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Editorial

Why is Sleep Important?

Mohsin Masud Jan
Editor

You need sleep as much as you need to breathe and eat. While you're sleeping, those 6-7 hours spent asleep every day is when your body is busy tending to your physical and mental health and getting you ready for another day.

In children and adolescents, hormones that promote growth are released during sleep. These hormones help build muscle mass, as well as make repairs to cells and tissues. Sleep is vital to development during puberty. Sleep is basically vital for every living being.

When you're deprived of sleep, your brain can't function properly, affecting your cognitive abilities and emotional state. If it continues long enough, it can lower your body's defenses, putting you at risk of developing chronic illness. The more obvious signs of sleep deprivation are excessive sleepiness, yawning, and irritability. Chronic sleep deprivation can interfere with balance, coordination, and decision-making abilities. You're at risk falling asleep during the day, even if you fight it. Stimulants like caffeine are not able to override your body's profound need for sleep.

Now, that was just a basic introduction, let's take a closer look at the adverse effects of not getting enough shuteye.

1) Sleepiness Can and Does Cause Accidents: Studies show that sleep loss and poor-quality sleep also lead to accidents and injuries on the job. In one study, workers who complained about excessive daytime sleepiness had significantly more work accidents, particularly repeated work accidents. They also had more sick days per accident.
2) Sleep Loss Reduces Cognition. In other words, it dumbs you down. It impairs attention, alertness, concentration, reasoning, and problem solving. This makes it more difficult to learn efficiently.
3) Puts you at a higher risk for chronic diseases.
4) Depression! Lack of sleep can actually, over time, lead to depression. Often, Insomnia and Depression go hand in hand. And often, treating one of them leads to the other going away on its own.
5) It can Make you look and feel older! Most people have experienced sallow skin and puffy eyes after a few nights of missed sleep. But it turns out that chronic sleep loss can lead to lackluster skin, fine lines, and dark circles under the eyes. When you don't get enough sleep, your body releases more of the stress hormone cortisol. In excess amounts, cortisol can break down skin collagen, the protein that keeps skin smooth and elastic.Sleep loss also causes the body to release too little human growth hormone. When we're young, human growth hormone promotes growth. As we age, it helps increase muscle mass, thicken skin, and strengthen bones.
6) Lack of sleep can contribute to increased forgetfulness: In 2009, American and French researchers determined that brainevents called "sharp wave ripples" are responsible for consolidating memory. The ripples also transfer learned information from the hippocampus to the neocortex of the brain, where long-term memories are stored. Sharp wave ripples occur mostly during the deepest levels of sleep.
7) Losing shuteye can make you tip the scales! When it comes to body weight, it may be that if you snooze, you lose. Lack of sleep seems to be related to an increase in hunger and appetite, and possibly to obesity. According to a 2004 study, people who sleep less than six hours a day were almost 30 percent more likely to become obese than those who slept seven to nine hours. Recent research has focused on the link between sleep and the peptides that regulate appetite. Not only does sleep loss appear to stimulate appetite. It also stimulates cravings for high-fat, high-carbohydrate foods. Ongoing studies are considering whether adequate sleep should be a standard part of weight loss programs.
8) Sleep loss impairs judgment, specifically about sleep: studies show that over time, people who are getting six hours of sleep, instead of seven or eight, begin to feel that they've adapted to that sleep deprivation -- they've gotten used to it, but if you look at how they actually do on tests of mental alertness and performance, they continue to go downhill. So there's a point in sleep deprivation when we lose touch with how impaired we are.

So, now, the question to ask is, what do we do? In a world, ever growing in its demands, with time running out on us every day, what do we do? The answer after going through the list I've compiled above, is glaringly obvious to me. Regardless of what goes on in life, except for periods of extreme duress, we should preferable aim for at least 6-7 hours of sleep in a day, just to keep us functioning at a healthy optimum.

Original Article

Transfusion in Ortho Trauma Patients

Evaluation of Albumin, Fibrinogen Levels with Orthopedics Traumatic Patients' Outcome after Massive Transfusion in Tertiary Care Hospital at Peshawar

Mohammad Tariq Ijaz Afridi[1], Muhammad Sadiq[2], Mohammad Irfan Shereen[4], Asnad[3] and Mohammad Adnan Shereen[5]

ABSTRACT

Objective: Objective of study was assessment of fibrinogen and albumin levels association with orthopedics traumatic patients' outcome who received massive transfusion

Study Design: Observational / cross sectional study.

Place and Duration of Study: This study was carried out at orthopedic department of a tertiary care Hospital, Peshawar from March 2014 to July 2015

Materials and Methods: In all patients, the initial resuscitation was performed as soon as admitted to the emergency room. Blood samples were obtained at admission and after 24 h. Part of the serum was frozen and stored at -70°C for determination of fibrinogen and albumin by an immunoturbidometric assay. Electrolytes, hemoglobin, and hematocrit levels were measured on admission. For early restoration, normal saline or ringer was used, clinical events were recorded thereafter until death or hospital discharge.

Result: We were studied forty six traumatic patients with severe limb injuries and result showed that 20 patient (41.3%) and 27 (58.7%) were alive. There was significant difference outcome observed in fibrinogen level after 24 h and in case of albumin levels, there was no significant difference observed.

Conclusions: When orthopedics traumatic patients received massive transfusion, fibrinogen level play significant role in determination of these patients, while serum albumin is not important factor.

Key Words: Albumin, coagulopathy, fibrinogen, massive blood transfusion

Citation of article: Afridi MTI, Sadiq M, Shereen MI, Asnad, Shereen MA. Evaluation of Albumin, Fibrinogen Levels with Orthopedics Traumatic Patients' Outcome after Massive Transfusion in Tertiary Care Hospital at Peshawar. Med Forum 2016;27(5):2-5.

INTRODUCTION

Serum albumins are globular proteins which are soluble in water and less soluble in salt solution. Albumin are not glycosylated like other blood plasma proteins. Albumin containing substance is called albuminoids, such as egg white. It is transport protein.[1-3] In blood plasma, serum albumin is important protein.[4] It binds water and biomolecules (bilirubin, thyroxine (T4), cations , hormones, pharmaceuticals and fatty acids,), colloidal osmotic pressure is also maintained by albumin.

