance (51.8%) and attendance (40.8%). Conclusion: It can be concluded that the menstrual cycle has different effects on female medical students' physical conditions, academic performance and habits. Further research should be conducted to study the effect of menstruation on Arab females.

Author/s	Kheyami DA , Shihadeh MD, Al Jufairi M, Jaradat A , Al Ansari E.
Title	Bilirubin course among newborns with Glucose-6-Phosphate Dehydrogenase enzyme reduced activity.
Journal	Bahrain Medical Bulletin. 2016; 38 (3): 135-138.
Available at	http://www.bahrainmedicalbulletin.com/september_2016/Bilirubin.pdf

ABSTRACT

Objective: To evaluate the course of jaundice in newborns with G6PD reduced activity compared to G6PD normal activity. Design: A Prospective Study. Setting: Salmaniya Medical Complex and Jidhafs Maternity Hospital, Bahrain. Method: This is a prospective study on newborns from May to September of 2015. Total Serum Bilirubin (TSB) was measured from day one of life today seven for all neonates. G6PD activity was documented from the records. Results: One hundred twenty-five children were included in the study; 71 (56.8%) were newborns with normal G6PD activity and 54 (43.2%) were G6PD reduced activity. The mean TSB was significantly higher in newborns with G6PD reduced activity 11.23 ± 3.50 mg/dl compared to newborns with G6PD normal activity 9.52 ± 4.16 mg/dl (P-value 0.001). The mean TSB on day one for newborns with G6PD reduced activity was higher compared to newborns with G6PD normal activity; 6.37 ± 6.76 mg/dl and 1.82 ± 1.94 mg/dl respectively (P-value 0.078). Conclusion: The course of hyperbilirubinemia in children with G6PD reduced activity was different compared to children with G6PD normal activity. The mean TSB was significantly higher in newborns with G6PD reduced activity. A bilirubin level of 6mg/dl during the first neonatal day could be an indicator for the presence of G6PD reduced activity in the newborn.

Author/s	Krishnamurthi RV, de Veber G, Feigin VL, Barker-Collo S, Fullerton H, Mackay MT, O'Callahan F, W, Shah P, Linds A, Jones K, Parmar PGBD 2013 Stroke Panel Experts Group (Thrift AG, Meretoja A, Stavreski B, [...], Hamadeh RR , et al).
Title	Stroke prevalence, mortality and disability-adjusted life years in children and youth aged 0-19 years: Data from the Global and Regional Burden of Stroke 2013.
Journal	Neuroepidemiology. 2015; 45(3): 177-189.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26505982

ABSTRACT

Background: There is increasing recognition of stroke as an important contributor to childhood morbidity and mortality. Current estimates of global childhood stroke burden and its temporal trends are sparse. Accurate and up-to-date estimates of childhood stroke burden are important for planning research and the resulting evidence-based strategies for stroke prevention and management. OBJECTIVES: To estimate the prevalence, mortality and disability-adjusted life years (DALYs) for ischemic stroke (IS), hemorrhagic stroke (HS) and all stroke types combined globally from 1990 to 2013. Methodology: Stroke prevalence, mortality and DALYs were estimated using the Global Burden of Disease 2013. Methods: All available data on stroke-related incidence, prevalence, excess mortality and deaths were collected. Statistical models and country-level covariates were employed to produce comprehensive and consistent estimates of prevalence and mortality. Stroke-specific disability weights were used to estimate years lived with disability and DALYs. Means and 95% uncertainty intervals (UIs) were calculated for prevalence, mortality and DALYs. The median of the percent change and 95% UI were determined for the period from 1990 to 2013. Results In 2013, there were 97,792 (95% UI 90,564-106,016) prevalent cases of childhood IS and 67,621 (95% UI 62,899-72,214) prevalent cases of childhood HS, reflecting an increase of approximately 35% in the absolute numbers of prevalent childhood strokes since 1990. There were 33,069 (95% UI 28,627-38,998) deaths and 2,615,118 (95% UI 2,265,801-3,090,822) DALYs due to childhood stroke in 2013 globally, reflecting an approximately 200% decrease in the absolute numbers of death and DALYs in childhood stroke since 1990. Between 1990 and 2013, there were significant increases in the global prevalence rates of childhood IS, as well as significant decreases in the global death rate and DALYs rate of all strokes in those of age 0-19 years. While prevalence rates for childhood IS and HS decreased significantly in developed countries, a decline was seen only in

HS, with no change in prevalence rates of IS, in developing countries. The childhood stroke DALY rates in 2013 were 13.3 (95% UI 10.6-17.1) for IS and 92.7 (95% UI 80.5-109.7) for HS per 100,000. While the prevalence of childhood IS compared to childhood HS was similar globally, the death rate and DALY rate of HS was 6- to 7-fold higher than that of IS. In 2013, the prevalence rate of both childhood IS and HS was significantly higher in developed countries than in developing countries. Conversely, both death and DALY rates for all stroke types were significantly lower in developed countries than in developing countries in 2013. Men showed a trend toward higher childhood stroke death rates (1.5 (1.3-1.8) per 100,000) than women (1.1 (0.9-1.5) per 100,000) and higher childhood stroke DALY rates (120.1 (100.8-143.4) per 100,000) than women (90.9 (74.6-122.4) per 100,000) globally in 2013. Conclusions: Globally, between 1990 and 2013, there was a significant increase in the absolute number of prevalent childhood strokes, while absolute numbers and rates of both deaths and DALYs declined significantly. The gap in childhood stroke burden between developed and developing countries is closing; however, in 2013, childhood stroke burden in terms of absolute numbers of prevalent strokes, deaths and DALYs remained much higher in developing countries. There is an urgent need to address these disparities with both global and country-level initiatives targeting prevention as well as improved access to acute and chronic stroke care.

Author/s	Krishnamurthi RV, Moran AE, Feigin VL, Barker-Collo S, Norrving B, Mensah GA, Taylor S, Naghavi M, Forouzanfar MH, Nguyen G, Johnson CO, Vos T, Murray CJ, Roth GA; GBD 2013 Stroke Panel Experts Group (Thrift AG, Meretoja A, Stavreski B, [...], Hamadeh RR , et al).
Title	Stroke prevalence, mortality and disability-adjusted life years in adults aged 20-64 years in 1990-2013: data from the global Burden of Disease 2013 Study.
Journal	Neuroepidemiology. 2015; 45(3):190-202.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26505983

ABSTRACT

Background: Recent evidence suggests that stroke is increasing as a cause of morbidity and mortality in younger adults, where it carries particular significance for working individuals. Accurate and up-to-date estimates of stroke burden are important for planning stroke prevention and management in younger adults.

OBJECTIVES: This study aims to estimate prevalence, mortality and disability-adjusted life years (DALYs) and their trends for total, ischemic stroke (IS) and hemorrhagic stroke (HS) in the world for 1990-2013 in adults aged 20-64 years.

Methodology: Stroke prevalence, mortality and DALYs were estimated using the Global Burden of Disease (GBD) 2013 Methods. All available data on rates of stroke incidence, excess mortality, prevalence and death were collected. Statistical models were used along with country-level covariates to estimate country-specific stroke burden. Stroke-specific disability weights were used to compute years lived with disability and DALYs. Means and 95% uncertainty intervals (UIs) were calculated for prevalence, mortality and DALYs. The median of the percent change and 95% UI were determined for the period from 1990 to 2013.

Results: In 2013, in younger adults aged 20-64 years, the global prevalence of HS was 3,725,085 cases (95% UI 3,548,098-3,871,018) and IS was 7,258,216 cases (95% UI 6,996,272-7,569,403). Globally, between 1990 and 2013, there were significant increases in absolute numbers and prevalence rates of both HS and IS for younger adults. There were 1,483,707 (95% UI 1,340,579-1,658,929) stroke deaths globally among younger adults but the number of deaths from HS (1,047,735 (95% UI 945,087-1,184,192)) was significantly higher than the number of deaths from IS (435,972 (95% UI 354,018-504,656)). There was a 20.1% (95% UI -23.6 to -10.3) decline in the number of total stroke deaths among younger adults in developed countries but a 36.7% (95% UI 26.3-48.5) increase in developing countries. Death rates for all strokes among younger adults declined significantly in developing countries from 47 (95% UI 42.6-

51.7) in 1990 to 39 (95% UI 35.0-43.8) in 2013. Death rates for all strokes among younger adults also declined significantly in developed countries from 33.3 (95% UI 29.8-37.0) in 1990 to 23.5 (95% UI 21.1-26.9) in 2013. A significant decrease in HS death rates for younger adults was seen only in developed countries between 1990 and 2013 (19.8 (95% UI 16.9-22.6) and 13.7 (95% UI 12.1-15.9)) per 100,000. No significant change was detected in IS death rates among younger adults. The total DALYs from all strokes in those aged 20-64 years was 51,429,440 (95% UI 46,561,382-57,320,085). Globally, there was a 24.4% (95% UI 16.6-33.8) increase in total DALY numbers for this age group, with a 20% (95% UI 11.7-31.1) and 37.3% (95% UI 23.4-52.2) increase in HS and IS numbers, respectively. Conclusions: Between 1990 and 2013, there were significant increases in prevalent cases, total deaths and DALYs due to HS and IS in younger adults aged 20-64 years. Death and DALY rates declined in both developed and developing countries but a significant increase in absolute numbers of stroke deaths among younger adults was detected in developing countries. Most of the burden of stroke was in developing countries. In 2013, the greatest burden of stroke among younger adults was due to HS. While the trends in declining death and DALY rates in developing countries are encouraging, these regions still fall far behind those of developed regions of the world. A more aggressive approach toward primary prevention and increased access to adequate healthcare services for stroke is required to substantially narrow these disparities.

Author/s	Kumar R, Somrongthong R, Ahmed J.
Title	Impact of waste management training intervention on knowledge, attitude and practices of teaching hospital workers in Pakistan.
Journal	Pakistan Journal of Medical Sciences. 2016; 32(3): 705–710.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4928427/

ABSTRACT

Objective: To evaluate the sustainability and effectiveness of training as an intervention to improve the knowledge, attitude and practices of hospital workers on health care waste management. Method: We conducted this quasi-experimental study in two tertiary care teaching hospitals in Rawalpindi in October 2013. Training, practical demonstrations and reminders on standard waste management were given to 138 hospital workers in one hospital and compared with 137 workers from the control hospital. We collected data 18 months after intervention through a structured questionnaire to assess the impact of the intervention. We used paired t-test to compare the scores on knowledge, attitude and practices at baseline and first follow up and final impact assessment. Chi square test was used to compare group variables between intervention and control groups. Results: After 18 months since intervention the mean scores on knowledge attitude and practices differed statistically significantly since baseline and intervention group had statistically significantly better knowledge positive attitudes and good health care waste management practices ($p < 0.001$). Health care and sanitary workers in intervention group scored statistically significantly higher ($p < 0.001$). Conclusion: Trainings of health and sanitary workers on health care waste management guidelines were sustainable among the intervention group after 18 months which shows the positive impact of our intervention. It is recommended that the trainings as intervention be included in the overall policies of the public and private sector hospitals in Pakistan and other similar settings.

Author/s	Lagha A, Messadi A, Boussaidi S, Kochbati S, Tazeghdenti A, Ghazouani E, Almawi WY , Yacoubi-Loueslati B.
Title	HLA DRB1/DQB1 alleles and DRB1-DQB1 haplotypes and the risk of rheumatoid arthritis in Tunisians: a population-based case-control study.
Journal	HLA. 2016; 88(3):100-109.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27580864

ABSTRACT

Rheumatoid arthritis (RA) is an inflammatory disease, which affects synovial joints, and is influenced by environmental and genetic factors, in particular the human leucocyte antigen (HLA) system. In our study, we investigated the association of HLA class II DRB1 and DQB1 alleles and DRB1-DQB1 haplotypes with RA susceptibility in Tunisian subjects. Therefore, HLA class II low-resolution genotyping was done in 110 RA patients and 116 controls, with a HLA-DRB1*04 high-resolution typing. Our results showed a strong association between HLA-DRB1*04/DRB1*04:05 alleles and RA presence, which persisted after correcting for multiple comparisons ($P_c < 10^{-3}$, $P_c = 0.020$, respectively), in contrast to the protective effect of HLA-DRB1*04:03 allele ($P_c = 15.2 \times 10^{-4}$). However, increased frequency of DQB1*05 ($P_c = 0.020$) and decreased frequency of DRB1*04:03 subtype ($P_c = 0.032$) were seen in RF+ patients than controls. Moreover, when RA patients were compared to controls, DRB1*04-DQB1*03 haplotype was associated with RA susceptibility in Tunisians ($P_c = 16.8 \times 10^{-5}$), independently of RF status. Conversely, DRB1*01 allele and DRB1*01-DQB1*05 haplotype was highly present in RF+ vs RF- groups ($P_c < 10^{-3}$, $P_c = 5.6 \times 10^{-3}$, respectively) and seems to be linked to seropositivity. Investigation of HLA class II alleles and haplotypes association with RA susceptibility with secondary Sjögren's syndrome (sSS) showed a predisposing effect of DRB1*04 ($P_c < 10^{-3}$) and DRB1*04-DQB1*03 haplotype when RA with sSS/without sSS groups were compared to healthy controls. Our results confirms the association of HLA-DRB1*04, specifically HLA-DRB1*04:05 subtype, and DRB1*04-DQB1*03 haplotype with RA susceptibility in Tunisians, independently of seropositivity or the sSS presence.

Author/s	Lagha A, Zidi S, Stayoussef M, Gazouani E, Kochkar R, Kochbati S, Almawi WY , Yacoubi-Loueslati B.
Title	Interleukin-1 β , Interleukin1-Ra, Interleukin-10, and tumor necrosis factor- α polymorphisms in Tunisian patients with rheumatoid arthritis.
Journal	Pathologie- Biologie (Paris). 2015; 63(4-5):179-184.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26003199

ABSTRACT

Objectives: The aim of this study was to investigate the role of IL-1 β (-511C>T), TNF α (-308 G>A), IL-10 (-1082 G>A) and IL-1RN VNTR polymorphisms in the susceptibility to rheumatoid arthritis (RA) in Tunisians. Patients and Methods: Using PCR-based Methods, 104 RA patients and 150 healthy controls were investigated. We compared allele and genotype frequencies in RA patients versus controls and analyzed their correlations with erosive form (EF). Results: IL1-RN VNTR A1A3 genotype is associated with higher risk of RA (P=0.012, OR=4.31). Among the cases, males who carry this genotype were more exposed to RA (P=0.044, OR=8, 47). For IL1- β gene, a significantly higher frequency of the -511C/C genotype was observed in RA patients in comparison to controls (P=0.013, OR=2.45). This higher frequency was especially observed in women (P=0,003, OR=3.42). In contrast, IL10-1082G/G genotype was less common in patients (P=0.046, OR=0.46). According to EF, men carrying IL1-RN VNTR A1A3 (P=0.005 OR=5.28) and IL1- β -511C/C (P=0.015 OR=2.61) genotypes develop non EF of RA. Moreover, TNF α -308 A allele (P=0.024, OR=1.84) and A/A genotype (P=0.033, OR=3.1) were positively associated to EF of RA. However, G allele (P=0.024, OR=0.31) and GG genotype (P=0.31, OR=0.031) of the TNF α -308 were protectors. Conclusion: Our Results indicated that IL-1RN VNTR, IL-1 β (-511C>T) and IL-10 (-1082 G>A) are associated with susceptibility to RA, and that IL-1RN VNTR, IL-1 β (-511C>T) and TNF α (-308 G>A) are associated with severity of RA.

Author/s	Lim SS, Allen K, Bhutta ZA, [...], Hamadeh RR , et al.
Title	Measuring the health related Sustainable Development Goals in 188 countries: a baseline analysis from the Global Burden of Disease Study 2015.
Journal	The Lancet. 2016; 388 (10053): 1813–1850.
Available at	http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)31467-2/abstract

ABSTRACT

Background: In September, 2015, the UN General Assembly established the Sustainable Development Goals (SDGs). The SDGs specify 17 universal goals, 169 targets, and 230 indicators leading up to 2030. We provide an analysis of 33 health-related SDG indicators based on the Global Burden of Diseases, Injuries, and Risk Factors Study 2015 (GBD 2015). **Methods:** We applied statistical methods to systematically compiled data to estimate the performance of 33 health-related SDG indicators for 188 countries from 1990 to 2015. We rescaled each indicator on a scale from 0 (worst observed value between 1990 and 2015) to 100 (best observed). Indices representing all 33 health-related SDG indicators (health-related SDG index), health-related SDG indicators included in the Millennium Development Goals (MDG index), and health-related indicators not included in the MDGs (non-MDG index) were computed as the geometric mean of the rescaled indicators by SDG target. We used spline regressions to examine the relations between the Socio-demographic Index (SDI, a summary measure based on average income per person, educational attainment, and total fertility rate) and each of the health-related SDG indicators and indices. **Findings:** In 2015, the median health-related SDG index was 59·3 (95% uncertainty interval 56·8-61·8) and varied widely by country, ranging from 85·5 (84·2-86·5) in Iceland to 20·4 (15·4-24·9) in Central African Republic. SDI was a good predictor of the health-related SDG index ($r^2=0\cdot88$) and the MDG index ($r^2=0\cdot92$), whereas the non-MDG index had a weaker relation with SDI ($r^2=0\cdot79$). Between 2000 and 2015, the health-related SDG index improved by a median of 7·9 (IQR 5·0-10·4), and gains on the MDG index (a median change of 10·0 [6·7-13·1]) exceeded that of the non-MDG index (a median change of 5·5 [2·1-8·9]). Since 2000, pronounced progress occurred for indicators such as met need with modern contraception, under-5 mortality, and neonatal mortality, as well as the indicator for universal health coverage tracer interventions. Moderate improvements were found for indicators such as HIV and tuberculosis incidence, minimal changes for hepatitis B incidence took place, and childhood overweight considerably worsened. **Interpretation:** GBD provides an independent, comparable avenue for monitoring progress towards the health-related SDGs. Our analysis not only highlights the importance of income, education, and fertility as drivers of health improvement but also emphasises that investments in these areas alone will not be sufficient. Although considerable progress on the health-related MDG indicators has been made, these gains will need to be sustained and, in many cases, accelerated to achieve the ambitious SDG targets. The minimal improvement in or worsening of health-related indicators beyond the MDGs highlight the need for additional resources to effectively address the expanded scope of the health-related SDGs.

Author/s	Luong D, Kesharwani P, Deshmukh R, Mohd Amin MC, Gupta U, Greish K, Iyer AK.
Title	PEGylated PAMAM dendrimers: enhancing efficacy and mitigating toxicity for effective anticancer drug and gene delivery.
Journal	Acta Biomaterialia. 2016; 43:14-29.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27422195

ABSTRACT

Poly(amidoamine) dendrimers (PAMAM) are well-defined, highly branched, nanoscale macromolecules with numerous active amine groups on the surface. PAMAM dendrimer can enhance the solubility of hydrophobic drugs, and with numerous reactive groups on the surface PAMAM dendrimer can be engineered with various functional groups for specific targeting ability. However, in physiological conditions, these amine groups are toxic to cells and limit the application of PAMAM. In the recent years, polyethylene glycol (PEG) conjugation has been the most widely used approach to reduce the toxicity of the active group on dendrimer surface. PEG molecules are known to be inert, non-immunogenic, and non-antigenic with a significant water solubility. PEGylated PAMAM-mediated delivery could not only overcome the limitations of dendrimer such as drug leakage, immunogenicity, hemolytic toxicity, systemic cytotoxicity but they also have the ability to enhance the solubilization of hydrophobic drugs and facilitates the potential for DNA transfection, siRNA delivery and tumor targeting. This review focuses on the recent developments on the application and influence of PEGylation on various biopharmaceutical properties of PAMAM dendrimers. Statement of significance: It is well established that dendrimers have demonstrated promising potentials for drug delivery. However, the inherent toxicity poses challenges for its clinical translation. In this regard, PEGylation has helped mitigate some of the toxicity concerns of dendrimers and have paved the way forward for testing its translational potentials. The review is a collection of articles demonstrating the utility of PEGylation of the most studied PAMAM dendrimers. To our knowledge, this is a first such attempt to draw reader's attention, specifically, towards PEGylated PAMAM dendrimers.

Author/s	Magdoud K, Dendana M, Herbein V, Hizem S, Ben Jazia K, Messaoudi S, Almawi WY , Touraine R, Mahjoub T.
Title	Identification of specific vascular endothelial growth factor susceptible and protective haplotypes associated with recurrent spontaneous miscarriages.
Journal	Human Reproduction.2012; 27(5): 1536-1541.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22402207

ABSTRACT

Background: We investigated the association of vascular endothelial growth factor (VEGF) gene polymorphism with recurrent spontaneous miscarriage (RSM). Methods: VEGF -2578C/A, -1154G/A, -634G/C, +936C/T single nucleotide polymorphisms (SNPs) were assessed in 304 RSM patients, and 371 age-and body mass index-matched control subjects using real-time PCR. Results: Higher minor allele frequency of -1154G/A ($P < 0.001$) and +936C/T ($P < 0.001$), but not -2578C/A ($P = 0.55$) or -634G/C ($P = 0.87$) SNPs, were seen in patients. Significant differences in the distribution of -1154G/A ($P = 0.006$) and +936C/T ($P = 0.015$), but not -2578C/A ($P = 0.473$) or -634G/C ($P = 1.000$) genotypes, were seen in cases compared with control women. Of the possible 16 VEGF haplotypes, 9 were found to be common, and were included. A significantly lower frequency of C G C C ($P = 0.008$), and A G G C ($P < 0.001$) haplotypes, and a higher frequency C G C T ($P = 0.020$), and C G T ($P = 0.004$) haplotypes were seen in patients. Conclusions: These Results strongly support that VEGF polymorphisms, in particular-1154G/A and +936C/T, are significantly associated with RSM. Our Results confirm, in the largest sample to date, previous works in other populations on VEGF polymorphism in RSM.

Author/s	Magdoud K, Granados Herbevin V, Messaoudi S, Hizem S, Bouafia N, Almawi WY , Mahjoub T, Touraine R.
Title	Genetic variation in TGFB1 gene and risk of idiopathic recurrent pregnancy loss.
Journal	Molecular Human Reproduction.2013; 19(7): 438-443.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23416372

ABSTRACT

Transforming growth factor β 1 plays a significant role in pregnancy outcome. We investigated the association of TGFB1 exon 1 (rs1800471, rs1800470) and promoter region (rs1800469, rs1800468) polymorphisms with recurrent pregnancy loss (RPL) in 675 Tunisian women: 304 women with a history of three consecutive pregnancy losses of unknown etiology with the same partner and 371 age-matched multiparous control women. TGFB1 genotyping was done by TaqMan assays. Higher minor allele frequency for rs1800471 ($P < 0.001$), but not for rs1800470, rs1800469 or rs1800468 was found in RPL cases compared with controls. A significant difference in the distribution of rs1800471 genotypes was seen between the RPL cases and control women, irrespective of the genetic model used. Increased RPL risk was seen with rs1800471 allele C in the heterozygous state and to a greater degree in the homozygous state, thus establishing a dose-dependent effect. Haploview analysis revealed differential linkage disequilibrium between the TGFB1 single-nucleotide polymorphisms analyzed. TGFB1 haplotype analysis identified eight common haplotypes (rs1800471/rs1800470/rs1800469/rs1800468) with three (GTTG, $P_c = 0.02$; CCTG, $P_c = 0.02$ and CTCG, $P_c = 0.02$) positively associated with RPL and one (GCCG, $P_c = 0.009$) negatively associated with RPL. This study provides the first evidence that the TGFB1 genotype may influence RPL.

Author/s	Magdoud K, Hellal R, Zemni R, Touraine R, Mahjoub T, Almawi WY.
Title	Association of the IL-10 receptor A536G (S138G) loss-of-function variant with recurrent miscarriage.
Journal	American Journal of Reproductive Immunology. 2014;72(1):1-4.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24689510

ABSTRACT

Problem: We investigated the association of interleukin-10 receptor (IL10R1) loss-of-function variant A536G/S138G with recurrent pregnancy loss (RPL). Method of Study: Study subjects comprised 300 women with ≥ 3 miscarriages, and 350 control women. Results: Significantly higher 536G-allele frequency was seen in RPL cases, thus assigning pathogenic role for this allele. Significant difference in A536G/S138G genotypes distribution was seen between RPL cases and controls, evidenced by enrichment of 536A/G and 536G/G genotypes in RPL cases. Setting A/A genotype as reference (OR = 1.00), increased RPL risk was seen with 536A/G, and more in 536G/G carriers, thereby establishing dose-dependency. Conclusion: IL10R1 loss-of-function A536/S138G polymorphism may contribute to RPL pathogenesis.

Author/s	Magdoud K, Herbein VG, Touraine R, Almawi WY , Mahjoub T.
Title	Plasminogen activator inhibitor 1 4G/5G and -844G/A variants in idiopathic recurrent pregnancy loss.
Journal	American Journal of Reproductive Immunology.2013; 70(3): 246-52.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Plasminogen+Activator+Inhibitor+1+4G%2F5G+and+-844G%2FA+Variants+in+Idiopathic+Recurrent+Pregnancy+Loss

ABSTRACT

Problem: Plasminogen activator inhibitor type 1 (PAI-1) regulates fibrinolysis, and the common promoter region variants -675G/A (4G/5G) and -844G/A are associated with increased thrombotic risk. Despite evidence linking altered fibrinolysis with adverse pregnancy events, including idiopathic recurrent pregnancy loss (RPL), the contribution of PAI-1 variants to RPL risk remains controversial. We investigated the association between the PAI-1 -844G/A and 4G/5G (-675G/A) variants with altered risk of RPL. Method of Study: This was a case-control study involving 304 women with confirmed RPL and 371 age- and ethnically matched control women. PAI-1 genotyping was performed by PCR single-specific primer -675 (G/A) and real-time PCR (-844G/A) analysis. Results: Minor allele frequency (MAF) of 4G/5G ($P < 0.001$), but not -844G/A ($P = 0.507$), was higher in RPL cases. PAI-1 4G/5G single-nucleotide polymorphism (SNP) was significantly associated with RPL under additive, dominant, and recessive genetic models; no association of -844G/A with RPL was seen irrespective of the genetic model tested. Taking common -844G/5G haplotype as reference (OR = 1.00), multivariate analysis confirmed the association of 4G-containing -844A/4G ($P < 0.001$) and -844G/4G ($P = 0.011$) haplotypes with increased RPL risk. Conclusion: 4G/5G, but not -844G/A, PAI-1 variant is associated with an increased risk of RPL.

Author/s	Mahdi N, Abu-Hijleh TM, Abu-Hijleh FM, Sater MS , Al-Ola K, Almawi WY .
Title	Protein Z polymorphisms associated with vaso occlusive crisis in young sickle cell disease patients.
Journal	Annals of Hematology.2012; 91(8): 1215-1220.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22576309

ABSTRACT

We investigated the association of protein Z (PZ) promoter (rs3024718, rs3024719, and rs3024731) and intron (rs3024735; G79A) SNPs with sickle cell disease (SCD) vaso-occlusive crisis (VOC). Study subjects included 239 SCD patients with VOC and 138 pain-free SCD control patients. PZ genotyping was done by allelic discrimination (real-time PCR) assays. The minor allele frequency of rs3024718 (P=0.03), rs3024719 (P=0.02), rs3024731 (P<0.001), and rs3024735 (P<0.001) were higher in VOC patients than control SCD patients. Significant differences in the distribution of rs3024731 (P=0.028) and rs3024735 (P=0.045) genotypes were seen between VOC and steady-state SCD patients. This association remained significant after adjusting for gender, HbS, and HbF. Four-locus (rs3024718/rs3024719/rs3024731/rs3024735) PZ haplotypes analysis demonstrated increased frequency of GAAA (P=0.024), AGAA (P=0.011), and GGTG (P=0.002), and reduced frequency of AGTG haplotype (P=0.001) in VOC than in steady-state control patients, thereby conferring disease susceptibility and protective nature to these haplotypes, respectively. Of these, only AGTG (P(c)=0.001) and GGTG (P(c)=0.018) remained significant after applying the Bonferroni correction. In Conclusion, specific PZ variants and haplotypes are significantly associated with SCD VOC.

Author/s	Mahdi N, Garadah T, Hassan Z, Jaradat A , Nagalla D.
Title	The prevalence of adrenal, parathyroid and cardiac dysfunction in patients with beta thalassemia major
Journal	International Journal of Clinical Medicine.2013; 4 (7): 325-330.
Available at	http://file.scirp.org/pdf/IJCM_2013070411344183.pdf

ABSTRACT

Background: Adrenal and parathyroid insufficiency are uncommon in patients with transfusion dependent Beta Tha-lassemia (β -TM). Further, myocardial echocardiographic abnormalities are recognized but with a variable outcomes Aim: The aim is to determine the prevalence of adrenal and parathyroid insufficiency in patient with transfusion de- pendent β -TM. And to assess left ventricle systolic and diastolic function using Pulsed Doppler (PD) and Tissue Dop- pler (DT) echocardiogram. Methods: The study was conducted on patients with β -TM (n = 99, age 15.92 ± 8.92 years) and compared with an age-matched controls (n = 98 age 15.79 ± 8.94 years). In all participants echocardiographic indi- ces of M mode and PD and TD were performed. Blood samples were withdrawn for measuring the serum cortisol, parathyroid and Ferritin. Correlation between the level of cortisol and ferritin level was evaluated. Results: Patients with β -TM compared with controls, had significantly thicker LV septal wall index of 0.65 ± 0.26 vs 0.44 ± 0.2190 , $p < 0.001$ and LV posterior wall of 0.65 ± 0.235 vs 0.43 ± 0.214 , $p < 0.001$, with no significant dilation of LV cavity in systole and diastole. The systolic function of LVFE% was normal of 51.95 ± 5.5 vs 5.0 ± 5.6 , $p = 0.23$. Furthermore patients with β -TM had higher E/A ratio (1.54 ± 0.18 vs 1.23 ± 0.17 , $p < 0.01$) and shorter deceleration time (DT) (170.53 ± 13.3 vs 210.50 ± 19.20 m sec, $p < 0.01$). The ratio of transmitral E wave velocity to the tissue Doppler E wave at the basal septal mitral annulus (E/Em) was significantly higher in β -TM group (19.68 ± 2.81 vs 13.86 ± 1.41 , $p < 0.05$). The tissue Doppler systolic wave (Sm) velocity and the early diastolic wave (Em) were significantly lower in β -TM group compared with controls with Sm, of 4.82 ± 1.2 vs 6.22 ± 2.1 cm/sec, $p < 0.05$ and (Em) of 3.51 ± 2.7 vs 4.12 ± 2.5 cm/sec $p < 0.05$, respectively). The tricuspid valve velocity was significantly higher in β -TM patients com- pared with controls (2.85 ± 0.56 vs 1.743 ± 0.47 m/sec, respectively, $p < 0.01$). The prevalence of adrenal insufficiency in patients with β -TM was 16%, hypoparathyroidism of 4.5% weak negative correlation between serum level of cortisol and the serum Ferritin. Conclusion: Patients with β -thalassemia major had a high prevalence of subclinical adrenal in- sufficiency of 16%, hypoparathyroidism of 4.5% with weak negative correlation between the low level of cortisol ≤ 160 nmol/L and high serum ferritin. Echocardiographic Pulsed Doppler showed a restrictive LV diastolic pattern suggestive of advanced diastolic dysfunction but preserved left ventricle systolic function.

