Middle East Journal of Family Medicine

ISSN 148-4196

September 2009 - Volume 7, Issue 8

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.

Welcome to the World Family Medicine Journal (WFM)

WFM has been born from the Middle East Journal of Family Medicine (MEJFM) and the South Asia Journal of Family Medicine (SAJFM) and reflects

the international content and focus of those journals as well as their Reviewers and Editorial Boards.

WFM will focus on the diversity of family medicine around the world and the real issues that affect family doctors in their everyday practice.

We welcome articles on both big and small family medicine issues and will provide special issues with a regional focus. The journal will remain peer reviewed and all abstracts will join the free archive of IMI - International Medical Index (see: http://www.internationalmedicalindex.com/).

For more details contact the Chief Editor Dr Abdulrazak Abyad

There are many benefits in proliferating a job, that provides personal growth and self-actualization. They also try to design jobs in a method that stimulates intrinsic motivation. In this way, performance improves and the job will be more productive and its human feature will intensify. The negative effects of jobs such as absence, passing news to each other and the act of killing time will decrease. Both employees and society will benefit by this method. Employees work better, are more satisfied and achieve more self-actualization. Thus, they can be more effective in all life's roles. *(Davis and New storm, 1995)*

We can calculate total motivating potential of each job in employees with motivating potential score and in following job diagnostic surveys, identify jobs with high or low motivating scores. Finally, jobs with low MPS are separated from others in order to redesign and increase their motivating score. *(Morhed and Griphin, 2007)*.

In different organizations and industries, research has done on the features of jobs and feature surveys, but it seems that there is less research in the field of rehabilitation and welfare services. This item and the significance of a welfare center's duty and performance in society, shows that it is essential that a job's design should be challenging and motivating, but we should assess their current motivating score first. So, this research is designed in order to calculate the current motivating scores of jobs that exist in welfare and rehabilitation centers.

Determining the scale of skill variety, task identity, task importance, autonomy, feedback and motivating potential score, in the rehabilitation zone in rehabilitation centers of Tehran province, was one of the goals of this research.

Materials and Methods

This study is a descriptive-analytic study that has been done by a sectional method in welfare centers of Tehran province. Research population comprised all the employees of the rehabilitation zone including physical therapists, speech therapists, occupational therapists, audiologists, optometrists, technical orthopedists, psychologists, social workers and physicians who had worked in governmental daily welfare centers of Tehran province. The 102 employees in the research sample were selected by census. MPS questionnaire was the instrument of collecting data and that was designed by *(Oldham and Hackman, 1980)* and extracted from scientific management resources. We used test-retest method in order to measure the reliability of the questionnaire. We distributed and collected questionnaires among 10 experts, then, we did that again on the same experts after 10 days. Correlation coefficient gained was 0.89 and that meant there was good reliability. The questionnaire has two parts and the first part included 7 demographic questions and the remainder included 23 questions to determine motivating potential score. In the second part, 5 questions were related to skill variety, 4 questions were related to task identity, 4 questions were related to task significance, 4 questions were related to autonomy and 6 questions were about feedback. To score questions we used a 5 score scale. Then, we calculated motivating potential score with the following formula:

Feedback *autonomy *{3 / (task significance + task identity + skill variety)} = Motivating potential score

After completing the questionnaire, we collected them and checked answers. Then, data analysis in descriptive and analytic statistical methods was carried out through SPSS. We used T-Test and ANOVAs in order to examine the relationship between demographic variables and motivating potential score and its subscales. We also examined through one-sample t-test in order to compare the mean of the job's five dimensions with standard score.

Results

In this study mean and standard deviation of sample population's age was 35.8+8.9. They were divided into 3 groups: under 30 (32 persons), 31-40 (40 persons), over 40 (30 persons). There was also 24.5% single and 75.5% married.

The largest number of employees in the rehabilitation zone were in Molavi center (28.4%) and the least in in Samane welfare center (2.9%).

In order to accomplish this examination we divided the study population into two groups as follows. Because of the dispersion of this study's population:

1. Employees who were directly related to rehabilitation included physical therapists, technical orthopedists, speech therapists, occupational therapists, audiologists and optometrists with 60;
2. Employees who were indirectly related to rehabilitation and included psychologists, social workers and physicians with 42.

According to the results of statistical examination ANOVA and t-test; there were no relations between demographic variables (such as age, gender, job experiment, marital status, educational degree and kind of employment) and motivating potential and its subscales. ($p<0.05$)

Based on one-sample t-test, the mean of skill variety, task identity, autonomy and motivating potential were found to be statistically significant with the standard score. The mean was higher than the standard score, so jobs exist in the rehabilitation zone of welfare centers of Tehran province, which probably have skill variety, task identity, autonomy and motivating potential. ($p<0.05$)

The mean of task significance were not found to be statistically significant in one sample t-test. It shows that jobs exist in rehabilitation zone of welfare center of Tehran province that have job significance. ($p<0.05$)

The mean of feedback was lower than standard (3.35) and was found to be statistically significant beyond the 0.05 level through one sample t-test. We can conclude that the jobs that exist in the rehabilitation zone probably don't have feedback.

Discussion

There were no relationships between demographic variables (such as age, gender, job experiment, marital status, educational degree and kind of employment) and motivating potential score and subscales in this study. There was no relationship between demographic variables and motivating potential in *Tang's study (2000)*, too. *Olckers and co-workers (2005)* did not find a significant difference between black and white groups in JDS variables. These are compatible with the results of this study. The research results confirm the equivalence of the structural model of the JDS. Thus, proof does exist that the JDS measures could be used across cultural groups as part of the process of implementing and utilizing the JDS theory for job enrichment programs.

In this study, the jobs that exist in rehabilitation zone had skill variety. It shows that job design provides conditions that utilise different skills and talents of employees where possible. *Majidi (1998)* found a similar result from office-workers and expert job groups in this field. In *Tang's study (2000)* teachers of social development schools also had skill variety that matches our results. These may bebecause: Educational degree of research populations is completely in line with their services and the various kinds of patients referred and the special kinds of services that each person receives.

There is some un-matched research as follows: *Khalili (2000)* found that all job groups,l unless they are in the communication job group, do not have skill variety. Majidi (1998) had a similar result in the expert job group. *Amir Esmaili (2005)* has found low scores for skill variety in all educational hospitals of Kerman.

Jobs that exist in the rehabilitation zone have task identity, and job design in a way that provides the possibility of doing a job from start to end with a visible affect. *Majidi (1998*) has found a similar result in expert and management jobs.

Khalili (2000) has found that most of the job groups (all except communication and computer services job groups) do not have task identity. There was not this subscale in the office-worker job group in *Majidi's study (1998)*. In *Amir Esmaili's research (2005)* task identity scores were low. *Tang (2000)* also said there was no task identity in teachers. These do not follow a similar direction.

In the field of task significance it seems that jobs exist in the rehabilitation zone which do have task significance. So, we can say job design made them effective in people's lives. Indeed, according to the duties of rehabilitation and welfare centers it was expected. There was task significance for expert and management job groups in *Majidi's research (1998). Khalili (2000)* found task significance in communication and software job groups. All job groups in *Amir Esmaili's research (2005)* have a good score in task significance. *Tang (2000)* also reached the same result with teachers.

Khalili (2000) said except communication and software job groups, others do not have task significance. In Majidi's study (1998), the office worker job group were low in this field, which did not match our result.

This research supports the premisethat jobs that exist in the rehabilitation zone have autonomy. We can say design of these jobs were not limiting employees in decision making, methods of doing job and programming their tasks. *Majidi (1998)* found autonomy just in management jobs. Teachers achieve good scores in Tang's study. These are compatible with the results of this study. There is similarity among teachers, managers and rehabilitation experts. As teachers and managers are independent in their activities, experts of rehabilitation zone are the last decision makers in their therapeutic programs.

There are some adverse result with ours. *Khalili (2000)* concluded none of the job groups in her research, have autonomy. *Majidi (1998)* also said office-workers and experts are in low levels of autonomy. Amir *Esmaili (2005)* reached all job groups but in his research autonomy was low.

Feedback on jobs of the rehabilitation zone were weak, and showed that design of them does not provide feedback for employees. *Khalili (2000)* foundno job groups that received feedback from their activities. In Majidi's study (1998) feedback of the expert job group was in a low level. The Nurses' job group had a low level of feedback in *Amir Esmaili's study (2005)*. We had expected that feedback in job groups of the rehabilitation zone be high because the experts can observe progress in therapeutic process. This unexpected result may be because of this reason that most of questions about feedback related to the amount of feedback received from management and colleagues, not by patients.

Majidi (1998) in office-worker and management job groups reached a different result that showed feedback is proper. In *Amir Esmaili's study (2005)* feedback score is suitable except in nurses. Teachers also in *Tang's research (2000)* received a good level of feedback. These are not compatible with the result of this study.

Motivating potential score of rehabilitation zone in current research were higherer than standard score. So, there is a possibility that these jobs provide enough motivation for employees to work. Sense of motivation was proper for management jobs in *Majidi's conclusion (1998). Sum (1992)* also found highest score of MPS in educational jobs. These are similar to our results.

