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From the Editor

Abdulrazak Abyad
(Chief Editor)

This is the ninth issue this year and is very rich with papers from various parts of the Middle East. The richness of this issue is that it has various papers with different methodologies.

A cross sectional survey was conducted in all 21 primary care centers in Qatar in August and September 2008 to measure patient satisfaction with primary health care centers. The overall satisfaction was relatively low. The highest score of satisfaction for the aspect of services was for accessibility, while the lowest was for comprehensiveness of care. Qatari patients, students, and housewives are less satisfied with the current primary care services.

A cross sectional study from Kuwait University attempted to assess the association between obesity and body image avoidance behaviours that correlates Kuwaiti female University students and the predictors of such associations. About 30% of the female students were overweight and obese. The authors stressed that the stigma of overweight and behaviour among the university female students compels them to practice negative behavioural tendencies related to avoid social integration.

Dr Khaled AM looked at whether topical administration of dexamethasone 0.1% improves resolution of acute tympanostomy tube otorrhea when combined with topical ciprofloxacin 0.3% drops. This study was done on 120 child patients aged between 2 and 14 years diagnosed with acute otitis media with effusion for which myringotomy was done. The author concluded that although the combined topical ciprofloxacin 0.3% and dexamethasone 0.1% does not improve the final outcome of otorrhea in patients with myringotomy for otitis media with effusion, it has an important role in early and rapid relief of undesirable ear symptoms.

A paper from Iraq looked at the impact of locally published medical journals. The authors stressed that Periodic evaluation of a journal's quality is necessary to identify its shortcomings and identify areas of improvement. The authors pointed out that while the journal's contents and review quality were generally rated as satisfactory, the rate of reading the journal and journal's impact is below satisfactory level. The accessibility of the journal to academics and medical professions needs improvement in both the print and online formats.

Dr Bhajat looked at the health care system reconstruction under the occupation of Iraq. After 6 years the US -led occupation of Iraq unleashed a civil war estimated by WHO to have killed at least 100,000 civilians, and around 2 million Iraqi refugees have fled to Syria and Jordan, while another 2.8 million people have been displaced within Iraq. The United State's agency for international development (USAID) estimates that Sulaimaniyah province has almost half a million internally displaced people, the largest displaced population outside Baghdad. As sectarian violence continues through out Iraq I,ncluding in cities near Sulaimanyah, like Mosul and Kirkuk, the US Government has doubled spending on displaced people to about $120 per person per year/ homes. In 2008, the Government of Iraq offered grants of about $600 to families to return home. So far, less than 1% of displaced people have accepted that offer.

Dr Jahan F looked at the strengths and challenges in clinical teaching. Clinical teaching and learning focused on directly involving patients and their problems. Clinical examination fulfils several other important roles. Examination is an integral part of the doctor-patient relationship. Adult learning occurs when individuals engage in sustained, systematic learning in order to effect changes in their attitude, knowledge, skills or belief systems. "Tell me, and I will forget, Show me, I may remember, value me, and I will understand. I discover and I use (quotation by a Chinese philosopher Confucius 450BC).

A paper from Jordan looked at whether oral Ibuprofen treatment is efficacious and safe in closure of Patent Ductus Arteriosus (PDA) in premature infants with or without respiratory distress syndrome. A total of 107 premature newborns were admitted to the NICU during the study period, of whom 47 had PDA proved by echocardiography. 19 newborns were excluded and twenty-eight newborns were enrolled. The authors concluded that oral ibuprofen is an effective and safe method of treating hemodynamically significant PDA in premature infants.

A case-control study was conducted to determine the prevalence of adverse obstetric and psychiatric outcomes among primigravid teenagers in AL-Ahsa Governorate, Saudi Arabia. The sample consisted of 158 primigravid adolescents and a convenience sample of 632 older mothers. Antenatal morbidities such as pregnancy induced hypertension, gestational diabetes, anemia and antepartum hemorrhage did not differ between the two groups. Teenage pregnancy receiving adequate antenatal care and ending in live births is not associated with significant adverse obstetric outcomes or major psychopathology in Al Ahsa, Saudi Arabia.

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For more details contact the Chief Editor Dr Abdulrazak Abyad

Patients' Satisfaction with Primary Health Care Services in Qatar

ABSTRACT

Objectives: To measure patient satisfaction with primary health care centers in the state of Qatar and to identify the socio-demographic factors affecting their satisfaction.

Methodology: A cross sectional survey was conducted in all 21 primary care centers in Qatar in August and September 2008. The patients were recruited by systematic random sampling and standardized questionnaires have been administered by experienced interviewers and it includes questions measuring six different aspects of health services using a 5-points rating scale from strongly agree to strongly disagree.

Results: Two hundred and eighty two patients have participated in the study. The overall satisfaction was 75.2%. The highest score of satisfaction for the aspect of services was for accessibility to the health services (98%) and the lowest was for comprehensiveness of care (92.6%). There was significant difference in satisfaction between Qatari and non-Qatari patients, Non-Qatari were more satisfied with accessibility to services, continuity of care, and comprehensiveness of care. The students and housewives were less satisfied with continuity of care.

Conclusions: The overall satisfaction was relatively low. The highest score of satisfaction for the aspect of services was for accessibility, while the lowest was for comprehensiveness of care. Qatari patients, students, and housewives are less satisfied with the current primary care services.

Keywords: Patient satisfaction, primary health care, socio-demographic factors.

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Introduction

Satisfaction, is defined as a psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with consumer's prior feelings about the consumption experience.[1] Patient satisfaction has become an important indicator of quality of primary care and health care performance.[2,3]

Patient satisfaction with health care is important for several reasons. Firstly, satisfied patients are more likely to maintain consistent relationships with their care provider. Secondly, by identifying source of dissatisfaction, the primary care administration can address system weakness, thus improving their services[4]. Thirdly, satisfied patients are more likely to develop a deeper and longer lasting relationship with their medical provider leading to improved compliance, continuity of care and ultimately better health outcomes.[5,6]

It is reported that low patient satisfaction is associated with lower trust in caregivers and greater chance of physician changes resulting in less continuity of care,[7] while, high patient involvement in care has been associated with higher trust and satisfaction.[8,9]

Patients' satisfaction surveys have a long history in the assessment of consultation and patters of communication[10,11] and are amongst the best means of assessing the interpersonal aspect of care.[12] Many studies measuring patient satisfaction with primary health care services have been conducted in many countries with a wide range of methods used; questionnaire with Likert scale has been accepted as the simplest method.[13-15]

In Qatar there are 21 health centres with ongoing building of new centres, and renewing and expanding the old ones. A previous Qatari study in patient satisfaction based on self administered survey of patients receiving care in one hospital and one primary health centre revealed that respondents were more satisfied with the services provided through the hospital. This may be due to the fact that the hospital had more modern facilities and medical specialists[16]. Starting from the previous study, we found it is important to study patient satisfaction with the primary care services at national level and by using a more validated measurement tool. Therefore this study aims to measure patient satisfaction with primary health care centers in the state of Qatar and to identify the socio-demographic factors affecting their satisfaction.

Methods

This cross-sectional study was carried out in all the twenty-one health centres in Qatar in August and September 2008. Most of the health centres are serving large numbers of patients and offering variable health services from prevention of diseases to treating them.

The study included both male and female adult patients attending

the primary health care centres from all nationalities. Subjects were selected by using systematic random sample by taking every tenth patient according to their order of attendance at the reception desk, between August and September 2008.

The data were collected by using Arabic and English questionnaire, which were conducted by experienced interviewers. This questionnaire was developed by Makhdoom et al in Saudi Arabia[17] and it covers the standards domains used in North American and European surveys including the Donabedian survey[18]. It includes six sections: accessibility to the services (7 items), continuity of care (6 items), and humanity of staff (8 items), comprehensiveness of care (5 items), provision of health education (5 items) and effectiveness of services (8 items).for each of these domains Makhdoom[17] developed new questions based on the published literature about patient satisfaction, especially the paper by *Carr-Hill*[19]. The questions were translated into Arabic then retranslated by a different bilingual person who had not seen the original English version. The research team and the translators had resolved any areas of disagreement by discussion. *Makhdoom et al*[17] reported that face validity was obtained from discussions with five family and community consultants and reliability was 83% for split half testing. The response was rated in a 5 point Likert scale 'strongly agree', 'agree', 'don't know', 'disagree', and 'strongly disagree'. The overall satisfaction was defined as the average score of the six measured domains of satisfaction.

The questionnaire also included questions about socio-demographic characters such as sex, age, nationality, marital status, job, education level and the income.

A verbal consent was taken from the patient before starting to fill in the questionnaire. An experienced bilingual interviewer in each of the health centres supervised and assisted the patients to fill in or understand the questionnaire in a private room.

The statistical package of the social sciences (SPSS) version 14.0 was used to analyse the data. Mean, standard deviation and frequency distribution were calculated. Multiple comparisons were carried out by One-Way Analysis Of Variance (ANOVA). We studied t-tests wherever applicable; correlation-coefficient has been calculated to see the association among different aspects-value ($\alpha = 0.05$) and were set to indicate satisfaction significance level. Satisfaction level has been calculated through all the indices of care. If the total of indices is 0.5 to 2 it represents (satisfied), -0.499 to 0.499 it represents (don't know) and -0.5 to -2 has been taken as (dissatisfied). The score 0.5 to 2 has been taken into consideration of overall satisfaction.

Results

Out of the 315 questionnaires that were distributed, 282 were completed, making a response rate of 89.5%. Of all participants, males were 127 (45%) and females were 155 (55%). The age in the range between 18-40 years forms 65.6 % of the sample.

As shown in Table (1), the great majority of the sample were married 218 (77.3%) and Qatari's represented just 104 (36.9%). 131 (46.5 %) of the sample were graduates and 188 (66.7%) were employed. 202 (71.6 %) participants have satisfactory income.

The overall satisfaction was 75.2%. The highest score of satisfaction for the aspect of services was for accessibility to the health services (98%) and the lowest was for comprehensiveness of care (92.6%), as shown in Table (2).

Table (3) shows the satisfaction according to demographical characteristics of the client. Regarding gender of the patient, there was no statistically significanct difference in all aspects of care but observationally, females were less satisfied than males with continuity of care. Patients between 18-40 years were less satisfied with continuity of care while patients >60 years were more satisfied with all aspects of care. There was significant difference in satisfaction between Qatari and non-Qatari patients. Non-Qatari were more satisfied with accessibility to services (p-value < 0.01), continuity of care (p-value < 0.03), and comprehensiveness of care (p-value < 0.04).

Table (4) illustrates the relationship between satisfaction and socio-economic determinants of the patients. Single patients were less satisfied with the continuity of care and the divorced patients were less satisfied with the previous aspect and provision of health education, while the widowed were more satisfied in all aspects of care. According to marital status, there was no statistical difference among all the categories. The students and housewives were less satisfied with continuity of care (p- value < 0.04). Also continuity of care got low satisfaction from the secondary, university, post graduate and lo-income patients.

Discussion

Primary health care is essential in delivering health services that are curative and integrated[20]. Identification of patient requests, needs, and judgment on health care received is the starting point of a patient centred approach[21,22]. Therefore, patient satisfaction is considered as an important measure to evaluate the quality of health services and can predict both compliance[23] and utilization[24] that is associated with the continuity of care[13], the doctor's communication skills[25] and confidence in the medical system.[26]

This study assessed the overall patient satisfaction level for health care services provided by primary health care centers in Qatar at the national level; and it showed that overall satisfaction was 75.2%. This level of satisfaction is within the range of levels reported by similar studies in the Arabian Gulf countries, which have showed variable level and determinants of patients' satisfaction with primary health centres. For instance, *Al-Faris et al*[27] showed that the overall satisfaction with Riyadh

health centres was 90%. Another Saudi study done by *Al-Sakkak*[28] to evaluate the services in PHC affiliated to Riyadh military hospital showed the overall satisfaction level was 64.2%, while in Kuwait a study done in the Capital Health Region, the overall satisfaction was relatively high (99.6%).[15]

In Egypt, a study done to compare patients' satisfaction with primary health care services in two districts in Lower and Upper Egypt found that the overall satisfaction level was similar in both districts, at about 98%.[14]

Accessibility is one of the principles of health for all, as stated in the Alma Ata declaration on primary health care in 1978.[29] *Meng et al*[30] reported that accessibility is the strongest predictor of overall satisfaction with quality of health care. In our study the highest score of satisfaction for the aspect of care was for accessibility to the health services (98%), which includes the distance to the PHC, appropriate chairs in the waiting areas, proper waiting time, proper working hours and availability of parking areas. The relation of distance from home on patient satisfaction and utilization of services was reported in many studies where utilization is increased by travelling shorter distance to PHC centres.[31] Only waiting time significantly influenced satisfaction as found by *Janice C and David et al.*[32] In a Saudi Arabian study 87% of patients were satisfied with the accessibility to health care centres.[33] The comfortable physical environment is an important factor for patient satisfaction and increases the willingness to return and thus enhances the continuity of care.[20,27,34,35]

While the lowest satisfaction was for comprehensiveness of care (92.6%), which includes accurate data in the files, available of appropriate number of staff and provision of comprehensive medical examination. Inadequate number of staff could play a role in delaying the provision of health services. In addition the need for efficient file recording systems is important to enhance the quality of services. Other studies that have been conducted in the Arabian Gulf on similar patient populations like in U.A.E[36] where it was found that humaneness scored the highest and continuity the lowest. Similarly, researchers in Saudi Arabia have found that humaneness and effectiveness got the highest score and lowest score was for continuity.[20] In his study, *Al-sakkar*[28] has found that accessibility and continuity got the lowest score.