[1.] Department of Orthopedics surgery, Jinnah Medical College, Peshawar.
[2.] Department of Pathology / Biochemistry[3], MBBS Medical College, Mirpur AJ&K
[4.] Department of Physiology / Microbiology[5], Khyber Medical University, Peshawar

Correspondence: Dr. Asnad, Assistant Professor, Department of Biochemistry, MBBS Medical College, Mirpur AJ&K
Contact No.: 0332-3698204
E-mail: drasnadkhan@gmail.com

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Vitamin D and its metabolites are bind with Vitamin D-binding protein as well as to fatty acids. The there is isoelectric point[4,9] for albumin. Serum albumin is synthesized in liver and which further synthesized large proportion of all plasma protein. Serum albumin is 50% of human plasma protein.[7] For maintaining the oncotic pressure, serum albumin control blood volume (also known as colloid osmotic pressure).[7] They also Serum albumin play as carriers for molecules of low water solubility. It is also carrier for (lipid-soluble hormones, bile salts, phenobuta-zone, unconjugated bilirubin, apoprotein, clofibrate & phenytoin ,calcium, ions, and some drugs like warfarin) Blood clots are formed due to fibrinogen in human and it is glycoprotein. Three nodules held together to form fibrinogen by a very thin thread and its diameter between 8 and 15 Angstrom (Å). The fibrinogen molecule is converted into fibrin during clot synthesis. Shape is rod-like with dimensions of 9 × 47.5 × 6 nm and at physiological pH (IP at pH 5.2) showed negative charge. Hepatocytes are formed fibrinogen in liver .[6] Afibrinogenemia or disturbed function of fibrinogen is mentioned in a some cases.[7] Without pathological result it cause either thromboembolic complications or bleeding . More common are acquired deficiency stages

that can be detected by laboratory tests in blood plasma or in whole blood by means of thrombelastometry.[8] After hemodilution, in trauma patients and blood losses are caused acquired deficiency and also in sepsis, during some stages of disseminated intravascular coagulation (DIC), deficiency of fibrinogen patient , by infusion of fresh frozen plasma (FFP) the correction of bleeding is possible, cryoprecipitate by fibrinogen concentrates. There is increasing report in patients with bleeding that correction of fibrinogen deficiency or fibrinogen synthesis disorders are very important.[9]

Prevalence of death due to Trauma is higher in young age. Causes of large number of death are[10] Hemorrhagic shock and exsanguinations, accounting for more than 80% of deaths in the operating room and after injury nearly 50% of deaths in the first 24 h.[11,12] According latest study, trauma patients need massive transfusion not less than 5% of civilian patient after admissions [10,11] Main complications are coagulation defects in trauma patients .[12,13] Consumption of clotting factors with major blood lose and controlling blood pressure after administration of colloids and crystalloids for platelets and dilutional coagulopathy are linked with coagulation.

Fibrinogen is also a positive acute-phase protein whose level reportedly increases in inflammatory disease, infection, or tissue damage.[13] The trauma coagulopathy is associated with patients mortality.[14] Also during severe trauma, the most typical changes included a depressed muscle protein synthesis, an increased synthesis of total liver proteins and positive acute-phase proteins, and decreased synthesis of negative acute-phase proteins like albumin.[15] Aim of this study was evaluation of fibrinogen and albumin levels and their association with orthopedics traumatic patients' outcome who received massive transfusion.

MATERIALS AND METHODS

In all patients, the initial resuscitation was performed as soon as admitted to the emergency room. Blood samples were obtained at admission and after 24 h. Part of the serum was frozen and stored at -70°C for determination of fibrinogen and albumin by an immunoturbidometric assay. Electrolytes, hemoglobin, and hematocrit levels were measured on admission. For early restoration, normal saline or ringer was used, clinical events were recorded thereafter until death or hospital discharge.

Statistical analysis: Descriptive statistical method (frequency, percentage), mean ± standard deviation, and Statistical Packages for Social Sciences (SPSS), version 17 for Windows software were used to statistically analyze the data. Comparison of variable changes between two patients' outcome was used by independent t-test. Regression model was used to determine the role of variables on patients' outcome. In this study, $P < 0.05$ was regarded meaningful.

RESULTS

We were studied forty six traumatic patients with severe limb injuries and result showed that 20 patient (41.3%) and 27 (58.7%) were alive. There was significant difference outcome observed in fibrinogen level after 24 h and in case of albumin levels, there was no significant difference observed.

In final outcome of traumatic patients regression model showed significant role who received massive transfusion odds ratio 0.48, 95% confidence interval 0.15–0.92, P = 0.02). Result showed in table 1, 2 & 3

Table No.1: Comparison of hemoglobin and clinical finding between two groups of traumatic patients (dead and alive)

Parameters	Dead Patients N=20	Alive patients N=26
Age	37. 4 ± 10.9	38.3 ± 9.9
ISS Score	26.9 ± 1.3	27.9 ± 1.2
Hemoglobin g/d	9.2 ± 1.4	9.2± 0.9

ISS: injury severity score

Table No.2: Comparison of fibrinogen and clinical finding between two groups of traumatic patients (dead and alive)

Parameters	Dead Patients N=20	Alive patients N=26
Age	37. 4 ± 10.9	38.3 ± 9.9
ISS Score	26.9 ± 1.3	27.9 ± 1.2
Fibrinogen at admission g/dl	45.9 ± 11.9	47.1 ± 11.3
Fibrinogen after 24 h g/dl	125.2 ± 19.1	86.3 ± 13.9

ISS: injury severity score

Table No.3: Comparison of albumin and clinical finding between two groups of traumatic patients (dead and alive)