Khalili (2000) has found none of his research job group had a good score. In *Khalili's study (2000)* office-workers and experts were in a low level of motivating potential score. All job groups of *Amir Esmaili's research (2005)* were low regarding motivating potential score.

According to the results of this study, it seems that job groups in the rehabilitation zone of welfare centers of Tehran province are in possession of motivating potential and subscales

(skill variety, task identity, task significance and autonomy) except feedback. This is the first research about intrinsic characteristics of job in welfare centers. The compared studies also relate to organizations other than welfare centers. So, mixed results seem to be prevalent.

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Effects of Cigarette Smoking on Semen Quality of Infertile Men in Erbil Governorate, Kurdestan, IRAQ

ABSTRACT

Aim: To study the effects of smoking on the semen parameters in infertile men in Erbil.
Methods: Semen samples of 110 cigarette smokers and 110 strictly non-smoking primary infertility patients were included in the study after strict patient selection criteria was taken into consideration. All samples were analyzed for liquefaction time, Ph, volume, sperm density, sperm motility, sperm morphology.
Results: The results obtained revealed a highly significant difference between both groups regarding grade a motility and significant difference regarding grades b & c.
Conclusion: Cigarette smoking may affect semen quality through its effect on sperm motility.

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Introduction

Infertility affects up to 15% of the sexually active population and in 50% of cases a male factor is involved, either as a primary problem or in combination with a problem in the female[1].

In recent years the quality of human sperm and its fertility potential have decreased dramatically. This may suggest the quality of semen has deteriorated partly due to the effects of increasing toxic factors in the environment. Many environmental agents such as tobacco smoke and nicotine have been implicated in the poor semen function and resultant infertility[2].

Approximately 30% of reproductive age women and 35% of reproductive age men in the United States smoke cigarettes. Substantial harmful effects of cigarette smoke on fecundity and reproduction have become apparent but are not generally appreciated[3].

Numerous investigations have been conducted on the relationship between cigarette smoking and male infertility, however the exact molecular mechanisms are not well understood in most of the cases[4].

Materials and methods

1- Study group:

This study group was conducted at the IVF center in Erbil city, between March 2005 and Sept 2008. Strict patient selection criteria were taken into consideration in order to exclude as many co-existing factors as possible, as they may otherwise influence or modify the effect of cigarette smoke on semen parameters.

For the same reasons, comparison of the infertile smokers with healthy fertile controls was not done to exclude any undiscovered factors present in infertile men. Only patients with primary infertility who were either smokers or strict non-smokers were selected. These patients were married at least for the past one year. Strict non-smokers were those men who had never smoked before.

The followings were excluded from the study :

1. Patients with history of injury to the testes, varicocele, hydrocele, undescended testis or its corrective surgery.
2. Patients with certain occupations: bakers, prolonged drivers.
3. Patients with a history of diabetes mellitus, hypertension, chronic urinary tract infection.
4. Patients with history of medications or tonics.
5. Azoospermic patients.
6. Patients above 45 years of age, to avoid effects of ageing on sperm variables.

Thus , the selected study group of 110 smokers and 110 strict non-smokers, had only one known factor which differentiated between them, i.e: cigarette smoking.

2-Semen collection and analysis:

All patients had sexual abstinence of 3 days. Samples were collected in a wide mouthed sterile container by masturbation. All samples were kept at 37 C°, and processed immediately after complete liquefaction.

All semen samples were analyzed for liquefaction time, volume, and Ph. In addition, semen samples were microscopically examined for sperm density, sperm motility and morphology.

Sperm morphology was studied

on haematoxylin and eosin stained smears, counting a minimum of 200 spermatozoa using 100 x magnification oil-immersion lens.

3- The data was analyzed by t-test.

A p-value of < 0.05 was taken as being statistically significant.

Results

Table (1) and Table (2) delineate the different parameters regarding semen and sperm in both groups studied.

Table (1) shows that semen volume, PH, and sperm count were lower in the smoker group although statistically there was no significant difference between both groups.

Table (2) clarifies that there was a highly significant difference between both groups regarding the grade (a) of the sperm motility. In addition to that, there was a significant difference between both groups regarding grades b and c of sperm motility.

Discussion

The results of the present study support the view that smoking does affect the sperm quality in infertile men.

Smoking is a lifestyle hazard for both active and passive smokers.

Although much is known now about the carcinogens in tobacco cigarette smoke and their resultant effects on organs like lung and urinary bladder, their effects on fertility have been less documented[5].

New figures show that smoking is having a far more serious effect on sexual health than previously thought and is responsible for many thousands of cases of impotence, cervical cancers, miscarriages and infertility in the United Kingdom each year[6].

Many studies have examined the effects of cigarette smoking on fertility and cumulative evidence suggests that smoking has a significant negative impact on sperm production, motility and morphology[1].

Merino G, et al[7] in his 1998 study corroborates reports of detrimental effects of cigarette smoking on sperm characteristics, i.e lower percentage of viability, normal morphology and motility.

Hass H et al[8] in a 2006 study in Turkey, demonstrated that smoking has an adverse effect on the progressive sperm motility irrespective of the total number of cigarettes smoked per day.

Ramlau-Hansen (2007)[9] had observed an inverse dose response relationship between smoking and semen volume, total sperm count and motile sperm percentage.

Reina Bouvet et al in 2007[10] demonstrated that tobacco consumption alters the spermatogenesis process.

Rantal ML[11] in a 1987 study in Finland, where a comparison of semen quality was undertaken between 60 smokers and 50 non-smoking men attending infertility investigations in which other factors influencing semen quality were eliminated. It was found that heavy smoking may have a detrimental effect on the motility of the sperm.

Saaranen M in 1987[12] delineated that the only clear difference between men with different smoking habits was in the percentual change in the sperm motility.

Ochedalski T[13] 0 in a 1994 study from Poland, clarified that the sperm count and motility were lower in smokers. In addition, smokers also have higher incidence of oligospermia compared to non-smokers.

Berthiller J in 2005[14] concluded in a study from France, that among men, active smoking reduces the quality and mobility of the spermatozoa which could result in loss of fertility.

Several studies have noticed the noxious effects of tobacco before and after conception. For men, standard sperm parameters are modified and spermatozoa nuclear quality is compromised. One of the mechanisms involved in those anomalies could be the oxidative stress produced by some cigarette smoking components[15].

Nicotine is able to alter the fertility potential of man by inducing sperm membrane impairment, changing the sperm morphology and motility and also inducing the DNA fragmentation[2].

Direct exposure of spermatozoa to the toxins in cigarettes smoke probably tilts the delicate balance of reactive oxygen species (ROS) that are produced by spermatozoa for their special functions like decapitation. Increased quantities of ROS have been shown to be detrimental to the DNA of the spermatozoa thus producing negative effects on the viability and morphology of the spermatozoa[16].

Arabi M in 2005[2] stated that antioxidant supplementation could partially reverse the negative effects on sperm function.

Further studies are needed to explain the mechanisms by which smoking affects spermatogenesis and it would be sensible to advise men to abstain from smoking to avoid decreased fertility.

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Table (1) Semen parameters in both groups

Semen parameter	Smokers	Non-smokers	Statistical evaluation
Volume	2.47±0.03	2.54± 0.08	N/S
PH	7.88± 0.02	7.9± 0.05	N/S

Table (2) Sperm parameters in both groups

Sperm parameter	Smokers	Non-smokers	Statistical evaluation
Count (106/ml)	38.89±1.46	41.158±2.13	N /S
normal form	31.983± 1.25	33.134±2.04	N /S
abnormal form	6.923± 1.82	8.024± 1.94	N/ S
Motility			
a	5.983± 1.53	15.253±2.26	P< 0.01
b	16.966± 1.92	12.764± 1.84	P< 0.05
c	11.024± 1.64	9.546± 1.9	P< 0.05
d	4.923± 1.96	3.605± 2.1	N / S

Urinary Tract Infection Among Pregnant Women in North Jordan

ABSTRACT

Objective: The main purpose for conducting this survey is to examine the most common factors contributing to urinary tract infections (UTI) during pregnancy, among women in North Jordan.

Methods: Data collection was performed during the period between January and October 2008. From 6786 visits to gynecological clinics in North Jordan, 181 pregnant women with presence of bacteria in urine cultures were chosen to participate in this survey, after full explanation and agreement. A questionnaire containing 23 items, including demographic and potential factors that lead to UTI, was filled in by participants.

Results: The most common urinary tract infection was in women between 20 - 29 years (58%), educated until secondary school 49, (7%). Gestation age from third to eighth month shows percentage of 13, (8%) decreased to 11, 6%.

Conclusion: Increasing awareness of girls about signs and symptoms of urinary tract infection in general and especially during pregnancy, in addition to prevention, precautions and treatment, during secondary school and maybe earlier, may be a satisfactory background to prevent UTI in potential mothers.