Weiss[12] found that patient background characteristics are among the most difficult to relate to the level of satisfaction. Most of satisfaction studies showed variable determinants of satisfaction, which revealed that satisfaction is multi-factorial and no one factor could be claimed to be the only contributor to satisfaction or dissatisfaction.[37-39]

In our study we found that females were less satisfied than males with the continuity of care, but there was no statistically significant difference. Our result is consistent with the previous studies in Qatar and neighbouring countries. *Abdul-Kareem*[16], *Al-Sakaar*[28], and *Al-Eisa*[15] found that males were significantly more satisfied than females. Al-Dawood[40] identified sex of the respondent as the most influential factor on the level of satisfaction.

Although age was not statistically significant, but observationally, patients > 60 were more satisfied with all aspects. This may be explained by the fact that the patient has become less demanding when older. *Al-Eisa*[15] found that the older the patient, the higher the satisfaction. *Khyat et al*[41] found that age between 17-44 years was consistently less satisfied than those of age 45-years or more. A study from the Emirates has shown that age was a significant factor for the domains of comprehensiveness and effectiveness.[36]

In agreement with the previous study in Qatar, this study revealed that non-Qatari patients were more satisfied, which was statistically significant with accessibility, continuity and comprehensiveness of care.[16] However Saudi studies(20) didn't find such difference in satisfaction between Saudis and non Saudis. This may be due to easy accessibility and low cost of health services in Qatar compared to non-Qatari's countries.

The students and housewives were less satisfied with the continuity of care which was significant. However in some previous regional studies, *Makhdoom et al*[17] *and Al Faris et al*[27] found that being a housewife was the factors associated with higher satisfaction.

According to the education status, studies provide contradictory findings. Educational level has a positive and sometimes negative effect on satisfaction([11,26,42]. *Babic-Banaszak et al*[43] found that less educated people were more satisfied, as they are less demanding. Another studies also reported that highly educated people may be more critical[27]. In our study observationally but not statistically, significance of the secondary, university and post graduate patients were less satisfied with continuity of care.

One of the limitations in the current study was the questionnaire used, which didn't investigate the correlation between the health status of the patients and their level of satisfaction as such correlation was reported by previous studies.[44,45]

In conclusion, the overall satisfaction was relatively low. The highest score of satisfaction for the aspect of services was for accessibility to the health services and the lowest was for comprehensiveness of care. Non-Qatari patients were more satisfied with services compared to Qatari patients. Students and housewives are less satisfied with the current primary care services. A further qualitative study may be required to explain the role of citizenship and employment status on satisfaction level.

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Table-1 Socio-demographic characteristics of the sample		
Characteristics	No.	%
Sex		
Male	127	45
Female	155	55
Age in years		
17-40	185	65.6
41-60	89	31.6
>60	8	2.8
Nationality		
Qatari	104	36.9
Non-Qatari	178	63.1
Marital status		
Single	54	19.1
Married	218	77.3
Widow/separated	10	3.6
Occupations:		
Employed	188	66.7
Unemployed	20	7.1
Students	19	6.7
Retired	20	7.1
Housewives	35	12.4
Educational Levels:		
Primary	30	10.6
Intermediate	14	5
Secondary	87	30.9
University	131	46.5
Postgraduate	20	7.1

Table (2) The percentage of patients satisfied with aspects of primary health care services	
Aspect of care	%
Accessibility to the services	98.2
Continuity of care	95
Humanness of staff	97.5
Comprehensiveness of care	92.6
Provision of health education	94.3
Effectiveness of services	97.7
Overall satisfaction	75.2

Table (3) The level of satisfaction according to demographic variables of patients.

Demographic Variables	Aspect of care					
	Accessibility to services	Continuity of care	Humaneness of staff	Comprehensiveness of care	Provision of health education	Effectiveness of services
SEX:						
Male (127)	0.80-±0.55	0.55±0.59	1.06±0.65	0.78±0.64	0.71±0.64	0.94±0.62
Female (155)	0.78±0.49	0.46±0.6	1.07±0.59	0.71±0.73	0.69±0.79	1.0±-0.59
P VALUE	0.80	0.22	0.88	0.38	0.84	0.26
AGE:						
18-40 (185)	0.76±0.53	0.47±0.62	1.0±0.65	0.72±0.70	0.66±0.79	0.97±0.63
40-60 (89)	0.83±0.51	0.54±0.62	1.1±0.56	0.77±0.70	0.73±0.61	1.01±0.58
>60 (8)	1.0±0.26	0.70±0.37	1.2±0.31	1.1±0.21	1.1±0.26	1.0±0.20
P VALUE	0.23	0.46	0.39	0.28	0.22	0.84
NATIONALITY:						
Qatari (104)	0.69±0.56	0.40±0.67	1.0±0.66	0.63±0.72	0.66±0.71	0.92±0.60
Non-Qatari (178)	0.85±0.48	0.56±0.58	1.1±0.58	0.81±0.66	0.72±0.74	1.0±0.61
P VALVUE	0.01*	0.03*	0.15	0.04*	0.47	0.20
MARITAL STATUS:						
Single (54)	0.73±0.55	0.45±0.60	1.03±0.66	0.66±0.72	0.74±0.73	0.94±0.63
Married (218)	0.80±0.51	0.51±0.62	1.0±0.61	0.75±0.69	0.68±0.73	0.98±0.60
Divorced (3)	0.61±0.32	0.33±0.28	0.83±0.28	1.0±0.30	0.26±0.75	0.91±0.14

Widowed (7)	1.2±0.43	0.76±0.60	1.3±0.34	0.94±0.52	1.02±0.42	1.3±0.54
P VALUE	0.07	0.60	0.46	0.56	0.43	0.33

**Statistically significant*

Table 4. the level of satisfaction according to the socioeconomic variables.

Socio-economic variables	Aspect of care					
	Accessibility to services	Continuity of care	Humaneness of staff	Comprehensiveness of care	Provision of health education	Effectiveness of services
JOB:						
Unemployed (20)	0.92±0.31	0.66±0.49	1.1±0.35	0.89±0.44	0.76±0.54	1.0±0.37
Student (19)	0.58+0.52	0.12±0.60	1.0±0.48	0.60±0.67	0.51±0.65	0.87±0.46
Employee (188)	0.79+0.54	0.52±0.64	1.0±0.68	0.70±0.71	0.66±0.70	0.97±0.66
Retired (20)	0.690.51	0.40±0.65	1.0±0.42	0.70±0.86	0.61±0.59	0.78±0.44
House wife (35)	0.89±0.42	0.59±0.47	1.1±0.52	1.0±0.55	1.0±0.99	1.20±0.49
P VALUE	0.17	0.04*	0.65	0.08	0.096	0.10
EDUCATION:						
Primary (30)	0.98±0.38	0.71±0.39	1.12±0.44	0.94±0.51	0.96±0.42	1.07±0.40
Intermediate (14)	1.03±0.44	0.66±0.60	1.26±0.48	1.01±0.45	1.30±1.38	1.27±0.52
Secondary (87)	0.76±0.50	0.47±0.63	1.06±0.52	0.73±0.65	0.64±0.63	0.94±0.54
University (131)	0.75±0.53	0.48±0.63	1.05±0.69	0.70±0.72	0.62±0.71	0.98±0.82
Post graduate (20)	0.79±0.63	0.35±0.72	1.04±0.82	0.57±0.94	0.67±0.81	0.98±0.82
P VALUE	0.09	0.196	0.76	0.18	0.04*	0.35
INCOME:						
Satisfactory (202) Unsatisfactory(80)	0.81±0.48 0.73±0.60	0.51±0.58 0.49±0.71	1.1±0.53 0.95±0.79	0.76±0.63 0.69±0.82	0.75±0.69 0.58±0.81	1.01±0.52 0.91±0.78
P VALUE	0.24	0.81	0.04*	0.43	0.07	0.19

**Statistically significant*

Ibuprofen Oral Suspension for the Treatment of Patent Ductus Arteriosus at the Neonatal Intensive Care Unit, Prince Rashid Hospital

ABSTRACT

Objective This study was carried out to determine whether Oral Ibuprofen treatment is efficacious and safe in closure of Patent Ductus Arteriosus (PDA) in premature infants with or without respiratory distress syndrome.
Setting Neonatal intensive care unit, Prince Rashid Hospital, Irbid, Jordan, during the period from June 2008 to March 2009.
Patients and methods All premature newborns less than 37 weeks gestation admitted to the neonatal Intensive Care Unit (NICU) with clinical suspicion of Patent Ductus Arteriosus (PDA) underwent echocardiography; twenty eight newborns with proved hemodynamically significant PDA were enrolled in the study. These newborns were given oral Ibuprofen suspension 10 mg/kg for the first 24 hours followed by two doses of 5 mg/kg each, after 24 and 48 hours and the course was repeated once more if needed. Treatment was started on the third day of life. A follow up echocardiography was done for these patients daily until closure of the PDA or completion of the treatment doses.
Results A total of 107 premature newborns were admitted to the NICU during the study period, of whom 47 had PDA proved by echocardiography; 19 newborns were excluded and twenty-eight newborns were enrolled. 18 were males and 10 were females. Ductal closure was achieved in 27 (96.5%) newborns, as all except one patient (3.5 %) had successful closure of their PDA. No re-opening of the ductus took place after treatment. No significant complications were recorded during the study period.
Conclusion Oral ibuprofen is an effective and safe method of treating hemodynamically significant PDA in premature infants.

Key words Patent ductus arteriosus, Ibuprofen, premature.

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Introduction

Patent ductus arteriosus (PDA), a common finding among premature infants, can result in serious hemodynamic changes causing respiratory, gastrointestinal and renal morbidities if not treated within the first week of life[1]. Its incidence varies from 20% in premature infants older than 32 weeks' gestational age up to 60% in those less than 28 weeks' gestational age[2,3].

Treatment options available for its management are a conservative approach, pharmacological treatment with cyclo-oxygenase (COX) inhibitors and surgical ligation[1,4]. Pharmacological closure of the ductus arteriosus in premature infants with symptomatic left-to-right shunting has been shown to decrease morbidity[5,6]. Indomethacin has been used widely in the prophylaxis and treatment of hemodynamically significant PDA, however, ibuprofen has been proposed as a preferential alternative to indomethacin in treating patent ductus arteriosus (PDA), because it is thought to have less renal, mesenteric, and cerebral vasoconstrictive effects[7,8,9].

The intravenous forms of ibuprofen and indomethacin are unavailable at our hospital, and the waiting list for surgical ligation is long, therefore we carried out this prospective study at our NICU to evaluate the effectiveness of oral ibuprofen to close a hemodynamically significant PDA in premature newborns, which, to our knowledge, was the first trial of its kind in the country.

Methods

Data collection was performed from 1.1.2008 until 1.10.2008.

From 6786 visits to gynecological clinics in North Jordan (from records), 181 pregnant women with presence of bacteria in urine culture were chosen to participate in this survey, after full explanation, and agreement. A questionairre containing 23 items, including demographic, and potential factors that lead to UTI, was filled in by participants, except written laboratory results, which were done by doctors.

All factors were compared with urine analysis.

Follow up for mother and baby condition was performed after 9 months (post delivery).

Results

A total of 107 premature newborns were admitted at the NICU, Prince Rashid Hospital during the study period. 47 were eligible for entry in the study, 19 of them were excluded because of tiny PDA, spontaneous closure or the other mentioned exclusion criteria. The remaining twenty-eight newborns had a hemodynamically significant PDA and were started on the treatment protocol. 18 newborns were males and 10 were females. The characteristics of the study group are shown in Table 1.

Ductal closure was achieved in 27 newborns (96.5%) as there was only one newborn (3.5%), in whom ductal shunting persisted. There was no reopening after closure occurred. Eighteen newborns were treated with 3 doses of ibuprofen; eight were treated with 4 doses, and

the remaining two needed a second course of treatment with a total of 6 doses. Two infants of the treated group died (7%); one died as a result of bronchopulmonary dysplasia, and the second died as a result of sepsis. There were no significant differences in the levels of serum creatinine before and after treatment.

