

Abstracts of Community Health Projects Conducted by Medical Students at the Kuwait University - Academic Year 2002-2003

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This is a list of Community Medicine projects completed by the 6th year medical students in partial fulfillment of their graduation requirements. These projects were tutored by the academic staff of the Department of Community Medicine, Faculty of Medicine, Kuwait University, Jabriyah, 5th floor, Tel: 531-9485.

1. Contraceptive Use among Married Female Students in Kuwait University

Aceel Al-Awadi, Athari Al-Majed, Mishal Hussain, and Tareq Dashti
Tutor: Dr Anjum Memon

Objectives: To study the pattern and use of contraceptive methods among married female students at Kuwait university and factors associated with such use.

Methods: A survey was conducted among married female students at the Health Sciences Center, Arts, Engineering, Science, Islamic Jurisprudence, Education, and Business Administration faculties of Kuwait University. Data were collected by a self-administered questionnaire, which was distributed to a total of 300 students. Of these, 285 students returned a completed questionnaire, yielding a response rate of 95%.

Results: About 42% of the married female students were ever users; of those 76.7% are currently using some form of contraception. Oral contraceptive pills were the most preferred method used, followed by traditional methods. About half of the students used contraception for the first time after they had their first child, although a high percentage used it directly after marriage. Students reported that the difficulty to cope between studying and raising a child was the main reason for their use, followed by spacing between children. On the other hand, students who have never used contraception said that the main reason for their non-use was the fear of side effect followed by husband prohibition. The majority of the respondents consulted a gynecologist from whom they obtained a professional advice about contraception.

Conclusion: Although Kuwait university female students have a good knowledge about contraception, there is a continuous need for more information to be provided."

2. The Effect of Undocumented Legal Status "Bidoon" on Adverse Obstetrical Events in Kuwait

Adel Ali, Asrar Youssef, Rawan Hashem, Mohammed Al-Khalifa
Tutor: Dr Salim Adib

Introduction: The access to health care by the stateless residents of Kuwait "Bidoons" may be limited by their low social and economic status.

Objectives: A cross-sectional survey was conducted to assess and describe the relationship between utilization of ante-natal health care services by Bidoon and Kuwaiti women and adverse outcomes of delivery.

Methods: Interviews were conducted during one week in the obstetric departments in Jahra and Farwaniya district hospitals with all Bidoon and Kuwaiti women delivering during that period. Additional demographic and medical data were obtained directly from medical files.

Results: Of 131 women interviewed, 42% were Bidoons with a median age of 30 years and 58%

Kuwaitis with a median age of 28 ($p=0.049$). Bidoon women are less educated, less likely to have an outside employment, had a lower family income and a higher household density than Kuwaiti women. The rate of miscarriage was lower among Kuwaiti mothers (21.1%) compared to Bidoon ones (38.2%) ($p=0.032$). Kuwaiti mothers had higher rate of prematurity (28.9%) compared to Bidoon mothers (12.7%) ($p=0.027$). There were no significant differences between Kuwaiti and Bidoon mothers in rates of gestational diabetes, stillbirth, C-sections or instrumental deliveries, or infants APGAR 5 scores. Discussion: Bidoon women reported more miscarriages but this difference was confounded by higher parity. Kuwaiti women reported more premature deliveries. It is possible that social difficulties of Bidoons impact on the quality, timing, and frequency of their contact with the health care system in the early phase of pregnancy, leading to early fetal wastage. Those Bidoon women whose pregnancy survives early obstacles are then more likely to have a healthier and less complicated term delivery.”

3. Gender Differences in Self-Reported Compliance to Antihypertensive Treatment among Kuwaitis

Dherar Al-Roudhan, Ali Al-Humaidan, and Ahmed Al-Houti
Tutor: Prof Nasra Shah

Objectives: 1. To assess compliance with antihypertensive treatment among Kuwaiti hypertensive patients. 2. To measure the degree of differences in compliance among males and females. 3. To examine the reasons of differences in compliance between men and women.

Methodology: The sample was 202 subjects attending the medical out patients of Amiri and Mubarak hospitals of whom 194 were successfully interviewed by us. The response rate was 96%.

Results: Females reported a significantly higher compliance score to antihypertensive treatment than males (mean score=75.8% and 69.7% respectively). Compliance with medication was higher in both sexes according to age and lower in terms of education and income. Reasons for non-compliance were given as forgetfulness and multiple doses of the drug. The majority (80-90%) were given information on diet and exercise instructions. Less than 20% were given information on the side effects of the medications. Compliance was higher among those with less serious conditions. There was no clear pattern of association between duration of disease and compliance.