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Introduction

Urinary tract infections are the most common bacterial infections during pregnancy. They are characterized by presence of significant bacteria anywhere along the urinary tract. Escherichia coli is the most common pathogen isolated from pregnant women. UTIs are relatively more common in women compared with men, primarily because of the anatomical differences of the shorter urethra, and it's proximity to the vagina and the rectum. They are associated with risk to the fetus and the mother.

Pathophysiology: Remarkable changes occur in the structure and function of the urinary tract during pregnancy. Blood-volume expansion is accompanied by increases in the glomerular filtration rate (GFR) and urinary output. The ureters undergo tonic relaxation because of the mass production of hormones, particularly progesterone. This loss in tone, along with the increased urinary tract volume, results in urinary stasis. Urinary stasis and the presence of vesico-ureteral reflux predispose some women to upper UTIs and acute pyelonephritis. Progesteron and estrogens may lead to a decreased ability of the lower urinary tract to resist invading bacteria. Up to 70 % of pregnant women develop glycosuria, which encourages bacterial growth in the urine. Asymptomatic bacteriuria is a risk factor for an upper UTI; treatment of this condition reduces the risk of a symptomatic infection.

A urinary tract infection may be caused by one or more of the following conditions:

- A new sex partner or multiple partners
- More frequent intercourse
- A history of diabetes,
- Sickle-cell anemia, stroke,
- Kidney stones or any problem that causes the bladder not to empty completely,
- Pregnancy increases risk for developing a UTI (but does not predispose women to UTIs).
- Use of products such as harsh skin cleansers,
- Use of contraceptives such as diaphragms and spermicides.
- A history of UTI's, especially if the infections were less than six months apart.
- Waiting too long to urinate.

Symptoms: If a patient has a urinary tract infection, you may experience one or more of the following symptoms:

- Pain or burning (discomfort) when urinating
- The need to urinate more often than usual
- A feeling of urgency when urinating
- Blood or mucus in the urine
- Cramps or pain in the lower abdomen
- Pain during sexual intercourse
- Chills, fever, sweats, leaking of urine (incontinence)
- Waking up from sleep to urinate
- Change in the amount of urine, either more or less
- Urine that looks cloudy, smells foul or unusually strong
- Pain, pressure, or tenderness in the area of the bladder
- If bacteria spread to the kidneys a patient may experience: back pain, chills, fever, nausea, and vomiting.

Lab Studies: In all pregnant patients, a urine specimen should be carefully collected for urinalysis, and potentially, for culturing. These tests help to identify patients with asymptomatic bacteriuria, as well as those with other specific complaints.

Bacteriuria generally results in more than 100,000 colonies per millilitre. Counts of less than 100,000 organisms per millilitre per specimen, with 2 or more organisms, usually indicate a contamination rather than an infection. For urine collection, a midstream clean catch is adequate, provided the patient is given careful instructions.

Catheterization is indicated if the patient is unable to void, too ill, extremely obese, or bedridden.

The leukocyte esterase test of the urine can be used as a screening examination for pyuria, although this

test may be unreliable in patients with low-level pyuria (5-20 WBCs per high-power field).

Patients with pyelonephritis often have WBC casts.

Urine culturing should be performed in cases of suspected acute pyelonephritis, patients requiring hospitalization, and patients with a history of recent instrumentation or repeated infections.

CBC, electrolyte, blood urea nitrogen (BUN), and creatinine tests should be ordered at the physician's discretion, although the results do not aid diagnosis or change treatment unless they are markedly abnormal.

Imaging Studies: Unless anatomic abnormalities or renal disease is suspected, routine imaging studies are not necessary.

In cases of persistent symptoms and/or infection or in cases of suspected urolithiasis, renal ultrasonography may be helpful.

Treatment: Antibiotic therapy should be initiated after all necessary culture results are obtained. If significant nausea or pain is present, appropriate medication may be indicated. Treatment of all symptomatic and asymptomatic patients with bacteriuria is important.

The antibiotic should be safe for the mother and fetus.

Drug Category: Antibiotics

Empiric antimicrobial therapy must be comprehensive and should cover all likely pathogens in the context of the clinical setting. Empiric coverage for E coli and Klebsiella, Proteus, and Enterobacter species should be provided.

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

As seen in frequency Table 1 and 2, urinary tract infection was more common in women between 20 - 29 years (58%), educated until secondary school (49.7%). Gestation age from third to eighth month shows a percentage of 13.8 % decreased to 11.6%. Before and after this period (from 1st - 3rd and from 8th - delivery) was 3.3% - 7.7%.

Mainly UTI occurs in pregnant women in the following order, the first, second, and third time (26,5%; 24,3%; 17,1%). 56, 4 % of women have normal vaginal delivery, and 18, 8 % cesarean section, but no correlation was seen between these factors and UTI. Complications for the baby were premature labour, and congenital abnormalities of kidney (14,9%; 1,1%) and for the mother were pyelonephritis, cystitis, vaginitis and anemia during pregnancy. 80,7% of the included women have signs and symptoms of urinary tract infection, as follow:

- 91.7% had burning during urination.
- 80.7% had vaginal itching.
- 87.8% of participants had frequency 6 to 10 times per 12 hours.
- Urine retention at 76.8 %,
- 90. % complained of lower abdomen pain.
- 53% had flank pain.
- 34.8% had hematuria.

86 women (47.5%) practice intercourse even during UTI, and 64.1% of them complained of severe vaginal and lower abdomen pain during intercourse.

Excessive vaginal discharge was present at 78.5 % of participants.

Urine analysis shows that 98.9% of women have increased WBC (numerous), and 80.1% increased RBC.

Escherichia coli was found at 69.1% of all included women, while other bacteria was Klebsiella, and Proteus species.

Hemoglobin results were:

- 8 mg/dl at 0.6%
- 9 mg/dl at 5.5%
- 10.5 mg/dl at 25.4%
- 11 mg/dl at 15.5%
- 11.5 mg/dl at 14.9%
- 12.5 mg/dl at 1.1%
- 13 mg/dl at 0.6%

Food habits: Fluid intake less than 2 L / 24 hours was used by 95.6% of women, while only 4.4% used to drink 2 L and more / 24 hours (even during UTI). 70.2% of women used to eat fatty food, 87.3% high protein food, sweets 89.5%, spicy food 72.9%, drink juices with soda 68.5%, coffee 81.2%. Vegetables and fruits are included in food at 91.2% ; 85.6% respectively. 86.6% of participants are smokers.

Clothes: 68.5% use cotton underwear, nylon 27.6%, polyester 1.1% while 55, and 2% use tight underwear.

Cleaning method: 42.5% of women use pipe, 21% use a fixed shower, 36.5% use other equipments.

Discussion

The results in Table 1 and 5 show that occurrence of urinary tract infections during pregnancy decreases with age and with increased number of pregnancies. Education is a very important factor. Secondary school may not be a sufficient source of information about urinary tract infection during pregnancy, for girls. Ante partum urinary tract infection was associated with birth of small gestational age infants. Multivariable adjustment for potential confounding variables, suggests that UTI affects low birth weight through premature delivery more than growth retardation. A high percentage of women visited the doctor and used medication, which shows increasing health awareness. Although most of the investigated women had clear signs and symptoms of UTI, as seen from incongruence in presence of RBC in urine at 80.1 % of examined women, while haematuria, indicated by answers, was present in 34.8 %

of women, asymptomatic bacteriuria was still present, which may be a cause for the development of complications, such as cystitis and pyelonephritis. In addition, this incongruence may indicate either a low degree of awareness or sincerity of examined women, but increases the importance of early screening by laboratory test. Sexual intercourse is a risk factor for both urinary tract infection, and vaginal infection, since genital tract infection may also be associated with adverse reproductive outcome. Lower abdominal pain during intercourse in 64% of included women shows that awareness about precautions during UTI in pregnancy was not enough.

Presence of vaginal discharge in 78.5 % of women is too high a percentage, which may indicate some vaginal infection, but in survey conditions, screening for genital infections was not performed. Decreased knowledge regarding proper amount of fluids, and appropriate type of food and clothes, were noted. Awareness about signs and symptoms of urinary tract infection during pregnancy, precautions, treatment etc, during early visits to the clinic, may prevent serious complications to mother and baby.

Limitations: One of the limitations was that Jordan is an extensive area which is a barrier for women to reach the centers or hospitals for treatment. Regarding culture and habits some women answered insincerely, which was an obstacle to achieving a proper statistical analysis.

Recommendation

According to results of this study, it is recommended to start increasing awareness of girls about signs and symptoms of urinary tract infections in general and especially during pregnancy, in addition to prevention, precautions and treatment, during secondary school, and maybe earlier, which may be a satisfactory background to prevent UTI in potential mothers. Gradual changes in cultural factors related to more open answering regarding most genital diseases, is an important responsibility of all members of society, starting from home, school, medical centers, religious institutions and universities.

Early screening by laboratory investigation is recommended, to prevent serious complications of asymptomatic urinary tract infection, and discover even symptomatic UTI in women who are trying to hide signs and symptoms.

Performing a survey about male awareness regarding UTIs in pregnant women is a good way to provide male involvement in treatment, and prevention of complications of UTI, as a holistic approach.