Discussion

Indomethacin is the conventional pharmacological treatment for promoting closure of PDA in premature infants[4]. As there has been some concerns about indomethacin side effects, Ibuprofen (another cyclo-oxygenase inhibitor) has become increasingly used for the treatment of PDA in premature infants in either its intravenous or oral formulation with possibly less side effects[10-14].

Oral ibuprofen would have a number of advantages if it was equally effective like easy availability, less cost, and simpler administration. So our primary objective was to evaluate the efficacy of oral ibuprofen in the closure of PDA.

The overall success rate in closing a hemodynamically significant PDA in this trial was (96.5%) as 27 newborns had successful PDA closure, which is comparable to other studies using the same formulation[11,14-17]. This figure is significantly higher than studies which used the intravenous form of the drug[18-23].

Regarding side effects and complications of treatment, our study showed no decrease in renal function (increase in serum creatinine level), which is similar to the results of most studies[9-11,15], and there was no significant difference in serum creatinine levels before and after treatment.

Although in a trial by *Antonucci et al*[24] decrease in renal function and acute renal failure occurred in 15 % of patients, none of our patients had renal failure, this particular complication seems to be more obvious with indomethacin treated patients[7-9].

Ibuprofen was administered to our patients by a small feeding tube, and although there could be theoretical risks of gastrointestinal irritation, none of our patients had any significant gastrointestinal problems.

No cases of necrotizing enterocolitis (NEC) occurred in our patients in spite of the fact that the use of ibuprofen increased the risk of developing NEC in a number of studies[16-21].

No cases of thrombocytopenia, bleeding tendencies, or reopening of the duct occurred in any of the treated patients.

Two of our patients in the trial died (7%), one of them a 28 week- gestational age had bronchopulmonary dysphasia after 10 weeks of treatment and he was the one whose duct failed to close, the other one was of 30 week gestational age and died of klebsiella septicemia.

Conclusion

Oral ibuprofen is an effective medical treatment in promoting PDA closure and decreasing its complications with very minimal side effects. More studies on a larger scale are recommended to clarify any possible untoward effects of treatment.

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Table I. The characteristics of the study group

Mean birth weight (g)	1237 (600-2500)
Mean gestational age (weeks)	31.21 (26-37)
Gestational age categories	(no)
26 - 28 wk	2
28 – 30 wk	6
30 – 32 wk	7
32 – 34 wk	7
34 – 36 wk	4
36 – 37 wk	2
Surfactant therapy (no) Ibuprofen doses 3 doses 4 doses 6 doses	20 (no) 18 8 2
Respiratory distress syndrome	(no)
Mild	6
Moderate	10
Sever	7
Conventional Mechanical Ventilation (no) High frequency oscillatory ventilation (no)	17 2

Contemporary Teenage Pregnancy in Saudi Arabia

ABSTRACT

Objectives: Few data are available on the extent of obstetric and psychiatric morbidity among pregnant adolescents in the Middle East generally and in Saudi Arabia specifically. A case-control study was conducted to determine the prevalence of adverse obstetric and psychiatric outcomes among primigravid teenagers in AL-Ahsa Governorate, Saudi Arabia.

Study design: The sample consisted of 158 primigravid adolescents and a convenience sample of 632 older mothers. Information related to antenatal and perinatal events were obtained from the cases and their clinic files. Psychiatric assessment was done during the interview.

Results: Antenatal morbidities such as pregnancy induced hypertension, gestational diabetes, anemia and antepartum hemorrhage did not differ between the two groups. We found no evidence for increased risk of cesarean section, low birth weight, preterm delivery, posterm delivery, Apgar score at 1 minute and neonatal admission to intensive care units in teenage mothers. The overall prevalence of psychiatric disorders was similar in both groups but the anxiety disorders were significantly higher in the younger group than in the older group. This was due to increased prevalence for the post traumatic stress disorder and generalized anxiety disorder.

Conclusions Teenage pregnancy receiving adequate antenatal care and ending in live births is not associated with significant adverse obstetric outcomes or major psychopathology in Al Ahsa, Saudi Arabia

Key words Teenage pregnancy, Obstetric outcome, postnatal psychiatric disorders.

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Introduction

Teenage pregnancy is defined as pregnancy in women under the age of 20, although in the United States, the term usually refers to girls younger than 18 years of age. Teenage pregnancy is a worldwide social problem and its incidence shows marked variation amongst developed countries. USA has the highest incidence in the developed world and the UK has the highest incidence in Europe.[1] Teenage pregnancy in Saudi Arabia comes as the 69th in the world ranking and the live birth rate at that age has an incidence of 38 per 1000.[2,3] In Saudi Arabia, antenatal care (ANC) coverage is comprehensive. The national figure of women not receiving ANC is 10%.[4]

Some studies from developed and developing countries have consistently reported that teenage pregnancy was at increased risk for pre-term delivery, low birth weight (LBW) and postnatal depression,5,6 although other studies failed to find such an association.[7,8]

In many developing countries, the focus of prenatal and delivery care is on women's medical and obstetrical problems and on the baby's wellbeing. The psychiatric profile of pregnant women as they experience biological, physical, and physiological changes need to be more addressed.

To the knowledge of the authors, this study is the first to assess both the obstetric and psychiatric morbidity in teenagers in Saudi Arabia and to examine some associated risk factors.

The aim of the present study was to assess the prevalence of adverse obstetric and psychiatric outcomes among primigravid teen-aged mothers compared with a matched group of older women in Al-Ahsa, Saudi Arabia.

Methods

This study was conducted in Al-Ahsa, Saudi Arabia in 2007-09. Data collection phase was completed over a six month period in 2007-08 and data processing and analysis extended to 2009. Al-Ahsa is the largest province in Saudi Arabia's Eastern region (population of 908,366).

Maternal services are provided by Al-Ahsa Maternity Hospital and a network of 47 primary health care centers (PHCCs) in addition to facilities in the private sector, ARAMCO Petroleum Company and National Guard. The antenatal care clinics provide regular care for pregnant women with the use of the classic schedule with 13 visits throughout pregnancy. 9 Women attending PHC centers represent low and middle social class residents of Al-Ahsa region. To cross validate these data, the authors compared the recorded data with data in maternity cards at PHC centers and also from the maternity hospital files.

This work utilized a case-control design. All primiparous with live births were counseled and invited to be enrolled in the study during their visit at the PHCCs for infant vaccination two months after delivery. The comparison group women were selected from the next four consecutive primigravid women in the age group of 20-29 years; as

four cases for each one study case. Sample members were assured about data confidentiality and the data will be used for research purposes and for improving services. Verbal consent was obtained from all eligible cases of the sample and comparison groups.

Some women of both groups were not included from the start; as those with any pre pregnancy chronic medical disease (hypertension, diabetes, renal, cardiac and sickle cell disease), multiple pregnancies, cases with incomplete filing data and cases giving birth outside the Maternity hospital.

From a total of 7109 registered live births in the chosen PHCCs during the study period, there were 179 teenage mothers (25 per 1000). This figure is different from the published Saudi teenage pregnancy incidence (38 per 1000) 2,3 as this represents only a smaller selected sample taken from one region; Al Ahsa. Four second gravidae were excluded and 7 were excluded due to filing incompleteness or presence of pre pregnancy disease. The study eligible cases were 168 teenagers. Their age at delivery ranged from 16.6- 19.8 years with mean age 17.89 ± 0.65. Our sample has 27 cases less than 18 years (16.7% of adolescent cases). In the comparison group, a total of 632 primigravid women (mean age is 24.2 ± 3.3) were selected.

All eligible cases of the study and comparison groups were interviewed by trained medical staff to fill a structured questionnaire; including some demographic characteristics of the mother (education, occupation), husband education and time of first contact with the center, number of antenatal visits as well as past history of psychiatric illness. The information on antenatal outcomes (pregnancy induced hypertension, gestational diabetes, antepartum hemorrhage, anemia, urinary tract infection, premature rupture of membranes (PROM) and polyhydramnios)and. intranatal events were evaluated including route of delivery, gestational age at birth, birth weight, 1 minute Apgar score and the need for neonatal intensive care unit were obtained from the clinic files.

The psychiatric profile of each woman was assessed using Mini International Neuropsychiatric Interview (MINI) 5th edition as a valid and reliable diagnostic tool with closed-end questions. The interviewer read literally these close-ended questions as verbatim as possible to the interviewees. Psychiatric diagnosis was made according to the number of affirmative replies to the specific questions.[10]

Statistical analysis

The chi-squared (x^2) or Fisher's Exact test (FET) was used as a test of significance for comparison of categorical variables, as appropriate. Unpaired student's t test was used for comparison No of ANC visits. P = 0.05 was chosen as the level of statistical significance using the SPSS version 11 (Statistical Package for Social Sciences). To quantify the risk and denotes to the clinical significance of adverse antenatal or intranatal Obstetric outcomes and postnatal psychiatric outcomes in the study group, the odds ratio (OR) and 95% confidence intervals (CI) were computed.

Results

Teenage mothers had comparable demographic findings to older mothers with non significant difference. Despite that, the number of ANC visits didn't show any significant difference, this study demonstrated that a significant higher proportion of teenagers (83.3%) had been booked for ANC in the first trimester. (Table 1)

Teenage mothers had a higher incidence of pregnancy induced hypertension, anemia, and urinary tract infections, but this increased incidence was not statistically significant. The other adverse antenatal outcomes including gestational diabetes mellitus, ante partum hemorrhage, and premature rupture of membranes were comparable. The OR analysis showed also values of no clinical significance as the CI was either wide or containing the value of 1. (Table 2)

Despite teenagers had a lower incidence of both assisted vaginal deliveries and cesarean sections if compared to older group, these differences were not statistically significant. The result demonstrated that the teenage mothers were neither at higher risk for delivering low birth weight nor macrosmic infants. There was no clinically significant difference as regard the gestational age at birth, 1 minute Apgar scoring and admission to neonatal intensive care unit (NICU). The OR analysis showed also values of no clinical significance. (Table 3)

The prevalence of psychiatric disorders in our sample was 14% of the teenage mothers and 15% of the older mothers, screened positive for at least one psychiatric disorder. On the other hand, the prevalence of combined disorders was higher as shown in table 4.When subgroups of psychiatric disorders were considered (mood disorders, anxiety disorders, eating disorders). The anxiety disorders were higher in the teenager group probably due to significant increased prevalence for the post traumatic stress disorder and generalized anxiety disorder (P<0.05, significant OR). (Table 4)

Discussion

Teenage pregnancy is a worldwide social problem and its incidence shows marked variation amongst developed countries. USA has the highest incidence in the developed world and the UK has the highest incidence in Europe.[1]

In this research, the authors restricted inclusion of teenage mothers to only primiparas in order to have more similar/ homogenous group and to exclude factors that may contribute to adverse outcomes in multiparous women. The higher proportion of teenage primigravidae (83.3%) who were booked for ANC in the first trimester may reflect good awareness and may be due to over worried young women. This study demonstrated that there was no significant difference regarding both antenatal and intranatal Obstetric morbidities.

Some studies confirmed that

teenage pregnancy was associated with increased preterm birth, low birth weight, stillbirths and neonatal and post neonatal death *(Hidalgo L. et al*[11] *Haldre K et al*[12] *Phuong V and Suebnukarn k*[13] *Maryam K and Ali S*[14]*)*. The attributable risks were the marital status, low socioeconomic status, inadequate prenatal care, the inclusion of too young women.

Some studies conducted in different areas in Saudi Arabia reported increased rates of preterm delivery, pre-eclampsia and low birth weight. *(Shawky S. et al*[15]*, Mesleh RA et al*[16] *and Abu-Heija, A et al*[17]*)*. They included teenagers <18 years which may be one of the highly contributing factors. Others have shown no difference in the obstetric outcomes among teenagers. *(Oboro V.O et al (2003)*[18] *Kaisa R et al (2005)19 Raatikainen K et al (2006)*[20] *Aruda M et al (2008)*[21]*)*. In the Southern area of Saudi Arabia (Abha), *Mahfouz AA et. Al*[22] concluded that the prevalence of anemia, hypertension, rate of abnormal deliveries and average prenatal visits were not significantly different among both age groups and adolescence per se confers no increased obstetric risk if good prenatal care is provided.

In Cardiff Births Survey, there was lower incidence of multiple pregnancies, spontaneous rupture of membranes >24 h, pregnancy-induced hypertension, instrumental delivery and Caesarean section amongst teenage primigravidae but a higher incidence of anemia, and pyelonephritis.[23]

In the current study, the overall prevalence of psychiatric disorders was not statistically different in both age groups. The prevalence of psychiatric disorders including the depressive category in our teenage pregnant women was (14%, 10.1 respectively).