Conclusion: It might be expected that compliance with treatment regimens would improve by providing better packaging of anti hypertensive drugs and more health education aimed at both men and women about the nature of the disease, complications and side effects of medication.”

4. Smoking Habit and Validity of Self-Reporting in Final Year Intermediate Schoolboys in Kuwait

Ahmed Al-Romh, Mohammad al-Kandari, Mohsen Al-Ajmi, and Tariq Al-Fahad
Tutors: Drs Lukman Thalib and Manal Bouhaimed

Introduction: Although smoking is recognized to be a major preventable cause of morbidity and mortality around the globe, little information is available on the prevalence of smoking among young teenagers in Kuwait. The objective of this study was to determine the prevalence of smoking and the major factors that influence smoking among 4th year intermediate schoolboys in Kuwait. The study also aimed to test the validity of the self-reported prevalence in this age group.

Methods: Both self-administered questionnaires as well as cotinine saliva tests were used to study the smoking prevalence, habits and its validity. In total, 440 boys were studied, out of which 100 were subjected to saliva test.

Results and discussion: Of 440 subjects, 21.7% are lifetime smokers, 6.3% were current smokers, and

78.3% were non-smokers. The most common age of initiation was 11-12 years reported by about 40%. The most frequent number of cigarettes smoked per day was 4-10 cigarettes/day, 33.4%. Hidden places were the favorite places for smokers, (62.6%) while about 78% indicated they buy their cigarettes from corner shops. Smokers (80.4%) appeared to have more friends who smoke. The most common (60.2%) reason for start smoking was friends' influence. Smokers (4.5%) demonstrated lower level of academic performance compared to non-smokers (18.4%). The validity of self-reporting was found to be less than half. Saliva test showed about 15% currently smoke while only 6% admitted to be currently smoking.

Conclusion: This study suggests that under-reporting of smoking status in the 4th year intermediate schoolboys, social and cultural desirability of non-smoking status may have contributed to this. Smoking behavior was also found to be related to smoking environment in family and friends and socioeconomic factors.”

5. Environmental Concern among High School Teachers in Kuwait

Doaa Al-Morsy, Elaf Ani, Hiba Al-Wayel, and Hoda El-Tomi
Tutor: Prof Ivana Jevremovic

Objectives: To assess the environmental awareness (in terms of attitudes and practice) in high school teachers in Kuwait, and to study the extent of their environmental worry. Another objective was to assess the relationship between environmental awareness and worry, and how they vary with different sociodemographic variables.

Methodology: A cross-sectional study was conducted using a random multistage cluster sample design. The target population comprised public high school teachers (male and female) in 2 governorates, Hawalli and Ahmadi. Data collection occurred during 21-24 September 2002 using a structured anonymous self-administered questionnaire. The questions referred to: socio-demographic data, environmental awareness and environmental worry.

Results: Of the 461 teachers approached, 449 completed the questionnaire, yielding a response rate of 97%. The mean score for environmental awareness and environmental worry were 25.9 and 27.6 respectively, being slightly above 50% of the total scores. It was found that both scores increased with increasing age, years of experience, level of education of the spouse, presence of children and being non-Kuwaiti. Males scored higher, with the difference reaching significance only in the part concerning environmental worry. Other variables tested showed no significant relationship. The level of teachers' environmental worry was positively related to their attitudes and practices. **Conclusion:** There is room for improvement of teachers' environmental concern, and they should be made aware of their roles as models in conveying it to the students. Formal classes on the importance of the environment and its protection should be organized for the students, preceded by the “education of the educators”.

6. Blood Pressure and Work Stress among Kuwaiti Female High School Teachers

Nouf Al-Humair, Al-Shaima'a Al-Shemmeri, and Suad Al-Enezy
Tutor: Prof Mohamed AA Moussa

Objectives: (1) To measure systolic and diastolic blood pressure, weight, and height of Kuwaiti female high school teachers; (2) To investigate the influence of work stress on blood pressure; (3) To study some associated factors that may affect blood pressure such as sociodemographic characteristics, obesity, nature of diet, physical activity, smoking, consanguinity, and family history of related diseases.

Methods: A cross-sectional sampling survey was conducted including 239 Kuwaiti female teachers selected from six high schools in Hawalli and Ahmadi governorates. Self-administered questionnaire was used to collect the data, which included four sections: sociodemographic

characteristics, measurements, factors associated with blood pressure, and work-related stress.