Further research regarding correlation between UTI and vaginal infection among pregnant women in Jordan is also recommended.

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Correlation 1

		العمر	QQQQ
العمر	Pearson Correlation	1	.116
	Sig. (2-tailed)	.	.121
	N	181	181
QQQQ	Pearson Correlation	.116	1
	Sig. (2-tailed)	.121	.
	N	181	181

Correlation 2

		QQQQ	مستوى التعليم
QQQQ	Pearson Correlation	1	-.058
	Sig. (2-tailed)	.	.442
	N	181	180
مستوى التعليم	Pearson Correlation	-.058	1
	Sig. (2-tailed)	.442	.
	N	180	180

Correlation 3

		QQQQ	الدخل الشهري
QQQQ	Pearson Correlation	1	.094
	Sig. (2-tailed)	.	.213
	N	181	177
الدخل الشهري	Pearson Correlation	.094	1
	Sig. (2-tailed)	.213	.
	N	177	177

Correlation 4

		QQQQ	التهاب المسالك أثناء الحمل
QQQQ	Pearson Correlation	1	-.323**
	Sig. (2-tailed)	.	.000
	N	181	181
التهاب المسالك أثناء الحمل	Pearson Correlation	-.323**	1
	Sig. (2-tailed)	.000	.
	N	181	181

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation 5

		QQQQ	مضاعفات الالتهابات
QQQQ	Pearson Correlation	1	.089
	Sig. (2-tailed)	.	.232
	N	181	181
مضاعفات الالتهابات	Pearson Correlation	.089	1
	Sig. (2-tailed)	.232	.
	N	181	181

Correlation 6

		QQQQ	كثرة البول
QQQQ	Pearson Correlation	1	-.010
	Sig. (2-tailed)	.	.898
	N	181	181
كثرة البول	Pearson Correlation	-.010	1
	Sig. (2-tailed)	.898	.
	N	181	181

Correlation 7

		QQQQ	قوابل وبهارات
QQQQ	Pearson Correlation	1	-.130
	Sig. (2-tailed)	.	.081
	N	181	181
قوابل وبهارات	Pearson Correlation	-.130	1
	Sig. (2-tailed)	.081	.
	N	181	181

Correlation 8

		QQQQ	طبيعة الملابس الداخلية	طبيعة الملابس السفلية
QQQQ	Pearson Correlation	1	.061	-.137
	Sig. (2-tailed)	.	.417	.065
	N	181	181	181
طبيعة الملابس الداخلية	Pearson Correlation	.061	1	-.073
	Sig. (2-tailed)	.417	.	.326
	N	181	181	181
طبيعة الملابس السفلية	Pearson Correlation	-.137	-.073	1
	Sig. (2-tailed)	.065	.326	.
	N	181	181	181

Correlation 9

		QQQQ	طريقة التنظيف
QQQQ	Pearson Correlation	1	-.038
	Sig. (2-tailed)	.	.616
	N	181	181
طريقة التنظيف	Pearson Correlation	-.038	1
	Sig. (2-tailed)	.616	.
	N	181	181

Prevalence of Nocturnal Enuresis Among Qatari Students Aged 6 to 12 Years - Doha, Qatar 2008

ABSTRACT

Introduction: Nocturnal enuresis is a very common clinical problem in children. Although nocturnal enuresis is considered as a benign symptom, it causes substantial distress and presents significant psychosocial problems for children and their parents.

Objectives: This study was conducted to estimate the prevalence of nocturnal enuresis among 6 to12 year old children and to determine the associated risk factors.

Design: A descriptive cross-sectional study was carried out to estimate the prevalence and determine the associated factors of nocturnal enuresis among children in Doha, Qatar, conducted in January through to June 2008.

Setting: Governmental primary schools in the state of Qatar.

Subjects: The subjects of the study were primary school students selected through a multiple-stage sampling procedure from the different governmental schools. A questionnaire was designed and was filled in over the phone by investigators interviewing the parents of randomly selected children attending the different primary schools. This study was approved by the research committee in Hamad Medical Corporation.

Results: The overall prevalence of bed wetting among Qatari students aged 6-12 years old was 25%. This prevalence significantly declined with age. It was higher in boys (13.7%) than in girls (11.3%).

Conclusion: Nocturnal enuresis is a frequent condition, being more prevalent in boys than in girls, and its prevalence declines with the child's age. Nocturnal enuresis is a disturbing problem for both parent and their children and should be taken seriously. Further studies examining different interventions for nocturnal enuresis are also recommended.

Keywords: nocturnal enuresis, children, bed-wetting, prevalence.

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Introduction

Nocturnal enuresis is a common problem that can be troubling for children and their families. Recent studies indicate that nocturnal enuresis is best regarded as a group of conditions with different etiologies.[1] The American Psychiatric Association has defined bed-wetters as children older than age five who are incontinent of urine at night.[2] The prevalence of nocturnal enuresis has been difficult to estimate because of variations in its definition and in social standards.[3,4] It is now generally accepted that 15 to 20 percent of children will have some degree of night-time wetting at five years of age, with a spontaneous resolution rate of approximately 15 percent per year. Therefore, at 15 years of age only 1 to 2 percent of teenagers will still wet the bed. Some studies report that boys wet the bed more frequently than do girls, but this finding has been disputed by other reports.[5] A study in UAE confirmed the fact that enuresis is a common problem among healthy school children in the UAE and that it is associated with behavioral disturbance.[6] Bedwetting (nocturnal enuresis) is common. It occurs in up to 20% of 5 year olds and 10% of 10 year olds, with a spontaneous remission rate of 14% per year. Weekly daytime wetting occurs in 5% of children, most of whom (80%) also wet the bed. Bedwetting can have a considerable impact on children and families, affecting a child's self-esteem and interpersonal relationships, and his or her performance at school.[7] Nocturnal enuresis can take a toll on a child's self-esteem and is a frustrating problem to parents. The parent is typically the one responsible for the clean up after an accident and is also typically charged with finding a cure for the problem. This problem can be stressful for the parents and other family members. Feelings of the parents may range from worried to frustrated, sad to angry, and even tired. Children may be able to sense these feelings in parents. Children may feel responsible for their parents' reactions and for upsetting the household.[8] The prevalence of nocturnal enuresis has not been studied previously in Qatar. We therefore, conducted this study to determine the prevalence and associated factors of nocturnal enuresis among primary school students in Doha.

Subjects and Methods

Sample size determination was conducted by Epi-info stat-calculator, and was calculated to be 256 subjects after considering a 10% dropout. The subjects of the study were primary school students

selected through a multiple-stage sampling procedure. Firstly, one governmental primary school was chosen randomly from the four different regions of Doha city; northern, southern, central and western regions. One class in each of six grades (1st grade to 6th grade) of the participating schools was then randomly selected and students aged 6-12 years were then allocated through a systematic random sample from the selected classes and were invited to participate in the study. In all, 256 students from 48 classes were included and a questionnaire was applied to their parents. A response rate of 98% was achieved in this study. The questionnaire portion of this study was designed to be quick and easy to fill out by the researchers from participants over the phone. The researcher-administered questionnaire was validated before application to ensure its validity through professional review and piloting. It was translated from English to Arabic, and then back translated to ensure language consistency. It included 17 items and was designed for this study to determine the prevalence of nocturnal enuresis, how parents perceive enuresis in children six to twelve years of age, and to determine the parents' knowledge of the causes of nocturnal enuresis. The questionnaire was also a means to measure whether any treatments for enuresis were sought. Nocturnal enuresis was defined as the involuntary voiding of urine once in a great while, monthly in occasion, weekly in occasion, 2-4 times weekly and nightly beyond the age at which bladder control is normally attained (5 years)[2,9]. Primary enuresis is defined as a child who never gained nocturnal urinary control. Secondary enuresis is where at least a 6 months period of dryness has preceded the onset of bed-wetting.[4] Questionnaires were prepared for 256 pupils from the selected primary schools, 1st-6th grade. Researchers filled out the questionnaire over the telephone after informing the parents of the purpose of the study, that participation in the study was voluntary and that the participants remained anonymous. Collection of data was over a period of two months from April to May 2008. Parents of children enrolled in study must sign a special consent form which was approved by the Research committee of HMC. Data were analyzed using SPSS for Windows version 10 software program. Frequency tables and descriptive statistics were done. Significance test used included confidence intervals, odds ratio and chi square test. Frequency rates were compared to available data on national averages and trends. The value of p was considered significant if less than 0.05.

Results

The total number of participants was 256, comprising an even numbers of boys & girls in different age groups, 6-12 years old (Table 1). Out of the studied participants, sixty-four (25%) had nocturnal enuresis. Twenty eight parents of children with nocturnal enuresis (10.9%) stated that their children struggled with bed wetting once in a great while, while the others dealt with bed wetting on a monthly, weekly and sometimes nightly basis (Table 2). Primary nocturnal enuresis was seen in three quarters of them while secondary nocturnal enuresis in (25%) of them. Near half of parents of children with nocturnal enuresis (46.9%) stated that the laziness of the child might be a cause while thirty of them (26.6%) stated that they did not know what the cause was. Most of the participants (70.3%) stated that their child did not go to physician. Nearly one third (31.2%) of the children's parents reacted to their children's problem by using punishment. All of the respondents perceived that enuresis affected their children's self-esteem. They stated children get embarrassed, shy, emotional, or hesitant to spend the night away from home. More than half of them also perceived that enuresis affected their children's self respect (Table 3). Bedwetting is more common in boys than girls. The prevalence rate among boys and girls was (13.7%) and (11.3%) respectively (Table 4).