The relationship between motherhood and psychiatric illness has been extensively studied in recent years. A large review of 20 studies of the prevalence of postpartum psychiatric illness showed large variations related to differences in methodology, sample size, assessment techniques (self-report vs. diagnostic interview), timing of assessment and period of risk.[24]

In Dubai, *Abu-Saleh and Ghubash (1997)*[25] assessed 94 hospitalized pregnant adult women in the postpartum period using clinical and sociocultural instruments, namely the Self-Reporting Questionnaire (SRQ) on day 2 and the Edinburgh Postnatal Depression Scale (EPDS) on day 7 after delivery, found that the prevalence of psychiatric morbidity was 24% according to the SRQ and 18% according to the EPDS.

Interestingly, these rates were higher than obtained from a sample of Swedish women as psychiatric disorders were present in 14.1%, Depression in 10.2% and Anxiety disorders in 6.6% of patients.[26] Recent studies on adolescent mothers revealed rates of depressive symptoms within the first postnatal 3 months of 53- 56% *(Logdson et al., 2005)*.[27]

Eating disorders are rare in our sample. Saudi culture discourages public display of the female body. Until a few decades ago, thinness was equated with poverty or ill health and people continue to consider mild obesity as a sign of wealth and health *(Al-Sabaie, 1989)*.[28]

Interestingly, the anxiety disorders in teenagers in our study are not surprising as it parallels the dramatic increase in literacy among females in Saudi Arabia in a very short period. *(Gubash et al., 1992)*[29] Also there is a change in the roles of women in the modern Saudi society. Women choose to pursue higher education and careers; also they are less accepting of having their roles restricted to motherhood. These factors may be the fuel of intergenerational conflict that may be culminating in anxiety and increased sensitivity.[30]

There are several possible explanations for the reported differences concerning both the Obstetric and Psychiatric disorders of teenage pregnancies in our sample. Firstly, the age in teenagers varies between studies from under 13 to under 20 years of age. In the present study, only 27 cases (16.7%) of teenage mothers were less than 18 years old and the lowest age was 16.4 years. The effects of very young age could thus not be studied separately. However, one may speculate the effects of young age per se should be clearer in the youngest age groups.

Secondly, there are many differences in maternity care systems worldwide. In some countries maternity care systems are based on insurance and the availability of these services depends on the economic circumstances of the mother, which are likely to be worse in teenage mothers than in adults. In Saudi Arabia antenatal and maternity care is provided free of charge.

Finally, Saudi teenage pregnant cases were married; and received support from their families. Also fertility concept is highly valued, reproduction is encouraged by religious and social beliefs and the bride had higher self-esteem after having children.

In conclusion, Teenage pregnancy receiving adequate antenatal care and ending in live births is not associated with significant adverse obstetric outcomes or major psychopathology in Al Ahsa, Saudi Arabia.

We cannot exclude neither recall nor recruitment bias. Pregnancies ended in still births may present different characteristics. Our patients were therefore not representative of all teen-aged mothers, which potentially limits the generalization of the current findings. In addition, the study did not take into account the contribution of family competence on the psychological adjustment of young mothers.

Maternity care will also be supplemented with counseling for the acceptability and implementation of psychiatric screening at the maternity hospitals and primary health care centers to provide the optimal care for young mothers.

The study paves the way for a larger prospective community-based study.

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Table 1: Demographic characteristics in the included mothers

Significance	Older mothers (n=632)	Young mothers (n=168)	
χ^2= 0.177 P= 0.91	220 (34.8%) 255 (40.3%) 157 (24.8%)	61 (36.3%) 65 (38.7%) 42 (25 %)	Husband education < secondary secondary > secondary
$\chi^2$2= 0.42 P= 0.81	202 (32.7%) 265 (41.2%) 165 (26.1%)	55 (32.7%) 66 (39.3%) 47 (27.9%)	Maternal education < secondary secondary > secondary
χ^2= 0.37 P= 0.8	472 (74.7) 59 (9.3) 101(16.0)	122 (72.6) 16 (9.5) 30 (17.9)	Maternal occupation House wives Working Students
χ^2= 0.15 (P=0.7) $\chi^2$2= 0.01 (P=0.9)	83 (13.1) 50 (7.9)	24 (14.3) 13 (7.7)	Past history of psychiatric illness In the family In the cases
χ^2=6.05 P=0.048*	486 (76.9%) 95 (15%) 51 (8.1%)	140 (83.3%) 13 (7.74%) 15 (8.9%)	Booking start (first ANC) First trimester Second trimester Third trimester
t= 0.47 P= 0.64	1- 14 8.1± 3.7	3- 15 7.95 ± 3.3	Number of ANC visits Range Mean ±SD

** Significant*

Table 2: Adverse antenatal findings in the included mothers

OR (95% CI)	Significance	Older mothers (n= 632) No (%)	Young mothers (n=168) No (%)	
1.4 (0.6- 3.4)	χ^2= 0.26 P=0.6	19 (3.2%)	7 (4.2 %)	Pregnancy induced hypertension

0.75 (0.16- 3.45)	FET; P= 1	10 (1.6%)	2 (1.2%)	Gestational diabetes mellitus
1.15 (0.8- 1.6)	χ^2= 0.46 P= 0.49	228 (35.5%)	66 (41.8%)	Anemia
0.6 (0.2- 1.4)	χ^2=0.95 P= 0.3	37 (5.9%)	6 (3.8 %)	Antepartum hemorrhage
1.23 (0.6- 2.55)	χ^2= 0.12 P= 0.72	31 (4.9%)	10 (6.3%)	Urinary tract infections
0.44 (0.09- 1.9)	FET; P= 0.4	17 (2.7%)	2 (1.3%)	Premature rupture of membranes
1.03 (0.28-3.7)	FET; P= 1	11 (1.7%)	3 (1.9%)	Polyhydramnios

FET = Fisher's exact test

Table 3: Findings at birth in the included mothers

OR (95% CI)	**Significance**	**Older mothers (n= 632) No (%)**	**Young mothers (n= 168) No (%)**	
0.6 (0.4 -0.9)	χ^2= 6.09 P= 0.01	216 (34.2%)	40 (23.8%)	Assisted vaginal delivery
0.8 (0.5-1.3)	χ^2=0.58 P=0.44	84 (13.3%)	18 (10.7%)	Caesarean section
1.2 (0.6- 2.4)	χ^2= 0.16 P= 0.68	38 (6.2%)	12 (7.2%)	Preterm (<37 weeks)
1.3 (0.5 – 3.5)	FET; P= 0.34	17 (2.7%)	6 (3.6%)	Post term (> 42 weeks)
1.2 (0.6- 2.3)	χ^2=0.2 P= 0.6	44 (7%)	14 (8.3%)	Low Birth weight (<2500 g)
0.8 (0.3-1.8)	χ^2= 0.13 P= 0.7	29 (4.6%)	6 (3.8%)	Macrosomia (>4000 g)
1.1 (0.5- 2.2)	χ^2=0.04 P= 0.8	35 (5.5%)	10 (5.9%)	1 minute Apgar score < 7
0.8 (0.3- 1.8)	χ^2=0.3 P= 0.57	33 (5.2%)	7 (4.2%)	Admission to NICU#

FET = Fisher's exact test
 # = neonatal intensive care unit

Table 4: Psychiatric disorders in the included mothers

	Young mothers (n=168) No (%)	Older mothers (n=632) No (%)	Significance	OR (95% CI)
A - Depressive disorders	17 (10.1)	65 (10.3)	χ^2= 0.01 P=0.9	1.05 (0.56-1.7)
Major Depression	10 (5.9)	39 (6.2)	χ^2= 0.01 P=0.9	0.9 (0.5-.9)
Dysthymia	7 (4.2)	26 (4.1)	χ^2 = 0.04 P=0.8	1.01 (0.42-2.4)
B - Anxiety disorders	29 (17.3)	88 (13.9)	χ^2= 1.18 P=0.27	1.3 (0.81-2.04)
Panic disorder	3 (1.8)	18 (2.9)	FET P=0.59	0.6 (0.18-2.13)
Social phobia	3 (1.8)	13 (2.1)	FET P=0.55	0.87 (0.24-3.07)
Agoraphobia	2 (1.2)	7 (1.1)	FET P=0.59	1.1 (0.22 -5.22)
Obsessive compulsive disorder	1(0.6)	11 (1.7)	FET P=0.24	0.34 (0.04-2.6)
Generalized anxiety disorder	7 (4.2)	9 (1.4)	χ^2= 5.46 P=0.03*	3 * (1.1-8.2)
Post traumatic Stress disorder	15 (8.9)	29 (4.6)	χ^2= 4.81 P=0.03*	2.04* (1.06-3.9)
C - Eating disorders	2 (1.2)	9 (1.4)	FET P=0.58	0.8 (0.1 -3.8)

** Significant*
FET = Fisher's exact test

Iraq Health Care Reconstruction during the Occupation

This is an eagle eye on the disastrous health care system after a long tough six years, where Iraqis are again facing their unknown future after a relative short lived non violenct period, and waiting for the end of occupation, and regaining complete sovereignty.

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Introduction

After 6 years the US-led occupation of Iraq unleashed a civil war estimated by WHO to have killed at least 100,000 civilians, with around 2 million Iraqi refugees having fled to Syria and Jordan, while another 2.8 million people have been displaced within Iraq. The United State's agency for international development (USAID) estimates that Sulaimaniyah province host almost a half a million internally displaced people, the largest displaced population outside Baghdad. As sectarian violence continues through out Iraq including in cities near Sulaimanyah, like Mosul and Kirkuk, the US Government has doubled spending on displaced people to about $120 per person per year/ homes. In 2008, the Government of Iraq offered grants of about $600 to families that return home. So far, less than 1% of displaced people have accepted that offer. In the Sulaimanyah camp, 36 year old Ossam KaKhalin Shalan describes his plight in stark terms. "We were forced from our home in Baghdad by insurgent militias, and then the house was destroyed by government troops" he says over the cries of a baby struggling in his arms." This child was born in a tent here in the camp and has no certificate of birth. My wife was afraid to go to the hospital to deliver it. But we will stay here if we can. Even if we have to beg in the streets". A local non governmental organization, the Kurdistan health foundation report, showed that the refugees, most of whom are Sunni Arabs, are largely blocked from accessing Kurdistan 's public health system. The problem is a part of 'a pattern of neglect" on the part of Kurdish officials. The camp's unofficial Mayor, Ayad Manfee, also fled Baghdad when fighting destroyed his home. After a year under plastic tarpaulins at the edge of Sulaimanyah , he and his wife Lyla complain that the Iraqi Government has yet to transfer their food ration cards from Baghdad, thus denying them access to the system of government food support established for poor people during the Saddam era. "When I went home to collect the food", says Lyla Manfee, "I was threatened with death". The Manfees are also unhappy with aid groups. "The Red Cross brings us water, but, for the most part the humanitarian groups come here, take a lot of photographs, make a lot of promises, and then we never hear from them again", says Ayad Manfee. He reserves his parting shot for the US Army. "We had an American general come here and promise us toilets. But nothing happened".

Health Indicator

After 6 years of civil war, preceded by a decade of International economic sanctions, Iraqi health officials says health-care conditions across the country are improving, but are still desperate. Mortality rates for children younger than 5 years (46 per 1000 live births) and maternal mortality rates (84 per 100 000 live births) are far higher than in neighboring countries, and far higher than before the US invasion in 2003, when these indicators had already tripled after a decade of economic sanctions. One in eight deaths is violence-related. .38% of pregnant women are anaemic. Diarrhoea and acute respiratory infections, further compounded by malnutrition, account for about two-thirds of deaths in children younger than 5 years. The World Food Programme estimates that 22% of children under 5 years are stunted due to malnutrition. At the peak of the most recent cholera period, in early 2008, 4,697 confirmed cases were reported in 46 districts . Only one in three Iraqi children younger than 5 years has access to safe drinking water, UNICEF estimates, and 14% of children are born underweight. In a panel discussion last summer , medical researchers from Baghdad, al-Nahrin and Al-Mustansiriyah University stressed that the war has had a devastating effect on public health care, especially for women and children, with many pregnant women unable to reach hospitals for delivery, routine immunizations severely reduced, medical supplies disrupted, electricity cut at hospitals, and primary care particularly badly affected. 'Much of the disease burden is attributable to environmental risk factors, such as improper management of hospital hazardous waste, unsafe water, poor hygiene, poor living conditions, and unsafe food", says the UN." Violations against children are being committed on a large scale and include child recruitment, attacks on schools and hospitals, killing and maiming by indiscriminate attacks and lack of humanitarian access due to insecure conditions". A recent study of 210 Baghdad physicians by researchers from the Al Mustansiriyah University College of Medicine suggests physician competence is also a worry, with only 20% of physicians who have undertaken postgraduate studies aware of the principles of evidence based medicine." The state of medical knowledge among physicians, even those conducting research, is disastrous", says Amir Jalal Mosawi, Editor of the New

Iraqi Medical Journal and head of pediatrics at University Hospital in Al kadhimiyia, Baghdad." When we receive a double-controlled study, I can almost be sure it is a fake". Al Mosawi credits the Iraqi Ministry of health for establishing a research bureau, at a time when health budgets for 2009 are being revised downwards because of the global financial crises. But for the present he says, researchers can do little more than gather data and wait for help to design studies.