Results: Blood pressure among teachers was found to be significantly associated with marital status, $p = 0.011$), being higher among divorced and widowed teachers. There was also significant difference in mean systolic blood pressure according to physical activity levels, $p = 0.003$. Similarly, diastolic blood pressure was found to be significantly associated with physical activity, $p = 0.029$. Mean diastolic blood pressure was significantly higher in those teachers who reported corticosteroids intake, $p=0.038$ and those with family history of hypertension, $p = 0.01$. Age was significantly associated with both systolic and diastolic blood pressure, $p < 0.001$. Significant association was found between BMI, and systolic and diastolic blood pressure, $p = 0,038$ and 0.001 respectively. With respect to work stress among participants, age was significantly correlated with the total score measured by stress.

Conclusion: The relation between blood pressure and work stress is difficult to establish by a cross-sectional study of this nature. It is also not feasible to objectively measure work stress separately in isolation of other sources of stress. Consequently, further investigation is required to study this relation due to its important implication in occupational health.”

7. Health and Hygiene Facilities among Prisoners in the Central Prison of Kuwait

Kholoud Al-Oumi, Dalal Al-Matrouk, and Fatma Al-Jadi
Tutor: Prof Zoran Radovanovic

Objectives: 1) To evaluate qualitatively the health services, hygiene and the health status of prisoners in the Central Prison; 2) To investigate the perception of prisoners, medical staff and the management toward this issue; 3) To compare the current practice against the legislative background.

Methods: Data were collected between 21st and 25th September 2002. Prisoners and the staff in the Central Prison were selected as the target population. Information was based on the following sources: the Prison Administration Act, Statistical Department, and the Manager of the Central Prison, repeated visits to the jail and in-depth interview with the prisoners and staff.

Results: Overcrowding was apparent, since the prison accommodates 4 times in-mates beyond its capacity. This in turn creates pressure on the health and hygienic facilities. Hygienic and housekeeping services were very poor, with inadequate maintenance of basic cleaning routines. The health care services with all its components; building, equipment and personnel, were very much below the optimal level that should be provided.

Conclusion: 1) Living conditions are generally below the acceptable standards. 2) Hygienic conditions also do not meet requirements a modern and humane correctional institution should meet. 3) Health care needs for prisoners are not adequately met. 4) The legislative basis for hygienic and health standards in the prisons in Kuwait has not been strictly followed.”

8. The Prevalence of Anxiety and Depression among Nurses in Different Hospitals in Kuwait

Nouf Muhammed, Naela Al-Mazeedi, and Abeer Al-Mutawa
Tutor: Dr Joseph C Longenecker

Objectives: 1) To determine the prevalence of anxiety and depression among nurses in Kuwait and 2) to compare the prevalence of anxiety and depression among nurses of different specialties.

Methods: This questionnaire-based cross-sectional study enrolled a consecutive convenience sample of 296 nurses from three different hospitals- the psychiatric ($n = 111$), the maternity ($n = 109$), and Mubarak Al-Kabeer General ($n = 76$) hospitals. The overall refusal rate was 14.2%. The questionnaire was composed of three parts: sociodemographic, work-related characteristics, and the

Hopkins Symptom Checklist- 25 (HSCL-25). The questionnaire was translated into Arabic, and back-translated into English. The data were collected over a period of five days. A score of more than 1.75 in the HSCL-25 was used to define the prevalence of anxiety and depression.

Results: The mean age of the respondents was 35.4 years. The majority of the study population was composed of female (74%) and Asian (67%) nurses. The overall median anxiety score was 1.20 with a prevalence of anxiety of 7.4%. The median depression score was 1.20 with a prevalence of anxiety of 10.5%. Arab ethnicity was the major factor affecting both anxiety (adjusted odds ratio of 8.2; $p = 0.001$) and depression (adjusted odds ratio of 3.3; $p = 0.015$), after adjusting for age, hospital type, and shift. Hospital type (psychiatric vs non-psychiatric) was not associated with anxiety (adjusted odds ratio of 2.0; $p = 0.28$), but associated with depression (adjusted odds ratio of 3.6; $p = 0.016$). The adjusted odds ratio for nurses working in the night shift were of 4.7 ($p = 0.01$) for anxiety, and 3.5 ($p = 0.013$) for depression. Older age (+10 years) was associated with lower prevalence of anxiety (adjusted odds ratio of 0.4; $p = 0.02$), but not associated with depression.