Parameters	Dead Patients N=20	Alive patients N=26
Age	37. 4 ± 10.9	38.3 ±v9.9
ISS Score	26.9 ± 1.3	27.9 ± 1.2
Albumin at admission g/dl	33.2 ± 1.7	33.9 ± 2.1
Albumin after 24 h g/dl	32.3 ±1.9	32.9 ± 2.2

ISS: injury severity score

DISCUSSION

Massive bleeding leads to loss, consumption, and dilution (by volume therapy) of coagulation factors.[16] The first factor critically decreased is fibrinogen.[17] The aim of any hemostatic therapy is to minimize blood loss and transfusion requirements. Morbidity and mortality are increased with increased transfusion in traumatic patients .[17,18] With coagulopathy, mortality is virtually quadrupled with similar injury severity patient. [17]

Massive transfusion is associated with impair coagulation in multiple trauma patients .[17,18] In the study by Stinger et al.,[19] Those patient received massive transfusion fibrinogen levels was significantly increased . Mortality is linked with fibrinogen levels .[19] Georg et al.,[20] Higher rates of survival is linked with higher plasma fibrinogen level .[20] New study showed that Pri- and postoperative bleeding, fibrinogen level of 150-200 mg/dl is also higher [20] A high fibrinogen play role in case of loss high blood amount as protective effect, we were given to priority to administer fibrinogen concentrate correction in multiple trauma patients of incorrect fibrin synthesis [21]The critical threshold was suspected at a level below 100 mg/dl as shown by Hiippala et al.[22] Myburgh[23] showed that no evidence of any survival benefit associated with resuscitation with hyperoncotic albumin. In our study, like previous studies fibrinogen levels are important role in determining the final outcome for trauma patients. Although in medical literature, various factors such as severity of injury, age, and hemoglobin level has shown to be effective in patient mortality.[24] However, in our study, both patients groups were similar and provided high reliability. Unlike studies [15] that have been conducted in patients with head trauma, albumin concentration did not play a role for prediction in patients with limb injuries after receiving massive transfusion.

CONCLUSION

When orthopedics traumatic patients received massive transfusion, fibrinogen level play significant role in determination of these patients, while serum albumin is not important factor.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Systemic Profile in Psychiatric Patients

Blood Glucose, Cholesterol, Body Mass Index and Systemic Blood Pressure in Psychiatric Patients Attending a Tertiary Care Hospital of Sindh

Ghulam Murtaza Kaka[1], Syed Jamil Hussain[2] and Fahad ul Zain[3]

ABSTRACT

Objective: The present observational study was conducted to determine the blood glucose, body mass index, blood pressure and serum cholesterol in psychiatric patients.
Study Design: Observational study.
Place and Duration of Study: This study was carried out at Psychiatric Clinic, Department of Medicine, Indus Medical College, Tando Muhammad Khan, Sindh from June 2014 to January 2016.
Materials and Methods: A sample of 275 new cases suffering from different Psychiatric disorders was selected. Diagnosis of Psychiatric disorders was made by a consultant Psychiatrist. Body weight, height and systemic blood pressure were measured by standard methods. Willing participants were asked to sign a proforma of consent for ethical issues. Data was entered on excel sheet and copied to the SPSS 22.0 for statistical analysis. Analysis was performed at P value of ≤ 0.05.
Results: Mean ± SD age was noted as 47± 11.97 years (p = 0.02). Male to female ratio was 1.83 vs. 1.0 (p=0.0001). BMI ≥ 30 was noted in 26.5% of subjects. Of 275 study subjects, normal blood glucose was noted in 79.6% while 20.3% of psychiatric patients showed raised blood glucose levels. Normal and raised blood cholesterol was noted in 65.09% and 34.9% respectively. Psychiatric disorders were correlated with blood glucose and blood cholesterol levels.
Conclusion: Psychiatric disorders are a risk factor for raised blood glucose, blood cholesterol, BMI and Systemic hypertension; this predisposes patients for diabetes mellitus and associated morbidities.
Key Words: Psychiatric disorders, Blood glucose, Blood cholesterol

Citation of article: Kaka GM, Hussain SJ, Zain F. Blood Glucose, Cholesterol, Body Mass Index and Systemic Blood Pressure in Psychiatric Patients Attending a Tertiary Care Hospital of Sindh. Med Forum 2016;27(5):6-9.

INTRODUCTION

Psychiatric disorder is a clinically significant behavioral or psychological syndrome that occurs in an individual. These are usually associated with distress or disability or with a significantly raised risk of death, pain, disability or an important loss of freedom. In addition, this Psychiatric disorder must not be merely an expectable and culturally sanctioned response to a particular event such as death of close loved one family member. Irrespective of whatever the cause, a Psychiatric disorder is considered a manifestation of a behavioral, psychological, or biological dysfunction in an individual[1,2].

Chronic stress of psychiatric disorders may be associated with metabolic disorders, collectively known as the metabolic syndrome. This occurs because of hormones of stress in particular the glucocorticoids which are anti insulin hormones and put the patient at risk. Metabolic syndrome is a collectively gathered risk factors for some diseases such as cardiovascular disease (CVD) and type 2 diabetes (DM). Metabolic syndrome includes any three of the five components necessary for the diagnosis: elevated waist circumference, blood pressure, serum triglyceride and blood glucose and cholesterol[3,4].

Previous studies indicated 43% and 46% prevalence of metabolic syndrome in Psychiatric disorders [5,6]. Incidentally, people with psychiatric diseases such as schizophrenia have lower life expectancy compared to those without mental illness and those with coronary artery diseases[7]. 19. 6%, 42.4%, 12.3%, and 8.5% of schizophrenia, schizoaffective psychosis, relapsing depression, and bipolar affective disorder, respectively, are reported suffering from metabolic syndrome[8, 9]. Studies on patients with severe mental stress have shown that male and female schizophrenic patients have 138% and 251% more chance of having metabolic syndrome than general populations[10]. More prevalence of metabolic syndrome in these subjects may be related to the disease itself, antipsychotic drug therapy, obesity, dietary fats, low physical activity, and active smoking[11]. Patients with

1. Department of Physiology / Psychiatry[2], Indus Medical College, Tando Muhammad Khan, Sindh
3. Department of ___, LUMHS, Hyderabad

Correspondence: Dr. Ghulam Murtaza Kaka,
Assistant Professor Physiology,
Indus Medical College, Tando Muhammad Khan, Sindh
Contact No.: 0334-2995071
E-mail: drghulammurtazakaka@gmail.com

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severe mental illness die earlier than the general population[4]. In developed countries, psychiatric symptoms such as irritability, suicidal ideas, anxiety, depression, and cognitive problems have been widely reported among diabetes mellitus (DM) patients [12, 13]. In Pakistan, where a rising incidence of DM has been noted, the disease poses high socio-economic burden. DM is significantly associated with anxiety, worries and psychological problems[14].