Author/s	Makni L, Stayoussef M, Ghazouani E, Mezlini A, Almawi WY , Loueslati BY.
Title	Distinct association of VEGF-A polymorphisms with laryngeal and nasopharyngeal cancer.
Journal	Meta Gene. 2016; 10: 90–94.
Available at	http://www.sciencedirect.com/science/article/pii/S2214540016000098

ABSTRACT

Background: We evaluated the association of common VEGF-A SNPs as potential risk factors for laryngeal cancer (LC) and nasopharyngeal carcinoma (NPC) in Tunisians. Methods: Study subjects comprised 73 NPC and 48 LC patients, along with 125 cancer-free control subjects. VEGF-A genotyping was done by the allelic discrimination method. Results: Minor allele frequency (MAF) of the 8 tested VEGF-A SNPs was comparable between LC patients and controls. Significantly higher MAF of rs2010963 and rs833070 were seen in NPC patients compared to controls. Increased nasopharyngeal cancer risk was seen with both rs2010963 and rs833070 as heterozygous, and more so as homozygous states, thus establishing a dose-dependent effect. In addition, increased NPC risk was associated with rs833068 only in heterozygous state. Increased frequency of CCGAACTC haplotype was seen in LC cases than controls. This was in sharp contrast to NPC, where highly significant positive association was seen with ATCGGCCC, ATGAGCCC, CCCAGTCC, and CCGAACCC haplotypes, while ATCAACCC, ATGGACCC, CCCAGCCC, CCCAGCCT, and ATGGATCC haplotypes are protective factors for NPC. Conclusion: VEGF-A SNPs are associated with altered risk of NPC, but not with LC, among Tunisian subjects.

Author/s	Malcolm D.
Title	Changes in awareness of academic reading strategies over time.
Journal	Arab World English Journal. 2012; 3(2): 4-30.
Available at	http://www.awej.org/index.php?option=com_content&view=article&id=97:diane-malcolm&catid=12&Itemid=116

ABSTRACT

This study investigates reading strategies reported by Arabic-speaking medical students studying for the MD degree through the medium of English. As a follow-up to an earlier comparison of reading strategy awareness among students at beginning and more advanced years of study, this paper presents some quantitative results from a questionnaire administered to a longitudinal sample of students, in first year in the original study, now in their third year of medical school. In addition, some data from interviews with selected students from this group describe the changes they experienced in their academic reading practices over the years of study and what they attributed these changes to. In general, students in the higher years reported less dependence on strategies that involve translation and thinking in both Arabic and English, as well as greater use of the metacognitive strategies of skimming for information and predicting text content. The interview data also showed the growing influence of students' envisaged futures as physicians in focusing their academic reading.

Author/s	Maleki K, Hamadeh RR , Gholami J, Mandil A, Hamid S, Butt ZA, Saeed AB, El Kheir DYM, Saleem M, Maqsoud S, Safi N, Abdul-Majeed BA, Majdzadeh R.
Title	The knowledge translation status in selected Eastern-Mediterranean universities and research institute.
Journal	PLoS One. 2014; 9(9):e103732.
Available at	http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0103732

ABSTRACT

Background A serious worldwide effort to strengthen research based knowledge translation (KT) has begun in recent years and some countries, particularly developed ones, are trying to incorporate KT in their health and health research systems. Keeping in mind the recent economic depression and the need to perform more efficient research, we aimed to assess and compare the KT status of selected health research institutes in the Eastern Mediterranean Regions' countries, and to identify their strengths and weaknesses in the field. Methods After finding the focal points that would steer the focus group discussions (FGDs) and help complete the 'Self Assessment Tool for Research Institutes' (SATORI) tool, each focal point held two FGDs in which researchers, research authorities and other individuals specified in detail further in the study were held. The scores obtained by each institute were evaluated quantitatively, and the transcriptions were analyzed qualitatively with OpenCode software. Results For ease of analysis the 50 items of the SATORI were classified into 7 main domains: 'priority setting', 'research quality and timeliness', 'researchers' KT capacities', 'facilities and pre-requisites of KT', 'processes and regulations supporting KT', 'interaction with research users', and 'promoting and evaluating the use of knowledge'. Based on the scoring system, the strongest domain was 'research quality and timeliness'. 'Priority setting' was the weakest domain of all. The remaining domains were more or less equal in strength and were not in a favorable state. The qualitative findings confirmed the quantitative findings. Conclusions The main problem, it seems, is that a KT climate does not exist in the region. And despite the difference in the contexts, there are many similarities in the region's institutes included in this study. Collaborative efforts can play a role in creating this climate by steering countries towards KT and suggesting regional strategic directions according to their needs.

Author/s	Marwa BA, Raguema N, Zitouni H, Feten HB, Olfa K, Elfeleh R, Almawi W , Mahjoub T.
Title	FGF1 and FGF2 mutations in preeclampsia and related features.
Journal	Placenta. 2016; 43:81-85.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27324104

ABSTRACT

Background: Fibroblast growth factor (FGF) 1 and FGF2 were previously linked with preeclampsia (PE), possibly through altering decidual and placental FGFR2 expression. Since common variation in FGF1 and FGF2 might influence FGF1 and FGF2 activity, this study evaluated whether common FGF1 and FGF2 variants are linked with PE and associated features. Methods: The association between FGF1 rs34011 and FGF2 rs2922979 SNPs and PE were tested in 300 women with PE, and 300 age-matched control women. Results The allelic distribution of FGF1 rs34011 ($P < 0.001$) but not FGF2 rs2922979, variants were significantly different between PE cases and control women. Marginal association of FGF2 rs2922979 was seen after controlling for key covariates. Setting homozygous major allele genotype (1/1) as reference, significantly higher frequencies of heterozygous rs34011, and reduced frequency of heterozygous rs2922979 genotype carriers were seen in PE cases; the distribution of the remaining genotypes were comparable between cases and controls. Carriage of rs2922979 minor allele correlated with fasting glucose ($P = 0.02$), while the presence of rs34011 minor allele was not correlated with PE-associated features. Conclusions :Our study suggests that the genetic variants of FGF1 rs34011, more so than FGF2 rs2922979, may play a role in PE pathogenesis in Tunisian women. These findings need confirmation in other ethnic populations.

Author/s	Merza R, Alekri R, Alekri S, Alsaleh A, Alnasir F.
Title	The prevalence and factors associated with iron deficiency anemia in anemic pregnant women.
Journal	Bahrain Medical Bulletin. 2014; 36(3):172-176.
Available at	http://www.bahrainmedicalbulletin.com/september_2014/Prevalence-Factors.pdf

ABSTRACT

Background: Iron deficiency anemia is one of the most prevalent nutritional disorders worldwide affecting the general health and millions of pregnant women. Objective: To evaluate the prevalence and the risk factors of iron deficiency anemia among pregnant women. Design: A Cross-Sectional Study. Setting: Five Health Centers in Bahrain. Method: Three hundred sixty-six pregnant women were included in the study during June 2012. The pregnant women were recruited during their antenatal visit. The personal characteristics, pregnancy and dietary information were documented. In addition, hemoglobin and serum ferritin level were determined. Result: Ninety-six (26.2%) women had anemia; 19 (19.79%) women had iron deficiency anemia. The main risk factors were lower educational level and close birth space (≤ 2 years). The condition was found to be more prevalent among non-Bahraini pregnant women than Bahraini women. Serum ferritin level was found to decrease significantly with increasing age; eating three main meals regularly was associated with an increase in SF level. Conclusion: In a sample of three hundred sixty-six pregnant women, ninety-six (26.2%) women had anemia and only 19 (19.79%) women had iron deficiency anemia; it is more common among non-Bahraini pregnant women. Lower educational level and close birth space (≤ 2 years) were the main risk factors.

Author/s	Messadi A, Malalla ZH, Al-Madhi SA, Al-Jalahma JA, Almawi WY.
Title	Distribution of HLA DRB1 and DQB1 alleles and DRB1-DQB1 haplotypes among Bahraini women with polycystic ovary syndrome.
Journal	Journal of Reproductive Immunology. 2016; 117:76-80.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27505846

ABSTRACT

Objective: This study investigated the association between HLA-DRB1 and -DQB1 alleles and DRB1-DQB1 haplotypes, and polycystic ovary syndrome (PCOS) in Bahraini women. Design: Case-control, retrospective study. Methods: Study subjects comprised 80 women with PCOS, and 169 age- and ethnically-matched control women. DRB1 and DQB1 genotyping was done by PCR-SSP. Results :Of the 13 DRB1 alleles and 5 DQB1 alleles identified, DRB1*10 (14.3% vs. 4.4%) and DRB1*14 (8.7% vs. 1.1%), along with DQB1*05 (35.0% vs. 23.9%), were the most frequent alleles in cases, while DRB1*11 (15.3% vs. 6.8%) was the frequent allele found in controls. The association of PCOS with DRB1*10 ($P < 0.001$), DRB1*14 ($P < 0.001$), DQB1*05 ($P = 0.040$), but not DRB1*11 ($P = 0.076$) persisted after correcting for multiple comparisons. DRB1-DQB1 haplotype analysis identified nine common shared haplotypes in women with PCOS and control women, with a frequency exceeding 1%. Significantly higher frequency of DRB1*10-DQB1*05 (12.4% vs. 3.1%) and DRB1*14-DQB1*03 (5.6% vs. 1.0%), and reduced frequency of DRB1*11-DQB1*03 (4.1% vs. 14.1%) haplotypes were seen in women with PCOS vs. control women, thus assigning PCOS-susceptible and -protective nature to these haplotypes, respectively. This association persisted after controlling for multiple comparisons. Conclusions: Our results confirm an association of HLA-DRB1 and -DQB1 alleles and haplotypes with PCOS susceptibility in Bahraini Arabs, further underscoring the immunological/inflammatory nature of this disorder.

Author/s	Messaoudi S, Hizem S, Al-Sulaiti MA, Al-Busaidi AS, Magdoud K, Dendana M, Almawi WY , Mahjoub T.
Title	Contribution of JAK2 and STAT3 variants to the genetic susceptibility of recurrent spontaneous miscarriage in a Tunisian population.
Journal	Genetic Testing and Molecular Biomarkers. 2013; 17(1): 35-39.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23193966

ABSTRACT

Aims: Th1 and Th2 balance is crucial for maintenance of pregnancy, and intracellular JAK and STAT proteins significantly contribute to it. In view of evidence linking JAK2 and STAT3 variants with recurrent spontaneous miscarriage (RSM), here we investigated the association of JAK2 (rs2230724) and STAT3 (rs1053023 and rs1053004) to RSM susceptibility in Tunisians. Subjects and methods: A retrospective case-control study. Subjects comprised 235 RSM cases and 235 control subjects. JAK2 and STAT3 were genotyped by the allelic discrimination Method. Results: STAT3 rs1053023 and, to a lower extent, rs1053004 were significantly associated with RSM under the additive and dominant, but not recessive models. This remained significant after adjustment for the covariates age, smoking, and gravida. In contrast to STAT3 variants, JAK2 rs2230724 was not associated with RSM under any of the genetic models tested. Two-locus STAT3 (rs1053023/rs1053004) haplotype analysis revealed increased frequency of the C/G haplotype in patients with RSM. Multivariate regression analysis confirmed the association of C/G haplotype with RSM ($p=0.001$; odds ratio=2.01; 95% confidence interval=1.32-3.07), thus conferring RSM susceptibility nature. These differences remained significant after applying the Bonferroni correction for multiple testing ($P_c=0.004$). Conclusions: STAT3 rs1053023, more so than the STAT3 rs1053004 or JAK2 rs2230724 polymorphisms, is associated with RSM risk.

Author/s	Messoudi S, Al-Sulaiti MA, Al-Busaidi AS, Dendana M, Nsiri B, Almawi WY , Mahjoub T.
Title	Contribution of JAK2 and STAT3 variants to the genetic susceptibility of recurrent miscarriage among Bahraini and Tunisian Arabs.
Journal	Molecular Biology Reports. 2013; 40(1): 585-589.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23065274

ABSTRACT

We investigated the contribution of JAK2 rs2203724 and STAT3 rs1053023 and rs1053004 to the susceptibility of idiopathic recurrent miscarriage (IRM) in Bahraini (246 cases and 279 controls) and Tunisian (235 cases and 235 controls) Arabs. The distribution of JAK2 rs2203724 and STAT3 rs1053023 genotypes were in Hardy-Weinberg equilibrium (HWE) in both communities, while mild deviation from HWE was noted for rs1053004 in Tunisians but not Bahraini. JAK2 rs2203724 was not associated with IRM in either community, while STAT3 rs1053023 was positively associated with IRM in both Bahraini and Tunisian women. STAT3 rs1053004 displayed mixed association: it was positively associated with IRM in Bahraini ($P < 0.001$), but not Tunisian women ($P = 0.10$). Genotype association confirmed the association of both STAT3 variants with IRM under additive, dominant, and recessive models, while the association of STAT3 rs1053023 was seen under additive and dominant, but not recessive models in Tunisians. The contribution of JAK2 and STAT3 variants to IRM susceptibility must be evaluated regarding specific variants, and the ethnic/racial background.

Author/s	Mokdad AH, Forouzanfar MH, Daoud F, [...], Hamadeh RR , et al.
Title	Health in times of uncertainty: a systematic analysis for the Global Burden of Disease Study 2013 in the Eastern Mediterranean Region, 1990-2013.
Journal	The Lancet Global Health. 2016; 4:e704-13.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27568068

ABSTRACT

Background: The Eastern Mediterranean region is comprised of 22 countries: Afghanistan, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen. Since our Global Burden of Disease Study 2010 (GBD 2010), the region has faced unrest as a result of revolutions, wars, and the so-called Arab uprisings. The objective of this study was to present the burden of diseases, injuries, and risk factors in the eastern Mediterranean region as of 2013. Methods: GBD 2013 includes an annual assessment covering 188 countries from 1990 to 2013. The study covers 306 diseases and injuries, 1233 sequelae, and 79 risk factors. Our GBD 2013 analyses included the addition of new data through updated systematic reviews and through the contribution of unpublished data sources from collaborators, an updated version of modelling software, and several improvements in our methods. In this systematic analysis, we use data from GBD 2013 to analyse the burden of disease and injuries in the eastern Mediterranean region specifically. Findings: The leading cause of death in the region in 2013 was ischaemic heart disease (90.3 deaths per 100 000 people), which increased by 17.2% since 1990. However, diarrhoeal diseases were the leading cause of death in Somalia (186.7 deaths per 100 000 people) in 2013, which decreased by 26.9% since 1990. The leading cause of disability-adjusted life-years (DALYs) was ischaemic heart disease for males and lower respiratory infection for females. High blood pressure was the leading risk factor for DALYs in 2013, with an increase of 83.3% since 1990. Risk factors for DALYs varied by country. In low-income countries, childhood wasting was the leading cause of DALYs in Afghanistan, Somalia, and Yemen, whereas unsafe sex was the leading cause in Djibouti. Non-communicable risk factors were the leading cause of DALYs in high-income and middle-income countries in the region. DALY risk factors varied by age, with child and maternal malnutrition affecting the younger age groups (aged 28 days to 4 years), whereas

high bodyweight and systolic blood pressure affected older people (aged 60-80 years). The proportion of DALYs attributed to high body-mass index increased from 3·7% to 7·5% between 1990 and 2013. Burden of mental health problems and drug use increased. Most increases in DALYs, especially from non-communicable diseases, were due to population growth. The crises in Egypt, Yemen, Libya, and Syria have resulted in a reduction in life expectancy; life expectancy in Syria would have been 5 years higher than that recorded for females and 6 years higher for males had the crisis not occurred. Interpretation: Our study shows that the eastern Mediterranean region is going through a crucial health phase. The Arab uprisings and the wars that followed, coupled with ageing and population growth, will have a major impact on the region's health and resources. The region has historically seen improvements in life expectancy and other health indicators, even under stress. However, the current situation will cause deteriorating health conditions for many countries and for many years and will have an impact on the region and the rest of the world. Based on our findings, we call for increased investment in health in the region in addition to reducing the conflicts.

Author/s	Mokdad A, Jaber S, Abdel Aziz M I, AlBuhairan F, AlGhaithi A, AlHamad NM, Al-Hooti SN, Al-Jasari A, AlMazroa MA, AlQasmi A M, Alsowaidi S, Asad M, Atkinson C, Badawi A, Bakfalouni T, Barkia A, Biryukov S, El Bcheraoui C, Daoud F, Forouzanfar M H, Gonzalez-Medina D, Hamadeh RR , et al.
Title	The The state of health in the Arab world, 1990-2010: an analysis of the burden of diseases, injuries, and risk factors.
Journal	Lancet. 2014; 383(9914):309-320.
Available at	http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(13)62189-3.pdf

ABSTRACT

Background: The Arab world has a set of historical, geopolitical, social, cultural, and economic characteristics and has been involved in several wars that have affected the burden of disease. Moreover, financial and human resources vary widely across the region. We aimed to examine the burden of diseases and injuries in the Arab world for 1990, 2005, and 2010 using data from the Global Burden of Diseases, Injuries, and Risk Factors Study 2010 (GBD 2010). Methods: We divided the 22 countries of the Arab League into three categories according to their gross national income: low-income countries (LICs; Comoros, Djibouti, Mauritania, Yemen, and Somalia), middle-income countries (MICs; Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, occupied Palestinian territory, Sudan, Syria, and Tunisia), and high-income countries (HICs; Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates). For the whole Arab world, each income group, and each individual country, we estimated causes of death, disability-adjusted life years (DALYs), DALY-attributable risk factors, years of life lived with disability (YLDs), years of life lost due to premature mortality (YLLs), and life expectancy by age and sex for 1990, 2005, and 2010. Findings: Ischaemic heart disease was the top cause of death in the Arab world in 2010 (contributing to 14.3% of deaths), replacing lower respiratory infections, which were the leading cause of death in 1990 (11.0%). Lower respiratory infections contributed to the highest proportion of DALYs overall (6.0%), and in female individuals (6.1%), but ischaemic heart disease was the leading cause of DALYs in male individuals (6.0%). DALYs from non-communicable diseases--especially ischaemic heart disease, mental disorders such as depression and anxiety, musculoskeletal disorders including low back pain and neck pain, diabetes, and cirrhosis--increased since 1990. Major depressive disorder was ranked first as a cause of YLDs in 1990, 2005, and 2010, and lower respiratory infections remained the leading cause of YLLs in 2010 (9.2%). The burden from HIV/AIDS also increased substantially, specifically in LICs and MICs, and road injuries continued to rank highly as a cause of death and DALYs, especially in HICs. Deaths due to suboptimal breastfeeding declined from sixth place in 1990 to tenth place in 2010, and childhood underweight declined from fifth to 11th place. Interpretation: Since 1990, premature death and disability caused by communicable, newborn, nutritional, and maternal disorders (with the exception of HIV/AIDS) has decreased in the Arab world--although these disorders do still persist in LICs--whereas the burden of non-communicable diseases and injuries has increased. The changes in the burden of disease will challenge already stretched human and financial resources because many Arab countries are now dealing with both non-communicable and infectious diseases. A road map for health in the Arab world is urgently needed.

Author/s	Mousa A and Bakhiet M.
Title	Role of cytokine signaling during nervous system development.
Journal	International Journal of Molecular Sciences.2013; 14: 13931–13957.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3742226/

ABSTRACT

Cytokines are signaling proteins that were first characterized as components of the immune response, but have been found to have pleiotropic effects in diverse aspects of body function in health and disease. They are secreted by numerous cells and are used extensively in intercellular communications to produce different activities, including intricate processes engaged in the ontogenetic development of the brain. This review discusses factors involved in brain growth regulation and recent findings exploring cytokine signaling pathways during development of the central nervous system. In view of existing data suggesting roles for neurotropic cytokines in promoting brain growth and repair, these molecules and their signaling pathways might become targets for therapeutic intervention in neurodegenerative processes due to diseases, toxicity, or trauma.

Author/s	Moradi-Lakeh M, Forouzanfar M H, El Bcheraoui C, [...], Hamadeh RR, et al.
Title	High fasting plasma glucose, diabetes, and its risk factors in the Eastern Mediterranean Region, 1990–2013: Findings from the Global burden of Disease study 2013.
Journal	Diabetes Care. 2017; 40(1): 22-29.
Available at	http://care.diabetesjournals.org/content/40/1/22.long

ABSTRACT

Objective: The prevalence of diabetes in the Eastern Mediterranean Region (EMR) is among the highest in the world. We used findings from the Global Burden of Disease 2013 study to calculate the burden of diabetes in the EMR. Research design and methods: The burden of diabetes and burden attributable to high fasting plasma glucose (HFPG) were calculated for each of the 22 countries in the EMR between 1990 and 2013. A systematic analysis was performed on mortality and morbidity data to estimate prevalence, deaths, and disability-adjusted life years (DALYs). Results: The diabetes death rate increased by 60.7%, from 12.1 per 100,000 population (95% uncertainty interval [UI]: 11.2-13.2) in 1990 to 19.5 per 100,000 population (95% UI: 17.4-21.5) in 2013. The diabetes DALY rate increased from 589.9 per 100,000 (95% UI: 498.0-698.0) in 1990 to 883.5 per 100,000 population (95% UI: 732.2-1,051.5) in 2013. In 2013, HFPG accounted for 4.9% (95% UI: 4.4-5.3) of DALYs from all causes. Total DALYs from diabetes increased by 148.6% during 1990-2013; population growth accounted for a 62.9% increase, and aging and increase in age-specific DALY rates accounted for 31.8% and 53.9%, respectively. Conclusions: Our findings show that diabetes causes a major burden in the EMR, which is increasing. Aging and population growth do not fully explain this increase in the diabetes burden. Programs and policies are urgently needed to reduce risk factors for diabetes, increase awareness of the disease, and improve diagnosis and control of diabetes to reduce its burden.

Author/s	Mtiraoui N, Ezzidi I, Turki A, Chaieb A, Mahjoub T, Almawi WY.
Title	Single nucleotide polymorphisms and haplotypes in the Adiponectin gene contribute to the genetic risk for type 2 diabetes in Tunisian Arabs.
Journal	Diabetes Research and Clinical Practice. 2012; 97(2): 290-297.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22497971

ABSTRACT

Adiponectin is an adipocyte-produced protein involved in regulating glucose, lipid, and energy metabolism, and is encoded by ADIPOQ (APM1) gene. ADIPOQ polymorphisms were previously associated with type 2 diabetes (T2DM) in Caucasian and non-Caucasian populations. We investigated the contribution of 13 polymorphisms in the promoter, coding regions, and 3'untranslated region of ADIPOQ gene to T2DM in 917 patients and 748 normoglycemic control subjects. ADIPOQ genotyping was done by allelic discrimination Method. Of the 13 ADIPOQ variants analyzed, higher minor allele frequency of rs16861194 ($P<0.001$), rs17300539 ($P<0.001$), rs266729 ($P<0.001$), rs822396 ($P=0.02$), rs2241767 ($P=0.03$), and rs1063538 ($P=0.02$) were seen in T2DM cases. Varied association of ADIPOQ genotypes with T2DM was seen according to the genetic model used: rs17300539 and rs266729 were significantly associated with T2DM under the three models, while rs16861194 was association with T2DM under additive and dominant models, and rs822396, rs2241766, and rs1063538 were associated with T2DM under the dominant models only. Haploview analysis revealed low linkage disequilibrium between the ADIPOQ variants, Resulting in high haplotype diversity, and two blocks were identified, each differentially associated with T2DM. These Results support a significant association of ADIPOQ gene polymorphism with T2DM in Tunisian Arabs.

Author/s	Mtiraoui N, Turki A, Nemr R, Eghtay A, Izzidi I, Al-Zaben GS, Irani-Hakime N, Keleshian SH, Mahjoub T, Almawi WY.
Title	Contribution of common variants of ENPP1, IGF2BP2, KCNJ11, MLXIPL, PPAR γ , SLC30A8 and TCF7L2 to the risk of type 2 diabetes in Lebanese and Tunisian Arabs.
Journal	Diabetes & Metabolism. 2012; 38(5): 444-449.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22749234

ABSTRACT

Background: While several type 2 diabetes mellitus (T2DM) susceptibility loci identified through genome-wide association studies (GWAS) have been replicated in many populations, their association in Arabs has not been reported. For this reason, the present study looked at the contribution of ENNP1 (rs1044498), IGF2BP2 (rs1470579), KCNJ11 (rs5219), MLXIPL (rs7800944), PPAR γ (rs1801282), SLC30A8 (rs13266634) and TCF7L2 (rs7903146) SNPs to the risk of T2DM in Lebanese and Tunisian Arabs. Methods Study subjects (case/controls) were Lebanese (751/918) and Tunisians (1470/838). Genotyping was carried out by the allelic discrimination Method. Results: In Lebanese and Tunisians, neither ENNP1 nor MLXIPL was associated with T2DM, whereas TCF7L2 was significantly associated with an increased risk of T2DM in both the Lebanese [P < 0.001; OR (95% CI): 1.38 (1.20-1.59)] and Tunisians [P < 0.001; OR (95% CI): 1.36 (1.18-1.56)]. Differential associations of IGF2BP2, KCNJ11, PPAR γ and SLC30A8 with T2DM were noted in the two populations. IGF2BP2 [P = 1.3×10^{-5} ; OR (95% CI): 1.66 (1.42-1.94)] and PPAR γ [P = 0.005; OR (95% CI): 1.41 (1.10-1.80)] were associated with T2DM in the Lebanese, but not Tunisians, while KCNJ11 [P = 8.0×10^{-4} ; OR (95% CI): 1.27 (1.09-1.47)] and SLC30A8 [P = 1.6×10^{-5} ; OR (95% CI): 1.37 (1.15-1.62)] were associated with T2DM in the Tunisians, but not Lebanese, after adjusting for gender and body mass index. Conclusions: T2DM susceptibility loci SNPs identified through GWAS showed differential associations with T2DM in two Arab populations, thus further confirming the ethnic contributions of these variants to T2DM susceptibility.

Author/s	Murray CJ, Barber RM, Foreman KJ, [...], Hamadeh RR , et al.
Title	Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: quantifying the epidemiological transition.
Journal	The Lancet. 2015 Nov 28; 386(10009):2145-2191.
Available at	http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(15)61340-X.pdf

ABSTRACT

Background: The Global Burden of Disease Study 2013 (GBD 2013) aims to bring together all available epidemiological data using a coherent measurement framework, standardised estimation methods, and transparent data sources to enable comparisons of health loss over time and across causes, age-sex groups, and countries. The GBD can be used to generate summary measures such as disability-adjusted life-years (DALYs) and healthy life expectancy (HALE) that make possible comparative assessments of broad epidemiological patterns across countries and time. These summary measures can also be used to quantify the component of variation in epidemiology that is related to sociodemographic development. Methods: We used the published GBD 2013 data for age-specific mortality, years of life lost due to premature mortality (YLLs), and years lived with disability (YLDs) to calculate DALYs and HALE for 1990, 1995, 2000, 2005, 2010, and 2013 for 188 countries. We calculated HALE using the Sullivan method; 95% uncertainty intervals (UIs) represent uncertainty in age-specific death rates and YLDs per person for each country, age, sex, and year. We estimated DALYs for 306 causes for each country as the sum of YLLs and YLDs; 95% UIs represent uncertainty in YLL and YLD rates. We quantified patterns of the epidemiological transition with a composite indicator of sociodemographic status, which we constructed from income per person, average years of schooling after age 15 years, and the total fertility rate and mean age of the population. We applied hierarchical regression to DALY rates by cause across countries to decompose variance related to the sociodemographic status variable, country, and time. Findings: Worldwide, from 1990 to 2013, life expectancy at birth rose by 6·2 years (95% UI 5·6-6·6), from 65·3 years (65·0-65·6) in 1990 to 71·5 years (71·0-71·9) in 2013, HALE at birth rose by 5·4 years (4·9-5·8), from 56·9 years (54·5-59·1) to 62·3 years (59·7-64·8), total DALYs fell by 3·6% (0·3-7·4), and age-standardised DALY rates per 100 000 people fell by 26·7% (24·6-29·1). For communicable, maternal, neonatal, and nutritional disorders, global DALY numbers, crude rates, and age-standardised rates have all declined between 1990 and 2013,

whereas for non-communicable diseases, global DALYs have been increasing, DALY rates have remained nearly constant, and age-standardised DALY rates declined during the same period. From 2005 to 2013, the number of DALYs increased for most specific non-communicable diseases, including cardiovascular diseases and neoplasms, in addition to dengue, food-borne trematodes, and leishmaniasis; DALYs decreased for nearly all other causes. By 2013, the five leading causes of DALYs were ischaemic heart disease, lower respiratory infections, cerebrovascular disease, low back and neck pain, and road injuries. Sociodemographic status explained more than 50% of the variance between countries and over time for diarrhoea, lower respiratory infections, and other common infectious diseases; maternal disorders; neonatal disorders; nutritional deficiencies; other communicable, maternal, neonatal, and nutritional diseases; musculoskeletal disorders; and other non-communicable diseases. However, sociodemographic status explained less than 10% of the variance in DALY rates for cardiovascular diseases; chronic respiratory diseases; cirrhosis; diabetes, urogenital, blood, and endocrine diseases; unintentional injuries; and self-harm and interpersonal violence. Predictably, increased sociodemographic status was associated with a shift in burden from YLLs to YLDs, driven by declines in YLLs and increases in YLDs from musculoskeletal disorders, neurological disorders, and mental and substance use disorders. In most country-specific estimates, the increase in life expectancy was greater than that in HALE. Leading causes of DALYs are highly variable across countries. Interpretation: Global health is improving. Population growth and ageing have driven up numbers of DALYs, but crude rates have remained relatively constant, showing that progress in health does not mean fewer demands on health systems. The notion of an epidemiological transition--in which increasing sociodemographic status brings structured change in disease burden--is useful, but there is tremendous variation in burden of disease that is not associated with sociodemographic status. This further underscores the need for country-specific assessments of DALYs and HALE to appropriately inform health policy decisions and attendant actions.

Author/s	Murray CL, Ortbald KF, Guinovart C, [...], Hamadeh RR , et al.
Title	Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013.
Journal	The Lancet. 2014; 384(9947): 1005–1070.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25059949

ABSTRACT

Background: The Millennium Declaration in 2000 brought special global attention to HIV, tuberculosis, and malaria through the formulation of Millennium Development Goal (MDG) 6. The Global Burden of Disease 2013 study provides a consistent and comprehensive approach to disease estimation for between 1990 and 2013, and an opportunity to assess whether accelerated progress has occurred since the Millennium Declaration. Methods: To estimate incidence and mortality for HIV, we used the UNAIDS Spectrum model appropriately modified based on a systematic review of available studies of mortality with and without antiretroviral therapy (ART). For concentrated epidemics, we calibrated Spectrum models to fit vital registration data corrected for misclassification of HIV deaths. In generalised epidemics, we minimised a loss function to select epidemic curves most consistent with prevalence data and demographic data for all-cause mortality. We analysed counterfactual scenarios for HIV to assess years of life saved through prevention of mother-to-child transmission (PMTCT) and ART. For tuberculosis, we analysed vital registration and verbal autopsy data to estimate mortality using cause of death ensemble modelling. We analysed data for corrected case-notifications, expert opinions on the case-detection rate, prevalence surveys, and estimated cause-specific mortality using Bayesian meta-regression to generate consistent trends in all parameters. We analysed malaria mortality and incidence using an updated cause of death database, a systematic analysis of verbal autopsy validation studies for malaria, and recent studies (2010–13) of incidence, drug resistance, and coverage of insecticide-treated bednets. Findings: Globally in 2013, there were 1·8 million new HIV infections (95% uncertainty interval 1·7 million to 2·1 million), 29·2 million prevalent HIV cases (28·1 to 31·7), and 1·3 million HIV deaths (1·3 to 1·5). At the peak of the epidemic in 2005, HIV caused 1·7 million deaths (1·6 million to 1·9 million). Concentrated epidemics in Latin America and eastern Europe are substantially smaller than previously estimated. Through interventions including PMTCT and ART, 19·1 million life-years (16·6 million to 21·5 million) have been saved, 70·3% (65·4 to 76·1) in developing countries.