Conclusion: The prevalence of anxiety and depression was significant among hospital nurses in Kuwait, affecting 7-10% of the study population. There was a trend towards an association between depression and psychiatric nursing. Of all variables studied, Arab ethnicity was most strongly associated with both anxiety and depression.”

9. Socio-demographic and Behavioral Factors in Acute Myocardial Infarction (AMI): A Case-Control Study

Haneen Al-Busairi, Nouf Al- Mukaimi, and Shaikha Al-Jouder
Tutor: Dr Anjum Memon

Objectives: To examine the association between selected socio-demographic and behavioral factors and AMI. **Methods:** An individually matched case-control study was conducted among 112 AMI patients in Mubarek, Amiri, Chest, Farwania, Adan, Sabah, Ahmadi, and Military hospitals. The cases were contacted in the medical wards, CCUs, and OPDs of these hospitals. For each case, a suitably matched control subject, in terms of age at diagnosis, gender and nationality, was selected from the corresponding hospital. The data were collected by administering a structured face-to-face interview with both the case and control subjects.

Results: The study showed that current smoking was strongly related to the risk of AMI (OR = 4.0, 95% CI=1.8-9.0). There was also a significant dose-response relationship with the amount and duration of cigarette smoking (p -trend, 0.05). There was 2-fold increase in risk of AMI among those who had a history of diabetes and hypercholesterolemia; history of hypertension was significantly associated with the risk of AMI (OR = 2.6; 95% CI = 1.3-5.3). There was an inverse relationship between level of education and AMI. For physical activity, the highest risk was observed among those who had the lowest level of activity (OR = 2.2; 95% CI = 1.2-4.0). There was a 50% increase in risk among those reported a family history of AMI (OR =1.6; 95% CI = 0.9-2.8).

Conclusion: Our findings, with regard to the socio-demographic and behavioral factors in AMI, are consistent with those reported from other populations.”

10. The Impact of Puberty on Physical and Psychosocial Status of Girls at Intermediate Schools in Kuwait

Eman Al-Tayar, May Al-Shaiji, and Shaikha Al-Abdulrazzaq
Tutor: Prof Mohamed AA Moussa

Objectives: This study aimed at exploring the impact of puberty on teenage girls in intermediate school; and investigating their physical and social changes.

Methods: A cross-sectional sampling survey was conducted including 455 Kuwaiti second, third and fourth grade intermediate school girls who were randomly selected from 4 intermediate schools

in the Capital governorate. Self-administered questionnaire was used to collect the data. It included 6 sections: sociodemographic characteristics, knowledge about puberty, physical changes during puberty, psychological impact of puberty, social impact of puberty, and experience of girls about menstruation.

Results: Concerning the reason for puberty, higher proportion of pubertal girls reported that puberty is important for marriage and pregnancy. The physical changes among pubertal girls were significantly higher in pubertal than pre-pubertal girls ($p < 0.001$). Regarding psychological changes, higher percentage of pubertal girls (81%) reported that they envisage puberty as a normal biological event compared to 70.8% of pre-pubertal girls. Significantly higher proportion of pubertal than pre-pubertal girls reported becoming more nervous, isolated, and much attracted to the other sex. In addition, more pubertal girls reported to be anxious, depressed, and unsatisfied than pre-pubertal girls. There was significant association between the appearance of acne and breast development with isolation.

Social relations of girls: Regarding social relations, higher proportion of pubertal than pre-pubertal girls reported more conflict behavior with their teachers, mothers, brothers, and housemaids. There was also a decline in school performance of pubertal girls. Besides, there were significant social changes between pubertal and pre-pubertal girls with respect to: self-independence, privacy needs, need of close friends, spending hours on the phone, and less willingness to join family in outings. Concerning the experience of girls about menstruation, the mean age at menarche was 11.7 years, with a range of 9 to 14 years. The median duration of menstruation was 7 days, range 4 to 14 days. The dominant menstrual symptoms reported were abdominal pain and lethargy. There was significant association between severity of abdominal pain and the way of its management. The more severe the abdominal pain, the more need to seek medical help.

Conclusion: When it comes to girls during adolescence, there is much to be explored. The previously mentioned concerns indicate that there are many changes that girls experience that need good supervision from parents and educators, and delicacy in dealing with their daughters."

11. Knowledge of Biological and Chemical Warfare among Medical Students

Asma'a Hussain, Ebtehal Al-Roomi, Eman Al-Buloshi, Shaimaa Al-Awadi
Academic Staff Members

Objectives: This study assessed: (1) the level of knowledge about biological and chemical warfare among medical students in the Kuwait University, and (2) the degree of association between the knowledge and academic status, socio-demographic characteristics and individual's interest in the topic.