Violence Against Doctors

In Southern Iraq, health-care delivery remains severely constrained by violence. Although the Iraq Ministry of Health estimates 200 physicians have been killed since the US-led invasion, the Iraqi Medical Association put that figure at 2000 doctors .The Ministry and the association estimates that nearly half of the country's 34,000 doctors have left the country. In November 2006, deputy health minister Ammar al-Saffar, a critic of US reconstruction efforts who called for greater investment in health reconstruction was kidnapped from his Baghdad home by armed men. He has not reappeared. In February, 2008, there was an assassination attempt on the deputy Dean of Baghdad University's School of Medicine. In March, Khalid Nasir al Miyahi, the only neurosurgeon in Basra was kidnapped and murdered. In December 2008, the Dean of the University of Mosoul's School of Medicine was wounded by gunmen. At the Iraqi Medical Association's 2008 annual conference, which was held in Syria, several participants from Iraq were prevented by the war from attending. Official efforts to attract physicians back to the country have so far yielded little result. The government's recent decision to allow physicians to carry weapons for self-protection has been criticized by many for further undermining confidence in physician's safety. A study produced by the Iraqi association of university lecturers notes that 235 Iraqi academics have been murdered since 2003 and a further 294 have been kidnapped or threatened. Medical professors have disproportionately borne the burnt of this violence, the study notes. At Baghdad University, for example, 11 medical professors have been murdered, the largest group among the 71 faculties. "Neither the occupation forces nor Iraqi ones tried to stop or prevent violence against academics" said the Lecturer's Association. Although much of the blame for the violence against physicians and medical facilities is placed on insurgents, government actions have also been implicated , most recently in Baghdad's densely populated Sader City district, where municipals officials estimate 925 people were killed and 2,605 were wounded as US and Iraqi government military operations tensified in early 2008. After government forces surged into the area in April, Sadr City General Hospital and some 12 ambulances were damaged by US missiles, the UN reported. According to Yassin Al-Rikabi, director of Mohammed Bkjr Al Hakim Hospital in Al Sadr city, in early May, 40 Iraqi soldiers raided the hospital and arrested 35 staff members on suspicion of having treated Mahdi Army Fighters. The soldiers temporarily forced the closure of the hospital. Five of 20 public health centers in Sadr City , which has a population of 2 million, closed temporarily during this period, the UN reported. "The military operation took it's residents unprepared for basic needs and deprived them of access to basic services such as electricity, fuel and water supply and access to health care" UN observers wrote. "The situation was further aggravated by the imposition of a 48 hour curfew which prevented the movement of ambulances in and out of Al Sadr City and the transport of wounded civilians to hospitals".

Reconstruction Health Facilities

Although the US government has devoted $50 billion to the reconstruction of Iraq since 2003, so far less than $1 billion has been devoted to health-care infrastructure, far less than has been spent on new vehicles for the Iraq army. Of the 243 US Government advisers working within Government of Iraq ministries, only ten work on non-health issues. From a 3.6 billion fund intended to allow the US military commanders to "meet the needs of the communities in which they operate", expenditures on security increased 600% to 250 million his year, whereas health care expenditures diminished by 36% to $14 million and water and sanitation spending declined by 73% to $44 million. After the US led invasion in 2003, the White House directed the Pentagon to establish a team of 30 experts led by Assistant Secretary Of Defense for Health Affairs William Winkenwerder and Jim Haveman, a former Michigan health official, to work with the Iraq Ministry of health on health-care reconstruction. In 2004, the team helped establish a new national health care strategy, expanded the health budget 30-fold to $1 billion, and rebuilt the ministry's headquarters. It also pushed the government to expand primary care, rationalize drug distribution, and recruit doctors to return from exile abroad." One of the biggest problems we had once we had a billion dollar budget was to get people to spend money". Haveman later explained .The problem persists. Of the $192 million allotted for long term projects within the Iraq Ministry of Health's 2008 budget, only a small fraction was spent, according to the US department of defense. For its part, the US passed much of it's funding for the reconstruction of Iraqi clinics and hospitals to US engineering firms that were later severely criticized by US Government auditors for failure to honor contracts. Audits of US Government contracts with the American engineering giant Parsons Delaware Inc to build 150 public health centers across Iraq found that most facilities were only partially completed, and only six were finished. US auditors also criticized USAID for its management of a construction of 94- bed children's hospital in Basrah. After the Congress allotted $50 million for the project in 2003, USAID awarded the contract to the US-construction giant Bechtel. When Bechtel's bills spiraled to $170 million, USAID, which never appointed a project

officer to oversee Bechtel's work on the hospital, did not notify Congress. In Baghdad, outgoing US ambassador Ryan Crocker says that after spending tens of billions to bolster Iraqi police and military, US reconstruction efforts will increasingly focus on health care and education. But he does not predict this will involve large investments: "It is not about building schools and hospitals anymore", he says. "I think relatively small inputs to help Iraqis on policy reforms can pay substantial dividends later. The whole focus has been, and is, shifting from major reconstruction into helping with governance, helping with capacity, helping with policy reform, and protecting investments".

Panel: Health Financing

In Baghdad, the country's most popular province, 48% of the regional budget is devoted to security, whereas health care receives 1% of provincial finance. In the oil rich but violent city of Kirkuk, on the southern edge of Kurdistan, the Institute for War and Peace Reporting notes that families of patients in Kirkuk Hospital's neurosurgery units are expected to purchase basic equipment required for operations, and that basic equipment such as surgical drills are worn beyond repair, as is the case in Baghdad, provincial officials in Kirkuk devote about 1% of their budget to health care, whereas 18% of the budget in Kirkuk is earmarked for oil and gas field rehabilitation.

Investment in oil and gas production is expected to boost export revenues that will help the government expand health-care budgets .At a health-care reform conference last June, officials and parliamentarians called for an increase in national budget allocations for health from 5.3% (or $43 per head) to 10%. Although the government resisted calls for budget increase, in early December, 2008, after concluding a poliomyelitis campaign which, with WHO and UNICEF support ,vaccinated 97% of Iraq's 5 million children, the Ministry of Health announced plans to build six new hospitals and 1000 clinics.

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Strenghts and Challenges in Clinical Teaching

Dr. Firdous Jahan

Clinical teaching and learning should be focused on directly involving patients and their problems.

Clinical examination fulfils several other important roles. Examination is an integral part of the doctor-patient relationship. The simple 'human effect' of listening to and touching a patient can be intrinsically reassuring and comforting. Within this relationship, trust is essential, not only to be able to perform parts of the examination itself but also in subsequent decision making and management. It is very hard to convince a patient that they must undergo various, occasionally invasive and possibly painful, investigations if they have little trust in the clinician.[1] The examination may provide important information about the diagnosis, prognosis and severity of the patient's condition. This also enables decisions to be made regarding appropriate investigations and therapy. Thorough, systematic examination may narrow or confirm a diagnosis where the patient gives little or no history, or presents with vague or non-specific symptoms. Thus clinical examination confirms diagnostic suspicion from the history, and directs the investigations and further management of the patient.[2] Traditionally, clinical teaching occurred in hospital wards, outpatient settings and operating theatres. During the past 20 years, clinical skills centers, laboratories and more recently, simulation centers with high-fidelity simulation have been introduced into clinical settings. Clinical skills teaching have never been the ideal teaching and learning environments, and they are becoming increasingly more difficult to use as service demands stretch goodwill and reduce opportunity. However, workplace-based learning is vital for the acquisition of a comprehensive range of clinical skills that can be used in a variety of complex situations.[3]

Clinical teachers optimize the teaching and learning opportunities by modification of a person's behavior through his/her activities, experiences, his/her knowledge, skills and attitude including modes of adjustment towards the environment change.[4] Adult learning occurs when individuals engage in sustained, systematic learning in order to effect changes in their attitude, knowledge, skills or belief systems.

"Tell me, and I will forget, Show me, I may remember, Value me, and I will understand. I discover and I use (quotation by a Chinese philosopher Confucius 450BC).

A good teacher ideally completes an alignment of the level of behavior, competencies, beliefs and professional identity.[5] Medical education continuously evolves reflecting the latest developments in modern medicine and prepares students as future facilitators. Professional development in clinical teaching and learning may be cognitive means knowledge based or experiential which utilizes previous experience, and is participative learner centered, problem-based, relevant to work and based on learner's needs. It is a continuous process in which new experiences build on and integrate with the accumulated experiences.[6] Significant learning takes place when subject matter is relevant to the personal interest of the student. New attitudes are more easily assimilated when threat to the self is low; it is self initiated self directed, with planning, setting a positive climate for learning balancing intellectual and emotional components of learning. Learning in the clinical environment has many strengths. It is focused on real problems in the context of professional practice. Learners are motivated by its relevance and through active participation. Skills of history taking, physical examination, clinical reasoning, decision making, empathy, and professionalism can be taught and learnt as an integrated whole.[7] Clinical teaching has many challenges too. It is mostly opportunistic lacking clear objectives and expectations, focuses on factual recall rather than on development of problem solving skills and attitudes. Sometimes it may be done by passive observation rather than active participation of learners. Inadequate supervision and provision of feedback makes is more difficult. In clinical set up there is little opportunity for reflection and discussion.[8] Clinical teachers have time pressures competing demands, administrative and research activities to balance with negligible rewards and recognition for teaching. These challenges to the clinical tutor, maintain the balance between education and clinical service provision. A wide range of out patient facilities and specialties make it more challenging. The difficulties associated with our patient teaching are usually related to organizational issues and physical environment as well as tutor and students ratio. Clinical teaching in all aspects nurtures a student to develop knowledge, skills and desired attitude for better patient care.

For effective clinical education we can use e-learning modules in clinical settings. This is how some manage the process within the framework of clinical service delivery. It allows both students and teachers to make wider connections with other aspects of the curriculum, promotes greater standardization of teaching, complements traditional methods of clinical skills learning in a blended fashion and promotes inter professional education and sharing of reusable learning objects. The current approach to the learning outcomes tends to be either entirely assessment focused, or focused on the linear transmission of information. Technologies which are associated with collaborative learning seem to fit within their own

category of e-learning. An obvious advantage of e-learning is that it has the potential to interact with the learner and can be easily updated without needing to wait for the next publication. Delivery of a blended course, with access to e-learning, may provide one solution for a more effective learning experience.[9]

Although teaching in outpatients is opportunistic, with care full planning and identification of appropriate learning goals one can avail unique opportunities to address a wide range of health care issues.[10]

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The Effect of Topical Combined Ciprofloxacin 0.3% and Dexamethasone 0.1% on Children with Otitis Media with Effusion(OME) Undergoing Myringotomy

ABSTRACT

Aim: To determine whether topical administration of dexamethasone 0.1% improves resolution of acute tympanostomy tube otorrhea when combined with topical ciprofloxacin 0.3% drops.

Method: This study was done on 120 child patients aged between 2 and 14 years diagnosed to have acute otitis media with effusion for which myringotomy was done. After taking baseline ear culture they were divided into two groups; the first one those who received topical combination of ciprofloxacin 0.3% and dexamethasone 0.1% and the second group those who received topical ciprofloxacin 0.3% alone. In both groups the medications were given in a dose of 3 drops twice daily for 7 days. All patients were evaluated on the 1st, 3rd, 7th and 14th day post drug administration, regarding their clinical response.

Results: 19 patients out of the 120 had negative baseline ear culture. Within the 1st week of patients who used topical combinations of ciprofloxacin 0.3% and dexamethasone 0.1%, 80% of them showed complete or partial resolution of otorrhea compared with only 54.9% in those with ciprofloxacin 0.3% alone. By the 14th day there was little difference in the response of the two groups to medication. In patients with topical combination of ciprofloxacin 0.3% and dexamethasone 0.1%, 84.0% showed complete resolution of otorrhea compared to 78.4% in patients with ciprofloxacin 0.3% alone.

Conclusion: Although the combined topical ciprofloxacin 0.3% and dexamethasone 0.1% does not improve the final outcome of otorrhea in patients with myringotomy for otitis media with effusion but it has an important role in early and rapid relief of undesirable ear symptoms.

Abbreviations: topical ciprofloxacin 0.3% (CP), topical ciprofloxacin 0.3% and dexamethasone 0.1% combination (CDX).

Key words: ciprofloxacin, dexamethasone 0.1%, acute otitis media, myringotomy, otorrhea.