There is a statistically significant drop of nocturnal enuresis occurrence at increasing age (Table 5).

The current study showed that there is some difference between Nocturnal Enuresis Frequencyand Child Psychological Status but it is not statistically significant (Table 6).

Discussion

Nocturnal enuresis is common among younger school children and its frequency decreases in conjunction with increasing age; however, the prevalence of enuresis varies with geographical areas, the study population and the criteria used in the studies[10-12]. The overall prevalence of nocturnal enuresis in Qatari children aged 6-12 years old was 25%, this is higher than the 8-15% reported in the west[2] and 8.8% in Jordon[6]. This finding is consistent with a study in Australia, which showed that 18.9% of children in the same age group had enuresis[13]. The current study showed that the prevalence rate of enuresis decreased at 6-9 years old (14.5%) then (10.5%) at 10-12 years old, which is higher compared to the same age group in the Taiwanese and the Korean studies[13,14]. However, two studies from Turkey[15,16] show a prevalence rate of nocturnal enuresis of 11.5% and 13.7% at 6-12 years old and at 7-11 years old, respectively. Our results also show that nocturnal enuresis is more common in boys than girls, which is consistent with other reports[2,13,14]. These differences arise because the definition of nocturnal enuresis varies from study to another. Marked nocturnal enuresis (more than twice weekly) in this study was 2.8% and considered lower than those reported in Sweden, France and Turkey[17]. The current study showed that primary nocturnal enuresis was more marked than secondary enuresis and this agreed with a study done in Jordan[6]. Qatari families of 29.7% of the children with enuresis had sought medical assistance by consulting physicians which is considered lower than the rate of Jordanian families (50%) who showed a greater concern about the problem[18]. The current study showed that

enuresis affects children's self respect and self-esteem (67.2% -100%) respectively. These findings were in concordance with previous studies of parental reports which suggests that children with nocturnal enuresis are reportedly found to be more vulnerable to low self -esteem, general anxiety, social fears and sadness, which worsen with the severity of bed-wetting[19], while in one study in Stout-university of Wisconsin (55.9%) of participants thought that there was no effect on their children's self-esteem[20]. In a study conducted in the USA, it showed that the prevalence of enuresis at least once a week was similar among boys and girls (7% v 6%). Parents reported that more than half of the children are distressed by their enuresis, and two thirds of parents expressed concern. Thirty-eight percent of bed-wetters have seen a physician about their condition. More than one third of these children have been treated with a drug. The most commonly recommended regimen in the literature, the bed alarm, was prescribed to only 3% of bed-wetting children who saw a physician.[21]

Conclusion

Nocturnal enuresis is a frequent condition, being more prevalent in boys than in girls, and its prevalence declines with the child's age. Nocturnal enuresis is a disturbing problem, affects child self respect and affects child's self-esteem in all participants and thus should be seriously considered.

Strengths and Limitations

It was assumed that an adult, such as a parent or guardian, responded to the questionnaire in a reliable manner. The strength of this research was that the survey questionnaire is comprehensive, yet manageable for parents to understand and answer. The resulting data closely mirrored national statistics for the younger age groups, which suggests that the group that responded reasonably matches the national population. A limitation to this study was that the adult answering the questionnaire might not have a clear recollection of the child's earlier years. If the parent or guardian was unable to recollect earlier stages of the child's development, the questionnaire may not have been answered in a credible and factual manner. Another limitation is also the small sample size therefore; any results should be used cautiously. Another known limitation, is the collection of data over the phone which can decrease the reliability of data.

Acknowledgements

We wish to thank parents of the school children for their collaboration. Also we would like to thank the ministry of education for their support and help in this research. The study was accepted by the research committee in Hammed Medical Corporation, which had a big role in study design, data collection, data analysis, data interpretation, and writing of the report.

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Table 1: Frequency Distribution of the Studied Sample According to Age and Gender (n = 256)

Character	Frequency	Percent
Gender		
Male	128	50.0
Female	128	50.0
Age in years		
6	14	5.5
7	29	11.3
8	46	18.0
9	33	12.9
10	33	12.9
11	63	24.6
12	38	14.8
Mean + SD	9.5+1.83	
Total	256	100.0

Table 2: Frequency Distribution of the Studied Sample according to Frequency of Nocturnal Enuresis (n=256)

Frequency of bed wetting	Frequency	Percent
No bed wetting	192	75.0
Occasionally	28	10.9
Once/month	22	8.6
Once/week	7	2.7
Every night	7	2.8
Total	256	100.0

Table 3: Frequency Distribution of the Studied Group with Nocturnal Enuresis according to Bed-wetting type, Causes, Action Taken and Effect on Child self-esteem (n=64)

Characteristic	Frequency	Percent
Type of enuresis		
Primary	48	75.0
Secondary	16	25.0
Total	64	100.0
Cause of enuresis		
Genetic factors	4	6.3
Stress factors	10	15.6
Medical factors	3	4.7
Unknown	17	26.6
Laziness	30	46.9
Total	64	100.0
Physician consultation for enuresis		
No	45	70.3
Yes	19	29.7
Total	64	100.0
Parental response to enuresis behavior by punishment		
No punishment	44	68.8
Punishment	20	31.2
Total	64	100.0
Enuresis effects on child's self-esteem		
No effect	0	0.0
Emotional	29	45.3
Embarrassed	16	25.0
Hesitant to spend the night away from home	9	14.1
Shy	10	15.6
Total	64	100.0
Effect on child self respect		
No	21	32.8
Yes	43	67.2
Total	64	100.0

Table 4: Frequency Distribution of the Studied Sample according to Gender and Nocturnal Enuresis (n=256)

Gender	Nocturnal enuresis				Total		Significance
	No		Yes				
	No.	%	No.	%	No.	%	
Male	93	36.3	35	13.7	128	50.0	X^2= 0.750 p=0.471
Female	99	38.7	29	11.3	128	50.0	
Total	192	75.0	64	25.0	256	100.0	

Odds ratio= 0.778
Confidence interval (95%)= lower: 0.441, upper: 1.373

Table 5: Frequency Distribution of the Studied Sample according to Age and Nocturnal Enuresis (n=256)

Age	Nocturnal enuresis				Total		Significance
	No		Yes				
	No.	%	No.	%	No.	%	
6	7	2.7	7	2.7	14	5.5	X^2 = 13.834 P = 0.032
7	17	6.6	12	4.7	29	11.3	
8	34	13.3	12	4.7	46	18.0	
9	27	10.5	6	2.3	33	12.9	
10	23	9.0	10	3.9	33	12.9	
11	53	20.7	10	3.9	63	24.6	
12	31	12.1	7	2.7	38	14.8	
Total	192	75.0	64	25.0	256	100.0	

Table 6: Distribution of the Studied Group according to Nocturnal Enuresis Frequency and Child Psychological Status (n=64)

Characteristic	Nocturnal Enuresis										Signif.
	Occasionally		1/month		1/week		Nightly		Total		
	No	%	No.	%	No	%	No	%	No	%	
Effect on child self-respect											
No	11	17.2	8	12.5	1	1.6	1	1.6	21	32.8	X^2= 3.324 P=0.505
Yes	17	26.6	14	21.9	6	9.4	6	9.4	43	67.2	
Total	28	43.8	22	34.4	7	10.9	7	11.0	64	100.0	
Enuresis effects on child's self-esteem											
Emotional	17	26.6	7	10.9	2	3.1	3	4.7	29	45.3	X^2= 19.254 P=0.083
Embarrassed	9	14.1	6	9.4	0	0.0	1	1.6	16	25.0	
Hesitant to spend night out	0	0.0	4	6.3	3	4.7	2	3.2	9	14.1	
Shy	2	3.1	5	7.8	2	3.1	1	1.6	10	15.6	
Total	28	43.8	22	34.4	7	10.9	7	11.0	64	100.0	

Medical Ethics and Torture

Brazil revoked Harry Shibata's medical license for falsifying the death certificate of a torture victim, while directing a forensic program under the preceding military government. Uruguay's National Medical Council suspended the licences of five physicians who abetted torture under a deposed military junta. A South African medical board tabled complaints against police physicians who failed to report or treat the fatal head injury inflicted by police on civil-rights leader Steve Biko. Two doctors were sanctioned 8 years after his death. The World Medical Association's (WMA) Declaration of Tokyo has been a landmark event in medical ethics. It was passed in 1975 and has undergone several revisions. The declaration condemns medical participation in torture, and cruel, inhuman, or degrading treatment, or any act to diminish the ability of the victim to resist such a treatment. It serves as a template for several or for many medical codes .The following panel shows how a new model code might look:

Panel: Code of ethics for physicians with prisoners at risk of torture and cruel, inhuman, or degrading treatment

Guiding ethical principles

A prison physician's duty is to preserve and restore bodily and mental health of every patient.