Methods: A cross-sectional survey included 414 medical students of both gender. Data were collected using a self-administered questionnaire. The research instrument consisted of four sections: personal information, knowledge about biological and chemical warfare, sources of the students' information, their interest and their satisfaction with their knowledge, and students' recommendation. Independent t-test, one-way ANOVA and Chi-square were used to determine the significance between different means.

Results: About half of medical students did not know the definition or incorrectly defined biological (48.7%) or chemical warfare (49.5%). The knowledge scores among the fourth, fifth, sixth and seventh year students (score range = 17.58 ± 2.76 to 18.29 ± 2.69) were significantly higher than the knowledge among the second and third year students (13.69 ± 2.35 and 14.52 ± 2.94 , respectively). Those who attended first aid courses had higher scores in biological warfare and precaution measures than those who did not ($p < 0.001$, $p < 0.004$, respectively). There was no significant association between the students' knowledge scores and the socio-demographic variables.

Conclusion: Overall the students' knowledge about biological and chemical warfare was limited. Certain gaps were identified in the students' knowledge about the topic. This study pointed to the importance of including a special course about the topic in the medical school curriculum."

12. Prevalence and Patterns of Breast-Feeding: Comparison of Urban and Rural Kuwaiti Mothers

Athuob Al-Khader, Maram Al-Wazzan, Mariam Ayed
Tutor: Prof Nasra M Shah

Objective: To study the prevalence and patterns of breast-feeding among urban and rural Kuwaiti mothers and examine the above according to sociodemographic characteristics.

Methods: A cross sectional study was conducted in primary health care centers in Hawalli and Ahmadi, considered to represent urban and rural areas, respectively. The study population consisted of 220 mothers, 110 each from Hawalli and Ahmadi. The data were collected by interviewing mothers of children aged 2 years or less attending six immunization centers and pediatric clinics, three each from Hawalli and Ahmadi. A structured pre-coded questionnaire was used.

Results: The prevalence of breast-feeding was high in both areas: 89% in Hawalli and 86% in Ahmadi. Except mother's education in Ahmadi no association was found between the prevalence of breast-feeding and sociodemographic characteristics. About 38% of mothers in Hawalli and 20% in Ahmadi started breast-feeding their current child within the first hour after birth. The average number of times the baby was breastfed during daytime was significantly higher in Ahmadi than Hawalli (6 vs 4.5 times). The maximum median duration of breast-feeding for previous children was reported as 4 months in Hawalli and 5 months in Ahmadi. In Ahmadi, older and less well educated mothers reported significantly longer duration of breastfeeding. About 60% of the mothers in Hawalli reported some disadvantages of breastfeeding compared with 22% in Ahmadi.

Conclusion: The prevalence of breast-feeding was high in both areas. However, the maximum median duration was short. This suggests that planners need to focus more on promoting longer duration."

13. Internet Use among Kuwait University Students

Qais Bastaki, Saad Al-Nesafi, Thamer Al-Obaid
Tutor: Prof Zoran Radovanovic

Objective: To study the pattern of Internet use among Kuwait University students; the association of Internet use with sociodemographic and other variables; and students' assessment of the effects of Internet use.

Methods: Cross-sectional sampling survey comprised 350 Kuwait University students. Both males and females from the Faculties of Arts and Science were selected based on convenience sampling method. Specially designed self-administered questionnaire was used to collect the data.

Results: A majority of the students (88%) had computer in their home, either their own or shared with other family members. A vast majority of the respondents (96.1%) used Internet for study and research, at least to some extent. Time spent on Internet was statistically significantly associated with the following variables: studying at the Faculty of Science, using computer at home, years since starting to use Internet, use of Internet for chatting, sleep disturbances, preference for spending time on Internet rather than with the family, attempts to escape from social problems and bad mood, perceived effect on study, and watching TV. Three-quarters of the students did not perceive Internet use as a factor affecting either their study or health in any way, and 86% found it useful. An indicative finding is that the majority (83.4%) felt misery when stopping to use Internet.

Conclusion: Internet has been intensively used by the Kuwaiti students. Apart of its beneficial effects, for some students it is a means of escape, hampering social and family life. A high proportion of the students already developed a kind of Internet dependency."