From 2000 to 2011, the ratio of development assistance for health for HIV to years of life saved through intervention was US\$4498 in developing countries. Including in HIV-positive individuals, all-form tuberculosis incidence was 7.5 million (7.4 million to 7.7 million), prevalence was 11.9 million (11.6 million to 12.2 million), and number of deaths was 1.4 million (1.3 million to 1.5 million) in 2013. In the same year and in only individuals who were HIV-negative, all-form tuberculosis incidence was 7.1 million (6.9 million to 7.3 million), prevalence was 11.2 million (10.8 million to 11.6 million), and number of deaths was 1.3 million (1.2 million to 1.4 million). Annualised rates of change (ARC) for incidence, prevalence, and death became negative after 2000. Tuberculosis in HIV-negative individuals disproportionately occurs in men and boys (versus women and girls); 64.0% of cases (63.6 to 64.3) and 64.7% of deaths (60.8 to 70.3). Globally, malaria cases and deaths grew rapidly from 1990 reaching a peak of 232 million cases (143 million to 387 million) in 2003 and 1.2 million deaths (1.1 million to 1.4 million) in 2004. Since 2004, child deaths from malaria in sub-Saharan Africa have decreased by 31.5% (15.7 to 44.1). Outside of Africa, malaria mortality has been steadily decreasing since 1990. Interpretation: Our estimates of the number of people living with HIV are 18.7% smaller than UNAIDS's estimates in 2012. The number of people living with malaria is larger than estimated by WHO. The number of people living with HIV, tuberculosis, or malaria have all decreased since 2000. At the global level, upward trends for malaria and HIV deaths have been reversed and declines in tuberculosis deaths have accelerated. 101 countries (74 of which are developing) still have increasing HIV incidence. Substantial progress since the Millennium Declaration is an encouraging sign of the effect of global action.

Author/s	Musaiger, A.O., Al-Mannai, M., Al-Roomi, K.
Title	Social and lifestyle factors associated with hypertension in Bahraini community.
Journal	Nutrition & Food Science 2013; 43 (3): 213-217.
Available at	http://www.emeraldinsight.com/doi/pdfplus/10.1108/00346651311327855

ABSTRACT

Purpose – Hypertension is one of important risk factors for cardiovascular disease, which represents 30 per cent of annual total deaths in Bahrain. Studies on factors associated with hypertension in Bahrain are very limited. The present paper aimed to highlight some social and lifestyle factors that may be associated with hypertension in Bahraini community. Design/methodology/approach – A cross-sectional household survey was carried out using a multistage sampling technique to select 514 Bahraini adults aged 30-79 years. A pretested validated questionnaire was used. History of hypertension and diabetes was determined by positive response to previous diagnosis of these diseases. Findings – The risk of occurrence of hypertension was greater in older people, women, illiterate people, non-smokers, those who did not walk regularly, those who watched television daily, obese people, those who had a history of diabetes and those who consumed vegetables more than four times a week. However, age, gender, education, obesity and diabetes were the main risk factors statistically associated with hypertension using bivariate analysis ($p < 0.01$). When multiple logistic regression was used, only age ($p < 0.01$) and obesity ($p < 0.05$) were found to be statistically significant.

Author/s	Musaiger AO, Al-Roomi K , Bader Z.
Title	Social, dietary and lifestyle factors associated with obesity among Bahraini adolescents.
Journal	Appetite. 2014; 73:197-204.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Social%2C+dietary+and+lifestyle+factors+associated+with+obesity+among+Bahraini+adolescents

ABSTRACT

The main purpose of this study was to explore some of the social, dietary and lifestyle factors that could be related to the risk of obesity among adolescents in Bahrain. A multistage stratified Method was used to select secondary school students (15-18years old) from governmental schools in Bahrain. The total sample selected was 735 (339 males and 396 females). A pre-validated self-report questionnaire was used to obtain information on socio-demographics, food and the lifestyle habits of adolescents. Weight and height were taken and percentiles of Body Mass Index for age and gender were used to classify the adolescents as non-obese and obese (overweight and obese), using NHANES-1 growth standard. In general, the prevalence of overweight and obesity was 29.5% and 36.8% among males and females, respectively. The risk of obesity was not consistent among male and female adolescents. Mothers' education was found to be a risk factor for obesity among both males and females ($p=0.0167$ and $p=0.007$, respectively). Bringing food from home to school (odds ratio (OR)=0.54, confidence interval (CI) 0.35-0.81) was protective factor for obesity among females but not among males. Fathers' education ($p=0.0167$), rank among siblings ($p=0.009$), place where breakfast is eaten ($p=0.0398$), eating between lunch and dinner ($p=0.0152$), fruit intake ($p=0.042$), sweet intake ($p=0.0192$), size of burger ($p=0.002$) and hours of watching television per day ($p=0.004$) were significantly associated with the risk of obesity among males, but not among females. Various social, dietary and lifestyle factors were found to contribute to obesity among adolescents in Bahrain. These factors should be considered in school health policy in the country.

Author/s	Musaiger AO, D'Souza R, Al-Roomi K.
Title	Perception of aging and ageism among women in Qatar.
Journal	Journal of Women Aging. 2013; 25(3): 273-280.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Perception+of+aging+and+ageism+among+women+in+Qatar

ABSTRACT

The objective of this study was to find out the perceptions of age and aging among women in Qatar. Respondents consisted of 250 women aged between 20 and 70 years, selected from those attending the health centers in Doha city, the capital of Qatar. They were interviewed using a pretested validated questionnaire, and data were collected through direct face-to-face interviews using the incidental sampling Method. It was found that physical appearance and mental alertness were the most important criteria for defining aging in men and women. A statistically significant association was found between age of respondents and physical criteria for aging such as hair color ($p < .000$) in women and body image in men ($p < .0298$). As for aging characteristics, decreasing hearing ability ($p < .000$), performance as before ($p < .004$), more irritability ($p < .0227$), ability to travel alone ($p < .0429$), needs check up ($p < .001$), and needs a geriatric home ($p < .001$) were statistically associated with age of women studied. Both positive (socializing factors, independence, housework, retirement, and geriatric care) and negative stereotyping (care for self, learning capabilities, irritability, and worries) with regard to aging were evident among the Qatari women. In general, Qatari women had several positive attitudes toward aging. Such attitudes could be utilized in any health promotion for elderly people.

Author/s	Naghavi M, Wang H, Lozano R, [...], Hamadeh RR, et al.
Title	Global, regional, and national levels of age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global burden of disease study 2013.
Journal	The Lancet. 2015; 385(9963):117-1171.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25530442

ABSTRACT

Background: Up-to-date evidence on levels and trends for age-sex-specific all-cause and cause-specific mortality is essential for the formation of global, regional, and national health policies. In the Global Burden of Disease Study 2013 (GBD 2013) we estimated yearly deaths for 188 countries between 1990, and 2013. We used the results to assess whether there is epidemiological convergence across countries. Methods: We estimated age-sex-specific all-cause mortality using the GBD 2010 methods with some refinements to improve accuracy applied to an updated database of vital registration, survey, and census data. We generally estimated cause of death as in the GBD 2010. Key improvements included the addition of more recent vital registration data for 72 countries, an updated verbal autopsy literature review, two new and detailed data systems for China, and more detail for Mexico, UK, Turkey, and Russia. We improved statistical models for garbage code redistribution. We used six different modelling strategies across the 240 causes; cause of death ensemble modelling (CODEm) was the dominant strategy for causes with sufficient information. Trends for Alzheimer's disease and other dementias were informed by meta-regression of prevalence studies. For pathogen-specific causes of diarrhoea and lower respiratory infections we used a counterfactual approach. We computed two measures of convergence (inequality) across countries: the average relative difference across all pairs of countries (Gini coefficient) and the average absolute difference across countries. To summarise broad findings, we used multiple decrement life-tables to decompose probabilities of death from birth to exact age 15 years, from exact age 15 years to exact age 50 years, and from exact age 50 years to exact age 75 years, and life expectancy at birth into major causes. For all quantities reported, we computed 95% uncertainty intervals (UIs). We constrained cause-specific fractions within each age-sex-country-year group to sum to all-cause mortality based on draws from the uncertainty distributions. Findings: Global life expectancy for both sexes increased from 65.3 years (UI 65.0-65.6) in 1990, to 71.5 years (UI 71.0-71.9) in 2013, while the number of deaths increased from 47.5

million (UI 46.8–48.2) to 54.9 million (UI 53.6–56.3) over the same interval. Global progress masked variation by age and sex: for children, average absolute differences between countries decreased but relative differences increased. For women aged 25–39 years and older than 75 years and for men aged 20–49 years and 65 years and older, both absolute and relative differences increased. Decomposition of global and regional life expectancy showed the prominent role of reductions in age-standardised death rates for cardiovascular diseases and cancers in high-income regions, and reductions in child deaths from diarrhoea, lower respiratory infections, and neonatal causes in low-income regions. HIV/AIDS reduced life expectancy in southern sub-Saharan Africa. For most communicable causes of death both numbers of deaths and age-standardised death rates fell whereas for most non-communicable causes, demographic shifts have increased numbers of deaths but decreased age-standardised death rates. Global deaths from injury increased by 10.7%, from 4.3 million deaths in 1990 to 4.8 million in 2013; but age-standardised rates declined over the same period by 21%. For some causes of more than 100,000 deaths per year in 2013, age-standardised death rates increased between 1990 and 2013, including HIV/AIDS, pancreatic cancer, atrial fibrillation and flutter, drug use disorders, diabetes, chronic kidney disease, and sickle-cell anaemias. Diarrhoeal diseases, lower respiratory infections, neonatal causes, and malaria are still in the top five causes of death in children younger than 5 years. The most important pathogens are rotavirus for diarrhoea and pneumococcus for lower respiratory infections. Country-specific probabilities of death over three phases of life were substantially varied between and within regions. Interpretation: For most countries, the general pattern of reductions in age-sex specific mortality has been associated with a progressive shift towards a larger share of the remaining deaths caused by non-communicable disease and injuries. Assessing epidemiological convergence across countries depends on whether an absolute or relative measure of inequality is used. Nevertheless, age-standardised death rates for seven substantial causes are increasing, suggesting the potential for reversals in some countries. Important gaps exist in the empirical data for cause of death estimates for some countries; for example, no national data for India are available for the past decade.

Author/s	Nemr R, Al-Busaidi AS, Sater MS , Echtay A, Saldanha FL, Racoubian E, Keleshian SH, Almawi WY .
Title	Lack of replication of common EXT2 gene variants with susceptibility to type 2 diabetes in Lebanese Arabs.
Journal	Diabetes & Metabolism.2013; 39(6):532-536.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Lack+of+replication+of+common+EXT2+gene+variants+with+susceptibility+to+type+2+diabetes+in+Lebanese+Arabs

ABSTRACT

Objectives: Recent genome-wide association studies and replication analyses have reported the association of variants of the exostosin-2 (EXT2) gene and risk of type 2 diabetes mellitus (T2DM) in some populations, but not in others. This study investigated the associations of EXT2 variants rs1113132, rs3740878 and rs11037909 with T2DM in a Lebanese Arab population. Methods: This case-control study involved 995 T2DM patients and 1076 control subjects. Genotyping was done by the allelic exclusion Method. Results: While minor allele frequencies (MAFs) of rs11037909 (P=0.028) and rs3740878 (P=0.048), but not rs1113132 (P=0.841), were higher in patients, this was lost after correcting for multiple testing. Apart from EXT2 rs1113132, which was marginally associated with T2DM in the additive model (P=0.054), but not after adjustment for covariates, none of the tested EXT2 SNPs were associated with T2DM in any of the genetic models tested. However, variable associations of EXT2 variants with T2DM were noted according to BMI status. While the three tested EXT2 variants were not associated with T2DM in obese subjects, rs1113132 and rs11037909, but not rs3740878, were associated with T2DM in non-obese subjects. Meta-analysis revealed a significant association of rs11037909 and a marginal association of rs3740878 with T2DM in the fixed model. Using a common (GTA) haplotype as reference, three-locus (rs1113132/rs11037909/rs3740878) haplotype analysis demonstrated no association between any of the EXT2 haplotypes with T2DM, not even before correcting for multiple testing. Conclusion: This study demonstrated no association of rs1113132, rs3740878 and rs11037909 EXT2 variants with T2DM.

Author/s	Nemr R, Almawi AW, Echtay A, Sater MS , Daher HS, Almawi WY .
Title	Replication study of common variants in CDKAL1 and CDKN2A/2B genes associated with type 2 diabetes in Lebanese Arab population.
Journal	Diabetes Research and Clinical Practice. 2012; 95(2): e37-e40.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22119613

ABSTRACT

We investigated the association of CDKAL1 (rs7754840 and rs7756992) and CDKN2A/2B (rs10811661) variants with T2DM. Higher MAF of rs7754840 and rs7756992 were seen in patients, and both were associated with T2DM under additive, dominant, and recessive models. CDKAL1 rs7754840 and rs7756992, but not CDKN2A/2B rs10811661, are associated with T2DM in Lebanese.

Author/s	Nemr R, Ehtay A, Dashti EA, Almawi AW, Al-Busaidi AS, Keleshian SH, Irani-Hakime N, Almawi WY.
Title	Strong association of common variants in the IGF2BP2 gene with type 2 diabetes in Lebanese Arabs.
Journal	Diabetes Research and Clinical Practice. 2012; 96(2): 225-229.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Strong+Association+of+Common+Variants+in+the+IGF2BP2+Gene+with+Type+2+Diabetes+in+Lebanese+Arabs

ABSTRACT

Objective: Several genome-wide association studies and replication analyses have identified common variation at the insulin-like binding protein 2 (IGF2BP2) gene to be associated with type 2 diabetes (T2DM). The aim of this study was to replicate in a Lebanese Arab population identified associations of IGF2BP2 variants rs4402960 and rs1470579 with T2DM. Methods: This case-control study involved 544 T2DM patients and 606 control subjects. Genotyping was done by the allelic exclusion Method. Results: T allele of rs440960 ($P=6.5 \times 10^{-6}$) and C allele of rs1470579 ($P=5.3 \times 10^{-4}$) were significantly associated with T2DM; both SNPs were in strong LD ($D'=0.83$, $r(2)=0.58$). While both IGF2BP2 SNPs were significantly associated with T2DM under additive and recessive models, only rs4402960 remained significantly associated with T2DM under the dominant model. Taking the common rs4402960/rs1470579 GA haplotype as reference, multivariate analysis confirmed the positive association of TC ($P=0.009$; OR, 1.43; 95%CI, 1.09-1.87), and TA ($P<0.001$; OR=5.49; 95%CI=2.09-14.39) haplotypes with increased T2DM risk. These differences remained significant after applying the Bonferroni correction for multiple testing. Conclusion: We validate that IGF2BP2 susceptibility variants rs4402960 and rs1470579 associate with T2DM in Lebanese Arabs.

Author/s	Nemr R, Turki A, Ectay A, Al-Zaben GS, Daher HS, Irani-Hakime NA, Keleshian SH, Almawi WY.
Title	Transcription factor-7-like 2 gene variants are strongly associated with type 2 diabetes in Lebanese subjects.
Journal	Diabetes Research and Clinical Practice.2012; 98(3): 23-27.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23107111

ABSTRACT

We tested the association of TCF7L2 variants with type 2 diabetes (T2DM) in 691 Lebanese people and 919 controls. rs7901695, rs4506565, rs7903146, rs12243326, rs7895340, and rs12255372 minor allele frequencies were higher in T2DM. Haplotype analysis (rs7901695-rs4506565-rs7903146-rs12243326-rs7895340-rs11196205-rs12255372) identified positively- (2122112, 2222222) and negatively- (1111111) T2DM-associated haplotypes. TCF7L2 is a common T2DM candidate gene in Lebanese people.

Author/s	Nouby A, Salem, AH.
Title	Design of e-Learning using a problem-based learning strategy and its effectiveness on medical students' achievement and attitude towards a learning method.
Journal	Journal of Educational & Psychological Sciences (JEPS). 2016; 17 (1): 13-39.
Available at	https://www.researchgate.net/publication/307855088_Design_of_e-Learning_Using_a_Problem-Based_Learning_Strategy_and_its_Effectiveness_on_Medical_Students'_Achievement_and_Attitude_towards_a_Learning_Method

ABSTRACT

The study aimed at revealing the effectiveness of the design of e-learning using problem-based learning strategy on medical students' achievement and attitude towards the learning method in the course of anatomy, for the third year students at the College of Medicine and Medical Sciences, Arabian Gulf University. The experimental method used to conduct this research was quasi-experimental. The sample consisted of 122 students who studied Anatomy)Digestive and urinary systems unit(, where the students of the experimental group)69(, have studied anatomy using electronic content using problem-based learning strategy in virtual learning environment. The control group was 53 students who studied anatomy using face to face method. A test for academic achievement and students' attitudes toward learning method questionnaire was used to verify the hypotheses. The results showed that the use of e-learning designed by problem-based learning strategy has a positive effect on the academic achievement of students and their attitude toward this learning method in favor of the experimental group.

Author/s	Omran HM, Bakhiet M , Dashti MG .
Title	Evaluation of age effects on semen parameters of infertile males.
Journal	Andrology.2013; 2: 106.
Available at	http://www.omicsgroup.org/peer-reviewed/evaluation-of-age-effects-on-semen-parameters-of-infertile-males-15491.html

ABSTRACT

Background: The contributions of host factors, such as age, in male infertility are still poorly understood. Thus, the present work has aimed to evaluate the effect of patient's age on semen parameters of infertile males. Method: Semen samples from 52 infertile patients aged 21-52 years (mean 30.8 ± 6.7) were analysed by conventional semen analysis Methods, flowcytometry analysis for sperm DNA integrity, and colorimetric assay for total antioxidant capacity. Results: The study revealed that, as patient's age increases, there was a significant reduction in sperm density, motility, percentage of morphologically normal spermatozoa, total antioxidant capacity and DNA integrity. Conclusion: The study Results demonstrated the negative influence of increasing patient's age on semen parameters; and the possible role of patient's age in the aetiology of male infertility.

Author/s	Omran HM, Bakhiet M, Dashti MG.
Title	DNA integrity is a critical molecular indicator for the assessment of men infertility.
Journal	Molecular Medicine Report.2013; 5: 1631-1635.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23525372

ABSTRACT

Traditional semen analysis is routinely used for the assessment of male infertility. The present study aimed to evaluate the application of molecular techniques in determining the DNA integrity of the spermatozoa of infertile men in comparison to conventional analysis. Semen samples from 52 infertile patients were analyzed by conventional assays, flow cytometry (FCM) analysis for sperm DNA integrity and colorimetric assays for total antioxidant capacity (TAC). The traditional semen analyses showed that 48.1% of the patients had normospermic samples. The figure decreased to only 25% following the application of molecular tests. DNA FCM revealed that 67.3% of the patients had an abnormal chromatin status (n=36), while at the same time, 36% showed aneuploidy features (n=19), and 59.6% had an abnormal TAC level (n=31). The normozoospermic samples had less DNA fragmentation and a higher mean seminal plasma TAC level ($1,500.92 \pm 280.29 \mu\text{M}$) than the abnormal samples ($899.59 \pm 375.67 \mu\text{M}$). Significant correlations were noted between chromatin condensation and the sperm count ($r=0.587$, $P<0.001$), motility ($r=0.625$, $P<0.001$), normal morphology ($r=0.658$, $P<0.001$) and white blood cell (WBC) count ($r=0.299$, $P<0.005$). In addition, the infertile subjects with abnormal chromatin condensation had significantly lower TAC levels than the other subjects and the level was markedly decreased in the samples with severe abnormalities (class 7 and 8). The presence of the aneuploidy cells was negatively correlated with the sperm concentration ($r=0.339$, $P<0.005$). In Conclusion, traditional semen analysis has limited value in the prediction of male fertility and should be combined with other molecular tests to increase its sensitivity.

Author/s	Omran HM, Dashti MG, Bakhiet M.
Title	Significant effects of smoking habit on male fertility in Bahraini patients.
Journal	Bahrain Medical Bulletin. 2013; 35: 74 – 77.
Available at	http://www.bahrainmedicalbulletin.com/june_2013/Significant_effects_smoking.pdf

ABSTRACT

Background: Smoking is a common health problem worldwide. Many diseases and life threatening conditions have been linked to smoking habits, such as, lung cancer, oral cancer, bronchitis and several gastrointestinal disorders. Infertility link to smoking is still under intensive investigation. Objective: To evaluate the effect of smoking on semen parameters of infertile Bahraini males. Design: Open controlled trial. Setting: Department of Molecular Medicine, CMMS, Princess Al-Jawhara Center for Molecular Medicine, Genetics and Inherited Diseases, Arabian Gulf University, Bahrain. Method: Semen samples from 52 infertile patients were analyzed by conventional analysis Methods, sperm chromatin dispersion test for sperm DNA integrity and colorimetric assay for total antioxidant capacity. Twenty-two (42.3%) were smokers of the study group. Result: The data showed that smokers had more semen analysis abnormalities than the non-smokers. Smokers had more sperm with fragmented DNA than non-smokers ($x_2=6.17$; $P<0.002$). Conclusion: Our study used conventional and molecular techniques to investigate male infertility in Bahraini patients and demonstrated that smoking is a contributing factor in the etiology of male infertility.

Author/s	Othman M, Salem AH, Sequeira R, Abu-Hijleh M, Fadel R.
Title	Effects of the therapeutic doses of topiramate on the placenta of rats: A histological and morphometric study.
Journal	The FASEB Journal 2014; 28 (1 Supplement LB 62).
Available at	http://www.fasebj.org/content/28/1_Supplement/LB62.short

ABSTRACT

The antiepileptic drug topiramate is used in the treatment of epilepsy in many patients including pregnant women. Topiramate was reported to have teratogenic effects. This study is focusing on the effects of topiramate on the placental structure. Pregnant rats were treated with topiramate at doses of 50 and 100 mg/Kg body weight orally. On day 20 the pregnant rats were sacrificed, and the placentae were collected and processed for histological and morphometric evaluation. There were degenerative changes affecting the three layers of the placenta. In the decidual layer, the cells showed deposition of fibrous and hyaline materials. Vacuolization of cells and hemorrhages were also detected. In the basal layer, the trophoblast cell types were affected. This ranged from vacuolization, cytolysis and cyst formation. In the labyrinthine layer, there was increase in the fibrinoid material and fetal mesenchyme. There was also degeneration of cells and congestion of blood vessels. Morphometric data revealed a significant decrease in the thickness of the decidual layer and increase in that of the basal layer of the treated groups compared to control. The Results obtained from this study showed harmful effects of topiramate on the placental structure. This may explain one of the possible mechanisms which leads to its teratogenicity.

Author/s	Parayath NN, Nehoff H, Norton SE, Highton AJ, Taurin S, Kemp RA, Greish K.
Title	Styrene maleic acid-encapsulated paclitaxel micelles: antitumor activity and toxicity studies following oral administration in a murine orthotopic colon cancer model.
Journal	International Journal of Nanomedicine. 2016; 11:3979-3991.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4993259/pdf/ijn-11-3979.pdf

ABSTRACT

Oral administration of paclitaxel (PTX), a broad spectrum anticancer agent, is challenged by its low uptake due to its poor bioavailability, efflux through P-glycoprotein, and gastrointestinal toxicity. We synthesized PTX nanomicelles using poly(styrene-co-maleic acid) (SMA). Oral administration of SMA-PTX micelles doubled the maximum tolerated dose (60 mg/kg vs 30 mg/kg) compared to the commercially available PTX formulation (PTX [Ebewe]). In a murine orthotopic colon cancer model, oral administration of SMA-PTX micelles at doses 30 mg/kg and 60 mg/kg reduced tumor weight by 54% and 69%, respectively, as compared to the control group, while no significant reduction in tumor weight was observed with 30 mg/kg of PTX (Ebewe). In addition, toxicity of PTX was largely reduced by its encapsulation into SMA. Furthermore, examination of the tumors demonstrated a decrease in the number of blood vessels. Thus, oral delivery of SMA-PTX micelles may provide a safe and effective strategy for the treatment of colon cancer.

Author/s	Parayatha NN, Nehoffa H, Taurina S, Greish K.
Title	Prospects of nanocarriers for oral delivery of bioactives using targeting strategies.
Journal	Current Pharmaceutical Biotechnology. 2016; 17(8):683-699.
Available at	https://www.ncbi.nlm.nih.gov/labs/articles/27033507/

ABSTRACT

The oral route is the preferred mode of administration, however the poor intestinal absorption of many bioactive compounds limit their efficacy. Several strategies have been developed to overcome the low oral bioavailability of bioactive compounds. Nanocarriers present a unique opportunity to overcome this limitation due to their diverse bioactive carriage potential, surface functionality and design flexibility. Despite these favorable characteristics, the oral delivery of nanocarriers faces several challenges which are discussed in this review. The review addresses the different mechanisms of transport across the intestinal epithelium. In addition, we will comment on the various Methods and models for evaluating the intestinal permeability, with a critical discussion of the uniformity of these models in investigating the oral bioavailability of nanocarrier systems. Finally, we will discuss some of the recently developed nanocarriers for oral delivery of bioactives that show promising results.

Author/s	Pillai RG, Al Naieb Z , Angamuthu S, Mundackal T.
Title	Diode laser vaporisation of the prostate vs. diode laser under cold irrigation.
Journal	Arab Journal of Urology. 2014;12(4):245–250.
Available at	http://www.sciencedirect.com/science/article/pii/S2090598X14000989

ABSTRACT

Objective: To compare the perioperative morbidity and early follow-up after diode laser vaporisation of the prostate (LVP) and its modification, diode laser under cold irrigation (LUCI) in patients with symptomatic benign prostatic hyperplasia, as the main disadvantages of LVP are the postoperative pain, dysuria and storage urinary symptoms. Patients and Methods: This was a single-centre prospective randomised control trial in which 100 patients were randomised to receive LVP (50) or LUCI (50) from June 2011 until July 2012. LUCI is similar to LVP except that it is done under normal irrigation with saline at 4 °C instead of saline at room temperature. The primary outcome measures were the International Prostate Symptom Score (IPSS), IPSS-Dysuria, a pain scale (PS), maximum flow rate (Qmax), a quality-of-life (QoL) score and the postvoid residual urine volume (PVR) after 1 month, then the IPSS, Qmax, QoL, and PVR at 3 and 12 months. Secondary outcomes included intraoperative surgical variables, e.g., the decline in core temperature, bleeding, peri- and postoperative morbidity. Results: The baseline characteristics of both groups were similar. For the primary outcome measures, there was a statistically significant difference between the groups in all variables except Qmax after 1 month, in favour of LUCI. The mean (SD) IPSS at 1 month in the LVP group was 8.97 (1.68), statistically significantly different from that after LUCI, of 6.89 (1.5) ($P < 0.05$). The mean IPSS-Dysuria at 1 month was also significantly, at -2.32 (0.91) for LVP and 3.54 (1.07) for LUCI ($P < 0.05$). The respective mean PS at 1 month was 7.84 (2.92) and 5.7 (2.1) ($P < 0.05$). The QoL and PVR at 1 month were also significantly different. Within the first month 17% of patients in the LVP group and 4% in the LUCI group complained of transient urgency or stress incontinence, and this difference was statistically significant ($P < 0.05$). There was no significant bleeding in either group. The mean operative time or applied energy of LVP was not statistically significant from that of LUCI, and there was no significant difference in the decline in core temperature between the groups ($P > 0.05$). Conclusion: LUCI is a good modification for reducing the pain, dysuria and storage symptoms associated with LVP. The procedure appears to be safe, with no significant decrease in core temperature in either group.

Author/s	Potu BK , Kumar V, Annam S, Salem AH , Abu-Hijleh M.
Title	Prevalence of fibularis tertius muscle in Southeastren Indian population: a surface anatomical study.
Journal	European Journal of General Medicine.2016;13(3):27-30.
Available at	http://www.ejgm.org/upload/sayi/1028/EJGM-01565.pdf

ABSTRACT

Background: Fibularis tertius (FT) is a variant muscle of the anterior compartment of leg which involves in dorsiflexion and eversion of the foot. Literature shows that the reported prevalence of FT ranges from 49-100%. This study investigates the prevalence of FT in South-eastren population of India using surface anatomy techniques in living subjects and comparing it with the studies available in the literature. Material and methods: Study included the evaluation of 195 subjects from Year 1 & 2 medical students (102 females and 93 males) which correspond to 390 feet in total. The average age of the sample was 17.9 years, with lower and upper limits of 17 and 20 years, respectively. The presence of FT was identified with a standard palpation technique that determines the presence of muscle on the basis of the progression tests called F1, F2, and F3. Results: The total FT prevalence was found to be 52% of the sample. On the right foot, FT was found to be 26.5% in males and 24.4% in females and on the left foot, it was 26.5% in males and 25.5% in females. FT palpation criterion showed 0 (zero) cases for F1, 31 cases for F2 and 172 cases for F3. Conclusion: This surface anatomical study reports for the frst time the FT prevalence in South-eastren population of India. Further studies on prevalence of FT are needed to understand its role in biomechanics and reconstructive surgeries of the ankle and foot.

Author/s	Potu BK, Kumar V, Annam S, Sirasanagandla SR.
Title	A morphometric study on flexor carpi radialis muscle of the forearm: A cadaveric study.
Journal	Morphologie. 2016; 100(328):12-16.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26439769

ABSTRACT

Background: Flexor carpi radialis (FCR) is frequently used in reconstruction procedures involving the hand and wrist regions. Despite having tremendous clinical significance, very few studies have been conducted on the heterogeneity of the FCR. Its surgical importance in grafting techniques and tendon transfers prompted us to study the morphometry of FCR. Materials and Methods: In this study, we used 37 upper limbs (25 right and 12 left sides) of formalin embalmed cadavers. FCR was neatly dissected in all upper limbs to measure its total length, muscle belly length, tendon length, width of muscle belly at proximal and distal ends, width of tendon at proximal and distal ends. Results: Average total length of the muscle, muscle belly length, tendon length, width of muscle belly at the proximal end, width of muscle belly at the distal end, width of tendon at the proximal end, width of tendon at the distal end were 27.1 ± 2.13 , 12.38 ± 2.23 , 14.99 ± 2.36 , 1.99 ± 0.72 , 1.59 ± 0.48 , 1.59 ± 0.48 and 0.42 ± 0.12 cm, respectively. Ratio of mean muscle length and tendon length, ratio of mean tendon length and total length were found to be 0.45 ± 0.07 and 0.55 ± 0.07 , respectively. No noted variations were observed in the proximal and distal attachments of the FCR muscle. Conclusion: Morphometric data of FCR reported increases the existing knowledge on the heterogeneity of FCR morphology, and further forms an anatomic basis while designing/elevating the graft in certain surgical procedures in hand and wrist regions.

Author/s	Potu BK, Kumar V, Salem A, Abu-Hijleh M.
Title	Occurrence of the retromolar foramen in dry mandibles of South-eastern part of India: A morphological study with review of the literature.
Journal	Anatomy Research International. 2014; 2014:1-5.
Available at	https://www.hindawi.com/journals/ari/2014/296717/

ABSTRACT

The retromolar foramen (RMF) is a rare anatomical structure situated in the retromolar fossa behind the third molar tooth. When it is present, the foramen is connected with the mandibular canal and is believed to transmit neurovascular structures that provide accessory source to the mandibular molars and the buccal area. Reports from the literature show that the presence of RMF could pose a challenge in complete blockage of the inferior alveolar nerve during mandibular surgeries. We report the incidence of retromolar foramen from ninety-four dry mandibles of south-eastern part of Karnataka State, India. The foramen was observed in 11 mandibles out of 94 included in the study (11.7%). In three mandibles, the foramen was present bilaterally (3.2%) and in three it was on the left side (3.2%) and in five it was on the right side (5.3%). For the first time, we also measured the dimensions of the retromolar area and distance of the foramen from third molar tooth to understand its risks during the surgical extraction of the lower third molar tooth. A thorough review of the literature has also been done to compare the present findings with the studies reported from the various populations.