The frequency of metabolic problems among psychiatric patients remains a neglected topic in Pakistan. The present study aimed to determine the blood glucose, body mass index, blood pressure and blood cholesterol among patients with psychiatric disorders reporting at tertiary care hospital of Indus Medical College, Tando Muhammad Khan, Sindh.

MATERIALS AND METHODS

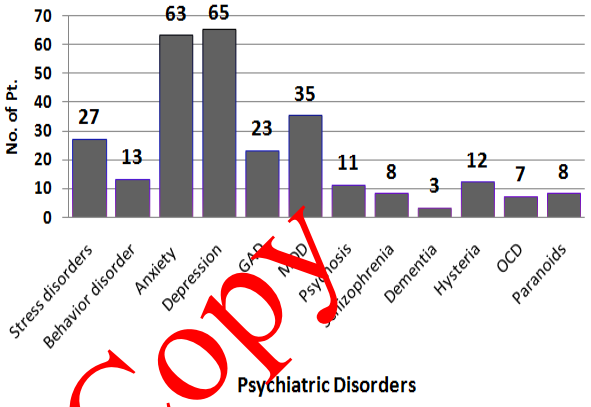
The present observational study was conducted at the Psychiatric clinic, Department of Medicine, Indus Medical College, Tando Muhammad Khan, Sindh from June 2014 to January 2016. A sample of 275 new cases of different Psychiatric disorders was selected. Age of 20 – 80 of both genders was included. Subjects suffering from major systemic disorders were excluded from study protocol. Diagnosis of Psychiatric disorder was made a consultant Psychiatrist. Body weight, height and systemic blood pressure were measured per standard criteria. Subjects were communicated for entry into study for their willingness to participate. Body mass index was calculated by kg/m^2 formula. BMI ≥ 30 kg/m^2 was taken as obesity and < 30 kg/m^2 was taken as normal. Blood pressure was defined according to JNC VIII criteria. Normal BP was defined ≤120 and 80 mmHg. Willing volunteers were informed about the advantages, disadvantages, loss and benefits of study. Volunteers were informed if they feel any problem they can withdraw from study without any information. Only willing participants were asked to sign a proforma of consent. Institutional ethical permission was taken. Ante cubital vein was selected preferably for the collection of blood samples after aseptic measures. Colorimetric assay method was employed for blood cholesterol on the Roche Chemistry analyzer. Glucose oxidase method was used for the detection of blood glucose. Blood pressure was measured by a mercury sphygmomanometer. Data was entered on excel sheet and copied to the SPSS 22.0 for statistical analysis. Student t test and Chi square test were used for the numerical and categorical variables. Analysis was performed at P value of ≤ 0.05. Microsoft excel sheet was also used for graphing.

RESULTS

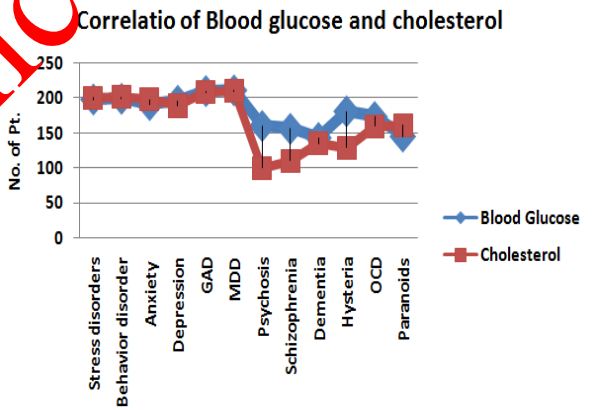
Age, BMI, Systemic blood pressure, blood glucose and cholesterol are shown in table I. Mean ± SD age was noted as 47± 11.97 years (p = 0.02). Most common age category belonged to 4th decade as shown in table 2.

Table No.I: Characteristics of study population (n=275)

	Mean	SD	t-value	p-value
Age	47	11.97	14.9	0.02
BMI (kg/m^2)	27	7.8	13.2	0.04
Blood Pressure (mmHg)	131	29.3	14.3	0.004
▪ Systolic BP	89	11.5	10.9	0.003
▪ Diastolic BP				
Blood glucose (mg/dl)	189	56.7	21.33	0.0001
Cholesterol (mg/dl)	187	47.9	31.2	0.0005



Graph No.1: Bar graph showing frequency of Psychiatric disorders



Graph No.2: Line graph showing correlation of blood glucose and Cholesterol with Psychiatric disorders

Male predominated in present study. Male to female ratio was 1.83 vs. 1.0 (178 vs. 97) (p=0.0001). BMI ≥ 30 was noted in 26.5% of subjects. Systemic high blood pressures categorized as pre hypertension, stage 1 and 2 hypertension are shown in table II. Of 275 psychiatric subjects, normal blood glucose was noted in 79.6% and was raised in 20.3%. Similarly blood cholesterol as normal and elevated was noted in 65.09% and 34.9% respectively. Frequency of different psychiatric disorders is shown in table 2 and graph 1. Most common disorder noted were depression, anxiety, and MDD respectively. Stress disorders, behavioral disorders, anxiety, depression, GAD, and MDD showed positive correlation with blood glucose and blood

cholesterol levels as shown in graph 2. None of patient knew about their blood glucose and blood cholesterol levels in present study.