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Introduction

Otitis media is a common problem in children. It may be associated with effusion for which tympanostomy tube insertion may be required[1], however this procedure may be complicated by otorrhea in about 50% of cases[2]. Topical CP has been considered the treatment of choice for patients with otitis media and tympanostomy. It belongs to the Fluoroquinolone group of antibiotics and is a broad spectrum antibiotic that covers most of the pathogens involved in otitis media with tympanostomy tubes[3,4]. Although the use of topical steroids has a tendency to delay wound healing in cutaneous wounds[5,6] its effect on specialized tissues healing, including the tympanic membrane has not been studied in Jordan but some studies done around the world revealed that when topical steroids are combined with topical antibiotics it provides rapid resolution of otorrhea[7,8].

The object of this study was to examine the effect of combined topical antibiotic and steroid on children with acute otitis media and effusion who underwent myringotomy.

Methods

This study was done in King Hussein Medical Center between July 2007 and July 2008. 139 children aged between 2 and 14 years were diagnosed to have acute otitis media with effusion and underwent myringotomy; 19 children were excluded from the study because they had suppurative ear infections, chronic nasal obstruction or persistent rhinorrhea, a past or current history of immunosuppressive disorders or immunosuppressive therapy, diabetes and poor compliance patients. After taking baseline ear culture, the remaining 120 patients were divided into two grou,ps the first one those who received topical combination of CDX and the second group those who received topical CP alone. In both groups the medications were given in a dose of 3 drops twice daily for 7 days.

All patients were evaluated in the 1st, 3rd, 7th and 14th day post drug administration regarding their clinical response including the reduction in granulation tissue. The response was graded as follows:

Grade 0 if complete resolution occurred. -

- Grade I if partial resolution occurred.
- Grade II if no change occurred in the patient condition.
- Grade III if the patient condition worsens.

Another ear culture was taken in the 7th and 14th day from patients with grade II and III.

Results

19 patients out of the 120 had negative baseline ear culture. From those, 10 of them received topical combination of CDX and had complete resolution (grade 0) by the 3rd day and the rest of them received topical CP alone , but they had complete resolution (grade 0) by the 7th day. The causative micro organisms in the remaining 101 patients are summarized in Table (1).

There was no statistically significant difference in the results of the

microbiological cultures regarding age and sex.

In the patients with positive culture results (101 patients), 51 of them received topical CP alone, while topical combination of CDX was administered for the remaining 50 patients. The results of their assessment on the 1st, 3rd, 7th and 14th day post drug administration are summarized in Table (2).

Discussion

This was the first prospective study done in Jordan to compare the effect of combined topical administration of steroids and antibiotics on child patients who underwent myringotomy for acute otitis media with effusion.

Patients with negative baseline ear culture formed 15.8% of all cases, those who received topical CDX had more rapid resolution of otorrhea compared to those who received topical CP alone. This suggests the important role of steroids in reducing the inflammation of specialized tissues regarding the causative micro organisms. The most common causative agent was streptococci pneumonia, which is similar to the results found world wide[9]. There was no statistical significance of the type of micro organisms regarding the response to medication. This emphasizes that CP is an excellent medication in covering a wide variety of micro organisms causing otitis media.

If we have quick look at Table (2) which summarizes the results of drug administration to patients with positive cultures, we will notice easily that the use of topical combined CDX produced a dramatic response of complete or partial resolution in 54% of cases compared with 27.5% in patients who used CP alone, in addition to that, the percentage of patients who did not improve (26.0%) or whose condition worsened (20.0%) was less in patients exposed to the combined CDX. This describes the powerful effect of CDX on controlling otorrhea in myringotomy patients and in turn avoiding undesirable discomfort of ear symptoms. This excellent response to CDX continued on the 3rd day where we have 70.0% of cases in grade 0 and I, compared to only 35.2% of patients with topical CP alone. However the difference in response between the two groups started to decline by the 7th day; in those patients who used combined CDX 80% of them showed complete or partial resolution of otorrhea compared with only 54.9% in those with CP alone. By the 14th day there was little difference in the response of the two groups to medication, in patients with CDX 84.0% showed complete resolution of otorrhea (grade 0), and 8.0% showed partial resolution (grade I), 6.0% had no change in their clinical condition (grade II) and only 2.0% had worse symptoms. While in patients with CP alone, 78.4% which is close to the percentage found in the other group, 9.8% also had partial resolution, 3.9% had no change in their clinical situation and 3.9% had a worse clinical condition.

It was obvious that the use of topical steroid when added to antibiotics provides dramatic relief of otorrhea in patients with myringotomy. This suggests that steroids play a major role in decreasing the inflammatory process in specialized tissues even in the presence of infective agents. This role of steroids was suggested in many studies, one of them done at Pittsburgh in 2006 by Hebda, *Patrical A,. et al* in which they assessed the histological response of tympanic membranes for CDX after myringotomy. This study revealed that Myringotomy healing was modulated by treatment with CDX, as evidenced by decreased granulation tissue formation and perforation healing rates, and proceeded normally after the treatment was discontinued[10]. It was also evaluated in a study of 300 children undergoing tympanostomy tube placement, prophylactic administration of neomycin/ polymyxin B/hydrocortisone drops, administered either as a single intraoperative dose or as an intraoperative dose followed by a 5-day course, significantly decreased the incidence of post-tympanostomy otorrhea in comparison with no treatment. In another study[11], treatment with either neomycin/ colistin/hydrocortisone drops or gentamicin 0.3% drops for 14 days was compared in 55 patients with otorrhea complicating recurrent otitis media with tympanic membrane perforation, otitis externa, or infected mastoid cavities and postoperative tympanoplasties. Both treatments proved equally safe; whereas the antibiotic-corticosteroid combination appeared to relieve inflammation more effectively. The antibiotic alone was more effective in eradicating the infecting organism[12]. An antibiotic-corticosteroid preparation (gentamicin/hydrocortisone) has also been found to be more effective than a corticosteroid alone (betamethasone) in producing disease inactivity in patients with non-cholesteatomatous chronic otitis media[13].

Conclusion

CP is an excellent medication in covering a wide variety of micro organisms causing otitis media. Streptococcus pneumonia is the most common infective agent involved in otitis media with effusion, in Jordan. CDX treatment is helpful in enhancing middle ear drainage and increasing middle ear concentrations of CDX when tympanostomy tube surgery is performed in patients with active otitis media and effusion. The finding of perforation healing with early CDX therapy suggests that a short course of this antibiotic/anti-inflammatory preparation after tympanostomy tube placement may be used safely to reduce otorrhea and prevent or treat infection without increasing the risk of premature tube extrusion or adversely affecting normal healing of the tympanic membrane. Although the combined CDX does not improve the final outcome of otorrhea in patients with myringotomy for otitis media with effusion, it has an important role in early and rapid relief of undesirable ear symptoms.

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Table 1

Type of micro organism:	Number of patients
Streptococcus pneumoniae	37
Moraxella catarrhalis	21
Haemophilus influenzae	19
Pseudomonas aeruginosa	12
Others	11

Table 2

The day	The grade	Patients of the 1st group (50 patients)	Patients of the 2nd group (51 patients)
1st day	0	10 (20.0%)	5 (9.8%)
	I	17 (34.0%)	9 (17.6%)
	II	13 (26.0%)	21 (41.8%)
	III	10 (20.0%)	17 (33.3%)
3rd day	0	26 (52.0%)	4 (7.8%)
	I	9 (18.0%)	14 (27.5%)
	II	8 (16.0%)	12 (23.6%)
	III	7 (14.0%)	11 (21.6%)
7th day	0	35 (70.0%)	26 (51.0%)
	I	5 (10.0%)	12 (23.5%)
	II	7 (14.0%)	8 (15.9%)
	III	3 (6.0%)	5 (9.8%)
14th day	0	42 (84.0%)	40 (78.4%)
	I	4 (8.0%)	5 (9.8%)
	II	3(6.0%)	2 (3.9%)
	III	1(2.0%)	2 (3.9%)

Obesity and Body Image Avoidance Behaviors Correlates Among Female University Students

ABSTRACT

Objective: To assess the association between obesity and body image avoidance behaviors correlates among Kuwaiti female University students and the predictors of such associations.

Methods: A cross sectional study was carried out among 525 Kuwaiti female university students. After obtaining a verbal consent from each student, she was asked to complete a questionnaire that covered some socio-demographic data and the body image avoidance questionnaire (BIAQ). Factor analysis was computed to elaborate the main behaviors, Chi square, student t-test, and stepwise binary logistic regression analysis were performed to examine the association between the studied variables.

Results: About 30% of the female students were overweight and obese. The factor analysis produced four factors related to the students' body image behavioral tendencies namely: social activities, clothing, eating at restaurants and grooming and weight. In the bivariate analysis, body mass index (BMI), monthly income and mothers' level of education showed a significant relationship with more than median the BIAQ total score. In the multivariate analysis, BMI, monthly income and fathers' level of education were the predictors of negative behavioral tendencies among the female students.

Conclusion: The stigma of overweight and behavior among the university female students compel them to practice negative behavioral tendencies related to avoid social integration. Low socio-economic standard play a direct essential role in body image avoidance behaviors.

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Introduction

A thorough understanding of weight stigma and its impact may be important to document the social and psychological consequences of obesity, and may be central to revealing the totality of effects of excess weight on body image satisfaction and the consequent behavioral tendencies. The terms 'obesity' and 'overweight' are frequently used interchangeably to describe the condition of excess weight, but in a health context are distinguished using body mass index (BMI) definitions. Although this distinction is important for identifying health risks, it is less apparent whether BMI cutoffs are meaningful with respect to stigma and bias resulting from excess weight. It is important to acknowledge that obese individuals face several layers of bias and self-fulfilling prophesies then may occur in which obese individuals behave in ways consistent with stereotypes.

Obesity comprises a major health problem worldwide and in Kuwait it is one of the most crucial health concerns. With the increase in oil wealth of the country the socioeconomic status of the nationals has improved remarkably. The government has shared the oil wealth with nationals through providing free education, housing, health care and other subsidies. With the increase in personal wealth, one feature that has become very widespread is the increased prevalence of sedentary lifestyle. At the same time, fast food consumption has become quite common. The above changes are accompanied by a rise in overweight and obesity as well as chronic illness. A recent study showed that among females in the age group of 20-24, about 51% were overweight and obese[1]. The problem starts very early during childhood; another study found that 45% of the girls aged 13-20 years had BMI =25 kg/m^2[2].

Taken together, research documents a widely held perception that overweight people have multiple negative characteristics, ranging from flaws in personal effort (such as poor self-discipline or laziness), to central attributes of competence, attractiveness, and morality[3,4]. This stereotype perception is translated in several behavioral tendencies such as avoiding approaching clothes shopping, restaurants, and social gatherings where the issue of weight can be focused. Less work has examined why this population has become increasingly denigrated, and why it is socially acceptable to hold negative stereotypes about obese individuals.

Accordingly, the aim of the present study is to assess the association between obesity and body image behavioral tendencies among Kuwaiti female University students and the predictors of such associations using the Body Image Avoidance Questionnaire (BIAQ).

Methods

Data for this paper were collected through a cross-sectional survey of Kuwaiti female university students conducted during October 2007 to January 2008. Six faculties (practical and theoretical) were randomly selected for the study. About 90

students were randomly selected from each of three practical faculties (engineering, science and pharmacy) and three theoretical ones (Law, Arts and Commerce). A total of 553 female students were approached and those who completed the interview after getting a verbal consent were 525 female university students with a response rate of 94.9%.

The questionnaire was developed in English and then translated into Arabic. It consisted of two parts; the first was some socio-demographic personal data like age, social standard assessed by the level of education of both student's father and mother together with the family monthly income. The second was the Body Image Avoidance Questionnaire (BIAQ)[5]. It was used to measure behavioral tendencies that frequently accompany body-image disturbance. The questionnaire is a 19-item (one item was omitted as it was inconvenient with the students) instrument designed to assess avoidance situations that provoke concern about physical appearance, such as avoidance of social outgoings and tight-fitting clothes. Each item was measured on a 4 Likert scale ranging from "Never" to "Always". For example, a question was asked on whether the respondent wears baggy clothes, and whether this occurred always, sometimes, seldom or never. A weight of 4 was given to the item if it occurred always and a weight of 1 was given if it never occurred. The 18 items were summed to arrive at a composite score of body image avoidance behavior experience, with a range between 18 and 72.

Anthropometric measurements were carried out where weight was measured to the nearest kg and the height was measured to the nearest cm. Body mass index (BMI) was then calculated using the formula BMI=weight in kg/height in m2. BMI was divided to normal (<25kg/m^2) and overweight and obese for BMI = >25kg/ m^2.

Comparisons between normal BMI and overweight and obese according to the socio-demographic features were done by calculating the Chi-square test. Comparisons between the mean body image avoidance score and different socio-demographic factors as well as BMI were computed using student-t test and ANOVA. Multivariate analysis using binary logistic regression was then conducted in order to assess the factors that significantly predicted the prevalence of higher than median body image avoidance score.