UN official definitions

Torture is any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such a pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity. This definition does not include pain or suffering arising only from, inherent in, or incidental to lawful sanction (UN Convention Against Torture).

Cruel, Inhuman, or degrading treatment or punishment should be interrupted so as to extend the widest possible protection against abuses, whether physical or mental, including the holding of a detained or imprisoned person in conditions which deprive him, temporarily or permanently, of the use of any of his natural senses, such as sight or hearing, or of the awareness of place and the passing of time. (UN Body of Principles for the Protection of All persons under Any Form of Detention or imprisonment).

Unofficial teaching definitions

- Torture is any act that intends to cause a prisoner to feel severe physical or mental pain or suffering. Torture occurs when a government official orders, supervises, consents to, allows, or performs acts that cause such pain or suffering. Torture is unacceptable for any reason, including when it is used to:
- Obtain information or a confession from the tortured person or some one else or
- Punish the tortured person or someone else for an act that he or she has done or is suspected of having done or
- Frighten or coerce the tortured person or someone else or
- Discriminate against a race, religion, political belief
- Or any other reason
- This definition does not include pain or suffering that is caused by legal prison conditions and sentences
- Cruel, Inhuman, or degrading treatment or punishment
- A physician should not:
- assist with torture and cruel, inhuman, or degrading treatment or punishment
- be present when a prisoner is subject to, or threatened with, torture and cruel inhuman, or degrading treatment.
- provide or withhold clinical facilities, equipment, supplies, or knowledge to support torture and cruel, inhuman, or degrading treatment.
- assist procedures that aim to decrease a prisoner's ability to resist interrogation or punishment;
- withhold, or threaten to withhold, medical assessment to treatment from a prisoner who is not cooperating with officials;
- assist in certifying a prisoner's fitness for interrogation, treatment, or punishment that might harm that person's physical or mental health.
- assist in certifying a prisoner's fitness for interrogation, treatment, or punishment to advise officials to modify procedures that might harm a prisoner's physical or mental health.
- A physician committing any of these acts may be guilty of torture and cruel, or degrading treatment or punishment.

Hunger strikes

A physician should not assist in force-feeding a prisoner who has rationally chosen to refuse nourishment. Two physicians shall assess the prisoner's ability to understand the results of refusing food or water.

Medical records

Medical records are a way to assist clinicians in improving a prisoner's physical and mental health.

A physician:

- should not allow medical information to facilitate torture and cruel, inhuman, or degrading treatment or punishment;
- must inform a prisoner if officials have access to the

medical record
- must document a patient's complaints, symptoms, and signs of torture and cruel, inhuman, or degrading treatment or punishment.

A physician doing an autopsy or completing a death certificate on a prisoner must:
- fully record signs of abuse
- file such documents in a way that complies with national or international law.

A physician who violates these rules may be guilty of unethical conduct or of assisting with torture or cruel, inhuman or degrading treatment or punishment.

Reporting abuse of prisoners

- a physician must report credible suspicions of torture and cruel, inhuman, or degrading treatment or punishment; and credible suspicions that clinicians are assisting torture or cruel, inhumane, or degrading treatment or punishment. Such reports should be given to government authorities, when possible. If this is not possible, they should be given to clinical societies, licensing bodies, or independent human-rights organizations.
- a physician who violates these rules may be guilty of unethical conduct or assisting with torture or cruel, inhuman, or degrading treatment or punishment.

Investigations of physicians

- Licensing bodies should investigate allegations of physician complicity in torture and cruel, inhuman, or degrading treatment or punishment. They should impose punishment, when appropriate, and refer credible allegations of illegal acts to government agencies. A licensing body that does not address allegations of physician's complicity with torture or cruel, inhuman, or degrading treatment or punishment may be complicit in such crimes.

The medical community must effectively ally itself with efforts to suppress mistreatment of prisoners. The proposed model policy builds from the Declaration of Tokyo. It asserts the accountability of physicians to international law, with authoritative definitions of torture and cruel, inhuman, and degrading treatment. It details professional obligations that are based on medical communities increasing knowledge of situations arising during prison work. In addressing interrogation, for example, it rejects the US Defense Department's policy stating that prisoners should be medically certified for implicitly risky interrogations. In this new model, physicians should inform prisoners if officials, such as interrogators, have access to medical records. The proposed reinforces standards for reporting abuses and for filing accurate and timely medical records, including death certificates. It challenges the presumed impunity of physicians who abet torture and cruel, inhuman, or degrading treatment or punishment. Its simple language speaks to physicians, officials, and educators in various countries.

Codes of medical ethics are essential, but only part of the necessary response to medical complicity in torture. Standards procedures must be developed for educating prison medical staff and prison authorities on this matter. The medical community and civil society must create and publicize national and international civilian channels for reporting human-rights abuses, when governments do not act on complaints or prosecute clinicians who act against torture. The international medical community might be able to help countries, the torturing regimens of which have ceased to develop systems to suspend or revoke medical licenses. Furthermore, it must establish better ways to support and protect colleagues who are against mistreatment of prisoners. Other bodies must address morally comparable issues for psychologists, nurses, and other health personnel. The medical community is key to the campaign against torture. Governments that practice torture need complicity of prisons' medical personnel. Furthermore, a profound link exists between domestic torture and worldwide medical solidarity against torture.

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Workplace Bullying among Junior Doctors in Kashmir - A Questionnaire Survey

ABSTRACT

Background: Workplace bullying in health systems is a well-known fact, which leads not only to breakdown in teamwork but also has significant effects on the individual's personal life. True prevalence of bullying in junior doctors working in our valley is unknown. Our aim was to find out the prevalence of bullying among junior doctors working in various hospitals of Kashmir. For this a cross-sectional, anonymous, self-reported questionnaire survey was undertaken among a convenient sample of all the trainee doctors, in various government hospitals. A questionnaire, with standard written explanation of bullying was used and basic information like age, sex, job grade and the specialty in case of Postgraduates (PGs), were also collected. A total of 96 doctors [intern (45.8%), junior residents (33.3%), PGs (11.4%) and senior residents (9.5%)], took part in the study. More than half of the surveyed population reported being subjected to bullying. Significant proportions (P <0.0001) of paramedical staff bullied the PGs and other junior doctors. More than 95% of bullying incidents went unreported.

Keywords: Harassment, interns, bullying, junior doctors.

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Introduction

Harassment at places that necessitate an unavoidable social interface has always been considered more of a civilization attribute than an adverse and abominable human behavioral pattern so much so that our reaction mechanisms to any kind of harassment are often finely-adjusted by this ubiquitous conformist mindset. If not disregarded as cynicism it can be said with a fair amount of leniency that bullying and its various forms have become more of an office-accessory now, engendering the whole gamut of interpersonal relationships at the work-place. As such it becomes imperative to study this unwholesome tendency in its various contexts given the profound impact it has on the productivity of the group activity.

Workplace bullying is a major source of stress; breakdown and malfunction in modern heath care systems. It is an important issue for the health services because of its potential impact on staff health, retention, and patient care.[1,2] Growing literature has identified workplace bullying as a major occupational stressor among health professionals. A study carried out in an NHS community trust found that 1 in 3 staff reported being bullied in the UK.[3] To understand the problem better, we investigated how commonly doctors in training experienced persistent and serious bullying, who were the sources of this behavior, and what action was taken to deal with it. Many junior doctors experience bullying during their training. There are even cases of juniors being physically abused, pushed around, verbally abused, and ignored. However, some forms of bullying are more insidious, such as threats over references. Part of the problem is that progress in the medical profession still works on a system of patronage and word of mouth.

Accusations of bullying have become much more common in medicine.[3] This perhaps represents an increased perception and awareness rather than the rise in the abusive personalities in the health system.[4] Various studies in different parts of the world have shown that junior doctors suffer high levels of mistreatment or bullying during training which increases with progression through medical school, spilling over into early training years.[3,5]

There are many definitions of bullying. Following are examples of some of the definitions found in literature. According to Einharsen bullying emerges when one perceives to be on a receiving end of negative actions persistently over a period of time and finds oneself unable to defend himself against these actions.[6] Raynor and Hoel have defined five bullying behaviors. These are; threat to personal status, threat to personal standing, isolation, overwork and destabilization.[7]

It would appear from the above

introduction that bullying is commonplace in health care providers and junior doctors are no exception to it; however the extent of this problem remains unknown in our health system as bullying amongst junior doctors and professionals has been studied only in developed countries and has received limited, if any, attention in India and other developing countries.[8] In Kashmir, a Muslim majority province of India studying the issue of harassment amongst the junior doctors or any other professional group has so far been a totally forbidden domain given the varied connotations that such study might assume in wake of the apparent orthodoxy of Kashmiri society. But notwithstanding those taboos and superficial impressions, this questionnaire survey brought forth results in total contrast to the popular expectation but in total consonance with the presumption of the same being a contributory to the ailing health care system of the Kashmir valley. With the above background the aim of our study was to ascertain the prevalence of workplace bullying in junior doctors working in various hospitals of Kashmir, to assess its impact on professional and family life and to identify the common source of bullying. We carried out a questionnaire survey.