Table No.2: Characteristics of study population (n=275)

Parameter	No.	%	Chi value (X2)	p-value
Age				
· 20-29.9	37	15.1	11.09	0.002
· 30-39.9	83	30.1		
· 40-49.9	71	25.8		
· 50-59.9	63	22.9		
· ≥60	21	7.6		
Gender				
· Male	178	64.7	34.5	0.0001
· Female	97	35.2		
BMI (kg/m^2)				
· <18.5	56	20.3	35.7	0.0001
· 18.5 to 24.9	45	16.3		
· 25.0 to 29.9	101	36.7		
· ≥30	73	26.5		
Blood Pressure (mmHg)				
· Normal	117	42.5	45.7	0.0001
· Prehypertension	82	29.8		
· Stage 1 hypertension	37	13.4		
· Stage 2 hypertension	39	14.1		
Blood glucose (mg/dl)				
· Normal	219	79.6	56.3	0.0001
· Elevated	56	20.3		
Cholesterol (mg/dl)				
· Normal	179	65.09	46.1	0.0001
· Elevated	96	34.9		
Psychiatric disorders				
· Stress disorders	27	9.8	32.9	0.0001
· Behavior disorder	13	4.7		
· Anxiety	63	22.9		
· Depression	63	23.6		
· GAD	23	8.3		
· MDD	35	12.7		
· Psychosis	11	4		
· Schizophrenia	8	2.9		
· Dementia	3	1.09		
· Hysteria	12	4.3		
· OCD	7	2.5		
· Paranoids	8	2.9		

DISCUSSION

Our study showed frequency of elevated blood glucose, blood cholesterol, BMI and Systemic high blood pressure in 20.3%, 34.9%, 26.5% and 57.4% respectively as shown in table II. Our findings of blood glucose, blood cholesterol, BMI and systemic hypertension point towards the presence of metabolic syndrome in psychiatric patients. High blood glucose and blood cholesterol of 20.3% and 34.9% in present study is in keeping with previous studies.[1,4] Kamkar et al[4] has reported prevalence of 20.6% of metabolic syndrome in psychiatric patients in a study reported from Gorgan. Male population predominated in present study 64.7% compared to 65.2% reported by Olatunbosun[1], our finding is consistent. This is due to the fact that our society is male dominant. These days male are suffering more stress, anxiety and depression because they are the bread earners of family and are under stress all the time. In present study, elevated blood glucose levels were noted in 20.8% (n = 56) compared to 12.8% (n = 32) as cited.[1] Our finding of raised blood glucose levels is consistent to above cited study. The finding is also in agreement to a previous study reported by Codami et al[15]. Codami et al reported 10.2% (n = 82) diabetes mellitus (DM) out of total 800 psychiatric patients studied[15]. Frequency of DM is 2- 8 times more in psychiatric patients compared to general population.[16-18]

Female patients showed a frequency of 3.8% in present study which is comparable to previous study cited[1] who reported 4.0% frequency of DM among female in their study.

A previous study reported male were suffering more from DM contrary to female counterparts.[19] Finding of above study is in agreement to the present study as shown in table II. Mean age of present study is also consistent to previous studies which have reported same age group[1, 19]. A previous study from United States reported DM in psychiatric patients as a predictor of loss of productivity and economy[20]. In present study most of study subjects were not old, belonged to 4th decade and this is an indicator of loss of productivity and economy similar to above study. Table I and graph 1 shows the frequency of different psychiatric disorders. Most common disorder noted were depression, anxiety, and MDD respectively. Psychiatric disorders are summarized in graph 1. Stress disorders, behavioral disorders, anxiety, depression, GAD, and MDD showed positive correlation with blood glucose and blood cholesterol levels as shown in graph 2. Our findings are in contrast to Codami et al[15] where schizophrenia was prevalent, but frequency of psychiatric disorders is similar to other previous study[1,19,21]. Disturbed blood glucose and blood cholesterol are mediated through release of stress hormone, sedentary life style, physical inactivity and obesity which are established risk factors for glucose impairment[22]. Disturbed blood glucose and cholesterol was observed in 2.9% of Schizophrenics which is in agreement to Ryan et al[23] who reported 3.6% frequency of DM in schizophrenics. Four diabetic patients (1.6%) were found to have dementia in this study. Stress disorders, behavioral disorders, anxiety, depression, GAD, and MDD showed positive correlation with blood glucose and blood cholesterol levels as shown in graph 2. Above findings are in keeping with previous studies.[24, 25]

CONCLUSION

The present study concludes that the Stress disorders, behavioral disorders, anxiety, depression, GAD, and MDD are risk factors for raised blood glucose, blood cholesterol, BMI and Systemic hypertension. Raised blood glucose and blood cholesterol point towards metabolic syndrome and a predisposition of future diabetes mellitus and associated morbidities.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Dental Caries

Prevalence of Dental Caries Among the Patients Visiting Islam Dental College Hospital Sialkot

Sadia Rashid[1], Muhammad Rizwan[2], Rana Modassir Shamsher Khan[3] and Khawaja Rashid Hasan[4]

ABSTRACT

Objectives: This study was designed to find out the occurrence of dental caries among the patients visiting Islam Dental College Hospital Sialkot.

Study Design: Observational / descriptive / cross sectional study.

Place and Duration of study: This study was carried out at Islam Dental College Hospital, Sialkot from 1st September 2015 to 30th December 2015

Materials and Methods: The study consisted of Oral Examination of 1008 Patients (526 males and 482 females) in the diagnostic department. Dentition status and treatment need (WHO 1997) method was used to assess the caries of patients. Mouth mirror and probes were used to examine the patients.

Results: The results showed that there were 52% male and 48% females. Of the total patients seen, 44.4 % patients showed presence of dental caries which was higher in males ($p<0.05$), in the mandibular arch in both sexes and in posterior teeth compared to anterior teeth. In both the sexes, second molar teeth were affected more.

Conclusion: Present study shows that the dental caries a common disease affecting both male and female and more prevalent in posterior teeth compared to other teeth. Health professionals and dentists need to educate communities regarding the risk factors of dental caries and also give proper hygiene instructions.