Factor analysis using Principal Component Analysis (PCA) and Varimax rotation method was performed on the 18 items of the body image avoidance questionnaire. This analysis reflects the variance related uniquely to specific subsets of variables. Reliability Coefficient was performed to estimate the internal consistency between the studied stressors. The level of significance was $p < 0.05$ and CI = 95%.

Results

The study was conducted among 525 female university students in Kuwait. The mean age of the students was 19.5±1.5 and that ranged from 15-27 years. The distribution of BMI among the Kuwaiti female university students according to different socio-economic factors is illustrated in Table 1. About 30% of the students were overweight and obese. More than half of this group were 20 years old and above that significantly is the reverse picture among the younger age group ($p<0.01$). They also were represented more in the theoretical faculties than the practical ones although the difference was not significant. Students who belonged to fathers with a level of education less than university were significantly more frequent among overweight and obese students than the students within the range of normal BMI (40.9% and 30.5% respectively). The same applies to the level of mother's education but the difference was not significant. The highest percentage of the overweight and obese students significantly reported monthly income of <1000 KD.

The PCA with Varimax rotation of the 18 items of the body image avoidance questionnaire generated four factors with Eigen values greater than unity as illustrated in Table 2. The four components explained about 43% of the total variances. The first factor explained about 13% of the total variation in the sample. The highest loadings on the factor were rejection of social gatherings if weight will be checked, discussed, in presence of thin persons, or if eating is involved and avoidance of clothes shopping. These items relate to "social activities".

The second component accounted for 12% of the total variances. The highest loadings on the factor were wearing baggy clothes, disliked clothes, wore dark colored and special set of them. These behaviors represented "clothing". The third component explained 9.4% of the total variances. The highest loadings on the factor were behaviors related to food such as restricting the amount of eaten food, only eating fruits, vegetables and low calorie diet and fasting for a day or longer. These grouped behaviors relate to "eating at restaurants".

The last component described 8.2% of the total variances. It relates to "grooming and weight" behaviors such as self-weighing, self looking in the mirror and get dressed or made up.

The mean score of the body image avoidance questionnaire of the students was 42.5 ± 6.1. The bivariate association between the score and different socio-demographic background of the students was demonstrated in Table 3. The mean score was significantly higher in the students who belonged to low level of educated mothers than those with higher level of education (43.1 vs. 42 respectively). The overweight and obese students scored significantly higher than their counterparts of normal BMI (45.9 and 41.1 respectively). Students who reported low monthly income <1000 KD showed significantly the highest mean score (44.2) among different monthly income categories.

The multivariate analysis was computed to determine the

predictors of the body image avoidance behaviors among the female university students in Kuwait as shown in Table 4. The students' total score represented the dependent variable and was divided into two groups, those who scored less than the median (42) were scored as (0) and those with scores = the median were scores as (1). The six variables in Table 3 represented the independent variables. The stepwise binary logistic regression analysis revealed that BMI was the first predictor for the body image avoidance behaviors. Overweight and obese students were 3.7 times more likely to practice these behaviors than their normal BMI counterparts ($p<0.001$). The monthly income accounts for the second predictor for these behaviors where students with lowest level of income were at twice risk relative to those with the highest monthly income level ($p<0.01$). The father's level of education ranked the third and last predictor although it was insignificant in the bivariate analysis. Students whose fathers were of level of education less than university were at higher risk of 63% to practice body image avoidance behaviors than their co-respondents whose fathers were educated up to the level of university or more ($p<0.05$).

Discussion

The present cross-sectional study of 525 Kuwaiti female university students aged 15-27 revealed that overweight and obesity, lower monthly income and father's level of education were positively correlated with reported negative body image behavioral tendencies. The main four behaviors: social activities, clothing, eating at restaurants and grooming and weight.

Overweight and obesity was the major predictor for practicing one or more of these behavioral propensities. Female students whose BMI was = 25 kg/m^2 were 3.7 times more likely to behave negatively than their counterparts with normal BMI (<25 kg/m^2). Monthly income ranked as the second predictor for negative body image behavioral tendencies where those who reported low monthly income were at 2 times higher risk to perform these adverse behaviors than their correspondents with high monthly income. The same applies to students' father's level of education, as students who belonged to high educated fathers were at 63% lower risk to carry out these behavioral trends than their equivalents who belonged to low educated fathers.

It has been documented that obesity is more prevalent among lower socioeconomic groups. *Sobal & Stunkard's (1989)* review of 144 published studies demonstrated that persons of lower socioeconomic status (SES) are at increased risk of obesity across industrialized nations, and that this pattern is more consistent for obese women than men[6]. More recent studies reveal that SES has a linear relationship with obesity[7,8]. These findings are consistent with the results of our study as the fathers' level of education mostly reflects the level of monthly income. This can explain the finding that although there was a significant positive relationship of students' mother's level of education and obesity in the bivariate analysis- as mothers are usually responsible for preparing and planning for the style of food intake of the whole family and are responsible for the quality of food consumed by the family, and hence appeared this direct association with overweight and obesity, but in the multivariate analysis the role of mothers was diluted by the stronger effect of monthly income highlighted by the fathers' level of education which was insignificant on the bivariate level. This shows that although mothers education had great influence on the weight of their children the socio-economic level has the upper hand and is outweighed in controlling this factor powered by the father's level of education.

Perceptions about the causes of obesity may contribute to weight stigma and bias. Assumptions that obesity can be prevented by self-control, that individual non-compliance explains failure at weight-loss, and that obesity is caused by emotional problems, are all examples of attitudes that contribute to negative bias[9].

Poor body image and low self-esteem are main psychological outcomes that direct the individual to practice several undesirable behavioral tendencies as a method of coping or as a self-defending mechanism against these negative perceptions and attitudes towards body image dissatisfaction. Most of these behavioral tendencies originate from social rejection by peers, poor quality of interpersonal relationships and in addition it might have a potential negative impact on academic outcomes among these university female students.

It has been supported by other work that even parents hold negative stereotypes about overweight, which they communicate to their children[10,11], and which may have serious emotional and health consequences for overweight youngsters. Other work indicates that some overweight people have negative weight attitudes and react to stigma by applying negative stereotypes to themselves[12]. Some work indicates that weight bias occurs irrespective of an individual's own body weight, and that overweight people themselves tend to express bias[13-16].

In order to determine the reasons for social disadvantages of obesity, more research is needed to examine whether variables like SES or intellectual performance become associated with obesity because of a potential common genetic or environmental link, or whether these consequences are created by stigma. Identification the underlying causes of these unfavorable behavioral tendencies is necessary to advance the understanding of this fascinating topic.

It is documented that obesity itself can open the gate to a series of health problems. Its co-morbid disorders represent significant public health concerns; they are considered the leading causes of morbidity and premature mortality around the world[17-20]. Those most exposed to stigma, for instance, may be vulnerable to psychological effects such as depression and social effects for example restricted social activities, and isolation.

Consequences of bias such as isolation or social withdrawal could contribute to the exacerbation of obesity through psychological vulnerabilities that increase the likelihood of over-eating and sedentary activity[21].

It is essential to guide the stigma reduction efforts among youngsters and cultural pervasive negative attitudes of the entire community towards obesity, a major public health concern all over the world.

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Table 1. Socio-demographic features of the Kuwaiti female university students according to their body mass index (BMI) (n=525)

Variables	BMI		p value
	Normal n=371	Overweight & obese n=154	
Age in years <20 20+	 56.6 43.4	 43.5 56.5	<0.01
Faculties Theoretical Practical	 88.3 11.7	 91.3 8.7	0.321
Father education Less than university University and higher	 30.5 69.5	 40.9 59.1	0.01
Mother education Less than university University and higher	 35.9 64.1	 42.5 57.5	0.159
Monthly income (KD) <1000 1000 – 1500 >1500	 25.8 26.1 48.1	 39.0 24.0 37.0	<0.01

Table 2. Factor analysis using Principal Component Analysis of the body image avoidance questionnaire used by the female university students (n=525)

Items	**Component Matrix Coefficients**			
	I	**II**	**III**	**IV**
1. Wearing baggy clothes	-	0.580	0.187	-
2. Wearing clothes that she dislikes	0.086	0.572	-	0.092
3. Wearing dark colored clothes	0.181	0.371	-	0.302
4. Wearing a special set of clothes	0.147	0.628	0.219	-
5. Restricting the amount of eaten food	0.029	0.188	0.698	0.187
6. Only eating fruits, vegetables & low calorie diet	0.050	0.037	0.758	0.123
7. Fasting for a day or longer	0.091	0.057	0.468	-
8. Do not go out socially if she will be "checked out"	0.645	0.191	-	-
9. Do not go out socially if weight will be discussed	0.734	0.124	-	-
10. Do not go out socially if others are thinner	0.767	0.134	0.116	0.034
11. Do not go out socially if it involves eating	0.742	0.017	0.183	-
12. Self weighing	-	-	0.056	0.619
13. Being inactive	0.129	0.409	-	0.209
14. Self looking in the mirror	-	0.034	0.023	0.744
15. Wearing clothes that divert attention from weight	0.241	0.582	0.188	0.089
16. Avoidance of clothes shopping	0.327	0.329	0.073	-
17. Do not wear revealing clothes (e.g. bathing suits, tank tops, or shorts)	0.156	0.330	0.018	-
18.Get dressed up or made up	0.015	-	0.160	0.317
% of total variances	13.2%	12.1%	9.4%	8.2%

Rotation method: Varimax with Kaiser Normalization
Most loadings equal to almost 0.5 or more are bold

Table 3. Mean ± SD of body image avoidance score according to socio-demographic features and BMI in female university students (n=525)

Variables	Mean ± SD	p value
Age in years		
<20	41.99±5.8	0.065
20+	42.97±6.5	
Faculties		
Theoretical	42.48±6.2	0.246
Practical	41.47±5.3	
Father education		
Less than university	42.74±6.5	0.444
University and higher	42.3±5.9	
Mother education		
Less than university	43.08±6.5	0.05
University and higher	42.04±5.8	
Monthly income (KD)		
<1000	44.23±6.6	<0.001
1000 – 1500	42.26±5.7	
>1500	41.40±5.8	
BMI		
Normal	41.09±5.3	<0.001
Overweight & obese	45.90±6.6	

Table 4. Stepwise binary logistic regression of significant predictors of body image avoidance among female university students (n=2443)

Variables	β	Adjusted Odds Ratio	p value	CI (95%)
BMI				
Normal (RG)				
Overweight and obese	1.304	3.682	<0.001	2.433-5.573
Monthly income (KD)				
≤ 1000	0.763	2.145	0.009	1.321-3.482
1001-1500	0.298	1.347	0.002	0.847-2.143
> 1500 (RG)			0.208	
Father education				
Less than university	0.457	1.633	0.042	0.408-0.984
University and above (RG)				

Six independent variables entered the model: age, type of faculty, father education, mother education, monthly income and BMI.
RG: Reference Group
KD: Kuwaiti Dinar

A Perception- Based Survey on Evaluating the Impact of Locally Published Medical Journals

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ABSTRACT

Background and objectives: Periodic evaluation of a journal's quality is necessary to identify its shortcomings and identify areas of improvement. The aim of this study was to assess the perception of a number of medical doctors and academics on how they appreciate the quality and the impact of a locally published medical journal.

Methods: A questionnaire was designed to collect data from a sample of 315 academics and medical professionals through a mail survey.

Results: The response rate to the survey was 45.7%. Around 30% of the respondents were subscribed to the journal and 49% were receiving the journal. Around 54% of respondents used to read the journal, mainly in the print format. The contents and review quality were mainly rated as satisfactory; 84% and 77% respectively. Only around 23% of the respondents who read the journal had contributed to it in the past. Around 6% of those hold administrative or policy making positions and read the journal, have used research results from the journal for taking decisions.

Conclusion: While the journal's contents and review quality were generally rated as satisfactory, the rate of reading the journal and journal's impact is below satisfactory level. The accessibility of the journal to academics and medical professions needs improvement in both the print and online formats.

Key words: Journal, Quality, Impact, University, Department of Health.

Introduction

The quality of a journal can be assessed from different perspectives and through a variety of ways depending on the purpose of the evaluation. The well-known and commonly used evaluation measure is the journal impact factor[1]. This evaluation measure is based on average indicators and is obtained through measuring the average number of citations to an article published during the previous two years. The impact factor is actually based on objective and output-related concepts such as the volume and intensity of citations or the yearly number of published articles. It is often used by universities, institutions and research organizations to assess researchers, projects and proposals[2-4].

The other method of journal evaluation is assessing the perceptions of the researchers and academics about the quality of a journal. Researchers and academics have specific preferences with respect to the journals they would like to publish in, the journal they would like to regularly read and the representative of the journal to their specific fields of interest. In survey-based methodology a journal can be evaluated by asking researchers and academic for their views on the journals' quality[2,5].