Author/s	Potu BK, Salem AH, Abu-Hijleh MF.
Title	Morphology of anterolateral ligament of the knee: A cadaveric observation with clinical insight.
Journal	Advances in Medicine.2016; 2016:4.
Available at	http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003723.pub3/pdf/abstract

ABSTRACT

Background: Status epilepticus is a medical emergency associated with significant mortality and morbidity that requires immediate and effective treatment. Objectives(1) To determine whether a particular anticonvulsant is more effective or safer to use in status epilepticus compared to another and compared to placebo(2) To delineate reasons for disagreement in the literature regarding recommended treatment regimens and to highlight areas for future research. Search Methods For the latest update of this review, the following electronic databases were searched on 15/08/2013: the Cochrane Epilepsy Group's Specialized Register, CENTRAL The Cochrane Library July 2013, Issue 7, and MEDLINE (Ovid) 1946 to 15/08/2013. Selection criteria Randomised controlled trials of participants with premonitory, early, established or refractory status epilepticus using a truly random or quasi-random allocation of treatments were included. Data collection and analysis Two review authors independently selected trials for inclusion, assessed trial quality and extracted data. Main Results Eighteen studies with 2755 participants were included. Few studies used the same interventions. Intravenous diazepam was better than placebo in reducing the risk of non-cessation of seizures (risk ratio (RR) 0.73, 95% confidence interval (CI) 0.57 to 0.92), requirement for ventilatory support (RR 0.39, 95%CI 0.16 to 0.94), or continuation of status epilepticus requiring use of a different drug or general anaesthesia (RR 0.73, 95% CI 0.57 to 0.92). Intravenous lorazepam was better than placebo for risk of non-cessation of seizures (RR 0.52, 95% CI 0.38 to 0.71) and for risk of continuation of status epilepticus requiring a different drug or general anaesthesia (RR Anticonvulsant therapy for status epilepticus (Review) 0.52, 95% CI 0.38 to 0.71). Intravenous lorazepam was better than intravenous diazepam for reducing the risk of non-cessation of seizures (RR 0.64, 95%CI 0.45 to 0.90) and had a lower risk for continuation of status epilepticus requiring a different drug or general anaesthesia (RR 0.63, 95% CI 0.45 to 0.88). Intravenous lorazepam was better than intravenous phenytoin for risk of non-cessation of seizures (RR 0.62, 95% CI 0.45 to 0.86). Diazepam gel was better than placebo gel in reducing

the risk of non-cessation of seizures (RR 0.43 95% CI 0.30 to 0.62) For pre-hospital treatment, intramuscular midazolam is at least as effective as (probably more effective than) intravenous lorazepam in control of seizures (RR 1.16, 95% CI 1.06 to 1.27) and frequency of hospitalisation (RR 0.88, 95% CI 0.79 to 0.97) or intensive care admissions (RR 0.79, 95% CI 0.65 to 0.96). It was uncertain whether Intravenous valproate was better than intravenous phenytoin in reducing risk of non-cessation of seizures (RR 0.75, 95% CI 0.28 to 2.00). Both levetiracetam and lorazepam were equally effective in aborting seizures (RR 0.97, 95% CI 0.44 to 2.13). Results for other comparisons of anticonvulsant therapies were uncertain due to single studies with few participants. The body of randomised evidence to guide clinical decisions is small. It was uncertain whether any anticonvulsant therapy was better than another in terms of adverse effects, due to few studies and participants identified. The quality of the evidence from the included studies is not strong but appears acceptable. We were unable to make judgements for risk of bias domains incomplete outcome reporting (attrition bias) and selective outcome reporting (selection bias) due to unclear reporting by the study authors.

Authors' Conclusions Intravenous lorazepam is better than intravenous diazepam or intravenous phenytoin alone for cessation of seizures. Intravenous lorazepam also carries a lower risk of continuation of status epilepticus requiring a different drug or general anaesthesia compared with intravenous diazepam. Both intravenous lorazepam and diazepam are better than placebo for the same outcomes. For pre hospital management, midazolam IM seemed more effective than lorazepam IV for cessation of seizures, frequency of hospitalisation and ICU admissions however, it was unclear whether the risk of recurrence of seizures differed between treatments. The Results of other comparisons of anticonvulsant therapies versus each other were also uncertain. Universally accepted definitions of premonitory, early, established and refractory status epilepticus are required. Diazepam gel was better than placebo gel in reducing the risk of non-cessation of seizures. Results for other comparisons of anticonvulsant therapies were uncertain due to single studies with few participants.

Author/s	Prasad M, Krishnan PR, Sequeira RP , Al-Roomi K.
Title	Anticonvulsant therapy for status epilepticus.
Journal	Cochrane Database Systematic Reviews. 2014; (9):1-3.
Available at	http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003723.pub3/pdf/abstract

ABSTRACT

Background Status epilepticus is a medical emergency associated with significant mortality and morbidity that requires immediate and effective treatment. Objectives(1) To determine whether a particular anticonvulsant is more effective or safer to use in status epilepticus compared to another and compared to placebo(2) To delineate reasons for disagreement in the literature regarding recommended treatment regimens and to highlight areas for future research. Search Methods For the latest update of this review, the following electronic databases were searched on 15/08/2013: the Cochrane Epilepsy Group's Specialized Register, CENTRAL The Cochrane Library July 2013, Issue 7, and MEDLINE (Ovid) 1946 to 15/08/2013. Selection criteria Randomised controlled trials of participants with premonitory, early, established or refractory status epilepticus using a truly random or quasi-random allocation of treatments were included. Data collection and analysis Two review authors independently selected trials for inclusion, assessed trial quality and extracted data. Main Results Eighteen studies with 2755 participants were included. Few studies used the same interventions. Intravenous diazepam was better than placebo in reducing the risk of non-cessation of seizures (risk ratio (RR) 0.73, 95% confidence interval (CI) 0.57 to 0.92), requirement for ventilatory support (RR 0.39, 95%CI 0.16 to 0.94), or continuation of status epilepticus requiring use of a different drug or general anaesthesia (RR 0.73, 95% CI 0.57 to 0.92). Intravenous lorazepam was better than placebo for risk of non-cessation of seizures (RR 0.52, 95% CI 0.38 to 0.71) and for risk of continuation of status epilepticus requiring a different drug or general anaesthesia (RR Anticonvulsant therapy for status epilepticus (Review) 0.52, 95% CI 0.38 to 0.71). Intravenous lorazepam was better than intravenous diazepam for reducing the risk of non-cessation of seizures (RR 0.64, 95%CI 0.45 to 0.90) and had a lower risk for continuation of status epilepticus requiring a different drug or general anaesthesia (RR 0.63, 95% CI 0.45 to 0.88). Intravenous lorazepam was better than intravenous phenytoin for risk of non-cessation of seizures (RR 0.62, 95% CI 0.45 to 0.86). Diazepam gel was better than placebo gel in reducing

the risk of non-cessation of seizures (RR 0.43 95% CI 0.30 to 0.62) For pre-hospital treatment, intramuscular midazolam is at least as effective as (probably more effective than) intravenous lorazepam in control of seizures (RR 1.16, 95% CI 1.06 to 1.27) and frequency of hospitalisation (RR 0.88, 95% CI 0.79 to 0.97) or intensive care admissions (RR 0.79, 95% CI 0.65 to 0.96). It was uncertain whether Intravenous valproate was better than intravenous phenytoin in reducing risk of non-cessation of seizures (RR 0.75, 95% CI 0.28 to 2.00). Both levetiracetam and lorazepam were equally effective in aborting seizures (RR 0.97, 95% CI 0.44 to 2.13). Results for other comparisons of anticonvulsant therapies were uncertain due to single studies with few participants. The body of randomised evidence to guide clinical decisions is small. It was uncertain whether any anticonvulsant therapy was better than another in terms of adverse effects, due to few studies and participants identified. The quality of the evidence from the included studies is not strong but appears acceptable. We were unable to make judgements for risk of bias domains incomplete outcome reporting (attrition bias) and selective outcome reporting (selection bias) due to unclear reporting by the study authors.

Authors' Conclusions

Intravenous lorazepam is better than intravenous diazepam or intravenous phenytoin alone for cessation of seizures. Intravenous lorazepam also carries a lower risk of continuation of status epilepticus requiring a different drug or general anaesthesia compared with intravenous diazepam. Both intravenous lorazepam and diazepam are better than placebo for the same outcomes. For pre hospital management, midazolam IM seemed more effective than lorazepam IV for cessation of seizures, frequency of hospitalisation and ICU admissions however, it was unclear whether the risk of recurrence of seizures differed between treatments. The Results of other comparisons of anticonvulsant therapies versus each other were also uncertain. Universally accepted definitions of premonitory, early, established and refractory status epilepticus are required. Diazepam gel was better than placebo gel in reducing the risk of non-cessation of seizures. Results for other comparisons of anticonvulsant therapies were uncertain due to single studies with few participants.

Author/s	Qaddourah RH, Hachemi SB, Marzouq M, Salem AH , Jarjanazi H, Mashhour M, Raslan WF, Fathallah MD.
Title	High risk for lung and bladder cancers in the Arabian Gulf population associated with EGFR genetic variants regulating expression.
Journal	International Journal of Current Research. 2016; 8(4): 29728-29734.
Available at	http://www.journalcra.com/article/high-risk-lung-and-bladder-cancers-arabian-gulf-population-associated-egfr-genetic-variants-

ABSTRACT

The Epidermal growth factor receptor (EGFR) expression is controlled by a polymorphic CA simple sequence repeat 1 [CA-SSR1] in intron one, and two single nucleotide polymorphisms (SNPs) in the promoter region (-216 G/T,-191C/A). We investigated the EGFR cell surface expression level and analyzed these genomic markers in six types of adenocarcinoma in Arabian patients. The highest expression of EGFR was observed in lung (93%) and bladder (95%) cancers. The CA-SSR1 long allele (OR=1.641, 95% CI 1.01-2.66, p=0.044) and the SNP-191C/A A allele (OR=3.87, 95% CI 1.51-9.87, p=0.004) were significantly associated with lung adenocarcinoma (LA). Haplotype analysis revealed three haplotypes within EGFR gene were significantly associated with lung and bladder cancer risk. However, after Bonferroni correction only haplotype SSR1L/-216G/-191A remained significantly associated with increased lung cancer risk (OR=4.652, 95% CI 1.47-14.71, p=0.012). This is the first observation of a significant association between genetic markers influencing EGFR expression level and the risk of developing lung cancers in Arabs. Furthermore, the molecular event that favors the selection of the long SSR1 allele in Arab lung cancer patients seems to be different from the somatic mutation that favors the selection of the short allele in the East Asian lung cancer patients.

Author/s	Qaddourah RH, Magdoud K, Saldanha FL, Mahmood N, Mustafa FE, Mahjoub T, Aimawi WY.
Title	IL-10 gene promoter and intron polymorphisms and changes in IL-10 secretion in women with idiopathic recurrent miscarriage.
Journal	Human Reproduction. 2014 May; 29(5):1025-1034.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24626804

ABSTRACT

Study Question: Is recurrent pregnancy loss (RPL) associated with polymorphisms in the promoter and intron regions of the interleukin-10 (IL-10) gene? Summary answer: IL-10 rs1518111 was found to be associated with RPL but the commonly studied promoter variants rs1800872, rs1800871 and 1800896 were not. What is known already: Reduced expression of IL-10 is implicated in RPL, due to defective maternal immune tolerance (causing early miscarriages) or placental vascular insufficiency (causing late losses). IL-10 production is in part inherited, and IL-10 gene variants associated with reduced IL-10 expression have been analyzed for their association with RPL, often with inconclusive Results. Study design, Size, duration: A retrospective case-control study was performed between January 2011 and April 2012. The subjects comprised 296 RPL cases and 305 control women. Participants/materials, setting, methods: Genotyping of the IL-10 intron (rs1878672, rs3024492, rs1554286, rs1518111, rs3024491, rs3024490) and promoter (rs1800872, rs1800871, rs1800896) variants was done by real-time PCR, with defined clusters. Main results and the roll of chance : A higher minor allele frequency (MAF) of rs1518111 ($P = 0.03$) was in seen RPL cases; but the MAFs of the remaining SNPs were comparable between cases and controls. Setting the homozygous major allele genotype (1/1) as the reference, significantly higher frequencies of heterozygous rs1554286 and rs1800872, and homozygous rs1800896 genotype carriers, and a reduced frequency of homozygous rs1518111 genotype carriers, were seen in RPL cases, while the distribution of the remaining genotypes were comparable between cases and controls. Serum IL-10 levels were significantly reduced in RPL cases compared with control women ($P = 0.002$), and this correlated with rs1518111 and rs1800871 genotypes in both groups, and with the rs1800872 genotype among control women. A nine-locus (rs1878672, rs3024492, rs1554286, rs1518111, rs3024491, rs3024490, rs1800872, rs1800871 and rs1800896) haploview analysis demonstrated an increased frequency of haplotype 112112121 in RPL cases, thus conferring a disease susceptibility nature to this haplotype. Limitations, reasons for caution: The main limitation of this study was that it was limited to Bahraini Arabs, thereby necessitating parallel studies of other ethnic groups. Another limitation is the study design, which prompts speculation on whether it is a cause-effect relationship. Wider implications of the findings: While the lack of association of the various IL-10 promoter variants with RPL was in agreement with reports from varied ethnic groups, this is the first study to confirm the association between IL-10 rs1518111 intronic variant and RPL.

Author/s	Qahiri SN, Ali AB, Alalwan A, Ahmed FA, Ahmed MA, Kamal A.
Title	Neonatal dexamethasone exposure in rats Resulted in hippocampal learning and memory defects with decreased convulsion threshold later in adult life.
Journal	Neurosciences. 2013;18 (4): 7-9
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24141466

ABSTRACT

No abstract available

Author/s	Qidwai W, Ashfaq T, Khoja TAM, Rawaf S, Kureshi N, Alnasir F.
Title	Access to person-centered care: a perspective on status, barriers, opportunities and challenges from the Eastern Mediterranean Region.
Journal	Middle East Journal of Family Medicine.2012; 10(6): 4-13.
Available at	http://ecommons.aku.edu/pakistan_fhs_mc_fam_med/69/

ABSTRACT

Background: "Access to Person-Centered care" is a major area of concern throughout the world including the Eastern Mediterranean Region. Objective: This networking paper reviews current status, barriers, opportunities, challenges and future directions with regards to "Access to Person-Centered care" in the Eastern Mediterranean Region. Methods: The lead Author from the "Working Party on Research of Eastern Mediterranean Region" invited members through its "ya-hoo group" to participate in this networking project. Objectives and work plan were developed by the lead Author and shared with interested contributors. Co-Authors and Advisors were invited to contribute and timelines were set for contributors to submit their report. Submissions were collected by lead authors and put into a draft that was shared with contributors for feedback. After incorporating feedback, the final draft was edited by the "Editor" before submission for publication consideration. Results: Access to Person-Centered care in the Eastern Mediterranean Region shows extreme variations. At one end there are oil and gas rich countries that offer advanced health care services to the majority of their local population while on the other end are impoverished countries that are unable to provide even minimum required services to their people. Inequalities in health status have been growing since the mid-1990s and have Resulted in an increasing gap between the most advantaged and disadvantaged social groups. There are social, cultural, religious and economical barriers that may impede access to healthcare. It warrants a need to address these barriers on a priority basis so that "Universal access" to "Person-Centered care" may be made available to the population of the region. Conclusion: A well planned and evidence based approach is the only way forward to ensure universal access to all populations in the Eastern Mediterranean Region. Access to Person-Centered care is the need of the hour in the region. Provision of health care services through a well deined health system with a prime focus on a primary care model delivered by trained family doctors is the single most appropriate step to achieve health for all.

Author/s	Qidwai W, Nanji K, Khoja TAM, Rawaf S, Al Kurashi NY, Al Nasir F , Al Shafae MA, Al Shetti M, Bashir M, Saad NES, Alkaisi S, Halasa W.
Title	Are we ready for a person-centered care model for patient- physician consultation? A survey from family physicians and their patients of East Mediterranean Region.
Journal	The International Journal of Person Centered Medicine. 2013; 1 (2): 394-404.
Available at	http://www.google.com/url?url=http://www.ubplj.org/index.php/ejpch/article/download/679/pdf_14&rct=j&frm=1&q=&esrc=s&sa=U&ved=0ahUKEwif4rCLvoLSAhWCHxoKHb_PDeMQFggTMAA&usg=AFQjCNH6ADBxogZNw-fHhVyJfeonVZe2-w

ABSTRACT

Background: Person-centered care has long been identified as a key component of health systems and one of the six domains of quality. This study aimed to identify the perceptions of patients and physicians regarding person-centered care in the Eastern Mediterranean Region (EMR). Methods: A multicountry, cross-sectional study was conducted in 6 countries of EMR during July 2012 to September 2012. From each country, an expert Family Physician (FP) was identified and invited for the study. During the first phase, 190 FPs practising for at least 6 months were recruited. In the second phase, the recruited FPs approached 300 patients aged > 18 years with 1 or more recurring problems. Data analysis was conducted using SPSS version 19. Results: Of a total of 360 patients, 53% were between 25-40 years of age and the majority 55.7% were females. Among physicians, 66.8% were females and 72.1% had undergone specialization in Family Medicine from EMR. About 36% of the patients, while 62.6% of the physicians, preferred a person-centered care model of care. Among physicians, field of specialization (AOR= 0.7; 95% C.I: 0.3-0.9) and regularity in continuing medical education sessions (AOR= 0.3; 95% C.I: 0.1-0.5) were significant factors for preferring a person-centered care model. Educational status (AOR= 3.0; 95% C.I: 1.1-7.9) was associated with a preference for person-centered care among patients. Conclusion: The Results of the study highlight that a majority of physicians prefer person-centered care, while patients prefer a mix of both patient- and physician-centered care. Strategies should be developed that will help physicians and patients to embrace person-centered care practices.

Author/s	Qidwai W, Nanji K, Khoja TAM, Rawaf S, AlKurashi NY, Alnasir F , AlShafae MA, AlShetti M, Bashir M, Saad NES, Alkaisi S, Halasa W, Al-Duwaisan H, Al-Ali A.
Title	Barriers, challenges and way forward for implementation of person centered care model of patient and physician consultation: A survey of patients' perspective from Eastern Mediterranean countries.
Journal	Middle East Journal of Family Medicine. 2015; 13(3):4-11.
Available at	https://ecommons.aku.edu/cgi/viewcontent.cgi?article=1091&context=pakistan_fhs_mc_fam_med

ABSTRACT

Background: Person-Centered Care (PCC) is now considered a mandatory approach in Patient-Physician consultation. The aim of the study was to identify patients' perception regarding barriers and possible remedies for implementation of PCC in Eastern Mediterranean Region (EMR). Methods: A cross-sectional multi-country study was conducted in six countries of EMR during May 2014 to October 2014. Expert Family Physicians from each country were identified and asked to participate in the study. The Family Physicians then recruited Patients from their own clinics (>18 years). Data analysis was performed on SPSS 19 and results are reported in the form of proportions, odds ratios and 95% confidence intervals. Results: A total of 234 patients were recruited, 60.6% were aged between 20 to 30 years and 36.3% of them were males. 56% of the patients preferred Person-Centered Care model for patient-physician consultation. The major barriers identified by patients in its implementing were; time constraints (73.9%, OR: 1.5; 95% CI: 0.86-2.78), doctors desire to control patient (OR: 2.6; 95% CI: 1.55-4.49), cultural and religious reasons (52.1%), increased cost (50.9%). Patients responded that increased cost related to Person-Centered Care practice would be acceptable (58.1%), if increase proved to be in the interest of better health and care outcomes (40.6%). Conclusion: Person-Centered Care (PCC) is associated with significant barriers in its implementation in Eastern Mediterranean Region. These barriers can be overcome in the interest of better health and care related outcomes.

Author/s	Racoubian E, Zubaid RM, Shareef MA, Almawi WY.
Title	Prevalence of antinuclear antibodies in healthy Lebanese subjects, 2008-2015: A cross-sectional study involving 10,814 subjects.
Journal	Rheumatology International. 2016; 36(9):1231-1236.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27432022

ABSTRACT

Antinuclear antibodies (ANA) are found at varying frequencies in healthy populations, depending on geographical location and ethnic background of participants. The main objective of this study was to determine the prevalence of ANA in healthy Lebanese population in the period 2008-2015. Study subjects comprised 10,851 individuals (3311 males and 7503 females). ANA positivity was determined using immunofluorescence on HEp-2 cells. The prevalence of positive ANA test at a titer of $\geq 1:100$ was 26.4 %, with 696 individuals (6.4 %) having titers exceeding 1:100. Most ANA-positive cases were recorded between 2013 and 2015, which reflected increased assay sensitivity. ANA positivity was associated with increased age and with female gender. Significant increases in ANA positivity were seen with advanced age, with steady increases from the 30- to 40-year age group through the >70-year age group, with significantly higher prevalence noted in female participants. There was a steady and significant reduction in the number of ANA-positive cases with higher ANA titers, which ranged from 20.0 % (1/100) to 3.7 % (1/320), 1.7 % (1/640), and 1.1 % (1/1000). While 45 % of low ANA titer was seen in 31-60-year age category, compared with 19.8 % for 61+ year category, the distribution of high ANA titer was more uniform between 31+ year age categories, which ranged from 11.4 % (31-40 years) to 12.4 % (>70 years). This was consistently and significantly higher in female participants. The prevalence and distribution of ANA among Lebanese individuals were comparable to the rates established for Western countries and confirm the contribution of female gender and advanced age to ANA positivity.

Author/s	Rajab E, Abdeen Z, Hassan Z , Alsaffar Y, Mandeel M, Al Shaeaf F, Al Ansari S, Kamal A .
Title	Cognitive performance and convulsion risk after experimentally-induced febrile-seizures in rat.
Journal	International Journal of Developmental Neuroscience. 2014; 34:19-32.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24433986

ABSTRACT

Many reports indicated that small percentage of children with febrile seizures develop epilepsy and cognitive disorders later in adulthood. In addition, the neuronal network of the hippocampus was reported to be deranged in adult animals after being exposed to hyperthermia-induced seizures in their neonatal life. The aims of this study were to investigate (1) latency and probability of seizures, (2) spatial learning and memory, in adult rats after neonatal hyperthermia-induced febrile seizures (FS). Prolonged FS were elicited in 10-day old, male Sprague Dawleys (n=11/group) by exposure to heated air (48-52 °C) for 30 min; control rats were exposed to 30 °C air. After 1.5 months the animal's cognitive performance was assessed by 5 day trial in the Morris water maze. In another experiment the latency and probability of seizures were measured in response to pentylenetetrazole (PTZ) injections (increased doses ranged from 7 to 140 mg/kg; i.p.). In water maze, both groups showed improvements in escape latency and distance swam to reach the platform; effects were significantly greater in control versus hyperthermia-treated animals on days 3 and 4. Latency and probability of PTZ-induced seizures were shorter and higher respectively, in hyperthermia-treated animals compared to controls. We concluded that FS in neonatal rats leads to enhanced susceptibility for seizures, as well as cognitive deficits in adults.

Author/s	Rajab E, Alqanbar B, Naiser MJ, Abdulla HA, Al-Momen MM, Kamal A.
Title	Sex differences in learning and memory following short-term dietary restriction in the rat
Journal	International Journal of Developmental Neuroscience.2014; 36:74-80.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24906053

ABSTRACT

Introduction: Acute or prolonged dietary restriction has been shown to have significant effects on learning and memory, and also on the food seeking behaviour in animals. AIM: This study investigated whether or not there are sex differences in spatial learning and memory following short-term dietary restriction in the rat. Methods: Two month-old male (n=24) and female (n=24) Sprague-Dawley rats were randomly assigned to either (1) male or female control (i.e. normal diet regimen); (2) male or female 40% dietary restriction for either 2 hours (2h-DR) or 2 weeks (2 wks-DR) duration. Following the restriction paradigm (i.e. either 2h or 2 weeks), animals were weighed, and learning and memory was assessed daily for a total of 5 days by Morris Water Maze. Results: Dietary restriction for 2h provoked high speed swimming in female rats compared to controls. However the females performance in water maze was inferior to the control animals. Two weeks after 40% DR Resulted in reduction of male's body weight by 20% compared to their control group. However, both males and females showed difficulties in water maze learning and memory test after the 2 weeks 40% DR. The animals swam longer distance and took longer time to reach the platform when compared to their age-matched controls. Conclusion: In fully developed brain, adult animal's cognitive performance is shown to be affected by acute and prolonged stress in the form of food restriction. Interestingly, the impact of this stress was different according to the sex of the animals. In female rats, dietary restriction has a negative effect on learning and memory after 2h and 2 weeks intervals. In male rats, 2h of DR has a positive effect on learning and memory; however this effect is not maintained and by 2 weeks there is a negative effect similar to that seen in female animals.

Author/s	Rajab KE, Issa AA, Hasan ZA, Rajab E, Jaradat AA.
Title	Incidence of gestational diabetes mellitus in Bahrain from 2002-2010.
Journal	International Journal of Gynecology & Obstetrics. 2012; 117(1): 74-77.
Available at	http://www.sciencedirect.com/science/article/pii/S0020729211006497

ABSTRACT

Objective: To determine the incidence and trends of gestational diabetes mellitus (GDM) in Bahrain from 2002 to 2010, and to investigate 2 possible risk factors within the affected population. Methods: In a retrospective survey, data on maternal body weight and age were collected from women who gave birth in government maternity units in Bahrain and who were screened for GDM during pregnancy using the 2-step approach and criteria of the US Expert Committee on the diagnosis and classification of diabetes. Results: Among 49 552 pregnant women, 4982 (10.1%) were diagnosed with gestational diabetes. The Cox-Stuart test for trend analysis suggested that there was an increase in the incidence of gestational diabetes from 7.2% in 2002 to 12.5% in 2010 ($P < 0.01$). For the period 2006-2010, maternal age, and weight at onset of pregnancy and at time of delivery were positively associated with risk of GDM with an odds ratio (95% confidence interval) of 1.094 (1.081-1.107), 1.081 (1.001-1.104), and 1.027 (1.013-1.040), respectively. Conclusion: A combination of increasing maternal weight, maternal age, and incidence of GDM among women in Bahrain indicates a significant future burden on health services.

Author/s	Raouf HA, Kader G A, Jaradat A , Dharap A, Fadel R, Salem AH.
Title	Frequency of palmaris longus absence and its association with other anatomical variations in the Egyptian population.
Journal	Clinical Anatomy.2013; 26: 572–577.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23339087

ABSTRACT

The palmaris longus (PL) is one of the most variable muscles in the human body. Racial differences in its variation have been documented. Several studies have attempted to correlate PL absence with other anatomical variations. This study was conducted to determine the prevalence of absence of PL, correlate it with gender and body side and to determine its association with other anatomical variations in the Egyptian population. The presence of PL was clinically determined in 386 Egyptians using the standard technique. All subjects were examined for the presence of the flexor digitorum superficialis (FDS) to the fifth finger. Allen's test was done to assess the completeness of the superficial palmar arch (SPA). The overall prevalence of absence of the PL in Egyptian subjects was 50.8%. There was no significant difference in PL absence with regard to the body side but a significant difference was seen as regards gender and when bilateral absence of PL was compared to its unilateral absence. Absence of FDS tendon to the fifth finger was seen in 1.3% subjects. There was no association between the absence of the FDS tendon to the fifth finger and either presence or absence of PL and also between the absence of PL and the incompleteness of SPA in both genders. In Conclusion, the prevalence of absence of PL in the Egyptian population represents one of the highest rates of absence to be reported for this muscle, which is significantly different from that in other ethnic groups.

Author/s	Rasromani A.
Title	SIMEC 2012: Sharing great ideas in medical education, April 22-26, 2012, Riyadh, Saudi Arabia: reflection report.
Journal	Medical Teacher. 2013; 35 Suppl 1:S97-8.
Available at	http://www.tandfonline.com/doi/abs/10.3109/0142159X.2013.767441?journalCode=imte20

ABSTRACT

SIMEC 2012 has been a life-changing experience for me in my professional career. As a novice in academia this is the first medical education conference I have attended, and it has personal meaning and pride in view of the fact that it was held in an Arab country so close to my own. Meeting experts from around the world, and interacting with other novices like me has been a humbling and inspiring experience. The immense zest of energy I had when I left Riyadh, to develop myself professionally in Medical Education, and to contribute in a positive and innovative manner in my medical institution and community was refreshing.

Author/s	Rathore A, Khaskheli M, Ahmed J , Qali RA, Sikander R, Kumar R
Title	Outcomes of puerperal sepsis at a tertiary care hospital of Pakistan.
Journal	Pak J Public Health. 2015; 5 (4): 38-41.
Available at	https://www.cabdirect.org/cabdirect/abstract/20163073554

ABSTRACT

Introduction: Puerperal sepsis is considered as the leading cause of maternal morbidity and mortality in Pakistan. Hence, it is ranked in top five causes of maternal deaths in country which can be averted through preventive measures. The objective of this study was to determine the patterns and outcomes of puerperal sepsis cases admitted to a major tertiary care hospital of Sindh Pakistan. Methods: This cross sectional study was carried out in Liaquat University of Medical & Health Sciences Hospital over a period of Six months. All patients admitted with diagnosis of puerperal sepsis were evaluated with thorough details of history and examination to determine their demographic details, obstetrical profiles, presenting features, state of infectious morbidity, need for intervention and mortality related to puerperal sepsis. However, severe cases with complication and other diseases were excluded from the study. Data was collected on pre-tested, piloted, validated tool after taking the written consent. Results: Nearly half of the patients were between 15-25 years of age group and two thirds of them belong to poor families and about half of the woman had completed only primary education. Majority (65.7%) of the patients in our study has delivered in a local private or public sector hospital in their place of residence. More than half of the deliveries were 57.2% were normal vaginal deliveries, 36% took place normally but has required some assistance including episiotomy to deliver and 15% had delivered through caesarean section. Conclusion: Study concluded that puerperal infections occur at very high rate in young women. Most of such women had normal vaginal delivery mainly at home or in a health private or public health facility.

Author/s	Ravisankar P, Al Naieb Z.
Title	Plastibell circumcision supported by a calcium-alginate fibre dressing to reduce bleeding.
Journal	Arab Journal of Urology. 2015; 13(3):179–181.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4563015/

ABSTRACT

Objective: To assess the benefit of a new technique of a Plastibell circumcision supported by a ventral calcium-alginate fibre dressing, to reduce bleeding from the frenular vessels, the commonest complication of Plastibell circumcision. Patients and Methods: This was a retrospective study of 200 neonates circumcised in the Royal Bahrain Hospital over a 2-year period from 2012 to 2014. They had a standard Plastibell circumcision, but a calcium-alginate fibre dressing (Hypo-sorb, Plastod, Italy) was placed over the glans and under the foreskin, to help control bleeding from the frenular vessels .Results: Circumcision using the calcium-alginate fibre dressing reduced the bleeding complication rate to zero. The delayed separation of the bell was 2.9% when using the new technique and 2.5% from our previous data. There were no cases of urinary retention reported, compared to two in the previous Results. Conclusion: A Plastibell circumcision supported by the calcium-alginate fibre dressing was a safe technique to reduce bleeding.