14. Psychological and Sociodemographic Correlates of Glycaemic Control in Patients with Type 2 Diabetes Mellitus

Tarrik M Zaid, Ahmed H Al-Terkiat, Dherar A Al-Khodhair
Tutor: Prof Ivana Jevremovic

Objectives: To assess glycaemic control in type 2 diabetic patients and its relationship with personality. Sociodemographic indices were investigated for a possible confounding effect.

Methods: The cross-sectional survey included 174 type 2 diabetic patients. A self-administered questionnaire was used to collect information on sociodemographic indices, disease profile and to measure neuroticism (N) and extraversion (E) by a shortened version of the Eysenck Personality Questionnaire (EPQ). Measurements of glycated haemoglobin (HbA1c) were used as an index of glycaemic control.

Results: The mean HbA1c was 8.76 % (SD \pm 2.48), in addition only 27 % achieved good glycaemic control (< 7 % HbA1c). Age was correlated inversely with metabolic control ($r = -0.17$, $p < 0.05$). Females had worse control than males ($p < 0.05$). Patients followed up in a hospital-based clinic had better HbA1c levels ($p < 0.01$). Respondents with different personality types had significantly different levels of HbA1c, with E+ N+ having the worst glycaemic control ($p < 0.01$). N+ respondents had on average 16 % higher levels of HbA1c compared to N- individuals, a highly significant finding ($p < 0.001$). Multivariate logistic regression revealed that only N scores had a significant relationship with HbA1c with N+ respondents being 2 times as likely to have poor glycaemic control ($p < 0.05$).

Conclusion: The results of this study strongly support that personality has been associated with glycaemic control. In addition neuroticism was found to be a possible risk factor for poor glycaemic control, if the assumption is made that personality traits do not change. This may have potential clinical application.”

15. Driving Attitudes and Behavior among Kuwait University Students

Buthaina A Al-Mahmeed, Buthaina A Al-Kandari, Fatma S Al-Qudaihi, Heba A Al-Hajeri
Tutor: Dr Laila Al-Jassim

“Road traffic accidents are an important cause of death and disability throughout the world. In Kuwait, they are considered one of the major problems.”

Objectives: To identify the driving attitudes among students in Kuwait University, to evaluate their driving behavior, and to identify the extent of students' involvement in traffic accidents and violations.

Methods: The study is a cross-sectional sample survey. Data were collected from 400 students chosen consecutively from Khaldiya campus, using a self-administered questionnaire consisting of four sections: (1) Socio-demographic characteristics; (2) Driving attitudes; (3) Driving behavior; (4) History of accidents.

Results: The study showed that females had better driving attitudes and behavior than males. Students who were never involved in traffic violations and those who did not study the driving education course had better driving attitudes and behavior, and married students had better driving attitudes than single students. There was a significant positive relationship between driving attitudes and behavior.

Conclusion: Gender, marital status, involvement in traffic violations and studying the driving education course were significantly related to driving attitudes and behavior. There was a positive relationship between driving attitudes and behavior.”

16. Psychological Distress and Health Profile among Kuwaiti Nationals during the War Circumstances

Hisham Ismael, Nada Al-Ragom, Ghada Al-Humaidi, Shehab Abdullah
Tutor: Prof Mohamed AA Moussa

Objectives: To describe sociodemographic characteristics, state-dependent psychological functioning, and health profile; to investigate the impact of sociodemographic characteristics, and current war experience on psychological functioning and health profile; and to explore the influence of experiencing the 1990 war on psychological functioning.

Methods: A cross-sectional sampling survey was conducted including 501 Kuwaitis during the March 2003 Gulf war. A consecutive series of employees were included from 8 ministries. The inclusion criteria comprised Kuwaitis 25 years old and more, both sexes. A self-administered questionnaire was used for data collection consisting of 5 sections; sociodemographic characteristics, health profile and behavioral factors, experience of the 1990 Gulf war, current March 2003 war and psychological distress measured using the Hopkins Symptom Checklist-25, scale. This psychological functioning measurement scale was reliable with high correlation between its 3 components: (Spearman rank correlation, $r_s = 0.782$, $p < 0.001$ for anxiety with depression; $r_s = 0.902$, $p < 0.001$ for anxiety with total distress; $r_s = 0.972$, $p < 0.001$ for depression with total distress).