Methods

A cross-sectional questionnaire survey was conducted among junior doctors in training (interns; junior residents, postgraduate students (PGs) and senior residents of different specialties working in various hospitals of the valley). A convenient sample of 96 subjects took part in the study. Standard written explanation of bullying[7] was provided to the participants, who were advised to read it prior to filling in the actual questionnaire The data collected was anonymous and included age, gender, job grade and job satisfaction in addition to 25 specific questions regarding bullying, its source, frequency, its effects on home life and productivity of work and different types of bullying behaviors. Data were recorded and statistically analyzed wherever applicable.

Results

The response rate was 61%: out of a total 157, 96 completed questionnaires were included in the study (11 questionnaires were incomplete and 41 were not returned and thus were not included in the study). As shown in Table 1, 45.8% (44) of the participants were interns, 33.3% (32) junior residents, 11.4% (11) postgraduate students and rest 9.5% (9) were senior residents. Half were males (48). Overall, 54 (56%) of the 96 junior doctors identified themselves as having been bullied in the past six months, irrespective of the group to which they belonged to and seventy-nine (82%) had witnessed the bullying of others. Female doctors reported significantly higher ($p<0.005$) rates of all the bullying behaviors as compared to their male counterparts (39% vs 17%). The proportion of subjects bullied was also significantly higher amongst individuals aged below 25 years ($P <0.001$) and men were more likely to report being bullied than women (5% vs. <1%). Table 2 summarizes the response to the individual questions for the whole group. Highest scores were for obstructive attitude of the paramedics and attempts to humiliate in front of your colleagues. 60% of the responders complained that bullying affected their performance and productivity at work while more than one third reported bullying affected their home life. Female doctors were found to have higher incidences of perceived adverse effect on their productivity and family life. Common bullies are identified in Table 3. Male and female junior doctors identified nursing staff and other paramedics as the commonest bullies. The other groups of bullies included seniors and administrative staff. Patients and their relatives were responsible for a small proportion of bullying. Most of the junior doctors were subjected to bullying by the paramedical personnel ($P <0.0001$). Irrespective of the group to which they belonged more than 95% of bullying went unreported. Nearly 62% of those bullied felt complaining would not make a difference, 24% were afraid of the consequences while the rest, 10%, were not sure how to complain.

Conclusion

Bullying is akin to an endemic disease that runs across borders and cultures. It is also prevalent amongst the medical community and is seen in professional, research, teaching and administrative fields.[9] The prevalence of bullying in junior doctors working in various hospitals of Kashmir is 56%, which is similar to reports from India by *Bairy et al.*[10] The study suggests that bullying could be a significant problem in the country. For various reasons, as seen in our study, bullying is generally under-reported. However, it is a matter of concern that less than 10% of subjects reported being bullied in contrast to 67% in the west.[3] It is pertinent to note that even perceptions of bullying can have a negative impact on the overall climate and outcome of the workplace.[10] Women were more likely than men to be bullied, and this finding is consistent with a study of university employees *Bjorkvist et al.*[9] As far as the medical profession is concerned, women remain at a risk of sexual harassment by significant others, including patients, despite the power they acquire through medical training.[12] In India a web-based survey found that incidents of workplace-related sexual harassment do exist and the victims were mostly young women seeking care in urban health facilities, PGs, field staff and contract employees.[8] It is clear from the available evidence that bullying and harassment can have profoundly negative effects. Severe harassment and belittlement may be associated with higher rates of alcohol misuse, depression, and suicidal intent and with lower satisfaction with their chosen career as a doctor.[13] The problem of bullying needs to be addressed in earnest. A few measures for tackling the issue are suggested: acknowledging existence of the problem could be the starting point. Next, anti-bullying policies need to be developed, disseminated and implemented in our hospitals. As of now no such policies have been enunciated. Information sessions could be

used to increase the awareness of bullying as an organizational problem. Victims should be provided with support and access to dispute-resolution procedures.[14] Measures like teaching the appropriate skills to those who deal with bullying, personal development of consultants or others who interact inappropriately, program for trainees to tackle bullying effectively and appropriate reward-punishment for the concerned.[15] It is not easy to prevent bullying and harassment in the workplace. It requires people to moderate their behavior so that they become positive role models and demand considerable changes in institutional culture.

The negative impact that bullying and harassment have on the well being of students and doctors, overall morale in the medical workforce, and recruitment and retention in the profession demand our continuing efforts to resolve these problems. An educational approach to the problem of bullying has its place; however, it cannot be a substitute for punishing action. Needless to say it would take a lot of effort and time before this problem is controlled or eradicated. However if it is allowed to grow it will not only hinder the progress but also incapacitate the current health system. It is high time now to show zero tolerance and say no to bullying.

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Table 1: Characteristics of study participants classified according to being bullied or not

Variables N=96	**Bullied N=54**	**Not bullied N=42**
Occupational groups		
1. Interns	26	18
2. JR s	18	14
3. PGs	07	04
4. SR s	03	06
Gender		
Male	17	31
Female	37	11
Age		
<25	32	26
25-30	14	09
>30	08	07

Table 2: Workplace bullying questionnaire

Questions	Total
Obstructive attitude of your paramedics	46
Attempt to humiliate in front of your colleagues	39
Attempt to demoralize	34
Bullying interferes with professional duties	32
Intrusion on private space	31
Unwelcome, demeaning and suggestive gestures	24
Gender motivated overtures	22
Bullying affect home life	20
Non verbal but sexually motivated innuendos	19
Gender based discrimination	15

Table3: Common sources of bullying

Source of Bullying	
Paramedics and Nursing Staff	71%
Seniors	27%
Administration	15%
Colleagues	12%
Others	8%

Fever of Unknown Origin: 25 years single center experience in Riyadh, Saudi Arabia

ABSTRACT

Aim: To re-familiarise with the pattern and causation of FUO among Saudis.

Methods: All admitted patients with FUO diagnosis between January 1983 and September 2008 were retrospectively reviewed for the causes and pattern.

Results: A total of 273 patients were diagnosed with FUO, and 109 (39.9%) were males. Mean age was 25.6 ± 19.9. Infectious inflammatory diseases were identified in 106 (38.8%), neoplasms in 66 (24.2%), connective tissue diseases in 41 (15.0%) and other diseases in 18 (6.6%). Cause of fever could not be determined in 42 (15.4%) of cases. Tuberculosis and Brucellosis ranked high among the infective causes, Lymphoma and Leukemia for neoplasms and SLE for non-infectious inflammatory cause. Despite extensive investigations, confirmed diagnosis eluded physicians on the causation of FUO in 42 (15.4%) patients, 25 (59.5%) adults and 17 (40.5%) pediatric patients. Thirteen of the 25 adults with unconfirmed diagnosis followed-up in the hospital in a mean of 4.2 ± 1.8 months post-admission were found to have sarcoidosis in 8 patients, a giant cell arteritis and 4 with extrapulmonary mycobacterial infection. Among the 17 pediatric patients without confirmed diagnosis, 12 patients were followed-up in a mean of 4.8 ± 2.1 months post-admission, which revealed 10 with cyclic neutropenia and 2 with mucocutaneous lymph node syndrome.

Conclusion: FUO remains a challenge despite advancement of technology. A keen clinical eye and meticulous history taking coupled with exhaustive investigative procedures are needed.

Keywords: fever, unknown origin, Saudi Arabia.

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Introduction

Fever of unknown origin (FUO) in adults is defined as a temperature higher than 38.3ºC (100.9ºF) on several occasions that lasts for more than three weeks with no obvious source and failure to reach a diagnosis despite appropriate investigation.[1]

FUO's are caused by infections (30-40%), neoplasms (20-30%), collagen vascular diseases (10-20%), and numerous miscellaneous diseases (15-20%). The literature also reveals that between 5 and 15% of FUO defy diagnosis, despite exhaustive studies.[2-5] A thorough history, physical examination, and standard laboratory testing remain the basis of the initial evaluation of the patient with FUO. Newer diagnostic modalities, including updated serology, viral cultures, computed tomography, and magnetic resonance imaging, have important roles in the assessment of these patients.[6,7] Much of the confusion in the literature concerning causes of FUO is due to the failure to define the criteria employed in classifying patients who have fever of unknown origin.

It has been observed that geographical factors are very relevant in the pattern of FUO. In 1989, *Al-Mofleh et al*[8] prospectively presented FUO among 62 patients from 3 centers in Riyadh, Saudi Arabia and found that 71% of their cases were due to infection and neoplasm. However, in almost 2 decades after Al-Mofleh's report, no subsequent literature has been found from Saudi Arabia in particular on this subject. Therefore, this study was conducted to re-familiarize us with the epidemiological pattern of FUO, compare the results with previous literature both locally and from other parts of the world and investigate further underlying causes for undiagnosed cases through follow-up and subsequent admissions which may be related to the cause of FUO.