Author/s	Redha NA, Mahdi N, Al-Habboubi HH, Almawi WY.
Title	Impact of VEGFA -583C > T polymorphism on serum VEGF levels and the susceptibility to acute chest syndrome in pediatric patients with sickle cell disease.
Journal	Pediatr Blood Cancer. 2014;61(12):2310-2312.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Impact+of+VEGFA+-583C%E2%80%89%3E%E2%80%89T+polymorphism+on+serum+VEGF+levels+and+the+susceptibility+to+acute+chest+syndrome+in+pediatric+patients+with+sickle+cell+disease

ABSTRACT

We investigated the association of VEGFA -583C > T on VEGF serum levels and acute chest syndrome (ACS) in 351 pediatric patients with sickle cell disease (SCD), of whom 90 had ACS, and 261 were ACS-free controls. Significant differences in -583C > T minor allele and genotype frequencies were seen between ACS cases and controls, evidenced by enrichment of -583T/T genotypes in patients with ACS, which were linked with reduction in VEGF serum levels. VEGFA -583C > T and reduced VEGF serum levels may influence ACS risk in patients with SCD, which will aid in identifying patients with SCD who are at high risk of ACS.

Author/s	Sabry MA , Fares M, Folkesson R, Al-Ramadan M, Alabkal J, Al-Kafaji G , Hassan M.
Title	Commentary: Impact of a deletion of the full-length and short isoform of p75NTR on cholinergic innervation and the population of postmitotic doublecortin positive cells in the dentate gyrus.
Journal	Front Neuroanat.2016; 19; 10:1-3.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4759264/

ABSTRACT

No abstract available

Author/s	Saisyo A, Nakamura H, Fang J, Tsukigawa K, Greish K , Furukawa H, et al.
Title	PH-sensitive polymeric cisplatin-ion complex with styrene-maleic acid copolymer exhibits tumor-selective drug delivery and antitumor activity as a Result of the enhanced permeability and retention effect.
Journal	Colloids and Surfaces B: Biointerfaces. 2016; 138:128-137.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26674841

ABSTRACT

Cisplatin (CDDP) is widely used to treat various cancers. However, its distribution to normal tissues causes serious adverse effects. For this study, we synthesized a complex of styrene-maleic acid copolymer (SMA) and CDDP (SMA-CDDP), which formed polymeric micelles, to achieve tumor-selective drug delivery based on the enhanced permeability and retention (EPR) effect. SMA-CDDP is obtained by regulating the pH of the reaction solution of SMA and CDDP. The mean SMA-CDDP particle size was 102.5 nm in PBS according to electrophoretic light scattering, and the CDDP content was 20.1% (w/w). The release rate of free CDDP derivatives from the SMA-CDDP complex at physiological pH was quite slow (0.75%/day), whereas it was much faster at pH 5.5 (4.4%/day). SMA-CDDP thus had weaker in vitro toxicity at pH 7.4 but higher cytotoxicity at pH 5.5. In vivo pharmacokinetic studies showed a 5-fold higher tumor concentration of SMA-CDDP than of free CDDP. SMA-CDDP had more effective antitumor potential but lower toxicity than did free CDDP in mice after i.v. administration. Administration of parental free CDDP at 4 mg/kg×3 caused a weight loss of more than 5%; SMA-CDDP at 60 mg/kg (CDDP equivalent)×3 caused no significant weight change but markedly suppressed S-180 tumor growth. These findings together suggested using micelles of the SMA-CDDP complex as a cancer chemotherapeutic agent because of beneficial properties-tumor-selective accumulation and relatively rapid drug release at the acidic pH of the tumor-which Resulted in superior antitumor effects and fewer side effects compared with free CDDP.

Author/s	Sakhnini L, Al Ali H, Al Qassab N, Al Arab I, Kamal A.
Title	Subacute exposure to a 50 Hz magnetic field affects prenatal and neonatal mice's motor incoordination.
Journal	Journal of Applied Physics. 2012; 111 07B314 (2012); doi.org/10.1063/1.3672285.
Available at	http://aip.scitation.org/doi/abs/10.1063/1.3672285

ABSTRACT

In this study, we investigate the possible effect of ELF-EMFs on motor performance in mice (prenatal and neonatal exposed mice). The mice performance is evaluated after 5 days of sub acute exposure. Immature mice have been chosen for this study because the immature rodent brain still has the capacity to undergo proliferation, differentiation, and reorganization. Results from the rotarod experiments demonstrated a pronounced deficit in the learning abilities of the prenatal exposed groups, but no pronounced effect was observed for the neonatal exposed group.

Author/s	Sakhnini L, Al-Ghareeb S, Khalil S, Ahmed R, Abdul Ameer A, Kamal A.
Title	Effects of exposure to 50 Hz electromagnetic fields on Morris water-maze performance of prenatal and neonatal mice.
Journal	Journal of the Association of Arab Universities for Basic and Applied Sciences. 2014; 15: 1–5.
Available at	http://www.sciencedirect.com/science/article/pii/S1815385213000266

ABSTRACT

Extremely low-frequency magnetic fields (ELF-MF), such as those originating from residential and occupational power lines, household appliances and medical devices, have been reported repeatedly to produce a variety of biological effects, which may induce a number of changes in behavioral differences of different living species, like insects and rodents. The purpose of the present study is to investigate the possible effect of an extremely low-frequency magnetic field ELF-MF (50 Hz, 1 mT) on spatial learning and memory functions in mice (prenatal and neonatal exposed mice) following a continuous 7-day exposure, using Morris water-maze. Immature mice have been chosen for this study since; the immature rodent brain still has the capacity to undergo proliferation, differentiation and re-organization and more closely resembles the developing brain of a human child. Thus, the immature rodent brain may provide a sensitive and useful animal model to study the possible biological effects of ELF-MF. Our Results provide convincing evidence that long time MF exposure to immature mice; causes appreciable long term deficit in learning abilities.

Author/s	Salem AH.
Title	Genotype and allele frequencies of the intestinal fatty acid binding protein gene in two Arab populations.
Journal	Turkish Journal of Biochemistry. 2014;39(1):57–62.
Available at	http://www.journalagent.com/z4/vi.asp?pdire=tjb&plng=eng&un=TJB-15870

ABSTRACT

Objective: Intestinal fatty acid binding protein (IFAPB) participates in the uptake, intracellular metabolism and/or transport of long chain fatty acids. A polymorphism at codon 54 in exon 2 of FABP2 gene, which encodes for the IFAPB, exchanges an Alanine for Threonine. FABP2 gene polymorphism could modify the uptake of fatty acids, and it could correlate with risk of several diseases. In the light of the potential role of the FABP2 polymorphism, the aim of this study was to determine the frequency of the Ala54Thr FABP2 polymorphism in two Middle Eastern Arab Populations. Methods: Genotyping was investigated in 182 and 120 unrelated healthy subjects from Bahrain and Jordan, respectively. A PCR-RFLP assay was applied for determination of Ala54Thr (rs1799883) FABP2 polymorphism. Allele frequencies were calculated by direct counting. Hardy Weinberg Equilibrium was evaluated using a Chi-square goodness of fit test. Results: In the studied Bahraini subjects, 52.8% were homozygous for the Ala54/Ala54 genotype, 35.7% were heterozygous for the Ala54/Thr54 genotype and 11.5% were homozygous for the Thr54/Thr54 genotype. The gene frequencies obtained in Jordanians were: 48.3%, 43.3% and 8.4% for Ala54/Ala54; Ala54/Thr54 and Thr54/Thr54 genotypes, respectively. The frequencies of the allele Ala54 and the allele Thr54 of the FABP2 gene were found to be 0.706 and 0.294 for Bahrainis and 0.700 and 0.300 for Jordanians. These Results revealed a similar population polymorphism frequency as in previous European and Arab populations' studies. Conclusion: this is the first study to investigate the population frequency of the Thr54 allele in Bahraini and Jordanian populations.

Author/s	Salem AH, Abdel Hamed AES, Abdalla EM, Almawi WY.
Title	Gene frequencies of human platelet alloantigens 1-5 in Egyptian and Jordanian populations.
Journal	Blood Transfusion. 2014; 12(Suppl 1):s281-285.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3934244/pdf/blt-12-s281.pdf

ABSTRACT

Background: Polymorphisms of the human platelet alloantigens (HPA) arise from single base pair substitutions in alleles and lead to changes in amino acids of glycoproteins expressed on platelets. The aim of this study was to determine the gene frequencies of the five common HPA (HPA-1 to -5) in Egyptians and Jordanians and to compare these data with those established for other populations.

Material and Methods: HPA genotyping was done by polymerase chain reaction with sequence-specific primers. Results: The gene frequencies obtained in Egyptians were: HPA-1a/b, 0.767/0.233; HPA-2a/b, 0.759/0.241; HPA-3a/b, 0.704/0.296; HPA-4a/b, 1/0; HPA-5a/b, 0.728/0.272, while the frequencies in Jordanians were: HPA-1a/b, 0.821/0.179; HPA-2a/b, 0.877/0.123; HPA-3a/b, 0.660/0.340; HPA-4a/b, 1/0; HPA-5a/b, 0.795/0.205. The observed gene frequencies in both populations were in Hardy-Weinberg equilibrium. The gene frequencies for HPA-2b and HPA-5b among Egyptians were the highest reported among Arabs. Except for HPA-2, there were no significant differences in the distribution of HPA-1 to -5 between the two populations.

Conclusion: The distributions of HPA alleles among Egyptians and Jordanians are similar to those reported for other Arabs. This study reports the first data on gene frequencies of HPA in Egyptians and Jordanians.

Author/s	Salem AH, Ali M, Ibrahim A, Ibrahim M.
Title	Genotype and allele frequencies of MDR-1 gene polymorphism in Jordanian and Sudanese populations.
Journal	American Journal of Medicine Studies. 2014; 2(1): 19-23.
Available at	http://pubs.sciepub.com/ajms/2/1/3/

ABSTRACT

The aim of this study was to determine the genotype and allele frequencies of MDR1 gene C3435T polymorphism in Jordanian and Sudanese populations, and to compare them with the frequencies established in various ethnic groups. Genotyping was carried out on 116 unrelated Jordanian and 131 Sudanese subjects. The genotypes of polymorphic position C3435T were determined by PCR-RFLP assay. Results showed that 20.7% of the studied Jordanian subjects were homozygous for the CC genotype, 51.7% were heterozygous for the CT genotype and 27.6% were homozygous for the TT genotype. Among Sudanese subjects, the genotype frequencies were: CC 52.7%, CT 42.0% and TT 5.3%. The frequencies of the 3435T variant in the MDR-1 Gene in Jordanians and Sudanese were found to be 0.534 and 0.263, respectively. According to the distribution of the C3435T SNP, Jordanians were resemble Asians and Europeans but were different significantly from Sudanese, while Sudanese were similar to Africans. In Conclusion, the observed distribution of the C3435T SNP in the Jordanian and Sudanese populations was within the range detected in other populations. The data obtained may give the basis for predicting effects of drugs that are substrates for MDR-1 in Jordanian and Sudanese populations and may be useful for individualized therapy of some diseases.

Author/s	Salem AH, Bahri R, Jarjanazi H, Chaabani H.
Title	Geographical and social influences on genetic diversity within the Egyptian population: analysis of Alu insertion polymorphisms.
Journal	Annual of Human Biology 2014; 41(1):61-66.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24028143

ABSTRACT

Background: The geographical location of Egypt at the crossroads of several major cultural areas between North Africa and the Middle East has contributed to its population history. AIM: To analyse the genetic structure of the population living in two geographical parts of Egypt. Subjects and Methods: A sample of 112 Egyptians from the North African part of Egypt (Ismailia sample) and a sample of 52 Egyptians from the Asian part Sinai, have been analysed using 10 Alu insertion polymorphisms. Results: The Results of the present study showed a significant genetic difference between the Sinai and Ismailia samples. The latter showed an evident genetic affinity with North African populations; whereas the Sinai sample was found to be genetically closer to the Middle East populations. The Sinai sample showed a low average heterozygosity, unlike that found in the Ismailia sample. Conclusion: This study provides new insights into the genetic structure of the Egyptian population living in a land bridge between Africa and Asia. Results suggest a genetic discontinuity between the Sinai population and that of the North African part of Egypt. This discontinuity would have been maintained thanks to geo-climatic and social factors.

Author/s	Salih MA, Bosley TM, Alorainy IA, Sabry MA , Rashed MS, Al-Yamani EA, El-Akoum S, Mohamed SH, Abu-Amero KK, Hellani AM.
Title	Preimplantation genetic diagnosis in isolated sulfite oxidase deficiency.
Journal	Canadian Journal of Neurological Sciences. 2013; 40(1): 109-12.
Available at	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/S0317167100013081

ABSTRACT

No abstract available

Author/s	Sarray S, Almawi WY.
Title	Levels of CD40L and other inflammatory biomarkers in obese and non-obese women with polycystic ovary syndrome.
Journal	Americal Journal of Reproductive Immunology. 2016; 76(4):285-291.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/?term=Levels+of+CD40L+and+other+inflammatory+biomarkers+in+obese+and+non-obese+women+with+polycystic+ovary+syndrome .

ABSTRACT

Problem: We investigated whether changes in sCD40L, hs-CRP, IL-6, and TNF- α levels are associated with polycystic ovary syndrome (PCOS). Method of study: Case-control study involving 143 women with and 165 women without PCOS. Result(s): Reduced sCD40L, and increased hs-CRP and IL-6, but not TNF- α , levels were seen between cases and controls. ROC analysis demonstrated high sensitivity and specificity for sCD40L and hs-CRP as PCOS predictors. Altered sCD40L levels were associated with PCOS, irrespective of body weight. Significant differences in IL-6 levels were seen between non-obese subjects and for TNF- α in obese subjects. sCD40L correlated negatively with age, insulin, HOMA-IR, LH, free testosterone, FAI, and hirsutism, but positively with SHBG. CRP correlated positively with BMI, insulin, HOMA-IR, free testosterone, and hirsutism. IL-6 correlated positively with hirsutism. TNF- α correlated positively with age, but negatively with insulin and HOMA-IR. Conclusion: CD40L, more than IL-6, or TNF- α , constitutes a predictor to explain PCOS and associated features.

Author/s	Sarray S, Almawi WY.
Title	Contribution of reduced interleukin-10 levels to the pathogenesis of osteomyelitis in children with sickle cell disease.
Journal	Clinical and Vaccine Immunology. 2015;22(9): 1020–1024.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4550666/pdf/zcd1020.pdf

ABSTRACT

Osteomyelitis is a significant complication of sickle cell disease (SCD), and several factors contribute to its pathogenesis, including altered expression of proinflammatory and anti-inflammatory cytokines. In view of the role of interleukin-10 (IL-10) as an anti-inflammatory cytokine, we tested the notion that SCD osteomyelitis is associated with a reduction in IL-10 secretion and, hence, precipitation of a proinflammatory state. Study subjects comprised 52 SCD patients with confirmed diagnosis of osteomyelitis and 165 age- and gender-matched SCD patients with negative histories of osteomyelitis. Results obtained showed that IL-10 serum levels in SCD osteomyelitis patients were significantly lower than those of control SCD patients. Receiver operating characteristic (ROC) analysis demonstrated that altered IL-10 serum levels predicted the development of osteomyelitis, and the mean area under ROC curves of IL-10 was 0.810 among SCD patients with osteomyelitis. A systematic shift in IL-10 serum levels toward lower values was seen in osteomyelitis cases, with an increased osteomyelitis risk associated with decreased IL-10 levels. Multivariate logistic regression analyses confirmed the independent association of reduced IL-10 with osteomyelitis after controlling for sickle hemoglobin (HbS), fetal hemoglobin (HbF), platelet count, and white blood cell (WBC) count. These data support the strong association of decreased IL-10 levels with osteomyelitis, thereby supporting a role for IL-10 in osteomyelitis follow-up.

Author/s	Sarray S, Madan S, Saleh LR, Mahmoud N, Almawi WY.
Title	Validity of adiponectin-to-leptin and adiponectin-to-resistin ratios as predictors of polycystic ovary syndrome.
Journal	Fertility and Sterility 2015; 104(2):460-466.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26051098

ABSTRACT

Objective: To evaluate the association of changes in adipokine ratios with polycystic ovary syndrome (PCOS) and related features as altered levels of the adipokines adiponectin, leptin, and resistin were linked with the pathogenesis of PCOS. Design: Case-control retrospective study. SETTING: Outpatient obstetrics/gynecology and adult endocrinology clinics. PATIENT(S): Unrelated women with PCOS (n = 211) and age-matched control women (n = 215). INTERVENTION(S): None. Main outcome measure(s): Utility of adiponectin/leptin and adiponectin/resistin ratios as potential biomarkers of PCOS and associated features. Result(s): Significant differences in adiponectin but not leptin or resistin serum levels were seen between women with PCOS and control women. Ratios of adiponectin/leptin and adiponectin/resistin, but not leptin/resistin ratios, were statistically significantly different between PCOS cases and control women. Receiver operated characteristics area under the curve demonstrated sensitivity and specificity for adiponectin/leptin and adiponectin/resistin but not leptin/resistin ratios or individual adipokines as predictors of PCOS. Adiponectin/leptin and adiponectin/resistin ratios negatively correlated with body mass index, homeostatic model assessment, insulin resistance, and free insulin, testosterone, and sex hormone-binding globulin. In addition, adiponectin/resistin ratio negatively correlated with menarche. Conclusion(s): Ratios of adiponectin/leptin and adiponectin/resistin constitute novel predictor factors to explain PCOS and associated features and thus may present target for novel therapeutics in PCOS.

Author/s	Sarray S, Mahdi N, Saleh LR, Almaoui WY.
Title	Reduction in serum IL-10 levels is a surrogate marker for predicting vasocclusive crisis in sickle cell disease.
Journal	American Journal of Hematology 2014; 89(7):789-790.
Available at	http://onlinelibrary.wiley.com/doi/10.1002/ajh.23736/full

ABSTRACT

No abstract available

Author/s	Sarray S, Saleh LR, Lisa Saldanha F, Al-Habboubi HH, Mahdi N, Almawi WY.
Title	Serum IL-6, IL-10, and TNFalpha levels in pediatric sickle cell disease patients during vasoocclusive crisis and steady state condition.
Journal	Cytokine. 2015; 72(1):43-47.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25569375

ABSTRACT

Vaso-occlusive crisis (VOC) is a significant complication of sickle cell disease (SCD), and altered production of pro-inflammatory and anti-inflammatory molecules contributed to its pathogenesis. In view of the association of chronic inflammation with VOC onset, and given the capacity of interleukin (IL)-10 as anti-inflammatory, and IL-6, and TNF α as pro-inflammatory cytokines, we tested the association of altered IL-10, IL-6, and TNF α secretion with VOC pathogenesis and its severity. Study subjects comprised 147 SCD patients with active VOC (VOC Group), and 63 pain-free SCD patients for at least 9 months before blood collection (Steady-state Group). Serum cytokine concentrations were determined by ELISA. IL-10 levels were significantly reduced, while IL-6 levels were increased in VOC compared to Steady-state groups; serum TNF α levels were comparable between both groups. There was enrichment of low IL-10, but high IL-6 and TNF α quartiles in VOC Group, which translated into increased VOC risk. In contrast, high IL-10, but low IL-6 and TNF α quartiles were seen in Steady-state Group. Correlation analysis demonstrated significant association between reduced IL-10 levels and the frequency, type, severity, and duration of VOC and requirement for hydroxyurea treatment, while IL-6 correlated with duration of VOC episodes. Our data support strong association of reduced IL-10 and increased IL-6 levels with VOC, and their modulation of VOC-related parameters.

Author/s	Sater MS, Finan RR, Abu-Hijleh FM, Abu-Hijleh TM, Almawi WY.
Title	Anti-phosphatidylserine, anti-cardiolipin, anti-β2 glycoprotein I and anti-prothrombin antibodies in recurrent miscarriage at 8-12 gestational weeks.
Journal	European Journal of Obstetrics, Gynecology, and Reproductive Biology. 2012; 163(2): 170-174.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22555404

ABSTRACT

Objective: To investigate the association of antibodies to β2-glycoprotein I (anti-β2GPI), cardiolipin (ACA), phosphatidylserine (anti-PS) and prothrombin (anti-PT) with recurrent spontaneous miscarriage (RSM). Study design: Case-control study involving 277 RSM cases and 288 controls: autoantibody levels were measured by ELISA. Differences between cases and controls were analyzed by nonparametric Mann-Whitney test, and logistic regression was used in analyzing the association of autoantibodies with RSM. Results: Anti-PS IgG, ACA IgM and IgG, and anti-PT IgM were significantly associated with RSM risk, and differential antibody association was noted according to BMI and primary and secondary RSM. Higher prevalence of elevated anti-PS IgG was seen in cases, with the strongest risk above the 99th percentile. For ACA IgM, 28 cases (10.1%) and 5 controls (1.7%) were positive, with increasing OR for increasing cut-off points, which was significant at antibody titers >99th percentile. For ACA IgG, 101 cases (36.5%) and 13 controls (4.5%) were positive, with graded increase in OR for increasing cut-off points, which was significant at titers >90th percentile (maximal at titers >99th percentile). For anti-PT, 23 cases (12.0%) and 9 controls (6.1%) were positive, with increased OR at titers >90th percentile. Regression analyses confirmed the independent association of anti-PS IgG, ACA IgM and IgG with RSM, and significant RSM risk was associated with high anti-PS IgG (P<0.001) and ACA IgM (P<0.001) titers, and a dose-dependent increase in RSM risk was seen with progressively increased ACA IgG titers. No significant association existed between anti-PT IgM and RSM. Conclusion: Elevated ACA IgM and IgG, and anti-PS IgG antibodies are positively associated with RSM

Author/s	Sequeira RP.
Title	Patient safety in medical education: Medication perspectives.
Journal	Indian Journal of Pharmacology. 2015; 47(2):135-136 (editorial).
Available at	http://www.ijp-online.com/article.asp?issn=0253-7613;year=2015;volume=47;issue=2;spage=135;epage=136;aulast=Sequeira

ABSTRACT

No abstract available

Author/s	Serati M, Rizk D, Savatore S.
Title	In the footsteps of Bonney and Nichols: hysterectomy during surgical repair of pelvic organ prolapse.
Journal	International Urogynecology Journal. 2016; DOI 10.1007/s00192-016-3163-9.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27704153

ABSTRACT

Based on the available urogynecological literature, the role of hysterectomy in the surgical strategy of pelvic organ prolapse (POP) repair remains controversial. Currently, there are no data to favor either the removal or preservation of the uterus in women with POP. The findings that hysterectomy may contribute to a higher success rate and to the development of urinary incontinence and/or female sexual dysfunction are not supported by evidence. It is not clear why both hysteropexy was sometimes performed in the presence of overt uterine prolapse and/or concomitant vaginal hysterectomy was often included in vaginal prolapse repair in the absence of uterine prolapse. In our opinion, it makes both anatomical and clinical sense to remove the uterus only (and always) when the uterus is one of the pelvic organs directly involved in the prolapse, but to preserve and suspend the uterus otherwise.

Author/s	Serati M, Rizk DE, Salvatore S.
Title	Vaginal birth and pelvic floor dysfunction revisited: Can cesarean delivery be protective? [Editorial].
Journal	International Urogynecology Journal. 2016; 27: 1-2.
Available at	http://link.springer.com/article/10.1007%2Fs00192-015-2899-y

ABSTRACT

No abstract available

Author/s	Sghaier I, Mouelhi L, Rabia NA, Alsaleh BR, Loueslati BY, Ghazoueni E, Almawi WY.
Title	Genetic variants in IL-6 and IL-10 genes and susceptibility to hepatocellular carcinoma in HCV infected patients.
Journal	Cytokine.2017; 89:62-67.
Available at	http://www.sciencedirect.com/science/article/pii/S1043466616305440?via%3Dihub

ABSTRACT

Background: Hepatitis C virus (HCV) infection is the major cause of hepatocellular carcinoma (HCC), a common primary liver malignancy, and the third leading cause of cancer-related death. The HCC risk increases with the severity of liver inflammation, and the clinical course of HCV infection depends on a balance between pro- and anti-inflammatory cytokines. The former includes interleukin (IL)-6, while the latter includes IL-10. However, the exact pathogenic mechanisms underlying IL-6 and IL-10 effects remain unclear. Methods: The present study evaluated 174 chronic HCV Tunisian patients. Polymorphisms of IL-6(rs1880242, rs1474847, rs2069840, rs1800797, rs1800796, rs2069845, rs2069827, rs1474348, rs1800795), and IL-10 (rs1800896, rs1800871, rs1800872, rs1554286, rs1878672, rs1518111) were determined by real-time PCR. Results: Notable differences between chronic HCV-infected patients and HCC patients were observed for the three IL-10 SNPs; rs1800871 (-819T/C), rs1800872 (-592A/C), and rs1878672. Carriage of IL-6 rs1800796 G/G genotype, IL-6 rs1474358 C-allele, and IL-6rs1800797 A-allele was more frequent in chronic HCV-infected patients than in HCC patients. On the other hand, IL-6 rs1474358 GG genotype had a favourable factor for HCC establishment. Conclusion: IL-10 and IL-6 SNPs markedly influence the clinical outcomes of HCV infection. These SNPs could be used as biomarkers for early detection and molecular therapy for preventing HCC, and prognostic factors for predicting the clinical outcomes of HCC.

Author/s	Shah SM, Zaidi S, Ahmed J , Rehman SU.
Title	Motivation and retention of physicians in primary health care facilities of Pakistan.
Journal	International Journal of Health Policy Management. 2016; 5(8)467-475.
Available at	http://www.ijhpm.com/article_3181_0.html

ABSTRACT

Background: Workforce motivation and retention is important for the functionality and quality of service delivery in health systems of developing countries. Despite huge primary healthcare (PHC) infrastructure, Pakistan's health indicators are not impressive; mainly because of under-utilization of facilities and low patient satisfaction. One of the major underlying issues is staff absenteeism. The study aimed to identify factors affecting retention and motivation of doctors working in PHC facilities of Pakistan. Methods: An exploratory study was conducted in a rural district in Khyber Puktunkhwa (KP) province, in Pakistan. A conceptual framework was developed comprising of three organizational, individual, and external environmental factors. Qualitative research Methods comprising of semi-structured interviews with doctors working in basic health units (BHUs) and in-depth interviews with district and provincial government health managers were used. Document review of postings, rules of business and policy actions was also conducted. Triangulation of findings was carried out to arrive at the final synthesis. Results: Inadequate remuneration, unreasonable facilities at residence, poor work environment, political interference, inadequate supplies and medical facilities contributed to lack of motivation among both male and female doctors. The physicians accepted government jobs in BHUs with a belief that these jobs were more secure, with convenient working hours. Male physicians seemed to be more motivated because they faced less challenges than their female counterparts in BHUs especially during relocations. Overall, the organizational factors emerged as the most significant whereby human resource policy, career growth structure, performance appraisal and monetary benefits played an important role. Gender and marital status of female doctors was regarded as most important individual factor affecting retention and motivation of female doctors in BHUs. Conclusion: Inadequate remuneration, unreasonable facilities at residence, poor work environment, political interference, inadequate supplies, and medical facilities contributed to lack of motivation in physicians in our study. Our study advocates that by addressing the retention and motivation challenges, service delivery can be made more responsive to the patients and communities in Pakistan and other similar settings.

Author/s	Shahid M.
Title	On the roads to H1N1 pandemic era: Drive safe and fearless using colour coded masks.
Journal	Asian Pacific Journal of Tropical Medicine.2012; 5(4): 333-334.
Available at	https://www.sciencedirect.com/science/article/pii/S1995764512600522?via%3Dihub

ABSTRACT

Notwithstanding the end of 2009 H1N1 pandemic, the threat for its revisit still persists and WHO has warned to remain vigilant. During that time the situation was more panicky than fatal. In this article, a suggestion to minimize the panic is provided by the usage of colour-coded masks and is proposed hereby as a “population segregation” approach in case of the revisit of H1N1 or similar threatening respiratory viral infections.

Author/s	Shahid M.
Title	Prevalence of CTX M extended-spectrum beta-lactamases in clinical gram-negative bacteria.
Journal	Bahrain Medical Bulletin. 2014; 36(4):228-231.
Available at	http://www.bahrainmedicalbulletin.com/dec_2014/Prevalence-CTXM.pdf

ABSTRACT

Background: Research reports about molecular characterization of CTX M extended spectrum β -lactamases are fragmentary from Bahrain. Objective: To characterize Gram-negative bacterial isolates for the prevalence of specific Geno-groups and Geno-types of CTX M extended-spectrum β -lactamases. Design: A Prospective Point Prevalence Study. Setting: Pathology Department, King Hamad University Hospital, Bahrain. Method: Forty-seven Gram-negative bacterial isolates resistant to third (3GC) and/or fourth-generation cephalosporins (4GC) and 16 Gram-negative isolates susceptible to these classes of cephalosporins were studied. The bacterial identification and antibiotics sensitivity was performed by automated systems. Isolates were further characterized for CTX M geno-groups and types by multiplex PCR, monoplex PCR and sequencing of the representative isolates. Result: The majority of the isolates were found to be multiple-drug resistant showing concomitant resistance of cephalosporins with other classes, such as fluoroquinolones and aminoglycosides. However, this collection of bacterial isolates was persistently sensitive to carbapenems such as imipenem and meropenem. In addition, few isolates demonstrated resistance to tigecycline. Sixty-three isolates were studied; 47 (74.6%) showed resistance to 3GC and/or 4GC. Multiplex PCR demonstrated the presence of blaCTX M in 45 (95.7%) isolates. Further confirmation with multiplex and monoplex PCR revealed 41 (91.1%) and 4 (8.9%) bacterial isolates harboring blaCTX M Geno-group 1 and blaCTX M Geno-group 9, respectively. Out of 16 3GC/4GC sensitive isolates, 3 (18.8%) had CTX M genes, all were Geno-group 1. Sequencing revealed the presence of CTX-M 15 type ESBL from Geno-group 1 positive isolates; however, Group 9 isolates did not reveal any CTX-M type, rather they were non-specific amplifications. Conclusion: Bahraini G-ve bacterial population demonstrated multi-drug resistance to antibiotics. CTX M 15 type of ESBL is prevalent in Bahrain.

Author/s	Shahid M , Arshad M, Kaemmerer M, Pinelli E, Probst A, Baque D, Pradere P, Dumat C.
Title	Long-term field metal extraction by pelargonium: phytoextraction efficiency in relation to plant maturity.
Journal	International Journal of Phytoremediation. 2012; 14(5):493-505.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22567727

ABSTRACT

The long length of periods required for effective soil remediation via phytoextraction constitutes a weak point that reduces its industrial use. However, these calculated periods are mainly based on short-term and/or hydroponic controlled experiments. Moreover, only a few studies concern more than one metal, although soils are scarcely polluted by only one element. In this scientific context, the phytoextraction of metals and metalloids (Pb, Cd, Zn, Cu, and As) by Pelargonium was measured after a long-term field experiment. Both bulk and rhizosphere soils were analyzed in order to determine the mechanisms involved in soil-root transfer. First, a strong increase in lead phytoextraction was observed with plant maturity, significantly reducing the length of the period required for remediation. Rhizosphere Pb, Zn, Cu, Cd, and As accumulation was observed (compared to bulk soil), indicating metal mobilization by the plant, perhaps in relation to root activity. Moreover, metal phytoextraction and translocation were found to be a function of the metals' nature. These results, taken altogether, suggest that Pelargonium could be used as a multi-metal hyperaccumulator under multi-metal soil contamination conditions, and they also provide an interesting insight for improving field phytoextraction remediation in terms of the length of time required, promoting this biological technique.