Results: Females reported significantly higher levels of anxiety, depression, and total distress ($p < 0.001$ for the 3 indices), this was further confirmed by a significantly higher median score for females than males ($p < 0.001$). Age was inversely related to psychological functioning, as age decreases, anxiety, depression, and total distress significantly increase ($p = 0.017$ for anxiety, $p < 0.001$ for depression and total distress respectively). A higher proportion of divorced/widowed respondents reported clinical anxiety ($p = 0.016$). Psychological functioning was not related to educational level, family income, or governorate of residence. All psychological functioning indices and current health profile (symptoms and diseases) were not significantly different among those who stayed in Kuwait during the 1990 War and those who did not. After fixing the confounding between variables, logistic regression analysis showed that total distress was significantly related to gender (adjusted odds ratio = 3.41; 95% CI = 2.083, 5.585, $p < 0.001$), and current war score (odds ratio = 3.86; 95% CI = 2.392, 6.224, $p < 0.001$).

Conclusion: Dynamic or state-dependent psychological functioning indices were found to be related to gender and current war score."

17. Mode of Delivery among Kuwaiti Women in Public and Private Hospitals

Heba Al-Houly, Abeer Al-Kandari, Ohood Al-Kandari, Reem Haider
Tutor: Dr Lukman Thalib

Objectives: The objectives of this study were to estimate the prevalence of caesarean deliveries among Kuwaiti women and to identify the variation due to place of delivery (private vs public) and socio-economic status.

Methods: A cross-sectional survey with a sample size of 307 Kuwaiti women who experienced their last delivery within the last five years and attending mother and baby clinics in two governorates was carried out. A multistage cluster sample scheme was used for sample selection and a self administered questionnaire was used as a research instrument.

Results: About 21% of all women surveyed had a caesarean section for their last delivery. Most Kuwaiti women prefer private hospitals indicating better care for mother and child, while a minority of women prefer public hospitals indicating better staff, setup and service. Almost 47% of all women delivered their last child in private hospitals. Caesarean deliveries were slightly higher in the private hospitals but the differences were not significant. Women who tend to go to private hospitals were found to be of high socio-economic status. However caesarean delivery was not associated with socio-economic status, except that caesarean deliveries were significantly higher among working mothers. Half of the caesarean sections were elective while the rest were emergencies. Almost all of the elective caesarean sections were of doctor's choice. Caesarean sections had more fetal complications (31.1%) than vaginal delivery (9.4%).

Conclusion: Prevalence of caesarean delivery in Kuwait is comparable to most developed countries. The strong preference of Kuwaiti women for private hospitals needs to be explored further and Ministry of Health should take appropriate action to improve the perception and conditions in public hospitals. Kuwaiti women should be made more aware of issues related to mode and place of deliveries.”

18. Anxiety among Female High School Students in Kuwait: A Comparative Study of Traditional and Credit Systems

Heba M Mohammed, Shaima'a A Mohammed, Intesar Al-Ajmi, Ghadeer A Akbar
Tutor: Dr Joseph C Longenecker

Objectives: Two different systems (“traditional” and “credit”) are implemented in the Kuwaiti high school educational system. The objective of this study is to test the *a priori* hypotheses, based on empirical observation, that 1. Ninth grade students in the credit system have an equal or a higher state anxiety than those in the traditional system. 2. Twelfth grade students in the traditional system have a higher state anxiety than those in the credit system.

Methods: This cross-sectional study enrolled 622 female Kuwaiti ninth and twelfth grade students in both the traditional and credit systems. Four traditional and four credit system schools were chosen randomly from Farwania and Ahmadi governorates. Data were collected by self-administered questionnaire including socio-demographic characteristics, questions related to the war, and the Spielberger State-Trait Anxiety Inventory.

Results: The overall mean state anxiety score was 47.9 ± 12.8 . Among ninth grade students, state anxiety score did not differ significantly by school type. In the twelfth grade, however, it was significantly higher in the traditional (52.2 ± 12.8) than the credit system (47.7 ± 12.2). This overall pattern of mean anxiety score remained after reducing the effect of eight potential confounding factors by stratified analyses.

Conclusion: These data suggest that factors within the traditional system may cause increased state anxiety, particularly among twelfth grade students. Educational policy regarding the two school systems should take into account the psychological impact on students.”

19. Violence against Doctors in Casualty Departments of General Hospitals

Sameer Al-Osaimi, Sulaiman A Al-Hamad, Omar Al-Kandari, Abdullah Al-Othman
Tutor: Prof Nasra M Shah

Objectives: To study the prevalence and type of violence experienced by casualty doctors in general hospitals in Kuwait.

Methods: All doctors working in the major casualty departments of the six general hospitals were targeted as the study population. Data were collected by using a self-administered questionnaire. Of the 264 doctors who were contacted, 210 returned the completed questionnaire, yielding a response rate of 80%.