Key Words: Prevalence, Dental Caries, Mandibular arch, Molar teeth.

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INTRODUCTION

Dental caries is the most prevalent chronic disease in the global scenario. Dental caries (DC) is a multi-factorial disease affecting the teeth in the oral cavity. It is a progressive, non-reversible disease showing alternating phases of de-mineralization and remineralization, if not stopped, leading to the destruction of teeth. It can be restricted in its early stages by timely diagnosis and proper treatment [1,2]. Due to its worldwide higher occurrence rate, it has been described as a 'pandemic' disease showing many untreated carious cavities leading to severe pain, distress and functional difficulties specially in children[3]. These untreated carious lesions, additionally, have a considerable impact on the general health of people which influences the social and economic wellbeing of communities[4].

[1.] Department of Physiology / Oral Pathology[2] / Orthodontics[3] / Dental Materials, Islam Dental College, Sialkot.

Correspondence: Dr. Muhammad Rizwan, Associate Professor and Head of Oral Pathology, Islam Dental College, Sialkot.
Contact No.: 0333-5435866
E-mail: dr_riz2000@hotmail.com

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It has been observed that untreated caries is more widespread in developing countries and Pakistan is a developing country with a rapid growth of urbanization[5]. Previous surveys of oral health indicate that Pakistan is classified as a low-caries country; with more than 50% of the 12 year olds being caries-free [7,8,9] and that the oral disease is equally prevalent in urban and rural areas 8. The age, sex, socio-economic status, race, geographical location, food habits and oral hygiene practices of patients show variable pattern and severity of prevalence of dental caries according to various studies[10,11,6.,16,25].

The purpose of this study was to assess that how many patients visiting Islam Dental College Hospital Sialkot were affected by dental caries.

MATERIALS AND METHODS

This cross sectional study of the patients having dental caries and visiting Islam Dental College hospital Sialkot was conducted during 1st September 2015 till 30th December 2015. There were 1008 patients, 526 male patient and 482 female patients, examined in the diagnostic department. Dental examination was carried out by 4 dental surgeons using Dentition Status and Treatment Need (WHO 1997) criteria. The patients were asked to rinse mouth thoroughly before examination and the teeth were dried with cotton swab. Mouth mirrors and ball-ended probes were used to

examine all the patients. The carious and cavitated lesions visible under room's tube lights and dental chair light were noted on specially designed assessment forms. A proportion test was applied for statistical analysis to compare the prevalence of dental caries among male and female patients, teeth (anterior or posterior) and jaw (maxilla or mandible). Oral health care instructions were given to all the patients and those who required treatment of affected teeth, they were referred to the concerned departments and treated accordingly.

RESULTS

The study consisted of 526 male patients and 482 female patients making 1008 patients all together.

Table No.1: Gender comparison.

Total no of patients seen	1008
Male patients	526 (52%)
Female patients	482 (48%)
Total patients affected with caries.	448 (44.4%)
Male patients affected with caries	250 (56%)
Female patients affected with caries	198 (44%)

Table 1 shows the prevalence of dental caries. 44.4 % Patients showed the presence of dental caries. Amongst the 1008 patients seen. The caries prevalence was higher in males, 250 (56%) than in females which was 198 (44%) and the difference was significant statistically (P<0.05)

Table No.2: Dental caries affecting Maxilla or mandible in both male and female patients.

Arches affected by caries	Mandible	Maxilla
Arches affected by caries	291 (65%)	157 (35%)
Males	170 (68%)	80 (32%)
Females	134 (67.7%)	64 (32.3%)

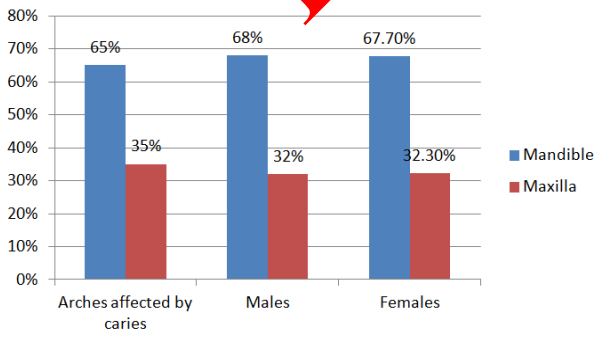

Figure No.1 Graphical presentation of Prevalence of dental caries in jaws (Arch wise prevalence)

Table 2 and Figure 1 show presence of dental caries in Maxilla and Mandible. Occurrence of Caries was more in mandible (40%) than maxilla (26%). The Male Patients showed a higher caries level of 38% in mandible than in maxilla (27%) and significant statistically (P<0.05). Similarly in females, caries was 34.5% in mandible compared to maxilla (22%) and P<0.01.

Table No.3: tooth wise prevalence of dental caries

Teeth affected with caries	Male patients	Female patients
Central Incisors	65	40
Lateral incisors	35	30
Canines	22	27
Premolars	198	185
1st molars	233	155
2nd molars	275	221

Table 3 Presents the tooth wise prevalence of dental caries. In both sexes, caries prevalence was higher in the posterior teeth than the anterior teeth and In both the sexes, second molar teeth were affected more.s

DISCUSSION

Dental caries is the most common chronic disease affecting the inhabitants of every geographic area in the world. The prevalence of dental caries has shown an increasing trend among all age groups including children. Its early recognition, diagnosis and treatment are of vital importance in order to prevent it to make oral health services more relevant in the health [12, 23].

From figure 1 it can be seen that among the study population, caries was more prevalent in males patients (56%) than in female patients (44%) and the difference was significant statistically (P<0.05) also indicating some sex predilection as reported by some studies [13,14,23].

Results of inter-arch comparison in figure 2 and figure 3, show that Caries was higher in mandible (65%) than maxilla (35%). Among males, the mandible showed a higher caries involvement of 68% than maxilla (32%) and significant statistically (P<0.05). similarly in females, caries was 67.7% in mandible compared to maxilla (32.3%) and difference was statistically significant (P<0.01) also seen in other studies by Sathe and Rizwan [15, 16, 24].