Author/s	Shahid M, Hameed S, Imran A, Ali S, van Elsas JD.
Title	Root colonization and growth promotion of sunflower (<i>Helianthus annuus</i> L.) by phosphate solubilizing <i>Enterobacter</i> sp. Fs-11.
Journal	World Journal of Microbiol Biotechnology. 2012; 28(8): 2749-2758.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22806201

ABSTRACT

An *Enterobacter* sp. Fs-11 was isolated from sunflower rhizosphere, identified on the basis of 16S rRNA gene sequence analysis (GeneBank accession no. GQ179978) and studied for its root colonization and growth promotion ability in sunflower. Morphologically, it was rod shaped Gram-negative, motile bacterium, producing 4.5 $\mu\text{g mL}^{-1}$ indole acetic acid in tryptophan-supplemented medium. It utilized 27 out of 95 substrates in BIOLOG GN2 micro plate system. It was able to convert insoluble tri-calcium phosphate to soluble phosphorus up to 43.5 $\mu\text{g mL}^{-1}$ with decrease in pH of the medium up to 4.5 after 10 days incubation at $28 \pm 2^\circ\text{C}$ in the Pikovskaya's broth. High performance liquid chromatography of cell free supernatant showed that Fs-11 produced malic acid and gluconic acid (2.43 and 16.64 $\mu\text{g mL}^{-1}$), respectively) in Pikovskaya's broth. Analysis of 900 bp fragment of pyrroloquinoline quinine pqqE gene sequence showed 98 % homology with that of *E. cloacae* pqqE gene. Confocal laser scanning microscope revealed strong colonization of fluorescently labeled Fs-11 with sunflower roots. Sunflower inoculation with Fs-11 and its rifampicin resistant derivative in sterile sand and natural soil showed that Fs-11 colonized sunflower roots up to 30 days after transplanting in both sterile sand as well as natural soil. Moreover, Fs-11 inoculation Resulted in increased plant height, fresh weight, dry weight and total phosphorus contents as compared to un-inoculated plants. The data showed that *Enterobacter* sp. Fs-11 is an efficient phosphate solubilizing and plant growth promoting rhizobacterium and has great potential to be used as bio-inoculant for sunflower under phosphorus deficient conditions.

Author/s	Shahid M, Jahan N, Shahzad A, Sahai A, Sharma S, Parveen S.
Title	Antimicrobial potential of <i>balanites aegyptiaca</i> (L.) del, <i>sevia rebaudiana</i> (Bert.) <i>bertoni</i> , <i>tylophora indica</i> (Burm.f.) Merrill and <i>cassia sophera</i> (Linn.)
Journal	The Open Conference Proceedings Journal. 2012; 3, 63-69.
Available at	https://pdfs.semanticscholar.org/7a29/5787dc63d925161f3e62e83479696cc72d63.pdf

ABSTRACT

Background: Despite the medicinal importance of *Balanites aegyptiaca* (L.) Del, *Stevia rebaudiana* (Bert.) Berton, *Tylophora indica* (Burm.f.) Merrill and *Cassia sophera* (Linn.), the antimicrobial potential of these plants has not been explored extensively, especially those of *Cassia sophera*. Methods: Both aqueous and alcoholic extracts of various parts of respective plants, and their in vitro raised calli were tested for antimicrobial activity by agar well diffusion Method against a range of gram-positive and gram-negative bacteria and several fungal species. The calli of *Balanites aegyptiaca* and *Tylophora indica* were only tested as calli of *Stevia rebaudiana* and *Cassia sophera* could not be generated due to failure of regeneration in our laboratory. The extracts were also tested against genetically characterized bacterial isolates harboring *bla* (antibiotics resistance) genes. Minimal inhibitory concentrations (MICs) of the extracts were determined by broth microdilution Method. Results: The extracts from all the four plants showed significant antibacterial activity against gram-negative bacteria, including, *Salmonella typhi*, *Salmonella paratyphi A*, *Escherichia coli*, *Klebsiella* species, *Proteus vulgaris*, *Citrobacter* spp., *Salmonella typhimurium*, *Pseudomonas aeruginosa* and *Vibrio cholerae*. Among all the tested plants, only *B. aegyptiaca* showed significant antibacterial activity against the tested gram-negative bacteria harboring *bla* gen including, *Escherichia coli* (*bla ampC*), *Klebsiella* spp. (*bla CTX-M*), *Klebsiella* spp. (*bla SHV*), *Escherichia coli* (*bla SHV+CTXM*) and *Citrobacter* spp. (*bla ampC+SHV*). Extracts of *B. aegyptiaca* and *S. rebaudiana* also showed activity against grampositive bacteria whereas the extracts from *Tylophora indica* and *Cassia sophera* did not. Extracts of *Balanites aegyptiaca*, *Tylophora indica*, and *Stevia rebaudiana* demonstrated potential antifungal activity whereas extracts of *Cassia sophera* did not demonstrate the antifungal activity. Conclusions: This is among the premier reports describing the antimicrobial potential, especially through calli extracts, of *Tylophora indica* (Burm.f.) Merrill and *Balanites aegyptiaca* (L.) Del and in particular against gram-negative bacteria harboring *bla* genes. This is also a premier report looking extensively for the antimicrobial potential in *Cassia sophera*.

Author/s	Shahid M , Khan F, Shah MS, Shukla I, Shujatullah F, Khan HM, Malik A, Al Khan IM.
Title	NDM-1 in the Indian environment: Hitherto the problem is not disquieting.
Journal	Asian Pacific Journal of Tropical Medicine. 2012; 5(4): 335-336.
Available at	http://www.sciencedirect.com/science/article/pii/S1995764512600534?via%3Dihub

ABSTRACT

No abstract available

Author/s	Shahid M , Khan HM, Sobia F, Singh A, Khan F, Shah MS, Shukla I, Malik A, Khan I.
Title	Molecular epidemiology of various antibiotics resistance genes, including bla _{NDM-1} , in Indian environmental and clinical bacterial isolates: a comparative study.
Journal	New Zealand Journal of Medical Laboratory Science. 2014; 67: 9-14.
Available at	https://search.informit.com.au/documentSummary;dn=191798989766518;res=IELNZC

ABSTRACT

Objectives: There are concerns regarding the emergence of NDM-1 metallo-beta-lactamase in clinical and environmental bacteria; however, no attempts have yet been made for their molecular correlation. We analyzed antibiotics-resistant environmental and clinical isolates for bla genes, mobile genetic elements and for the epidemiological relationship based on molecular Results. Methods: The clinical and environmental bacterial isolates were collected from Aligarh, a north-Indian city. Antibiotics susceptibility was performed and the isolates were investigated for the presence of bla_{NDM-1}, bla_{CTX-M}, bla_{TEM}, bla_{SHV}, bla_{ampC} and also for the mobile genetic elements (IS26, ORF513, ISEcp1, Sul-1-type integrons) by PCR. The bacterial isolates were typed by Random Amplified Polymorphic DNA (RAPD)-typing. Statistical analyses of the molecular Results pertaining to genetic environment of clinical vs. environmental isolates were performed to assess any genetic relatedness or diversity. Results: A total of 149 clinical- and 27 environmental-bacterial isolates were studied. Significant difference in the antibiotics resistance profiles between clinical and environmental bacterial population was noticed. bla_{CTX-M} and bla_{ampC} were noticed as the most prevalent antibiotics-resistance genes in clinical and environmental bacteria, respectively. bla_{NDM-1} was detected in two clinical (1 *Escherichia coli*; 1 *Klebsiella pneumoniae*) and one environmental *E. coli* isolate. Both clinical as well as environmental isolates possessed mobile genetic elements; however, their frequency of occurrences in the two groups was significantly different, so was the case for their occurrence in various combinations. Moreover, the clinical and environmental isolates were not found genetically related, based on the RAPD -typing. Conclusion: It is evident that the genetic environment of clinical and environmental bacterial isolates is entirely different and suggests their unique evolution; that could really be a tormenting public health problem.

Author/s	Shahid M, Sobia F, Singh A, Khan HM.
Title	Concurrent occurrence of blaampC families and blaCTX-M genogroups and association with mobile genetic elements ISEcp1, IS26, ISCR1, and sul1-type class 1 integrons in Escherichia coli and Klebsiella pneumoniae isolates originating from India.
Journal	Journal of Clinical Microbiology. 2012; 50(5): 1779-1782.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22337978

ABSTRACT

Cefoxitin-resistant *Escherichia coli* (n = 109) and *Klebsiella pneumoniae* (n = 16) isolates collected from patients in India in 2009 to 2010 were screened for bla(ampC) families and mobilizing elements (ISEcp1, IS26, ISCR1, and sul-1-type class 1 integrons) and their association with bla(ampC) and for the occurrence of class A beta-lactamases (BLs) (CTX-M, TEM, and SHV). The concurrent occurrences of two distinct AmpC families (bla(CIT) and bla(EBC)) and of class A with class C beta-lactamase were observed. All but one of the isolates harboring CTX-M extended-spectrum BLs (ESBLs) were carrying bla(CTX-M) genogroup 1; the remaining isolate carried bla(CTX-M) genogroup 9. The mobilizing elements occurred in different combinations in the study isolates.

Author/s	Shahid M, Umesh, Sobia F, Singh A, Khan HM, Malik A, Shukla I.
Title	Molecular epidemiology of carbapenem resistant enterobacteriaceae from North Indian tertiary hospital.
Journal	New Zealand Journal of Medical Laboratory Sciences. 2012; 66(1): 5-7.
Available at	https://pdfs.semanticscholar.org/ff25/c1b5d0eb75d5caa707acb3525f529e0c8038.pdf

ABSTRACT

Aim: To analyse the occurrence of bla genes (blaIMP, blaVIM, blaGIM,blaSIM, blaSPM, blaPER, blaKPC, and blaOXA) responsible for carbapenemresistance,as well as the presence of cephalosporin-resistance genes (blaCTX-M, blaTEM, blaSHV and blaampC) by polymerase chain reactions (PCRs). Methods: The study was performed on routine samples subjected to culture and antibiotics susceptibility during September 2007 to April 2008. Bacterial cultures from 893 patients yielded growth of Gram-negative bacteria, and of which, sixteen isolates (E. coli= 10; Klebsiella pneumoniae= 6) were reported resistant to imipenem on primary antibiotic susceptibility testing. The minimum inhibitory concentration (MIC) for imipenem was detected as per the CLSI guidelines. These 16 isolates were further studied for the presence of carbapenem-resistance genes including blaIMP, blaVIM, blaGIM, blaSIM, blaSPM, blaPER, blaKPC, and blaOXA by PCR. Since the isolates were also reported resistant to third-generation cephalosporins, these 16 isolates were also screened for the presence of blaCTX-M, blaampC, blaTEM, and blaSHV. Results: Carbapenem-resistance was reported in 1.8% (16/893) isolates based on antibiotics susceptibility testing. However on detection of imipenem-MIC, only 7 (0.8%) isolates were found as imipenem-resistant. Of these 16 isolates, carbapenem-resistance gene, blaVIM, was detected in only 18.6% (3/16) isolates; all were K. pneumoniae. On cumulative analyses, any of the bla genes was detected in a total of 93.6% (15/16) isolates. blaCTX-M, blaampC, blaTEM and blaSHV were detected in 87.5% (14/16), 43.8% (7/16), 75% (12/16) and 31.3% (5/16) isolates, respectively. Maximum number (4/16; 25%) had a combination of blaCTX-M + blaTEM, followed by blaCTX-M, blaampC, blaTEM, and blaSHV in 3 (18.8%; 3/16) isolates. Conclusion: Resistance to carbapenem is quite low in our area; only blaVIM was detected responsible for carbapenem resistancein our isolates. This is among the premier reports from India looking extensively for the molecular epidemiology in carbapenem resistant isolates.

Author/s	Shahid M, Al-Mahmeed A, Murtadha MM, Qareeballa A, Eltahir MA, Tabbara KS, Ismaeel AY, Dar FK, Giha HA, Bindayna KM.
Title	Characterization of cephalosporin-resistant clinical enterobacteriaceae for CTX-M ESBLs in Bahrain.
Journal	Asian Pacific Journal of Tropical Medicine. 2014 ;7(1):7S1: S212-S216.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25312123

ABSTRACT

Objective: To detect the presence of specific CTX-M class of extended spectrum β -lactamases (ESBLs) in a collection of cephalosporin-resistant Enterobacteriaceae isolates from Bahrain. Methods: A subset of 80 cephalosporin-resistant Enterobacteriaceae collected from Salmaniya Medical Complex, Bahrain, were characterized further for the presence of specific genogroups of CTX-M β -lactamases by multiplex- and monoplex- PCRs. The primers used for the multiplex and monoplex PCRs were of genogroups- 1, 2, 8, 9 and 25. Sequencing of the representative isolates was performed to find the circulating CTX-M-types. Results: A total of 93.8% (75/80) isolates showed the amplicons corresponding to any of the genogroups (1, 2, 8, 9, 25) and the remaining 6.2% isolates turned out negative in multiplex PCR. Some of the isolates demonstrated multiple bands corresponding to the sizes of different genogroups. Further confirmation with respective monoplex PCR on these 75 isolates demonstrated that 93.3% (70/75) harbored CTX-M genogroup-1 and 6.7% (5/75) harbored genogroup-9. We did not find the presence of genogroups 2, 8, and 25 in these isolates by monoplex PCR. Sequencing Results of genogroup-1 isolates demonstrated the presence of CTX-M-15-like ESBL, however, discrepant Results were noticed in genogroup-9 isolates, sequencing showed them as CTX-M-55-like ESBL. Conclusion: This is the first report from Bahrain characterizing the CTX-M genogroups of ESBLs and reporting the emergence of blaCTX-M-55-like gene in this region.

Author/s	Shamsi N, Shehab Z, Alnash Z, Almuhanadi S, Alnasir FA.
Title	Factors influencing dietary practice among type 2 diabetics.
Journal	Bahrain Medical Bulletin. 2013; 35(3):130-135.
Available at	https://pdfs.semanticscholar.org/0f62/71b0f9417b8507a594181afe2ffdb0eb567a.pdf

ABSTRACT

Background: Improving dietary practice alone without the adherence to other diabetic self-management elements can improve glycemic control and may reduce glycosylated hemoglobin (HbA1c) by 1% to 2%. However, diabetic patients usually have poor adherence to follow appropriate and long-term dietary practice. Objective: To evaluate the factors influencing dietary practice and to evaluate the relationship between patients' dietary practice and level of HbA1c. Design: A cross-sectional study. Setting: Five Health Centers, Bahrain. Method: The study was performed in Bahrain during 2011; it included 400 type 2 diabetic patients. The sample was selected from the diabetic clinics of the primary health care centers. Only the adult patients who attended the clinic at least twice were included in the study. Result: The majority of the sample was 50 years old with low educational level. Most of them were overweight and obese and had poor HbA1c level (>7%). However, patients had good family support and high motivation to see a dietician and to follow diet regimen if given. Despite all previous indications to reinforce diabetic self-management education, specifically dietary advice, 56 (14%) denied receiving any dietary advice. The majority received their dietary advice from doctors and only 65 (16.3%) received advice from the diabetic nurse. Most patients never have been referred neither to a dietician nor to a health educator (318 (79.5%), 338 (84.5%) respectively). Although, patients had mainly average and good dietary practice, it may not indicate the actual dietary habits of the studied patients due to some limitations in the study. The two main barriers to dietary regimen are "it takes efforts" were 183 (45.8%) and "being busy" were 178 (45.5%). Conclusion: Although the majority of the diabetic patients were poorly controlled, most had average and good dietary practice score. There was positive relationship between the dietary practice and the HbA1c level. The lack of proper professional dietary assessment, follow-up and advice by the health care providers are the main influence on dietary practice of type 2 diabetic patients in Bahrain.

Author/s	Sharif K.A, Mahmood N. A, Jaradat A.
Title	Comparison of low-dose versus conventional-dose prednisolone in the treatment of idiopathic thrombocytopenic purpura (ITP).
Journal	Bahrain Medical Bulletin. 2015; 37(4): 230 – 233.
Available at	http://www.bahrainmedicalbulletin.com/December_2015/Comparison_LowDose_abstract.pdf

ABSTRACT

Objective: To assess the efficacy of low-dose prednisolone in patients with ITP. Design: A Prospective Randomized Controlled Trial. Setting: Salmaniya Medical Complex, Kingdom of Bahrain. Method: A randomized controlled trial was conducted comparing the conventional-dose to a lowdose of prednisolone (0.25 mg/kg/day). Forty-one patients with ITP were enrolled in the study; 21 patients were randomized to low-dose prednisolone (group I) and 20 patients received the conventional-dose (group II). Result: The overall remission rate (OR) for both groups was 78.05%. There was no statistically significant difference between both groups in terms of group overall remission 17 (81%) versus 15 (75%), group complete remission 11 (52.4%) versus 10 (50%) or partial remission rate 6 (28.6%) versus 6 (25%). In addition, failure rate, relapse rate, and splenectomy rate were similar and not statistically significant. Two (10%) patients developed complications related to steroids therapy, both were in group II, but were not statistically significant. Conclusion: Although the study had a small number of patients, it revealed that low-dose of prednisolone (0.25 mg/kg/day) is as effective as the conventional-dose (1 mg/kg/day) and probably, safer. Accordingly, we recommend the use of low-dose prednisolone as initial therapy for ITP rather than the high-dose.

Author/s	Sharma S, Shahzad A, Shahid M , Jahan N.
Title	An efficient in vitro production of shoots from shoot tips and antifungal activity of <i>Spilanthes acmella</i> (L.) Murr.
Journal	International Journal of Plant Development Biology.2012; 6(1): 40-45.
Available at	http://www.globalsciencebooks.info/Online/GSBOnline/OnlineJPDB_6_1.html

ABSTRACT

Bacopa monnieri (L.) Pennell (Brahmi), Scrophulariaceae, is one of the sources of medhya rasayan drugs (that counteract stress and improves intelligence and memory) of Ayurveda. The aim of the present study was to assess tissue culture conditions and antibiotic selection which could be useful for genetic transformation of this important medicinal plant. An efficient, simple and reproducible system for plant regeneration through leaf and nodal explants was devised. Sensitivity of the nodal explants against cefotaxime (Cef), kanamycin (Kan) and hygromycin (Hyg) was established. Leaf and nodal explants produced about 90 shoots on Murashige and Skoog (MS) medium fortified with 1.0 mg/L 6-benzyladenine (BA) after 28 days of incubation. Subculture to fresh MS medium resulted in shoot elongation; the shoots obtained grew well and were healthy. The transfer of shoots to liquid MS medium supplemented with 0.2 mg/L α -naphthaleneacetic acid (NAA) resulted in 100% rooting. The rooted shoots, on transfer to plastic containers containing a mixture of garden soil + sand (1:1), could acclimatize within 14 days under glasshouse conditions. The acclimatized in vitro-grown plants showed 100% survival after transfer to soil in earthen pots. A threshold limit of survival of nodal explants was observed at 500 mg/L Cef, 100 mg/L Kan and 15 mg/L Hyg.

Author/s	Shihadeh MD, Kheyami DA , Al Jufairi M, Jaradat AA , Ansari EMA.
Title	Transcutaneous bilirubin measurement correlation with total serum bilirubin in healthy newborns.
Journal	Bahrain Medical Bulletin. 2016; 38(4): 208-210
Available at	http://www.bahrainmedicalbulletin.com/December_2016/TRANSCU_DECEMBER%202016.pdf

ABSTRACT

Objective: To evaluate the relation between the transcutaneous bilirubin (TcB) measurement and the total serum bilirubin (TSB) measurement in the newborns in Bahrain. Setting: Salmaniya Medical Complex and Jidhafs Maternity Hospital, Bahrain. Design: A Prospective Study. Method: Newborns from May to September 2015 were included in the study. Serial transcutaneous bilirubin (TcB) measurements were obtained utilizing the Dräger Jaundice Meter JM-103. Simultaneously, TSB measurements were performed for comparison. Result: Eighty-eight newborns were included. One hundred twenty-eight transcutaneous bilirubin TcB measurements were paired with TSB measurement. The mean \pm SD of (TcB–TSB) difference for the 128 paired measurements was 1.09 ± 2.16 mg/dL, with differences ranging from 6.18 mg/dL to 7.00 mg/dL. The correlation between the paired measurements was 0.75 (P-value < 0.0005).

Author/s	Shome DK, Al Ajmi A, Radhi AA, Mansoor EJ, Majed KS.
Title	The effect of hydroxyurea therapy in Bahraini sickle cell disease patients.
Journal	Indian Journal of Hematology and Blood Transfusion. 2016; 32(1):104-109.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26855516

ABSTRACT

Hydroxyurea (HU) is used as a disease-modifying agent in sickle cell disease (SCD). Its beneficial effects have been ascribed to inhibition of the sickling process through increase of fetal hemoglobin (HbF) levels and influence on multiple factors affecting adhesion of erythrocytes to vascular endothelium. The present study investigates the effect of HU in SCD patients who were grouped on the basis of association with α - and β -thalassemia using routine laboratory Methods. A retrospective cross-sectional chart-review was done of 51 adult Bahraini SCD patients attending Salmaniya Medical Complex, Bahrain. Four sub-groups of cases were identified: (i) homozygous sickle cell anemia, 24 cases; (ii) SCD with microcytosis, 16 cases; (iii) sickle α -thalassemia, seven cases; and (iv) sickle β thalassemia, four cases. Documented laboratory and clinical data included hemoglobin level (Hb), hematocrit (Hct), red cell indices, hemoglobin fractions, hospital admissions (frequency), number of inpatient-days, pain episodes (frequency) and red cell transfusion requirement (number of units). Pre- and post-treatment data were compared. Hydroxyurea treatment led to highly significant reduction of HbS % and pain crisis episodes in all patient groups. Other changes such as increases of total hemoglobin, Hct and HbF and reduction of hospital admissions, inpatient days and red cell units transfused also occurred but with less consistent levels of significance within patient sub-groups. Treatment with HU is beneficial for all subgroups of Bahraini SCD patients, without or with α - and β -thalassemia interactions.

Author/s	Shome DK, Ramadorai P, Al-Ajmi A, Ali F, Malik N.
Title	Thrombotic microangiopathy in sickle cell disease crisis.
Journal	Annals of Hematology. 2013; 92(4): 509-515.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23224266

ABSTRACT

Thrombotic microangiopathy (TMA) in patients with sickle cell disease (SCD) is a rare complication. These patients manifest microangiopathic hemolytic anemia (MAHA) with laboratory evidence of hemolytic anemia, schistocytosis, and thrombocytopenia. This is the first report of the syndrome in a group of these patients. A retrospective chart analysis of 10 consecutively diagnosed patients in SCD crisis who were referred for therapeutic plasma exchange (TPE) after developing MAHA was done. Patients had chest pain, respiratory distress, fever, pulmonary infiltrates, jaundice, and neurological dysfunction with abnormal liver function and coagulation tests. MAHA was diagnosed after a median hospital stay of 5 days. Nine patients recovered completely following TPE with fluid replacement by fresh frozen plasma with or without cryo-poor plasma. Incomplete response to TPE in one case was due to the development of fresh complications. During a median follow-up period of 77 months, there was one recurrent episode and one death in SCD crisis but without evidence of MAHA. TMA is not a very rare complication among Bahraini SCD patients in crisis. Characteristic features of this disorder are acute chest syndrome, organ failure, leuco-erythroblastosis, and a combination of thrombocytopenia, LDH level >1,000 U/l, and schistocytes in blood smears. Management with TPE usually leads to complete recovery with little chance of short-term recurrence. Multiple pathogenetic mechanisms leading to increased von Willebrand factor and its multimers may form the basis of this syndrome.

Author/s	Simone B, De Stefano V, Leoncini E, Zacho J, Martinelli I, Emmerich J, Rossi E, Folsom AR, Almawi WY , et al.
Title	Risk of venous thromboembolism associated with single and combined effects of Factor V Leiden, Prothrombin 20210A and Methylenetetrahydrofolate reductase C677T: a meta-analysis involving over 11,000 cases and 21,000 controls.
Journal	European Journal of Epidemiology.2013; 28(8): 621-647.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23900608

ABSTRACT

Genetic and environmental factors interact in determining the risk of venous thromboembolism (VTE). The risk associated with the polymorphic variants G1691A of factor V (Factor V Leiden, FVL), G20210A of prothrombin (PT20210A) and C677T of methylenetetrahydrofolate reductase (C677T MTHFR) genes has been investigated in many studies. We performed a pooled analysis of case-control and cohort studies investigating in adults the association between each variant and VTE, published on Pubmed, Embase or Google through January 2010. Authors of eligible papers, were invited to provide all available individual data for the pooling. The Odds Ratio (OR) for first VTE associated with each variant, individually and combined with the others, were calculated with a random effect model, in heterozygotes and homozygotes (dominant model for FVL and PT20210A; recessive for C677T MTHFR). We analysed 31 databases, including 11,239 cases and 21,521 controls. No significant association with VTE was found for homozygous C677T MTHFR (OR: 1.38; 95 % confidence intervals [CI]: 0.98-1.93), whereas the risk was increased in carriers of either heterozygous FVL or PT20210 (OR = 4.22; 95 % CI: 3.35-5.32; and OR = 2.79;95 % CI: 2.25-3.46, respectively), in double heterozygotes (OR = 3.42; 95 %CI 1.64-7.13), and in homozygous FVL or PT20210A (OR = 11.45; 95 %CI: 6.79-19.29; and OR: 6.74 (CI 95 % 2.19-20.72), respectively). The stratified analyses showed a stronger effect of FVL on individuals \leq 45 years (p value for interaction = 0.036) and of PT20210A in women using oral contraceptives (p -value for interaction = 0.045). In this large pooled analysis, inclusive of large studies like MEGA, no effect was found for C677T MTHFR on VTE; FVL and PT20210A were confirmed to be moderate risk factors. Notably, double carriers of the two genetic variants produced an impact on VTE risk significantly increased but weaker than previously thought.

Author/s	Singh A, Shahid M , Sobia F, Umesh, Khan HM.
Title	Occurrence and molecular epidemiology of bla(CTX-M), including co-occurrence of bla(TEM) and bla(SHV) genes, and sul1 association in Indian Enterobacteriaceae.
Journal	International Journal of Antimicrobial Agents.2012; 39(2): 184-185.
Available at	http://www.ijaaonline.com/article/S0924-8579(11)00434-1/abstract

ABSTRACT

β -Lactam antibiotics are the first-line curative treatment for infections caused by Enterobacteriaceae, however increasing resistance to these compounds has been reported in the last decade [1]. Resistance to β -lactams is mediated by the production of extended-spectrum β -lactamases (ESBLs). CTX-M is the most common type of ESBL and has been reported in Enterobacteriaceae isolates from various countries including Poland, Canada, France, the UK, Russia, Cameroon, Japan and Bulgaria as well as in India.

Author/s	Singhai M, Malik A, Shahid M , Malik A, Rawat V.
Title	Colonization of peripheral intravascular catheters with biofilm producing microbes: evaluation of risk factors.
Journal	Nigerian Medical Journal. 2012; 53(1): 37-41.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3530242/

ABSTRACT

Background: Biofilms often colonize catheters and contribute to catheter-related septicemia. However, predictors of catheter colonization by biofilms remain poorly defined. The aim of this study was to evaluate clinical factors that may be associated with biofilm colonization of catheters. **MATERIALS AND Methods:** A total of 54 isolates colonizing the peripheral intravascular catheters (IVCs) were studied and their biofilm production ability was analyzed by the tube Method and antimicrobial susceptibility was also done. A detailed clinical history and examination was done of each subject to know age, sex, duration of use of IVCs, site of IVCs, swelling/purulence around the IVCs, number of attempts to install the catheter, and duration of hospital stay. **Results:** 44 (81.4%) out of 54 isolates colonizing the catheters showed biofilm formation. Biofilm formations were significantly associated with duration of hospital stay of more than 7 days [odds ratio (OR) = 6.6; 95% confidence interval (CI) = 1.3-34; P value (P) = 0.02], multiple attempts to install the catheter (OR=7; CI=1.5-31.8; P=0.01), and multidrug resistance (OR=9.5; CI=1.8 - 51.1: P=0.008). *Klebsiella pneumoniae* and *Candida* spp. comprised most of the biofilm-producing isolates. The overall susceptibility to antimicrobials was low among biofilm-producing compared to nonbiofilm-producing microbes. **Conclusion:** The Results of this study suggest that evaluation of predictors of biofilm production is important in order to understand, prevent or manage biofilm colonization of IVCs.

Author/s	Singhai M, Malik A, Shahid M , Malik MA, Goyal RJG.
Title	A study on device-related infections with special reference to biofilm production and antibiotic resistance.
Journal	Journal of Global Infectious Diseases. 2012; 4(4):193-198.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23326076

ABSTRACT

Background: Indwelling medical devices (IMDs) in critical patients are vulnerable to colonization by biofilm producing bacteria. Complex characteristics of bacterial biofilms promote antibiotic resistance, leading to the emergence of resistant device-related infections (DRI), which pose new challenges in their management. Materials and Methods: The study was done on 135 hospitalized (Intensive care units) pediatric patients with IMDs (intravascular catheter, urinary catheter, and endotracheal tube) to determine the device-specific infection rates. Biofilm formations were demonstrated by the tube Method and by scanning electron microscopy (SEM). Bacteria in biofilms were identified by the standard conventional Methods and tested for antibiotic resistance. We also detected the presence of extended spectrum β -lactamases (ES β Ls), particularly, bla(CTX-M,) in gram-negative isolates. Results: The rates of biofilm-based catheter-related blood stream infections (CRBSI), catheter-associated urinary tract infections (CAUTI), and Ventilator Associated Pneumonia (VAP), in our study, were 10.4, 26.6, and 20%. Biofilm formation by the tube Method correlated well with the SEM findings. A majority of infections were caused by Klebsiella pneumoniae followed by Staphylococcal biofilms. A high percentage (85.7%, 95% confidence interval 64.5 to 95.8%) of biofilm producing bacterial isolates, causing infection, were multidrug resistant. Many biofilm producing gram-negative isolates were ES β Ls producers, and a majority particularly harbored bla(CTX-M,) among the ES β Ls genotypes. Conclusion: The incidence of resistant device-related infections, predominantly caused by biofilm producing bacteria, is rising. The tube Method is an effective screening Method to test biofilm production, where sophisticated microscopy facilities are not available. The varying resistance pattern of organisms isolated in our setup, emphasizes the importance of studying the pattern of infection in every setting and providing antibiotic guidelines in the management of such infections.

Author/s	Sirasanagandla SR, Pai KS, Potu BK , Bhat KM.
Title	Beneficial effect of cissus quadrangularis Linn. on osteopenia associated with streptozotocin-induced type 1 diabetes mellitus in male Wistar rats.
Journal	Advances in Pharmacological Sciences. 2014; 2014:1-10.
Available at	https://www.hindawi.com/journals/aps/2014/483051/

ABSTRACT

Petroleum ether fraction of *Cissus quadrangularis* (PECQ) impact on the development of osteopenia in type 1 diabetic rat model has been evaluated. Diabetic rats were treated orally with two doses of PECQ. Another group of diabetic rats were treated with subcutaneous injection of synthetic human insulin. The cortical and trabecular bone thickness and bone strength were significantly decreased in diabetic rats. Treatment with two doses of PECQ significantly prevented these changes in diabetic rats. However, PECQ treatment (two doses) did not alter the glycemic levels in these diabetic rats. Increased levels of serum alkaline phosphatase (ALP), tartrate-resistant acid phosphatase (TRAP), and hydroxyproline were noted in diabetic rats when compared to normal control rats. The two doses of PECQ treatment further improved the serum ALP levels and significantly decreased the serum levels of TRAP and hydroxyproline. The effects of PECQ treatment on histological, biomechanical, and biochemical parameters are comparable to those of insulin. Since PECQ improves the bone health in hyperglycemic conditions by enhancing the cortical and trabecular bone growth and altering the circulating bone markers, it could be used as an effective therapy against diabetes-associated bone disorders.