Results: About 22% of the respondents were Kuwaiti, while the rest were Arabs, Asians and others. Almost 80 % of them were males and the average age of the physicians was 39 years. A total of 188 doctors (almost 90% of the participants) said that they had ever experienced a violence episode, and among those, 94% had experienced a violent episode during the last year. A significantly larger percentage of Asian and Arab doctors experienced violence than Kuwaiti doctors. The doctors in Adan hospital reported the highest percentage of violence (98%). About 80 % of violence episodes were verbal in nature. A larger percentage of males than females experienced physical violence. 39% of physicians who worked in Farwania hospital and 36% who worked in Jahra hospital reported the experience of physical violence. Majority of reported violence happened during night duties (93%). The aggressors were mainly Kuwaitis, adult males, who were relatives or friends of the patient. In this study, 36% of the doctors who experienced violence complained to the authorities, and a majority of them (47%) did so to the security office. Of those who did not complain, about half felt that complaining is useless, whereas 38% considered the violence as part of their job. The majority

of doctors (70%) believe that the main reason for the existence of violence in the hospital is because there are not enough rules to protect doctors.

Conclusion: Violence in casualty departments of general hospitals is a very major problem experienced by nine-tenths of the doctors. Such a high level of violence may have serious negative impacts on job performance as well as quality of services provided by casualty doctors."

20. Substance Use among Flying Crew and its Relationship to Rapid Time Zone Change Syndrome

Monis Omar, Khaled Al-Mulla, Talal Al-Seleem
Tutor: Prof Zoran Radovanovic

Objectives: This study aimed to assess jet-lag complaints experienced by the Kuwait Airways flying staff, prevalence of their use of various substances, and the relationship between substance use, socio-demographic variables, and jet lag complaints.

Methods: In a cross-sectional study, a self-administered questionnaire was distributed among 300 flying crew; 277 returned completely filled-in forms making a response rate of 92.3 %. Prevalence of use of various substances was estimated, and non-parametric statistical tests, including logistic regression, were used to assess the relationship between distress score (as a summary measure of jet-lag complaints), socio-demographic variables, and substance use.

Results: Distress score, as a numerical expression of jet-leg complaints, had a median of 10 on a 0-24 scale. Coffee consumption on duty (43.3%) was higher than off duty (34.3%). More than half of the participants (50.9%) reported smoking cigarettes on a daily basis. Alcohol consumption while in Kuwait and abroad was reported by 19.9% and 36.8%, respectively. Logistic regression analysis revealed that gender, nationality, duration of the flights, and smoking were significantly associated with the distress score.

Conclusion: Although no other study was available to assess the prevalence of melatonin use and sedatives in this part of the world, it seems that flying crew use melatonin and sedatives much more than the general population. Prevalence rates of smoking and alcohol drinking, both in Kuwait and abroad, were also well above the expected frequencies. Finally, gender, Kuwaiti nationality, long durations of the current flights, and smoking were independently associated with the distress score at a statistically significant level."

21. The Use of Herbal Medicine among Kuwaiti Women in the Postpartum Period

Sharifa Al-Mefluh, Amal Buhendi, Mai Al-Hazaa', Ebtehal Al-Mehaimeed
Tutor: Prof Ivana Jevremovic

Objectives: The objectives were to measure the prevalence and characteristics of herbal use in postpartum period and to assess the relationship of herbal use with socio-demographic variables and reproductive history. Other objectives were to obtain information on knowledge about benefits of herbal use and to assess the relationship of knowledge score with socio-demographic variables and reproductive history.

Methods: A cross-sectional survey included 440 women, attending the immunization centers, from the Capital and Jahra governorates. The inclusion criteria were Kuwaiti women in the first year after their last delivery. Data were collected by a self-administered questionnaire.

Results: The prevalence of herbal use was 90%. The most commonly used herb was fenugreek, orally, and murrh, vaginally. More users were from Jahra, with lower educational level, lower per capita income, housewives, and women who had more deliveries. The median of knowledge score on herb benefits was 13.0 (ranging from 0 to 30). Knowledge was higher in women from Jahra, of Bedoun affiliation, with lower education, with lower per capita income, among housewives, in those who had more deliveries and whose last delivery was instrumental.

Conclusion: The use of herbal medicine is very widespread among Kuwaiti women in the postpartum period. Both the use and the knowledge about benefits of use were associated with variables that indicate lower educational level and social status."