Figure 3 also presents that in both males and females patients, posterior teeth are affected more compared to the anterior teeth and among posterior teeth, mostly the second molar teeth are affected by caries as compared to other teeth. Similar finding has been observed by [17, 18,19, 20, 22, 24]. Dental caries affecting the posterior teeth, especially molars more, could be due to the fissure topography. The deeper pits and fissures especially in second molars allowing food and bacterial accumulation resulting in more dental caries [17, 21].

CONCLUSION

Present study shows that the dental caries a common disease affecting both male and female and more prevalent in posterior teeth compared to other teeth. Health professionals and dentists need to educate communities regarding the risk factors of dental caries and also instruct prober brushing techniques. School and community level oral health programs should be organized to control and reduce dental caries.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Acute Scrotal Pain: A Two Year Prospective Cohort Study

Acute Scrotal Pain and its Treatment.

Muhammad Imran[1], Muhammad Asghar[2] and Tahir Iqbal Mirza[1]

ABSTRACT

Objective: To determine the cause of acute scrotal pain and its subsequent treatment.
Study Design: Prospective cohort study
Place and Duration of Study: This was carried out in Armed Forces Institute of Urology Rawalpindi and Combined Military Hospital Abbotabad from 1st Jan 2014 to 31st Dec 2015
Materials and Methods: A total of 116 patients who presented with acute scrotal pain were included in the study. Those presenting within six hrs and a history consistent with testicular torsion underwent urgent exploration. Those presenting with a history of more than six hours or within six hrs but clinically suggestive of testicular torsion underwent emergency Doppler ultrasonography before surgery.
Results: The occurance of different conditions were as follows: testicular torsion 10, torsion of appendix testis 02, Epididymo-orchitis 4, orchitis 10, trauma 12, infected hydrocele 12 ,strangulated inguinal hernia 3, and idiopathic scrotal pain 18. Mean age(in years) for testicular torsion was 13±5 for Torsion of appendix testis 16±8,and for epididymo-orchitis 50±22. Mean duration of symptoms(in hours) for testicular torsion was 10±4, torsion of appendix testis was 11±3 and epididymo-orchitis 18±14. During surgery for testicular torsion ,detorsion of the affected testis was done and bilateral orchidopexy was performed in 04 patients. Orchidectomy with orchidopexy of the contralateral side was done in 06 patients who had nonviable testis.
Conclusion: Acute scrotal pain is a common presentation. Our study concluded that in such cases colour doppler ultrasonography is important to reach a definitive diagnosis. The occurance of testicular torsion is very high in patients less than 18 years of age .Moreover if there is a clinically strong suspicion of testicular torsion then yield of immediate surgery is high, because delay in exploration proves detrimental to the efforts of salvaging the testis. Patients with epididymo-orchitis respond well to ciprofloxacin prescribed for two weeks.

Key Words: Acute scrotal pain, testicular torsion ,epididymo-orchitis

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INTRODUCTION

Acute scrotal pain is a common urological symptom presenting in the Emergency Room, which a general practitioner ,general surgeon and a urologist has to deal with. It is important that the diagnosis of the cause of scrotal pain should be established early because a misdiagnosis or delayed diagnosis can lead to irreversible damage to the testis[1]. The time of onset, age group, clinical presentation and ultrasongraphic findings are important factors which help in determining the cause of acute scrotal pain.Testicular torsion is an important differential diagnosis of acute scrotal pain. A prompt diagnosis of this condition is important to salvage the testis[2]. This two year study looks at the pattern of presentation of acute scrotal pain with the underlying cause and their subsequent treatment.

[1.] Department of Surgery / Urology[2], CMH Abbotabad.

Correspondence: Dr Muhammad Imran, Post Graduate Trainee, Department of General Surgery, CMH Abbotabad.
Contact No.: 0336-5006733
E-mail: imrangul915@gmail.com

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Operative definitions

Acute scrotal pain: Patients presenting with acute scrotal pain with not more than 48 hrs of duration

Testicular torsion: Ischemia of the testicle due to rotation along the longitudinal axis of the spermatic cord. Diagnosed on Doppler ultrasonography or peroperatively.[1,2]

Epididymo-orchitis : An inflammation of the epididymis and/or testis diagnosed with clinical findings and Doppler ultrasonography.[3]

MATERIALS AND METHODS

The study was conducted in Combined Military Hospital Abbotabad and Armed Forces Institute of Urology Rawalpindi from Jan 2014 to Dec 2015 . A total of 116 patients who presented with acute scrotal pain were included in the study

Exclusion criteria

1. History of pain duration more than 48 hours
2. History of inguinal repair within last one month
3. Pain lumbar region radiating to groin and scrotum

A thorough history of the patients who presented into the emergency reception (ER) with acute scrotal pain was taken .Those presenting within six hours and a

history consistent with testicular torsion underwent upfront exploration. Those presenting with a history of more than six hours or within six hrs but clinically not consistent with testicular torsion underwent emergency Doppler ultrasonography, followed by surgery where indicated. Sonography was done by a consultant radiologist. Surgical exploration was done by an experienced urologist.