Author/s	Sirisinagandla SR, Potu BK.
Title	Clinical and functional significance of accessory brachialis muscle: A unique anatomical variant.
Journal	International Journal of Morphology. 2013; 31(4):1383-1385.
Available at	http://www.scielo.cl/pdf/ijmorphol/v31n4/art37.pdf

ABSTRACT

A thorough knowledge of the variations in the patterns of muscle insertion and the consequent neurovascular entrapment due to them is important for orthopedic and plastic surgeons. During routine dissection, we encountered a unique occurrence of an accessory brachialis muscle (acBr) blending with the medial aspect of bicipital aponeurosis in the cubital fossa. It also entrapped the median nerve and brachial artery due to its superficial position. The abnormality reported here might result in neurovascular compression symptoms in the upper limb and possible mechanical advantages or disadvantage in the flexion of elbow joint. To the best of our knowledge, the brachialis variant insertion we present here is rare in the list of its anomalies. We also discuss in this report the embryological background and the clinical application of the variation that can aid clinicians in evaluating symptoms involving the upper limb.

Author/s	Sobia F, Uddin M, Shahid M , Khan HM.
Title	Characterization of escherichia coli and klebsiella pneumoniae isolates for b/aesb1s, bla _a mpc, and bla _{NDM-1} from a north indian tertiary hospital: A preliminary time trend study.
Journal	New Zealand Journal of Medical Laboratory Science. 2014; 68(2):44-51.
Available at	https://www.researchgate.net/publication/287560191_Characterization_of_escherichia_coli_and_klebsiella_pneumoniae_isolates_for_baesb1s_blaa_mpc_and_blan_dm-1_from_a_north_indian_tertiary_hospital_A_preliminary_time_trend_study

ABSTRACT

Background and aim: The global spread of antimicrobial resistant Gram-negative pathogenic organisms is considered as a major health concern as it leads to therapeutic failure. Moreover, transfer of resistance genes among bacteria results in augmentation of antibiotic resistance problem in pathogens. A constant surveillance is mandatory to know the resistance pattern; hence the incidence of beta-lactamase producing Enterobacterial strains (Escherichia coli and Klebsiella pneumoniae) was investigated and compared over a period of time. Methods: Briefly, the study isolates were looked upon and compared for the occurrence of various bla genes in the three years of collection (91 isolates were collected in 2009, 34 in 2010, and 54 in 2012). β -NDM-1 was noticed in 27.78% isolates collected in the year 2012. These NDM-harboring isolates were also analyzed for their genetic environment. Results and conclusions: The isolates showed association with insertion sequences suggesting them as major mobilizing genetic elements. Moreover, a small fraction showed presence of Sul 7-type class 1 integron. When prevalence of bla genes was compared, β -ampC showed a lining trend (80.22% to 76.47%, and then to 33.33%) in respective years. Whereas occurrence of bla_{Esbls} showed a somewhat different pattern. A slight increase was noticed in 2010, however, prevalence in 2012 was very similar to 2009. Surveillance of carbapenemase-producing organisms seems to be essential for proper implementation of infection control strategies and also for selection of appropriate antimicrobial therapy.

Author/s	Stayoussef M, Zidi I, Mansour JB, Moumni I, Almawi WY , Mahjoub T.
Title	Association of lymphotoxin alpha polymorphism with type 1 diabetes in a Tunisian population.
Journal	Biochemical Genetics. 2014; 52(1-2):79-89.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24233435

ABSTRACT

We investigated the association of the lymphotoxin (LT)- α gene polymorphism +249A/G with type 1 diabetes. The distribution of genotypes of the LT- α +249A/G single nucleotide polymorphism (SNP) was assessed in 115 diabetic patients and 123 normoglycemic control subjects, using PCR-restriction fragment length polymorphism analysis. Among unselected patients, the SNP was significantly associated with increased risk of diabetes ($\chi^2 = 8.44$, $p = 0.014$) and was found to be more pronounced among female ($\chi^2 = 8.37$, $p = 0.02$) than male ($\chi^2 = 6.11$, $p = 0.047$) patients. A significant association was detected between LT- α +249A/G and increased risk of diabetes, in particular for young-onset patients ($\chi^2 = 6.92$, $p = 0.031$). Moreover, we reported significant differences in levels of HbA1c, triglycerides, alanine transaminase, and anti-glutamic acid decarboxylase-65 among alleles. Additional studies with extended patient age groups and different ethnicities are needed to confirm our findings.

Author/s	Subhan MMF , Ali SA, Bokhari SSI, Khan MN, Ahmad HR.
Title	Underweight and overweight men have greater exercise induced dyspnea than normal weight men.
Journal	Upsala Journal of Medical Sciences.2012; 117 (4): 383-389.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3497213/

ABSTRACT

Introduction: Persons with high or low body mass index (BMI), involved in clinical or mechanistic trials involving exercise testing, might estimate dyspnoea differently from persons with a normal BMI. Aims: Our objective was to investigate the relationship between BMI and dyspnoea during exercise in normal subjects with varying BMI. Material and methods: A total of 37 subjects undertook progressive exercise testing. Subjects were divided into three groups: underweight (UW), normal weight (NW), and overweight (OW). Dyspnoea was estimated using the visual analogue scale (VAS). Spirometry, maximum voluntary ventilation (MVV), and respiratory muscle strength (RMS) were measured. Results and Discussion: The intercept of the VAS/ventilation relationship was significantly higher in NW subjects compared to UW ($P = 0.029$) and OW subjects ($P = 0.040$). Relative to the OW group, FVC ($P = 0.020$), FEV(1) ($P = 0.024$), MVV ($P = 0.019$), and RMS ($P = 0.003$) were significantly decreased in the UW group. The greater levels of dyspnoea in UW subjects could possibly be due to decreased RMS. Healthy persons should aim to achieve an optimum BMI range to have the lowest exercise-induced dyspnoea.

Author/s	Taha S, Alsharoqi I, Bakhiet M.
Title	Differential upregulation of the hypothetical transmembrane protein 66 (TMEM66) in multiple sclerosis patients with potential inflammatory response.
Journal	Biomedical Report. 2015; 3(1):98-104.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25469256

ABSTRACT

The prevalence of multiple sclerosis (MS) in the Gulf region has markedly increased during the last decade, but the mechanisms of the disease have not been investigated. The present study aimed to understand the molecular processes involved in the disease development of the recently emerged MS in this population using microarray technology to investigate differentially-expressed novel genes in MS patients compared to healthy-matched subjects. The expression of the upregulated genes was confirmed by quantitative polymerase chain reaction (qPCR). Furthermore, gene cloning, protein expression and purification were performed followed by testing of the obtained recombinant protein on biological assays, including cell proliferation and cytokine mRNA detection by reverse transcriptase-qPCR. The Results showed that out of ~50,000 genes, the hypothetical transmembrane protein-66 gene (TMEM66) exhibited a 3 times higher expression in MS patients compared to healthy subjects. The TMEM66 gene was cloned and its protein showed marked immunological activity relevant to MS since significant proliferation ($P < 0.05$) and augmented induction of the proinflammatory cytokines, interleukin (IL)-6, interferon- γ , tumor necrosis factor- α , and the chemokines, chemokine ligand 5/chemokine receptor 5, macrophage inflammatory protein 1 α (MIP-1 α) and MIP-1 β were recorded, but not the anti-inflammatory cytokines, IL-4 or IL-2. In Conclusion, TMEM66 may be associated with the molecular events of MS and may be considered as an MS biomarker for future personalized medicine management approaches.

Author/s	Taha S, Fathallah MD, Bakhiet M.
Title	An interspecies conserved mot.if of the mouse immune system released activating agent (ISRAA) induced proliferative effects on human cells.
Journal	Molecular Medicine Report. 2014; 10(1):75-81.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24821660

ABSTRACT

We have recently described an immune system-released activating agent (ISRAA) as a nervous system-induced factor that stimulates immune responses in the mouse spleen. However, the human ISRAA has not yet been identified. In this study, we examined the effects of the mouse ISRAA protein on human peripheral blood mononuclear cells (PBMCs), to observe if the biological activity of this molecule is consistent between the two different species. Mouse ISRAA demonstrated dose-dependent dualistic effects on human cells, as 5 µg exhibited positive apoptosis and 50 pg exhibited significant proliferation ($P < 0.05$). Furthermore, immunosuppressed cells from patients undergoing immunosuppressive therapy demonstrated significant proliferation to 50 pg ISRAA ($P < 0.05$). Studies to compare sequences in different species revealed a preserved motif, exhibiting 72% similarity with the interspecies conserved signal peptide motif of tumor necrosis factor receptor 1 (TNFR1). A mutant ISRAA lacking this motif was produced and tested for its biological effects. The mutant ISRAA demonstrated neither apoptotic nor proliferative effects compared with wild type. Therefore, an interspecies conserved domain of ISRAA constitutes the active site of the molecule, and its effects on immunocompromised cells should be investigated for future therapies in the treatment of immunosuppressive disorders.

Author/s	Tahira F, Khan HM, Shukia I, Shujatullah F, Malik MA, Shahid M.
Title	Prevalenc of cryposporidium in children with diarrhea in North Indian tertiary care hospital.
Journal	J Community Med Health Edu 2012; 2(3):136. doi:10.4172/2161-0711.1000136.
Available at	https://www.omicsonline.org/peer-reviewed/prevalence-of-cryptosporidium-in-children-with-diarrhea-in-north-indian-tertiary-care-hospital-5314.html

ABSTRACT

Background: Enteric parasitic protozoan of genus cryptosporidium has become an important cause of diarrhoea in developing countries. It is a cause of acute and persistent diarrhoea in immunocompromised and immunocompetent subjects. Methodology: This study was conducted to determine the prevalence of Cryptosporidium spp. as an enteric pathogen causing diarrhoea in children. 250 stool specimens of children with diarrhoea were examined using staining procedures like modified Ziehl-Neelsen (Z.N.) staining, safranine-methylene blue staining after concentration of stool specimens by formol-ether concentration technique and antigen detection ELISA was performed for diagnosis. Results: Modified Z. N. staining and safranine-methylene blue staining were positive in 21 cases while 29 cases were positive by ELISA. Prevalence of Cryptosporidium in children with diarrhoea was found to be 11.6%. Conclusion: High prevalence as noted in this study advocates need to screen for this parasite as a routine diagnostic measure in patients of diarrhoea.

Author/s	Tarailo GM, Shyr C, Ross CJ, Horvath GA, Salvarinova R, Ye XC, Skrypnik C, et al.
Title	Exome sequencing and the management of neurometabolic disorders.
Journal	New England Journal of Medicine. 2016. Jun 9; 374(23):2246-2255.
Available at	http://www.nejm.org/doi/pdf/10.1056/NEJMoa1515792

ABSTRACT

Background: Whole-exome sequencing has transformed gene discovery and diagnosis in rare diseases. Translation into disease-modifying treatments is challenging, particularly for intellectual developmental disorder. However, the exception is inborn errors of metabolism, since many of these disorders are responsive to therapy that targets pathophysiological features at the molecular or cellular level. Methods: To uncover the genetic basis of potentially treatable inborn errors of metabolism, we combined deep clinical phenotyping (the comprehensive characterization of the discrete components of a patient's clinical and biochemical phenotype) with whole-exome sequencing analysis through a semiautomated bioinformatics pipeline in consecutively enrolled patients with intellectual developmental disorder and unexplained metabolic phenotypes. Results: We performed whole-exome sequencing on samples obtained from 47 probands. Of these patients, 6 were excluded, including 1 who withdrew from the study. The remaining 41 probands had been born to predominantly nonconsanguineous parents of European descent. In 37 probands, we identified variants in 2 genes newly implicated in disease, 9 candidate genes, 22 known genes with newly identified phenotypes, and 9 genes with expected phenotypes; in most of the genes, the variants were classified as either pathogenic or probably pathogenic. Complex phenotypes of patients in five families were explained by coexisting monogenic conditions. We obtained a diagnosis in 28 of 41 probands (68%) who were evaluated. A test of a targeted intervention was performed in 18 patients (44%). Conclusions: Deep phenotyping and whole-exome sequencing in 41 probands with intellectual developmental disorder and unexplained metabolic abnormalities led to a diagnosis in 68%, the identification of 11 candidate genes newly implicated in neurometabolic disease, and a change in treatment beyond genetic counseling in 44%.

Author/s	Tayem YI, James HJ, Al-Khaja KAJ, Abdul Razzak RL, Potu BK, Sequeira RP.
Title	Medical students' perceptions of peer assessment in a problem-based learning curriculum.
Journal	Sultan Qaboos University Medical Journal. 2015; 15(3): e376–381.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4554273/

ABSTRACT

Objectives:Peer assessment (PA) is believed to support learning and help students develop both professionally and personally. The aim of this study was to examine medical students' perceptions of intragroup PA in a problem-based learning (PBL) setting.**Methods:**This study was carried out between September and November 2014 and involved six random groups of fourth-year undergraduate medical students (n = 60) enrolled at the Arabian Gulf University in Manama, Bahrain. While working on set tasks within a curriculum unit, each student evaluated a randomly selected peer using an English language adapted assessment tool to measure responsibility and respect, information processing, critical analysis, interaction and collaborative skills. At the end of the unit, students' perceptions of PA were identified using a specifically-designed voluntary and anonymous self-administered questionnaire in English. **Results:**A total of 55 students participated in the study (response rate: 92%). The majority of students reported that their learning (60%), attendance (67%), respect towards group members (70%) and participation in group discussions (71%) improved as a Result of PA. Regarding problem analysis skills, most participants believed that PA improved their ability to analyse problems (65%), identify learning needs (64%), fulfil tasks related to the analysis of learning needs (72%) and share knowledge within their group (74%). Lastly, a large proportion of students reported that this form of assessment helped them develop their communication (71%) and self-assessment skills (73%), as well as collaborative abilities (75%). **Conclusion:**PA was well accepted by the students in this cohort and led to self-reported improvements in learning, skills, attitudes, engagement and other indicators of personal and professional development. PA was also perceived to have a positive impact on intragroup attitudes.

Author/s	Tayem YI, Altabtabaei, AS, Mohamed MW, Arrfedi MM, Aljawder HS, Aldebous FA, James H, Al Khaja KAJ, Sequeira RP.
Title	Competence of medical students in communicating drug therapy: Value of role play demonstrations.
Journal	Indian Journal of Pharmacology.2016; 48(1):37-41.
Available at	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4778204/?report=reader

ABSTRACT

Objectives: This study used role-play demonstrations to train medical students to communicate drug therapy and evaluated the perceptions on this instructional approach. Materials and Methods: The second-year medical students who attended a prescription writing session (n = 133), participated in this study. Prescription communication was introduced by using role-play demonstrations. Participant's perceptions were explored by a self-administered questionnaire and focus group discussion. The academic achievement of attendees and nonattendees was compared with an Objective structured performance evaluation (OSPE) station that tested students' competence in this skill. Results: Most attendees responded to the questionnaire (81.2%). Almost all respondents expressed their desire to have similar demonstrations in other units. A large proportion of participants reported that role-play demonstrations helped them develop their communication skills, in general, confidence to communicate drug-related information in a prescription, and the ability to explain the aim of drug therapy to patients. Most trainees thought also that they developed skills to communicate instructions on drug use including drug dose, frequency of administration, duration of therapy, adverse drug reactions, and warnings. During the focus group interviews, students thought that role-play was useful but would be more beneficial if conducted frequently in small group as part of the curriculum implementation. The majority of students also reported improved competence in writing a complete prescription. Analysis of attendees and nonattendees grades in the OSPE showed that the former scored higher than the latter group (P = 0.016). Conclusions: Role-play demonstrations were well accepted by medical students and led to the development of their competence in communicating drug therapy to patients.

Author/s	Thani K.B, Latif A.A, Garadah T.
Title	Phenytoin therapy for refractory ischemic ventricular tachycardia.
Journal	The Journal of the Kuwait Medical Association. 2015;47(1):59-62 .
Available at	https://www.kma.org.kw/uploads/versions/March%202015.pdf

ABSTRACT

Phenytoin is an antiepileptic drug with some antiarrhythmic properties that are seldom used for refractory ventricular tachycardia in the coronary care units. We present a case of refractory ischemic ventricular tachycardia that cardioversion and parenteral treatment modalities. This case describes the usefulness of phenytoin in life-threatening ventricular tachyarrhythmia when it is refractory to the recommended standard line of treatment and commonly used antiarrhythmic medications.

Author/s	Trifa AP, Bănescu C, Dima D, Bojan AS, Tevet M, Moldovan VG, Vesa ȘC, Murat M, Pop IV, Skrypnyk C , Popp RA.
Title	Among a panel of polymorphisms in genes related to oxidative stress, CAT-262 C>T, GPX1 Pro198Leu and GSTP1 Ile105Val influence the risk of developing BCR-ABL negative myeloproliferative neoplasms.
Journal	Hematology. 2016; 21(9):520-525.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27077777

ABSTRACT

Objective: To analyze the relationship between six polymorphisms in genes related to oxidative stress, namely CAT-262 C>T, MnSOD Ala16Val, GPX1 Pro198Leu, GSTM1 and GSTT1 null genotypes, and GSTP1 Ile105Val, and the occurrence of BCR-ABL negative myeloproliferative neoplasms (polycythemia vera, essential thrombocythemia, and primary myelofibrosis). Methods: We genotyped for these polymorphisms 328 patients with a known mutation status for JAK2 V617F, MPL and CALR, and 363 controls, using molecular genetics assays. Results: The CAT-262 C>T and GPX1 Pro198Leu polymorphisms were seen significantly less frequently, while the GSTP1 IleVal105 polymorphism was seen significantly more frequently in patients with BCR-ABL negative myeloproliferative neoplasms, regardless of the molecular sub-type (e.g. JAK2 V617F or CALR mutated). Discussion and conclusion AND Conclusion: Our study provides evidence that variation in genes related to oxidative stress might modulate the risk of developing BCR-ABL negative myeloproliferative neoplasms.

Author/s	Tripathi T, Khan AA, Shahid M , Dwivedi V, Sarkar S, Siddiqui M, Khan HM, Mahdi AA, Khan RA.
Title	Biochemical alteration of hepatic functions by histamine H3-receptor agonist and antagonist in immunized rabbits.
Journal	Bratislavske Lekarske Listy. 2013; 114(12):675-681.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24329504

ABSTRACT

Aim: The aim of our study was to investigate the functional roles of H3R agonist and antagonist in the development of hepatic functions impairment in immunized rabbits. Methods: The study comprised of six groups containing 18 rabbits in each. Group-I (negative control) and group-II (positive control) received sterile distilled water intramuscularly while Group III-VI received histamine (100 µgkg⁻¹, s.c.), R-[-]-α-methylhistamine (H3R-agonist, 10 µgkg⁻¹, s.c.), iodophenpropit (H3R-antagonist, 1 µgkg⁻¹, i.m.), and the combination of iodophenpropit (1 µgkg⁻¹, i.m.) plus histamine (100 µgkg⁻¹, s.c.), respectively, b.i.d. (12 hours [8 am and 8 pm]) for 10 days. Groups II-VI were immunized on day 3 with intravenous injection of sheep red blood cells (1×10⁹ cells/ml). Results: On each experimental day, the mean values of serum enzymes and bilirubin in group-I and group-II showed no changes while in groups III, IV, V, and VI, these enzymes and bilirubin levels showed significant changes (p<0.05), when compared with their values within the group. Profile of ALT and AST production revealed that ALT and AST levels moderately were changed due to degeneration of the liver. Conclusion: Our Results suggest that R-[-]-α-methylhistamine showed moderate, and histamine and iodophenpropit showed mild degeneration of liver functions; while iodophenpropit plus histamine showed hepatic functions similar to control group. This study suggests that H3R antagonist in combination with histamine may be a non-toxic therapeutic target for histamine research (Fig. 7, Ref. 28).

Author/s	Tripathi T, Khan AA, Shahid M , Khan HM, Siddiqui M, Khan RA, Mahdi AA, Malik A.
Title	Biochemical and histopathological evaluation of histamine receptors (H1R, H2R, H3R and H4R)-agonist in rabbits.
Journal	Experimental and Toxicologic Pathology. 2013; 65(3):271-275.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/22005500

ABSTRACT

The present study was designed to investigate the biochemical and histopathological changes in the livers of rabbits treated with histamine and histamine receptors (H1R-H4R)-agonist. The cohort comprised of six groups containing five rabbits each. Control group received sterile distilled water (1 mL/kg × b.i.d.) and treated groups received subcutaneous histamine (100 µg/kg × b.i.d.) and H1R-H4R-agonist (histamine trifluoro-methyl toluidide, amthamine, R-[-]-α-methylhistamine, clobenpropit, respectively) each in a dose of 10 µg/kg × b.i.d. (12 h [8 am and 8 pm]) for 30 days. Hepatotoxicity due to these agonists was analyzed using biochemical and histopathological methods. Histamine and H1R-H3R-agonist were found to be hepatotoxic as shown by statistically significant ($p < 0.05$) elevated levels of alanine aminotransferase (ALT) and aspartate aminotransferase (AST), most marked in the H3R-agonist group. However, their levels in H4R-agonist group remained very similar to the control group. The entire drug treated groups as compared to control showed significant elevated levels of alkaline phosphatase (ALP). Histopathological examination revealed obvious changes in histamine, H2R- and H3R-agonist groups in terms of alteration of hepatic microstructure, congestion, focal necrosis and increased incidence of multinucleate hepatocytes while H1R and H4R groups showed minimal changes. From the findings of the present study it may be concluded that on repeated administration, histamine and HR-agonists-induced hepatotoxicity which is most pronounced with H3R-agonist though not severe enough to jeopardize the vital functions of liver and warrants further long-term studies.

Author/s	Tripathi T, Khan AA, Shahid M , Khan HM, Siddiqui M, Khan RA, Mahdi AA.
Title	Immunological, biochemical and histopathological evaluation of histamine receptors (H1R, H2R, H3R and H4R) antagonist in rabbit experimental model: short term study.
Journal	Experimental and Toxicologic Pathology.2012; 64(3): 259-266.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/20869857
	ABSTRACT
	<p>The present study was designed to delineate the immuno- and hepatotoxicological roles of HRs-antagonists in vivo which is elementary in existing literature. The cohort comprised of two experimental studies. Experimental study 1 was designed for immunological investigations and consisted of seven groups and immunized with intravenous injection of SRBC at day 3 containing six rabbits each. Experimental study 2 was designed to assess the functional status of liver and comprised of seven groups containing five rabbits each. In both experimental studies group-I received sterile distilled water intramuscularly, and group II-VI received subcutaneous histamine, pheniramine (H1R-antagonist), ranitidine (H2R-antagonist), iodophenpropit (H3R-antagonist) and JNJ7777120 (H4R-antagonist), respectively while group-VII received DMSO intramuscularly. ELISA was used to assess the immunological investigations. The SRBC-specific immunoglobulins (Igs), IgM and IgG were significantly increased ($p < 0.05$). Hepatotoxicity due to same histamine and HRs-antagonists were demonstrated by biochemical and histopathological Methods. Rabbits in group II-VI had significantly ($p < 0.05$) elevated levels of serum enzymes (ALT, AST, ALP) and bilirubin. Histopathological examination showed maintained hepatic lobular architecture in histamine and DMSO-treated groups a kin to control. Notable findings in other groups included increased binuclearity in H1R, trinuclearity in H2R, oxyphilic clusters of hepatocytes in H3R and moderate centrilobular necrosis in H3R and H4R-antagonist-treated groups without obvious inflammatory cell infiltration and Kupffer cell prominence. It is concluded that HRs-antagonist play immune suppressive role through H1R, H2R and H4R while immune enhancing role through H3R. In addition, HRs-antagonists appear moderately hepatotoxic in terms of altered serum enzyme levels and non-inflammatory hepatocellular damage.</p>

Author/s	Turki A, Al-Zaben GS, Khirallah M, Marmouch H, Mahjoub T, Almawi WY.
Title	Gender-dependent associations of CDKN2A/2B, KCNJ11, POLI, SLC30A8, and TCF7L2 variants with type 2 diabetes in (North African) Tunisian Arabs.
Journal	Diabetes Research Clinical Practice. 2014; 103(3):e40-3.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/24485399

ABSTRACT

We investigated the impact of gender on T2DM association with confirmed susceptibility loci. CDKN2A/2B rs10811661, KCNJ11 rs5219, and TCF7L2 rs7903146 were associated with T2DM in females, while POLI rs488846 was associated with T2DM among males; the association of SLC30A8 rs13266634 and TCF7L2 rs4506565, rs12243326, and rs12255372 with T2DM was gender-independent.

Author/s	Turki A, Al-Zaben GS, Mtraoui N, Marmmuoch H, Mahjoub T, Almawi WY.
Title	Transcription factor-7-like 2 gene variants are strongly associated with type 2 diabetes in Tunisian Arab subjects.
Journal	Gene.2013; 513(2): 244-248.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23142382

ABSTRACT

Genome-wide association studies validated transcription factor 7-like 2 (TCF7L2) gene as confirmed type 2 diabetes (T2DM) susceptibility locus, and an ethnic contribution of TCF7L2 variants to T2DM risk was indicated. The aim of this study was to replicate in a Tunisian Arab population identified associations of common TCF7L2 variants with T2DM. We tested the association of TCF7L2 variants: rs4506565, rs7903146, rs12243326, and rs12255372, with T2DM in 900 Tunisian patients and 875 control subjects. TCF7L2 genotyping was done by allelic discrimination/real-time PCR Method. Minor allele frequencies of rs4506565 ($P=2.4 \times 10^{-8}$), rs7903146 ($P=1.2 \times 10^{-6}$), rs12243326 ($P=8.4 \times 10^{-8}$) and rs12255372 ($P=1.1 \times 10^{-5}$) were significantly higher in cases. The four tested TCF7L2 variants were in linkage disequilibrium, and 4-locus (rs4506565, rs7903146, rs12243326, rs12255372) haplotype analysis demonstrated that haplotype 1111 was negatively associated ($P_c < 0.001$), while haplotypes 2222 ($P_c = 0.008$) and 2211 ($P_c = 0.020$) were positively associated with T2DM risk, after controlling for a number of covariates. The strong contribution of TCF7L2 gene variants to T2DM among Tunisians is in line with similar findings in other ethnic groups, confirming TCF7L2 as a common T2DM candidate gene.

Author/s	Turki A, Mahjoub T, Mtiraoui N, Abdelhedi M, Frih A, Almawi WY.
Title	Association of POL1, MALT1, MC4R, PHLPP and DSEL single nucleotide polymorphisms in chromosome 18q region with type 2 diabetes in Tunisians.
Journal	Diabetes Research Clinical Practice. 2013; 527(1):243-247.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23727064

ABSTRACT

Previous studies and replication analyses have linked chromosome 18q21.1-23 with type 2 diabetes (T2DM) and its complications, including diabetic nephropathy (DN). Here we investigated the association of POL1-nearby variant rs488846, MALT1-nearby variant rs2874116, MC4R-nearby variant rs1942872, PHLPP rs9958800 and DSEL-nearby variant rs9966483 single nucleotide polymorphisms (SNPs) in the 18q region, previously linked with DN in African-Americans, with T2DM in (North African) Tunisian subjects, followed by their association with DN, which was performed subsequent to the analysis of the association with T2DM. Study subjects comprised 900 T2DM cases and 748 normoglycemic control, and genotyping was carried out by PCR-RFLP analysis. Of the 5 SNPs analyzed, POL1-nearby variant rs488846 [P=0.044], and MC4R-nearby variant rs1942872 [P=0.012] were associated with moderate risk of T2DM. However, there was a lack of consistency in the association of the 5 tested SNPs with DN. As such, it appears that the three chromosome 18q region variants appear to play a role in T2DM pathogenesis, but not with DN in North African Tunisian Arabs.

Author/s	Turki A, Mtiraoui N, Al-Busaidi AS, Khirallah M, Mahjoub T, Almawi WY.
Title	Lack of association between genetic polymorphisms within KCNQ1 locus and type 2 diabetes in Tunisian Arabs.
Journal	Diabetes Research Clinical Practice. 2012; 98(3): 452-458.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/23107108

ABSTRACT

Aims: Polymorphisms of KCNQ1 were previously associated with type 2 diabetes (T2DM) in select Caucasian and non-Caucasian populations. We investigated the association of rs231361, rs231359, rs151290, rs2237892, rs2283228, rs2237895, and rs2237896 KCNQ1 polymorphisms with T2DM in Tunisian Arabs. Subjects and Methods: Subjects comprised 900 T2DM patients and 600 normoglycemic controls. KCNQ1 genotyping was done by allelic discrimination (real-time PCR) and PCR-RFLP methods; the contribution of KCNQ1 polymorphisms to T2DM were analyzed by Haploview and regression analysis. Results Minor allele frequency (MAF) of the 7 tested KCNQ1 variants was comparable between T2DM cases and controls. Mild association of rs2237892 genotypes with T2DM was seen ($P=0.014$), highlighted by the significant association of the C/T genotype with increased T2DM risk (OR, 2.11; 95%CI, 1.25-3.53), after adjusting for BMI, gender, systolic and diastolic blood pressure, and serum lipid profile. Heterogeneity in linkage disequilibrium pattern between tested KCNQ1 variants analyzed was seen. Two-locus (rs231361 and rs231359) and 5-locus (remaining 5 SNPs) haplotype analysis did not reveal any significant association with any of the haplotypes contained in either block 1 or block 2. Conclusions These results indicate that there was no evidence for an association of KCNQ1 polymorphisms with T2DM in Tunisian Arabs.

Author/s	Vos T, Allen C, Arora M, [...], Hamadeh RR , et al.
Title	Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015.
Journal	The Lancet. 2016; 388 (10053): 1545–602.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27733282

ABSTRACT

Background: Non-fatal outcomes of disease and injury increasingly detract from the ability of the world’s population to live in full health, a trend largely attributable to an epidemiological transition in many countries from causes affecting children, to non-communicable diseases (NCDs) more common in adults. For the Global Burden of Diseases, Injuries, and Risk Factors Study 2015 (GBD 2015), we estimated the incidence, prevalence, and years lived with disability for diseases and injuries at the global, regional, and national scale over the period of 1990 to 2015. Methods: We estimated incidence and prevalence by age, sex, cause, year, and geography with a wide range of updated and standardised analytical procedures. Improvements from GBD 2013 included the addition of new data sources, updates to literature reviews for 85 causes, and the identification and inclusion of additional studies published up to November, 2015, to expand the database used for estimation of non-fatal outcomes to 60 900 unique data sources. Prevalence and incidence by cause and sequelae were determined with DisMod-MR 2.1, an improved version of the DisMod-MR Bayesian meta-regression tool first developed for GBD 2010 and GBD 2013. For some causes, we used alternative modelling strategies where the complexity of the disease was not suited to DisMod-MR 2.1 or where incidence and prevalence needed to be determined from other data. For GBD 2015 we created a summary indicator that combines measures of income per capita, educational attainment, and fertility (the Socio-demographic Index [SDI]) and used it to compare observed patterns of health loss to the expected pattern for countries or locations with similar SDI scores. Findings: We generated 9·3 billion estimates from the various combinations of prevalence, incidence, and YLDs for causes, sequelae, and impairments by age, sex, geography, and year. In 2015, two causes had acute incidences in excess of 1 billion: upper respiratory infections (17·2 billion, 95% uncertainty interval [UI] 15·4–19·2 billion) and diarrhoeal diseases (2·39 billion, 2·30–2·50 billion). Eight causes of chronic disease and injury each affected more than 10% of the world’s population in 2015: permanent caries, tension-type headache,

iron-deficiency anaemia, age-related and other hearing loss, migraine, genital herpes, refraction and accommodation disorders, and ascariasis. The impairment that affected the greatest number of people in 2015 was anaemia, with 2·36 billion (2·35–2·37 billion) individuals affected. The second and third leading impairments by number of individuals affected were hearing loss and vision loss, respectively. Between 2005 and 2015, there was little change in the leading causes of years lived with disability (YLDs) on a global basis. NCDs accounted for 18 of the leading 20 causes of age-standardised YLDs on a global scale. Where rates were decreasing, the rate of decrease for YLDs was slower than that of years of life lost (YLLs) for nearly every cause included in our analysis. For low SDI geographies, Group 1 causes typically accounted for 20–30% of total disability, largely attributable to nutritional deficiencies, malaria, neglected tropical diseases, HIV/AIDS, and tuberculosis. Lower back and neck pain was the leading global cause of disability in 2015 in most countries. The leading cause was sense organ disorders in 22 countries in Asia and Africa and one in central Latin America; diabetes in four countries in Oceania; HIV/AIDS in three southern sub-Saharan African countries; collective violence and legal intervention in two north African and Middle Eastern countries; iron-deficiency anaemia in Somalia and Venezuela; depression in Uganda; onchocerciasis in Liberia; and other neglected tropical diseases in the Democratic Republic of the Congo. Interpretation: Ageing of the world's population is increasing the number of people living with sequelae of diseases and injuries. Shifts in the epidemiological profile driven by socioeconomic change also contribute to the continued increase in years lived with disability (YLDs) as well as the rate of increase in YLDs. Despite limitations imposed by gaps in data availability and the variable quality of the data available, the standardised and comprehensive approach of the GBD study provides opportunities to examine broad trends, compare those trends between countries or subnational geographies, benchmark against locations at similar stages of development, and gauge the strength or weakness of the estimates available.