Thus the main applied approaches to evaluating journals can be broadly divided between citation-based studies or perception-based analyses. The medical literature is rich with studies that use citation-based methods to rank journals. However, cases that use survey-based methodologies to study perceptions are in scarcer supply[2,4,6].

There are three locally published medical journals in Iraqi Kurdistan region, one per each medical school from the three governorates in the region. Zanco Journal of Medical Sciences (Zanco J Med Sci) is the oldest of these journals and is issued by Hawler Medical University in Erbil governorate. It includes research produced from the colleges of medicine, dentistry, pharmacy and nursing. According to our best knowledge, no formal evaluation has been conducted to the locally published medical journals in Iraqi Kurdistan region including Zanco J Med Sci. For this reason, we have asked a number of medical doctors and academics in the region about how they appreciate and evaluate the quality and the impact of this journal, its impact on their fields of activities, and how the journal can be improved. The survey's results can improve our understanding about the role of locally published medical journals and can be used to improve the impact of these journals.

Methods

A questionnaire was administered to collect data on perception of the quality of Zanco J Med Sci. The questionnaire was developed by reviewing relevant literature, conducting personal interviews and through expert consultation. The questionnaire was self-administered and consisted of two parts: 1) independent variables including personal, educational

and employment factors; and 2) dependent variables including information about their subscription, reading and contribution to the journal as well as their evaluation of the quality of the journal and suggestions to improve this quality.

Some 315 copies of the questionnaire were dispatched to all medical schools and departments of health in the three governorates of Iraqi Kurdistan region through mail survey with a request to dispatch these copies to medical doctors and academic staff working there through a convenient method. It was not possible to select a random sample of the study population due to lack of lists and expected difficulties in reaching individual persons through mail survey. The questionnaire was dispatched on November 12th 2009. The participants were advised to complete the questionnaire and send it back to the authors through the same mail. We waited until May 11th, 2009 to receive responses.

Stata version 9.1 was used for statistical analyses. Statistical methods used included frequency and percentage for univariate analysis. Pearson's chi-squared test and Fisher's exact test were used for bivariate analysis according to their applicability to examine the relationships between independent and dependent variables. A p-value of 0.05 and below was considered statistically significant result.

For analytical purposes, the respondents were categorised to specialties of basic medical sciences and clinical medical sciences as well as to university employees and department of health (DoH) employees.

Results

A total of 144 (45.7%) of 315 eligible participants responded to the survey (Table 1). The basic characteristics of the respondents included; 75 (52.1%) respondents were from Erbil governorate versus 69 (47.9%) respondents from the other governorates, 31 (21.5%) respondents with educational and working background in the fields of basic medical sciences versus 113 (78.5%) from the fields of clinical medical sciences, and 127 (88.2%) respondents working for universities versus 17 (11.8%) working for the DoH. Only 53 (36.8%) of respondents were holding administrative or policy-making positions including 49 (92.5%) in the university and 4 (7.5%) in the DoH.

The results showed that 43 (29.9%) respondents subscribed to the journal and 71 (49.3%) were receiving the journal of which 34 (47.9%) were receiving it regularly and 37 (52.1%) were receiving it irregularly. A statistically significant higher proportion of respondents from Erbil governorate, those working for the university, those with background in basic sciences and those holding administrative positions were subscribed to and receiving the journal than those from Sulaymaniyah governorate, those working for the DoH, those with background in clinical sciences and those not holding administrative positions respectively (Table 2).

Seventy seven (53.5%) of respondents used to read the journal, of which 67 (87.0%) read it in print format, 3 (3.9%) read it in electronic format while 7 (9.1%) read it in both formats. A statistically significant higher proportion of respondents from Erbil governorate, those working for the university, those working in the fields of the clinical sciences and those holding administrative positions were reading the journal than those from Sulaymaniyah governorate, those working for the DoH, those working in the fields of basic sciences and those not holding administrative positions respectively (Table 2)

Out of 77 respondents who read the journal, 9 (11.7%) read the whole journal, 33 (42.8%) review the contents page of the journal and read selected articles, 24 (31.2%) read the abstracts and read selected articles and 11 (14.3%) look for interesting illustrations and read those articles.

Out of 36 respondents that hold administrative or policy making positions and read the journal, 19 (52.8%) find useful research results in the journal that one can use for health administration or health policy decision making. Only 2 (5.6%) respondents out of 36 of those who hold administrative or policy making positions and read the journal, had made decisions based on research findings from the journal. There were no statistically significant differences between different characteristics of the respondents and finding and using useful research results (Table 3).

Sixty (77.9%) respondents from those who read the journal wish to see review articles, 16 (20.8%) wish to see correspondence, 29 (37.7%) wish to see short reports and 15 (19.5%) wish to see editorials in the journal.

In terms of content quality, 5 (6.5%) respondents rate it as very good, 65 (84.4%) respondents rate it as satisfactory and 7 (9.1%) respondents rate it as unsatisfactory. In terms of review quality, 11 (14.3%) respondents rated it as very good, 59 (76.6%) respondents rated it as satisfactory and 7 (9.1%) respondents rated it as unsatisfactory. Those who do not hold administrative positions were more positive about the review quality than those who hold such positions (97.6% versus 83.3%, p=0.03). Only 18 (23.4%) respondents had contributed to the journal in past while 56 (72.7%) respondents consider contributing in the future. The detailed associations between the respondents' perception of the journal quality and their contribution with their different characteristics are shown in Table 4.

Discussion

Periodic evaluation of a journal's quality is necessary to identify its shortcomings and this can help in improving the journal quality. Journal evaluation based on surveys of academics' perceptions of journals is a recognized and well-documented method. However, it has been criticized because of the difficulty in eliciting clear and consistent information on preferences from a group of individuals and aggregating these into representative measures of preference[7]. The perceived quality of a journal will be undertaken by individuals using different conceptions of what constitutes a

good journal. This is in accordance with the nature of quality as a poorly defined construct[8].

The relatively low response rate in this survey is attributed to using mail-based survey. The mailing system in the region does not function properly as it involves long delays. Similarly, there is very limited experience with mail surveys in the region and the country. It is well-documented that mail surveys are generally associated with low response rates8,9. The considerably higher response within Hawler Medical University might be due to the fact that the survey only used the university mailing system without the need to use the governmental system. The involvement of the governmental mailing system is an important factor in having severe delays and a lower response rate from the other governorates. The other reason for low response from DoH and the other governorates might be due to lack of effect of the journal in and/or not dispatching sufficient numbers of the journal to the DoH and the universities from the other two governorates.

The respondents who claimed that they are subscribed to the journal were around 30%. These were mainly from the issuing university faculty members as most of them are automatically subscribed to the journal through the university regulations. However, a number of these faculty members stated that they are not subscribed to the journal indicating that they are not aware of their automatic subscription.

Generally, a relatively low proportion of respondents receive the journal. However, such rate was relatively high in Erbil governorate and that may be attributed to their university subscription. The relatively high proportion that claimed that they receive it irregularly might be attributed to their unawareness that the journal is issued only twice yearly and the fact that the journal used to face delays in its publishing. The significant difference between university employees and DoH employees in terms of receiving the journal indicate that the journal is more widely distributed in the university due to higher subscription rate. The higher proportion of those with basic sciences background being receiving the journal is related to their more regular presence in the colleges and subsequently better access to the journal whereas those in the fields of clinical sciences are usually away from the college working in teaching hospitals. This may indicate also poor distribution of the journal in teaching hospitals.

Having around 70% of respondents from Erbil governorate reading the journal is relatively low as the journal is the only local medical journal in the governorate. Reading the journal is mainly in print format with very low proportion of respondents reading it in electronic format. This can be due to unavailability of a specific website for the journal and having each complete volume of the journal available on the university website as one large sized document. The higher proportion of readers from the university staff and those with basic sciences background in comparison to DoH staff and those with clinical sciences respectively is again related to the reported differences in subscription and receipt of journal.

As the journal covers different fields of basic and clinical sciences of the different medical sciences, it is an expected finding that the highest proportion of readers review contents page and read selected articles followed by those who read abstracts and read selected articles.

While a considerable proportion of respondents who hold administrative positions and read the journal find useful research results that can be used for health administration or health policy decision making, these were all from university employees. Even with this considerable proportion, only two respondents claimed that they had made decisions based on research findings from the journal. This may indicate non-representation of published research to the needs of the community or poor use of research by managers and policy makers.

A very high proportion of respondents wish to see review articles in the journal and a good proportion wish also to see correspondence, short reports and editorials. The journal is in fact very much focused on publishing original studies, which is mainly due to that fact that authors prefer to contribute with original studies that are required for their scientific promotion. However, other types of papers are also interesting to read.

Both the content and the review qualities were generally rated as satisfactory with no significant rating differences by those with basic and clinical sciences backgrounds, or university and DoH employees. Rating the journal as very good or unsatisfactory was limited to a small number of respondents with having higher rating as very good for review quality than contents quality. This may indicate that while the journal is currently in a satisfactory shape, there might be important opportunities for improvement.

A relatively low proportion of respondents have contributed to the journal even if most respondents were university teaching staff. This may be due to low research production in the region. No significant differences were reported between those with basic and clinical sciences backgrounds or the university and DoH employees. The higher contribution among DoH employees can be attributed to the very small sample size of those contributed from DoH (n.=2).

An important limitation to this study is the low response rate especially from those not working for universities. This will introduce bias and may reduce the significance of results obtained. Another important limitation is that the inability to select a random sample of the study population for inclusion in the study to be representative, limits generalizability of the findings.

Conclusion

While the journal's contents and review quality were generally rated as satisfactory with presence of important opportunity to further improve them, the rate of reading the journal and journal's impact is below a satisfactory level. The accessibility of the journal to academics and medical professions

needs improvement in both the print and online formats.

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Table 1. The response rate to the survey

Origin of sample	No. Dispatched	No. Received	Response rate (%)
Departments of health	110	15	(13.6)
Medical university in Erbil	90	60	(66.7)
Universities in other governorates	115	69	(60.0)
Total	315	144	(45.7)

Table 2. Respondents' attitude to the journal according to their main characteristics

Characteristic	All respondents (n.=144)																	
	Total		Governorate				Employer				Specialty				Admin position			
			Erbil (n.=75)		Others (n.=69)		University (n.=127)		DoH (n.=17)		Basic (n.=31)		Clinical (n.=113)		Yes (n.=53)		No (n.=91)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Subscribed to the journal	43	(29.9)	29	(38.7)	14	(20.3)	42	(33.1)	1	(5.9)	15	(48.4)	28	(24.8)	24	(45.3)	19	(20.9)
P value			0.016				0.021				0.011				0.002			
Receiving the journal	71	(49.3)	54	(72.0)	17	(24.6)	67	(52.8)	4	(23.6)	25	(80.7)	46	(40.7)	35	(66.0)	36	(39.6)
P value			0.000				0.024				0.000				0.002			
Reading the journal	77	(53.5)	52	(69.3)	25	(36.2)	72	(56.7)	5	(29.4)	25	(80.7)	52	(46.0)	36	(67.9)	41	(45.1)
P value			0.000				0.034				0.001				0.008			

Table 3. Respondents' evaluation of the journal according to their main characteristics

Characteristic	Respondents who read the journal (n.=77)																	
	Total		Governorate				Employer				Specialty				Admin position			
			Erbil (n.=52)		Others (n.=25)		University (n.=72)		DoH (n.=5)		Basic (n.=25)		Clinical (n.=52)		Yes (n.=36)		No (n.=41)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Positive about the content quality	70	(90.9)	47	(90.4)	23	(92.0)	66	91.7	4	(80.0)	24	(96.0)	46	(88.5)	32	(88.9)	38	(92.7)
P value			0.817				0.380				0.281				0.563			
Positive about the review quality	70	(90.9)	48	(92.3)	22	(88.0)	66	91.7	4	(80.0)	23	(92.0)	47	(90.4)	30	(83.3)	40	(97.6)
P value			0.538				0.38				0.817				0.03			
Contributed to the journal	18	(23.4)	11	(21.2)	7	(28.0)	16	22.2	2	(40.0)	5	(20.0)	13	(25)	11	(30.6)	7	(17.1)
P value			0.506				0.364				0.623				0.163			

Table 4. Journal's impact on the respondents holding administrative positions according their main characteristics

Characteristic	Respondents who hold admin positions (n.=36)													
	Total		Governorate				Employer				Specialty			
			Erbil (n.=24)		Others (n.=12)		University (n.=35)		DoH (n.=1)		Basic (n.=12)		Clinical (n.=24)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Find useful research	19	(52.8)	12	(50)	7	(58.3)	19	(54.3)	0	(0)	8	(66.7)	11	(45.8)
P value			0.637				0.284				0.238			
Made decisions based on research finding	2	(5.6)	1	(4.2)	1	(8.3)	2	(5.7)	0	(0)	1	(8.3)	1	(4.2)

P value			0.607	0.806	0.607