Materials and Methods

Between January 1983 and September 2008, all admitted patients with a diagnosis of FUO, according to the criteria of Petersdorf and Beeson(1) were retrospectively investigated for the causes and pattern. In this study, we excluded patients who had diagnosis of a specific clinical syndrome or had been diagnosed by a laboratory or radiological procedure within a week from admission. For cases with unconfirmed diagnosis, a further review of records was conducted to ascertain possible underlying causation of FUO during subsequent re-admissions or follow-ups to the hospital.

Results

A total of 273 patients were diagnosed with FUO between 1983 and 2008. There were 109 (39.9%) males and 164 (60.1%) females. Mean age was 25.6 ± 19.9 years (range: 1-83 years). There were 174 (63.7%) patients who were 18 years

old. Infectious inflammatory diseases were identified in 106 (38.8%), neoplasms in 66 (24.2%), connective diseases in 41 (15.0%) and others diseases in 18 (6.6%). Cause of fever could not be determined in 42 (15.4%) of cases. (Table 1)

Infectious inflammatory diseases

Among the 106 cases with infective causes of FUO, tuberculosis was found in 36 (33.9%) patients, 21 (58.3%) among adult patients and 15 (41.7%) among pediatric patients as primary complex. Initial chest x-ray and laboratory investigations in these patients were remarkably normal. Diagnosis of tuberculosis was confirmed by mediatinoscopy, biopsy, laparoscopy and even percutaneous liver biopsy in two patients. All patients responded well to anti-tuberculous medications.

Brucellosis was found in 31 (29.3%) patients, 10 (9.4%0 with hydatid disease, 9 (8.5%) with enteric fever, 9 (8.5%) with meningitis, 7 (6.6%) with pyelonephritis and 4 (3.8%) with visceral infections. Confirmation of a diagnosis was reached in a mean of 32 ± 2.9 days.

Neoplasms

Among 66 patients who had FUO, 40 patients (60.6%) had lymphoma. Of these 40 patients with lymphoma 38 (85.0%) were adult patients. Thirty-six (90%) cases were confirmed by lymph node biopsy, the rest by exploratory laparotomy and biopsy. Leukemia was seen in 21 (31.8%) patients, confirmed by bone marrow examination. Carcinomas of the bladder, pancreas, renal cell carcinoma, breast and colon were seen in the remaining 5 (7.6%) patients. Confirmation of diagnosis was reached in a mean of 41 ± 7.2 days.

Connective tissue diseases

Collagen vascular disease was found in 41 (15.0%) patients, including 28 (68.3%) patients with systemic lupus erythematosus, 7 (17.1%) with mixed connective tissue diseases, 4 (9.8%) with rheumatoid arthritis and 2 (4.9%) with polyarteritis nodosa. Confirmation of diagnosis was reached in a mean of 28 ± 3.7 days.

Other diseases

There were 18 (6.6%) who had a variety of diseases including 10 (55.5%) patients with sarcoidosis, 3 (16.7%) with Crohn's disease, two patients with familial Mediterranean fever, one with secondary amyloidosis and one with subacute thyroiditis.

Undiagnosed cases

Despite extensive investigations diagnosis eluded physicians on the causation of FUO at the time of admission up to the time of discharge in 42 (15.4%) patients, 25 (59.5%) adults and 17 (40.5%) pediatric patients. Fever resolved spontaneously in all of these patients until they were discharged.

Among the 25 adult patients whose diagnosis was unconfirmed, 13 patients came back to the hospital in a mean of 4.2 ± 1.8 months after diagnosis of FUO. Of these, 8 patients were eventually diagnosed with sarcoidosis, 4 with extrapulmonary mycobacterial infection and 1 with giant cell arteritis. The 8 sarcoidosis patients presented with granulomas on subsequent follow-ups. The 4 patients with extrapulmonary mycobacterial infection included a case of tuberculous pericarditis, which did not present with pericardial pain or any cardiac manifestation at the time of fever and 3 cases of miliary tuberculosis, of which symptoms became recognizable 2 weeks after discharge from the hospital. The remaining 12 adult patients were not re-admitted nor had subsequent follow-ups to the hospital and causation of FUO remained obscure.

Among the 17 pediatric patients with undiagnosed causation of FUO, 12 subsequently followed-up to the hospital, of which 10 were eventually diagnosed with cyclic neutropenia and 2 with mucocutaneous lymph node syndrome. The remaining 5 patients never followed-up nor was re-admitted to the hospital.

Discussion

Our study conforms to the epidemiological studies on FUO worldwide.[2-7,9-14] As found in the literature, variations in FUO reflect the populations and periods studied. In children, infections are the most common cause of FUO.[1,4-6] Our study showed 45.4% of our studied pediatric population revealed an infective focus. Among adults, neoplasms and connective tissue disorders are most common. Our study revealed a 24.2% neoplastic cause and 15% of collagen vascular disorder etiology, however, infection was seen in 38.8% of adult cases. In all of our patients, when summed up, the so called "big three" of FUO causation accounted for 78% of cases, 81.6% among adults and 71.7% among pediatric patients.

Comparing our results with previous studies, our percentage of an infective focus as causation of FUO was lower than that reported by Mansueto et al (68.1%)[9] *Zheng et al* (49.1%)[10] and Sipahi et al (47%)[11] but higher than that of *Kucukardali et al* (34.9%),[11] Zhiyong et al (31.73%)[13] and de Kleijn (25.7%)[14] (Table 2) Among the infective causes, tuberculosis remained the most common underlying cause of FUO together with Brucellosis in 2nd place. The relatively higher incidence of tuberculosis and brucellosis may be attributed to the growing population of expatriate workers and the continued herding of livestock in several parts of the Kingdom.

As a follow-up to the report of Al-Mofleh et al, a significant rise in the percentage of a neoplastic causation of FUO was seen (24.2% versus 12.9%) and a lower percentage for an infective causes (38.8% vs. Al-Mofleh's 58.1%).[8] Neoplasms accounted for a higher percentage compared to the report done by Al-Mofleh two decades ago. This is considerably due to the increasing emergence of neoplasm among the Saudi population despite the advancement of technology. Noteworthy is the fact that the rapid modernization of Saudi Arabia may have contributed to the increasing incidence of cancer especially Hodgkin's, non-Hodgkin's Lymphoma, colorectal cancer and even breast cancer. Several reports of increasing incidence of cancer in Saudi Arabia have been reported substantially.

The magnitude of an unconfirmed diagnosis for FUO remained the

same. Our study showed that in 15.4% of our patients, no diagnosis was reached. In most studies, this subgroup represents slightly more than our results, from 15.6%[12] to as much as 31.8%.[9] However, in such cases where diagnosis remains obscure, important clues towards identification of an underlying cause may appear subsequently. Various medical conditions exhibit variable symptomatologies and fever is just one of those. A careful follow-up and correlation of a patient's medical history and course of disease will eventually give clues for a diagnosis to be reached.

Conclusion

FUO remains a challenge despite the advent of more advanced technologies. With the continuing evolution of inciting factors for causation behind FUO, a keen clinical eye, and meticulous history taking coupled with exhaustive investigative procedures and follow-ups are needed.

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Table 1. Underlying causes of FUO among 273 patients diagnosed between 1983 and 2008 at King Khalid University Hospital, Riyadh, Saudi Arabia.

Underlying cause	All patients (n=273)	Adults (n=174)	Pediatric (n=99)
Infectious inflammatory disease	106 (38.8)	61 (35.1)	45 (45.4)
Connective tissue disease	41 (15.0)	23 (13.2)	18 (18.2)
Neoplasms	66 (24.2)	58 (33.3)	8 (8.1)
Other diseases	18 (6.6)	7 (4.0)	11 (11.1)
No diagnosis	42 (15.4)	24 (14.4)	17 (17.2)

Note: values expressed as n (%)

Table 2. Summary of epidemiological studies on FUO with more than 100 studied patients: past and present

Year	Author	Location	n	Infection	Neoplasm	Collagen dse	Misc.	No dx
2008	Kucukardali et al (12)	Turkey	154	34.4%	14.3%	30.5%	5.2%	15.6%
2008	Zheng M et al (10)	China	102	49.1%	7.8%	7.8%	8.8%	26.5%
2007	Sipahi et al (11)	Turkey	857	47%	14.7%	15.9%	6.1%	16.1%
2003	Zhiyong Z et al (13)	China	208	31.73%	16.83%	22.11%	5.29%	24.04%
1997	De Kleijn et al (14)	Nertherlands	167	25.7%	12.6%	25.7%	-	29.9%
1990	Al-Mofleh et al (8)*	Saudi Arabia	62	58.1%	12.9%	6.4%	11.3%	11.3%
Present study		Saudi Arabia	273	38.8%	24.2%	15.0%	6.6%	15.4%

Source: Pubmed search (www.ncbi.nlm.nih.gov/pubmed/)
Note: Case reports excluded
** for comparison purpose*