Author/s	Vos T, Barber RM, Bell B, [...], Hamadeh RR , et al.
Title	Global, regional, and national incidence, prevalence, and YLDs for 301 acute and chronic diseases and injuries for 188 countries, 1990-2013: a systematic analysis for the global burden of disease study 2013.
Journal	The Lancet. 2015; 386(9995):743-800.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26063472

ABSTRACT

Background: Up-to-date evidence about levels and trends in disease and injury incidence, prevalence, and years lived with disability (YLDs) is an essential input into global, regional, and national health policies. In the Global Burden of Disease Study 2013 (GBD 2013), we estimated these quantities for acute and chronic diseases and injuries for 188 countries between 1990 and 2013. Methods: Estimates were calculated for disease and injury incidence, prevalence, and YLDs using GBD 2010 methods with some important refinements. Results for incidence of acute disorders and prevalence of chronic disorders are new additions to the analysis. Key improvements include expansion to the cause and sequelae list, updated systematic reviews, use of detailed injury codes, improvements to the Bayesian meta-regression method (DisMod-MR), and use of severity splits for various causes. An index of data representativeness, showing data availability, was calculated for each cause and impairment during three periods globally and at the country level for 2013. In total, 35 620 distinct sources of data were used and documented to calculate estimates for 301 diseases and injuries and 2337 sequelae. The comorbidity simulation provides estimates for the number of sequelae, concurrently, by individuals by country, year, age, and sex. Disability weights were updated with the addition of new population-based survey data from four countries. Findings: Disease and injury were highly prevalent; only a small fraction of individuals had no sequelae. Comorbidity rose substantially with age and in absolute terms from 1990 to 2013. Incidence of acute sequelae were predominantly infectious diseases and short-term injuries, with over 2 billion cases of upper respiratory infections and diarrhoeal disease episodes in 2013, with the notable exception of tooth pain due to permanent caries with more than 200 million incident cases in 2013. Conversely, leading chronic sequelae were largely attributable to non-communicable diseases, with prevalence estimates for asymptomatic permanent caries and tension-type headache of 2·4

billion and 1.6 billion, respectively. The distribution of the number of sequelae in populations varied widely across regions, with an expected relation between age and disease prevalence. YLDs for both sexes increased from 537.6 million in 1990 to 764.8 million in 2013 due to population growth and ageing, whereas the age-standardised rate decreased little from 114.87 per 1000 people to 110.31 per 1000 people between 1990 and 2013. Leading causes of YLDs included low back pain and major depressive disorder among the top ten causes of YLDs in every country. YLD rates per person, by major cause groups, indicated the main drivers of increases were due to musculoskeletal, mental, and substance use disorders, neurological disorders, and chronic respiratory diseases; however HIV/AIDS was a notable driver of increasing YLDs in sub-Saharan Africa. Also, the proportion of disability-adjusted life years due to YLDs increased globally from 21.1% in 1990 to 31.2% in 2013. Interpretation: Ageing of the world's population is leading to a substantial increase in the numbers of individuals with sequelae of diseases and injuries. Rates of YLDs are declining much more slowly than mortality rates. The non-fatal dimensions of disease and injury will require more and more attention from health systems. The transition to non-fatal outcomes as the dominant source of burden of disease is occurring rapidly outside of sub-Saharan Africa. Our results can guide future health initiatives through examination of epidemiological trends and a better understanding of variation across countries.

Author/s	Wang H, Bhutta ZA, Coates MM, [...], Hamadeh RR , et al.
Title	Global, regional, national, and selected subnational levels of stillbirths, neonatal, infant, and under-5 mortality, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015.
Journal	The Lancet. 2016; 388 (10053): 1725–1774.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27733285

ABSTRACT

Background: Established in 2000, Millennium Development Goal 4 (MDG4) catalysed extraordinary political, financial, and social commitments to reduce under-5 mortality by two-thirds between 1990 and 2015. At the country level, the pace of progress in improving child survival has varied markedly, highlighting a crucial need to further examine potential drivers of accelerated or slowed decreases in child mortality. The Global Burden of Disease 2015 Study (GBD 2015) provides an analytical framework to comprehensively assess these trends for under-5 mortality, age-specific and cause-specific mortality among children under 5 years, and stillbirths by geography over time. Methods: Drawing from analytical approaches developed and refined in previous iterations of the GBD study, we generated updated estimates of child mortality by age group (neonatal, post-neonatal, ages 1-4 years, and under 5) for 195 countries and territories and selected subnational geographies, from 1980-2015. We also estimated numbers and rates of stillbirths for these geographies and years. Gaussian process regression with data source adjustments for sampling and non-sampling bias was applied to synthesise input data for under-5 mortality for each geography. Age-specific mortality estimates were generated through a two-stage age-sex splitting process, and stillbirth estimates were produced with a mixed-effects model, which accounted for variable stillbirth definitions and data source-specific biases. For GBD 2015, we did a series of novel analyses to systematically quantify the drivers of trends in child mortality across geographies. First, we assessed observed and expected levels and annualised rates of decrease for under-5 mortality and stillbirths as they related to the Soci-demographic Index (SDI). Second, we examined the ratio of recorded and expected levels of child mortality, on the basis of SDI, across geographies, as well as differences in recorded and expected annualised rates of change for under-5 mortality. Third, we analysed levels and cause compositions of under-5 mortality, across time and geographies, as they related to rising SDI. Finally, we decomposed the changes in under-5 mortality to changes in SDI at the global level, as well as changes in leading causes of under-5 deaths for countries and territories. We documented each step of the GBD 2015

child mortality estimation process, as well as data sources, in accordance with the Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER). Findings: Globally, 5.8 million (95% uncertainty interval [UI] 5.7-6.0) children younger than 5 years died in 2015, representing a 52.0% (95% UI 50.7-53.3) decrease in the number of under-5 deaths since 1990. Neonatal deaths and stillbirths fell at a slower pace since 1990, decreasing by 42.4% (41.3-43.6) to 2.6 million (2.6-2.7) neonatal deaths and 47.0% (35.1-57.0) to 2.1 million (1.8-2.5) stillbirths in 2015. Between 1990 and 2015, global under-5 mortality decreased at an annualised rate of decrease of 3.0% (2.6-3.3), falling short of the 4.4% annualised rate of decrease required to achieve MDG4. During this time, 58 countries met or exceeded the pace of progress required to meet MDG4. Between 2000, the year MDG4 was formally enacted, and 2015, 28 additional countries that did not achieve the 4.4% rate of decrease from 1990 met the MDG4 pace of decrease. However, absolute levels of under-5 mortality remained high in many countries, with 11 countries still recording rates exceeding 100 per 1000 livebirths in 2015. Marked decreases in under-5 deaths due to a number of communicable diseases, including lower respiratory infections, diarrhoeal diseases, measles, and malaria, accounted for much of the progress in lowering overall under-5 mortality in low-income countries. Compared with gains achieved for infectious diseases and nutritional deficiencies, the persisting toll of neonatal conditions and congenital anomalies on child survival became evident, especially in low-income and low-middle-income countries. We found sizeable heterogeneities in comparing observed and expected rates of under-5 mortality, as well as differences in observed and expected rates of change for under-5 mortality. At the global level, we recorded a divergence in observed and expected levels of under-5 mortality starting in 2000, with the observed trend falling much faster than what was expected based on SDI through 2015. Between 2000 and 2015, the world recorded 10.3 million fewer under-5 deaths than expected on the basis of improving SDI alone. Interpretation: Gains in child survival have been large, widespread, and in many places in the world, faster than what was anticipated based on improving levels of development. Yet some countries, particularly in sub-Saharan Africa, still had high rates of under-5 mortality in 2015. Unless these countries are able to accelerate reductions in child deaths at an extraordinary pace, their achievement of proposed SDG targets is unlikely. Improving the evidence base on drivers that might hasten the pace of progress for child survival, ranging from cost-effective intervention packages to innovative financing mechanisms, is vital to charting the pathways for ultimately ending preventable child deaths by 2030.

Author/s	Wang H, Coates, MM, Coggeshall M, (...), Hamadeh RR , et al.
Title	Global, regional, national, and selected subnational levels of stillbirths, neonatal, infant, and under-5 mortality, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015.
Journal	The Lancet. 2016; 388(10053):1725-1774.
Available at	http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)31575-6.pdf

ABSTRACT

Background Established in 2000, Millennium Development Goal 4 (MDG4) catalysed extraordinary political, financial, and social commitments to reduce under-5 mortality by two-thirds between 1990 and 2015. At the country level, the pace of progress in improving child survival has varied markedly, highlighting a crucial need to further examine potential drivers of accelerated or slowed decreases in child mortality. The Global Burden of Disease 2015 Study (GBD 2015) provides an analytical framework to comprehensively assess these trends for under-5 mortality, age-specific and cause-specific mortality among children under 5 years, and stillbirths by geography over time. Methods Drawing from analytical approaches developed and refined in previous iterations of the GBD study, we generated updated estimates of child mortality by age group (neonatal, post-neonatal, ages 1–4 years, and under 5) for 195 countries and territories and selected subnational geographies, from 1980–2015. We also estimated numbers and rates of stillbirths for these geographies and years. Gaussian process regression with data source adjustments for sampling and non-sampling bias was applied to synthesise input data for under-5 mortality for each geography. Age-specific mortality estimates were generated through a two-stage age–sex splitting process, and stillbirth estimates were produced with a mixed-effects model, which accounted for variable stillbirth definitions and data source-specific biases. For GBD 2015, we did a series of novel analyses to systematically quantify the drivers of trends in child mortality across geographies. First, we assessed observed and expected levels and annualised rates of decrease for under-5 mortality and stillbirths as they related to the Socio-demographic Index (SDI). Second, we examined the ratio of recorded and expected levels of child mortality, on the basis of SDI, across geographies, as well as differences in recorded and expected annualised rates of change for under-5 mortality. Third, we analysed levels and cause compositions of under-5 mortality, across time and geographies, as they related to rising SDI. Finally, we decomposed the changes in under-5 mortality to changes in SDI at the global level, as well as changes in

leading causes of under-5 deaths for countries and territories. We documented each step of the GBD 2015 child mortality estimation process, as well as data sources, in accordance with the Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER). Findings Globally, 5.8 million (95% uncertainty interval [UI] 5.7–6.0) children younger than 5 years died in 2015, representing a 52.0% (95% UI 50.7–53.3) decrease in the number of under-5 deaths since 1990. Neonatal deaths and stillbirths fell at a slower pace since 1990, decreasing by 42.4% (41.3–43.6) to 2.6 million (2.6–2.7) neonatal deaths and 47.0% (35.1–57.0) to 2.1 million (1.8–2.5) stillbirths in 2015. Between 1990 and 2015, global under-5 mortality decreased at an annualised rate of decrease of 3.0% (2.6–3.3), falling short of the 4.4% annualised rate of decrease required to achieve MDG4. During this time, 58 countries met or exceeded the pace of progress required to meet MDG4. Between 2000, the year MDG4 was formally enacted, and 2015, 28 additional countries that did not achieve the 4.4% rate of decrease from 1990 met the MDG4 pace of decrease. However, absolute levels of under-5 mortality remained high in many countries, with 11 countries still recording rates exceeding 100 per 1000 livebirths in 2015. Marked decreases in under-5 deaths due to a number of communicable diseases, including lower respiratory infections, diarrhoeal diseases, measles, and malaria, accounted for much of the progress in lowering overall under-5 mortality in low-income countries. Compared with gains achieved for infectious diseases and nutritional deficiencies, the persisting toll of neonatal conditions and congenital anomalies on child survival became evident, especially in low-income and low-middle-income countries. We found sizeable heterogeneities in comparing observed and expected rates of under-5 mortality, as well as differences in observed and expected rates of change for under-5 mortality. At the global level, we recorded a divergence in observed and expected levels of under-5 mortality starting in 2000, with the observed trend falling much faster than what was expected based on SDI through 2015. Between 2000 and 2015, the world recorded 10.3 million fewer under-5 deaths than expected on the basis of improving SDI alone.

Author/s	Wang H, Liddell CA, Coates MM, [...], Hamadeh RR , et al.
Title	Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013.
Journal	The Lancet. 2014; 384(9947):957-979.
Available at	http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(14)60497-9.pdf

ABSTRACT

Background: Remarkable financial and political efforts have been focused on the reduction of child mortality during the past few decades. Timely measurements of levels and trends in under-5 mortality are important to assess progress towards the Millennium Development Goal 4 (MDG 4) target of reduction of child mortality by two thirds from 1990 to 2015, and to identify models of success. Methods: We generated updated estimates of child mortality in early neonatal (age 0-6 days), late neonatal (7-28 days), postneonatal (29-364 days), childhood (1-4 years), and under-5 (0-4 years) age groups for 188 countries from 1970 to 2013, with more than 29,000 survey, census, vital registration, and sample registration datapoints. We used Gaussian process regression with adjustments for bias and non-sampling error to synthesise the data for under-5 mortality for each country, and a separate model to estimate mortality for more detailed age groups. We used explanatory mixed effects regression models to assess the association between under-5 mortality and income per person, maternal education, HIV child death rates, secular shifts, and other factors. To quantify the contribution of these different factors and birth numbers to the change in numbers of deaths in under-5 age groups from 1990 to 2013, we used Shapley decomposition. We used estimated rates of change between 2000 and 2013 to construct under-5 mortality rate scenarios out to 2030. Findings: We estimated that 6.3 million (95% UI 6.0-6.6) children under-5 died in 2013, a 64% reduction from 17.6 million (17.1-18.1) in 1970. In 2013, child mortality rates ranged from 152.5 per 1000 livebirths (130.6-177.4) in Guinea-Bissau to 2.3 (1.8-2.9) per 1000 in Singapore. The annualised rates of change from 1990 to 2013 ranged from -6.8% to 0.1%. 99 of 188 countries, including 43 of 48 countries in sub-Saharan Africa, had faster decreases in child mortality during 2000-13 than during 1990-2000. In 2013, neonatal deaths accounted for 41.6% of under-5 deaths compared with 37.4% in 1990. Compared with 1990, in 2013, rising numbers of births, especially in sub-Saharan Africa, led to 1.4 million more child deaths, and rising income per person and maternal education led to 0.9 million and 2.2 million fewer deaths, respectively.

Changes in secular trends led to 4.2 million fewer deaths. Unexplained factors accounted for only -1% of the change in child deaths. In 30 developing countries, decreases since 2000 have been faster than predicted attributable to income, education, and secular shift alone. Interpretation: Only 27 developing countries are expected to achieve MDG 4. Decreases since 2000 in under-5 mortality rates are accelerating in many developing countries, especially in sub-Saharan Africa. The Millennium Declaration and increased development assistance for health might have been a factor in faster decreases in some developing countries. Without further accelerated progress, many countries in west and central Africa will still have high levels of under-5 mortality in 2030.

Author/s	Wang H, Naghavi M, Allen C, Ryan M, [...], Hamadeh RR , et al.
Title	Global, regional, and national life expectancy, all-cause and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015.
Journal	The Lancet 2016; 388(10053): 1459–1544.
Available at	http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)31012-1.pdf

ABSTRACT

Background: Improving survival and extending the longevity of life for all populations requires timely, robust evidence on local mortality levels and trends. The Global Burden of Disease 2015 Study (GBD 2015) provides a comprehensive assessment of all-cause and cause-specific mortality for 249 causes in 195 countries and territories from 1980 to 2015. These results informed an in-depth investigation of observed and expected mortality patterns based on sociodemographic measures. Methods: We estimated all-cause mortality by age, sex, geography, and year using an improved analytical approach originally developed for GBD 2013 and GBD 2010. Improvements included refinements to the estimation of child and adult mortality and corresponding uncertainty, parameter selection for under-5 mortality synthesis by spatiotemporal Gaussian process regression, and sibling history data processing. We also expanded the database of vital registration, survey, and census data to 14 294 geography-year datapoints. For GBD 2015, eight causes, including Ebola virus disease, were added to the previous GBD cause list for mortality. We used six modelling approaches to assess cause-specific mortality, with the Cause of Death Ensemble Model (CODEm) generating estimates for most causes. We used a series of novel analyses to systematically quantify the drivers of trends in mortality across geographies. First, we assessed observed and expected levels and trends of cause-specific mortality as they relate to the Socio-demographic Index (SDI), a summary indicator derived from measures of income per capita, educational attainment, and fertility. Second, we examined factors affecting total mortality patterns through a series of counterfactual scenarios, testing the magnitude by which population growth, population age structures, and epidemiological changes contributed to shifts in mortality. Finally, we attributed changes in life expectancy to changes in cause of death. We documented each step of the GBD 2015 estimation processes, as well as data sources, in accordance with Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER). Findings: Globally, life expectancy from birth increased from 61·7 years (95% uncertainty interval 61·4-61·9) in 1980 to 71·8 years (71·5-72·2) in 2015. Several countries in sub-Saharan Africa had very large gains in life expectancy from 2005 to 2015, rebounding from an era of exceedingly high loss of life due to HIV/AIDS. At the same time, many geographies saw life expectancy stagnate or decline, particularly for men and in countries with rising mortality from war or interpersonal violence. From 2005 to 2015, male life expectancy in Syria dropped

by 11·3 years (3·7-17·4), to 62·6 years (56·5-70·2). Total deaths increased by 4·1% (2·6-5·6) from 2005 to 2015, rising to 55·8 million (54·9 million to 56·6 million) in 2015, but age-standardised death rates fell by 17·0% (15·8-18·1) during this time, underscoring changes in population growth and shifts in global age structures. The result was similar for non-communicable diseases (NCDs), with total deaths from these causes increasing by 14·1% (12·6-16·0) to 39·8 million (39·2 million to 40·5 million) in 2015, whereas age-standardised rates decreased by 13·1% (11·9-14·3). Globally, this mortality pattern emerged for several NCDs, including several types of cancer, ischaemic heart disease, cirrhosis, and Alzheimer's disease and other dementias. By contrast, both total deaths and age-standardised death rates due to communicable, maternal, neonatal, and nutritional conditions significantly declined from 2005 to 2015, gains largely attributable to decreases in mortality rates due to HIV/AIDS (42·1%, 39·1-44·6), malaria (43·1%, 34·7-51·8), neonatal preterm birth complications (29·8%, 24·8-34·9), and maternal disorders (29·1%, 19·3-37·1). Progress was slower for several causes, such as lower respiratory infections and nutritional deficiencies, whereas deaths increased for others, including dengue and drug use disorders. Age-standardised death rates due to injuries significantly declined from 2005 to 2015, yet interpersonal violence and war claimed increasingly more lives in some regions, particularly in the Middle East. In 2015, rotaviral enteritis (rotavirus) was the leading cause of under-5 deaths due to diarrhoea (146 000 deaths, 118 000-183 000) and pneumococcal pneumonia was the leading cause of under-5 deaths due to lower respiratory infections (393 000 deaths, 228 000-532 000), although pathogen-specific mortality varied by region. Globally, the effects of population growth, ageing, and changes in age-standardised death rates substantially differed by cause. Our analyses on the expected associations between cause-specific mortality and SDI show the regular shifts in cause of death composition and population age structure with rising SDI. Country patterns of premature mortality (measured as years of life lost [YLLs]) and how they differ from the level expected on the basis of SDI alone revealed distinct but highly heterogeneous patterns by region and country or territory. Ischaemic heart disease, stroke, and diabetes were among the leading causes of YLLs in most regions, but in many cases, intraregional results sharply diverged for ratios of observed and expected YLLs based on SDI. Communicable, maternal, neonatal, and nutritional diseases caused the most YLLs throughout sub-Saharan Africa, with observed YLLs far exceeding expected YLLs for countries in which malaria or HIV/AIDS remained the leading causes of early death. Interpretation: At the global scale, age-specific mortality has steadily improved over the past 35 years; this pattern of general progress continued in the past decade. Progress has been faster in most countries than expected on the basis of development measured by the SDI. Against this background of progress, some countries have seen falls in life expectancy, and age-standardised death rates for some causes are increasing. Despite progress in reducing age-standardised death rates, population growth and ageing mean that the number of deaths from most non-communicable causes are increasing in most countries, putting increased demands on health systems.

Author/s	Wang H, Wolock TM, Carter A, [...], Hamadeh RR, et al.
Title	Estimates of global, regional, and national incidence, prevalence, and mortality of HIV, 1980-2015: the Global Burden of Disease Study 2015.
Journal	The Lancet HIV. 2016; 3: e361–387
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27470028

ABSTRACT

Background: Timely assessment of the burden of HIV/AIDS is essential for policy setting and programme evaluation. In this report from the Global Burden of Disease Study 2015 (GBD 2015), we provide national estimates of levels and trends of HIV/AIDS incidence, prevalence, coverage of antiretroviral therapy (ART), and mortality for 195 countries and territories from 1980 to 2015. Methods: For countries without high-quality vital registration data, we estimated prevalence and incidence with data from antenatal care clinics and population-based seroprevalence surveys, and with assumptions by age and sex on initial CD4 distribution at infection, CD4 progression rates (probability of progression from higher to lower CD4 cell-count category), on and off antiretroviral therapy (ART) mortality, and mortality from all other causes. Our estimation strategy links the GBD 2015 assessment of all-cause mortality and estimation of incidence and prevalence so that for each draw from the uncertainty distribution all assumptions used in each step are internally consistent. We estimated incidence, prevalence, and death with GBD versions of the Estimation and Projection Package (EPP) and Spectrum software originally developed by the Joint United Nations Programme on HIV/AIDS (UNAIDS). We used an open-source version of EPP and recoded Spectrum for speed, and used updated assumptions from systematic reviews of the literature and GBD demographic data. For countries with high-quality vital registration data, we developed the cohort incidence bias adjustment model to estimate HIV incidence and prevalence largely from the number of deaths caused by HIV recorded in cause-of-death statistics. We corrected these statistics for garbage coding and HIV misclassification. Findings: Global HIV incidence reached its peak in 1997, at 3.3 million new infections (95% uncertainty interval [UI] 3.1-3.4 million). Annual incidence has stayed relatively constant at about 2.6 million per year (range 2.5-2.8 million) since 2005, after a period of fast decline between 1997 and 2005. The number of people living with HIV/AIDS has been steadily increasing and reached 38.8 million (95% UI 37.6-40.4 million) in 2015. At the same time, HIV/AIDS mortality has been declining at a steady pace, from a peak of 1.8 million deaths (95% UI 1.7-1.9 million) in 2005, to 1.2 million deaths

(1·1-1·3 million) in 2015. We recorded substantial heterogeneity in the levels and trends of HIV/AIDS across countries. Although many countries have experienced decreases in HIV/AIDS mortality and in annual new infections, other countries have had slowdowns or increases in rates of change in annual new infections. Interpretation: Scale-up of ART and prevention of mother-to-child transmission has been one of the great successes of global health in the past two decades. However, in the past decade, progress in reducing new infections has been slow, development assistance for health devoted to HIV has stagnated, and resources for health in low-income countries have grown slowly. Achievement of the new ambitious goals for HIV enshrined in Sustainable Development Goal 3 and the 90-90-90 UNAIDS targets will be challenging, and will need continued efforts from governments and international agencies in the next 15 years to end AIDS by 2030.

Author/s	Zidi S, Gazouani E, Stayoussef M, Mezlini A, Ahmed SK, Yacoubi-Loueslati B, Almawi WY.
Title	IL-10 gene promoter and intron polymorphisms as genetic biomarkers of cervical cancer susceptibility among Tunisians.
Journal	Cytokine. 2015; 76(2):343-347.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/26076679

ABSTRACT

Objective: We investigated the association between polymorphisms in the promoter and intron regions of the interleukin-10 (IL-10) gene with the risk of cervical cancer (CC) in Tunisian patients and control women. Methods: Study subjects comprised 86 CC cases and 126 control women. Genotyping of IL-10 intron (rs3024491, rs3024490) and promoter (rs1800872, rs1800871, rs1800896) variants was done by real-time PCR, with defined clusters. Results: The minor allele frequencies of the five tested IL-10 SNPs were not significantly different between cervical cancer cases and control women. However, significantly higher frequencies of homozygous minor allele-carriers in cases was seen for rs3024490 ($P=0.023$), rs1800872 ($P=0.037$), and rs1800871 ($P=0.028$). IL-10 serum levels were significantly reduced in rs3024490 T/T vs. G/G genotype carriers, and in rs1800871 T/T than C/C genotype carriers. While carriage of rs1800872 and rs3024491 minor allele was associated with reduced IL-10 secretion, this was not statistically significant. Haploview analysis demonstrated high linkage disequilibrium (LD) among the IL10 SNPs studied, and only seven haplotypes were common, capturing 98.8% of the total possible haplotypes. Reduced frequency of haplotypes GTCCA ($P<0.001$) and TGATG ($P<0.001$) was seen in cervical cancer cases than in control women, thus conferring disease protection nature to these haplotype. This association remained significant for GTCCA ($P_c=0.006$) and TGATG ($P=0.045$) after correcting for multiple comparisons. Conclusion: Specific IL-10 variants (rs3024490, rs1800872, and rs1800871) and haplotype (GTCCA and TGATG) may contribute to the development of cervical cancer among Tunisian women.

Author/s	Zidi S, Stayoussef M, Alsaleh BL, Almawi WY , et al.
Title	Relationships between common and novel Interleukin-6 gene polymorphisms and risk of cervical cancer: A case-control study.
Journal	Pathology & Oncology Research. 2016;1-8.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27722983

ABSTRACT

We investigated the association between six common and novel interleukin-6 (IL-6) polymorphisms with the risk of cervical cancer (CC) among Tunisians. Study subjects comprised 112 CC cases and 164 control women. Genotyping of IL-6 rs2069845, rs2069840, rs1474348, rs1800795, rs1800797, rs2069827 variants was done by real-time PCR, with defined clusters. The allelic and genotypic distributions of the tested IL-6 SNPs were comparable between CC patients and control women. Stratification according to FIGO staging revealed that rs1800795 homozygous major allele genotype ($P = 0.033$; $OR = 0.49(0.25-0.95)$) and major allele ($P = 0.037$; $OR = 0.57 (0.33-0.97)$) were protective of CC. Moreover, carriage of rs1474348 major allele was also protective of CC ($P = 0.014$; $OR = 0.53(0.32-0.88)$), while higher rs1474348 minor allele frequency was seen in CC patients with early FIGO stage ($P = 0.044$; $OR = 0.39 (0.15-1.00)$), thus implicating rs1474348 in CC evolution and progression of angiogenesis. Haploview analysis demonstrated high linkage disequilibrium (LD) between rs2069845, rs2069840, rs1474348 and rs1800795, and 6-locus haplotype analysis identified GACCCA haplotype to be positively associated with increased CC, while GAGGGG haplotype was negatively associated with CC, thus suggesting a protective role for this haplotype in CC. Furthermore, there was a significant association between the incidence of CC and the use hormonal contraception ($P = 0.047$; $OR = 1.97 (0.94-4.13)$) and smoking ($P < 0.001$; $OR = 7.12 (2.97-17.04)$). The IL-6 variants rs1800795 and rs1474348, and haplotypes GACCCA and GAGGGG, along with use of hormonal contraceptives and smoking, are major risk factors of CC susceptibility and evolution among Tunisian women.

Author/s	Zidi S, Stayoussef M, Alsaleh BL, Almawi WY , et al.
Title	Effect of follicle stimulating hormone receptor gene polymorphisms in cervical cancer risk.
Journal	Pathology & Oncology Research. 2016; 1–8.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/27844329

ABSTRACT

For the first time in the world, we investigated the association between five FSHR polymorphisms with the risk of cervical cancer among Tunisians. Study subjects comprised 112 Cervical Cancer (CC) patients and 164 control women. Genotyping of FSHR rs6166, rs1007541, rs11692782, rs2055571 and rs1394205 variants was done by realtime PCR, with defined clusters. The allelic distributions of the tested FSHR SNPs were comparable between CC patients and control women. In contrast, the heterozygous genotype of rs1007541 was associated with 1.8-fold increased risk of CC. Stratification according to FIGO staging revealed that the minor allele of rs1007541 was more frequent among advanced tumor stage patients, with 11-fold increased risk of CC [P < 0.0001; OR (95 % CI) = 11.32 (7.46-17.18)]. However, no significant allelic association was revealed in the rest of analyzed FSHR SNPs. Haploview analysis showed high Linkage disequilibrium (LD) between rs2055571 and rs1394205. Haplotype analysis revealed a lack of association between cases and controls. However, analysis of CC patient subgroups demonstrated enrichment of GGTAG haplotype in early tumor stage [P = 0.025; OR (95 % CI) = 0.07 (0.01-0.70)]. The FSHR variants and haplotypes may be a genetic markers for CC susceptibility and evolution among Tunisian women.

Author/s	Zidi S, Stayoussef M, Gazouani E, Mezlini A, Yacoubi-Loueslati B, Almawi WY.
Title	Relationship of common vascular endothelial growth factor polymorphisms and haplotypes with the risk of cervical cancer in Tunisians.
Journal	Cytokine. 2015; 74(1):108-112.
Available at	https://www.ncbi.nlm.nih.gov/pubmed/25541433

ABSTRACT

Objective: We investigated the association between common vascular endothelial growth factor (VEGF) single nucleotide polymorphisms (SNPs) and the risk of cervical cancer (CC) in Tunisian patients and control women. Methods: Study subjects comprised 86 CC cases and 124 control women. Genotyping of VEGF rs699947, rs833061, rs1570360, rs2010963, rs25648, rs833068, rs833070, rs3025039 SNPs was done by real-time PCR. Results: Higher minor allele frequencies (MAF) of rs699947 (-2578C/A) [P=0.04; OR (95% CI)=1.52 (1.02-2.29)], and rs1570360 (-1154G/A) [P=0.04; OR (95% CI)=1.58 (1.01-2.47)] were seen in CC cases compared to control women. Marked differences in the distribution of rs699947 (P=9×10(-4)) and rs1570360 (P=0.03) genotypes were seen between CC cases and control groups; the distribution of the remaining SNPs was comparable between CC cases and control women. The association of rs699947 and rs1570360 with heightened CC risk with was seen in the heterozygous, and more so in the homozygous states. Haploview analysis revealed high LD between rs699947, rs833061, rs1570360, rs2010963, rs25648, rs833068 and rs833070 but weak or no LD between rs3025039 and the other SNPs. Seven-locus (rs699947/rs833061/rs1570360/rs2010963/rs25648/rs833068/ rs833070) haploview analysis identified only CTGCCAG haplotype to be positively associated with CC [P=0.022; OR(95% CI)=1.74 (1.08-2.79)]. Conclusion: Specific VEGF variants (rs699947, rs1570360) and haplotype (CTGCCAG) may contribute to the development of CC among Tunisian women.

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