RESULTS

Table No.1: Diagnosis in patients presenting with acute scrotal pain

Sr.	diagnosis	Occurrence	%age
1.	Testicular torsion	10	8.62%
2.	Torsion of appendix testis	02	1.72%
3.	Epididymo-orchitis	49	42.24
4.	orchitis	10	8.62%
5.	trauma	12	10.3%
6.	Infected hydrocele	12	10.3%
7.	Strangulated inguinal hernia	03	2.58%
8.	Idiopathic scrotal pain	18	15.5%

Table No.2: Causes of acute scrotal pain VS Age of patients (in years)

Sr No.	Diagnosis	Age in years
1.	Testicular torsion	13±5
2.	Torsion of appendix testis	16±8
3.	Epididymo-orchitis	50±22
4.	orchitis	23±13
5.	trauma	14±23
6.	Infected hydrocele	45±13
7.	Strangulated hernia	5±2
8.	Idiopathic scrotal pain	25±18

Table No.3: Duration of symptoms (in hours)

Sr no.	diagnosis	Duration of symptoms in hours
1.	Testicular torsion	10±4
2.	Torsion of appendicular testis	11±3
3.	Epididymo-orchitis	18±14
4.	orchitis	17±11
5.	trauma	9±6
6.	Infected hydrocele	27±15
7.	Strangulated hernia	5±4
8.	Idiopathic scrotal pain	22±13

The results showed that out of the total of 116 patients,54(46.55%) patients presented within 6 hours . 4 of these patients (7.4%) were diagnosed to have testicular torsion.45 (38.79%)patients were less than 18 years old,and 10 (22.2%) were diagnosed to have testicular torsion.26 (22.41%)patients presented within six hours and were less than 18 years old, too. Four (15.38%) of these patients had testicular torsion. Cremesteric reflex was absent in 23 patients,10 of which were diagnosed as testicular torsion while remainder were diagnosed as epididymo-orchitis. 16 patients underwent immediate surgical exploration on clinical suspicion of testicular torsion out of which 10(62.65%) had testicular torsion.02(12.5%) had torsion of appendicular testis and 04(25%) had no abnormal findings. During surgey, detorsion of the affected testis was done and bilateral orchidopexy was performed was performed in 04 patients. Orchidectomy with orchidopexy of contralateral testis was done in 06 patients who had non-viable testis.

In our study all patients suspected of having epididymo-orchitis underwent scrotal ultrasonography. Out of 49 patients diagnosed with epididymo-orchitis, three had epididymal abcess alongwith fever which were drained and given intravenous ciprofloxacin 400mg twice daily till the fever had settled. Then they were given oral ciprofloxcin for 02 weeks as outdoor patients .Those with mild epididymo-orchitis were given oral ciprofloxacin 500mg twice daily for 02 weeks[3]. All of the patients had complete recovery.

DISCUSSION

Acute scrotal pain is a common urological symptom presenting in the emergency reception[4]. An early diagnosis of the condition is important as it can influence the outcome to a great extent.[5]

Age of the patient and the duration of symptoms are important clues which can help us in diagnosis. Eaton et all concluded that bell clapper deformity was a significant finding in testicular torsion[5]. Adoloscent age is the most common age for testicular torsion. Mattias et al[6] found that the peak age for testicular torsion is 11 to 14 years.

In our study, the mean duration of symptoms was 13 hrs. Post operatively 06 (60%) torsed testis were found to be non viable. This shows that the late presentation of these patients with testicular torsion gives little room for testicular salvage

Mattias et al[6], Gunther P, et al[7] and other studies[8,9] demonstrated that Doppler ultrasonography was highly sensitive in diagnosing testicular torsion. In our study 06 patients who presented with a duration more than 06 hrs were diagnosed on Doppler ultrasonography. In retrospect there was no missed diagnosis of testicular torsion. Clapper bell deformity was found in all patients presenting with testicular torsion during surgical exploration

Only one patient (10%) eventually diagnosed with testicular torsion had a history of mild blunt trauma Trauma is an infrequently reported precipitant of testicular torsion, with incidence of only 5 to 6% , mostly affecting teenagers[10,11].

Cremesteric reflex was absent in all patients subsequently diagnosed with testicular torsion, but it

was also present in 06 cases later diagnosed to have acute epididymo-orchitis. Cremesteric reflex is a sensitive but not specific sign for testicular torsion.[12,13] Clinically it is very difficult to differentiate between testicular torsion and torsion of appendix testis[13]. In our study 16 of the cases explored for suspicion of testicular torsion, 02 had torsion of appendix testis (12.5%). Similar results have been seen in other studies[14,15].

Epididymo-orchitis is an important differential diagnosis of acute scrotal pain.Ultrasonography is important for the diagnosis to rule out epididymal abscess[16,17]. Doppler ultrasonography is very important in differentiating between testicular torsion and acute epididymorchitis.[18,19,20,21]

10 patients presented with testicular trauma but no clinical sign of testicular torsion or testicular fracture was evident. Strangulated inguinal hernia and infected hydrocele were diagnosed clinically and treated accordingly.

CONCLUSION

Acute scrotal pain is a common presentation. Our study concluded that in such cases colour doppler ultrasonography is important to reach a definitive diagnosis. The occurance of testicular torsion is very high in patients less than 18 years of age .Moreover if there is a clinically strong suspicion of testicular torsion then yield of immediate surgery is high, because delay in exploration proves detrimental to the efforts of salvaging the testis. Patients with epididymo-orchitis respond well to ciprofloxacin prescribed for two weeks.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Prevalence of Pityriasis Versicolor and its Association of Abo Blood Groups in OPD Patients of Islam Teaching Hospital Sialkot

Muhammad Naeem [1], Ansar Latif [2] and Sher Afgan [3]

ABSTRACT

Objective: The study was carried out to determine the prevalence of pityriasisversicolor and its association with ABO blood groups in out patients' department of Dermatology at Islam teaching hospital Sialkot.
Study Design: Prospective analytical.
Place and Duration of Study: This study was carried out the Department of Dermatology, Islam Teaching Hospital, Sialkot; from December 2012 to December. 2015.
Materials and Methods: All patients reporting to our OPD during a period of 3 years were included. The patients with mixed infections were excluded and those did not get their blood grouping and less than 3 months treatment & follow up were excluded from the study. All rashes were examined with wood's lamp. Skin scrapings were taken for KOH examination. Blood samples of all the patients were sent for blood group typing. Data of patients was analyzed using SPSS version 22.
Results: Out of 6423 patients attending skin OPD, 197 patients were diagnosed as having Pityriasis versicolor; only 170 patients fulfilled the inclusion criteria. Male to female ratio 71: 29. Most of the patients fell in age group 15-50 years. Commonest rash was in multiple areas while followed by Upper trunk only. The prevalence of pityriasisversicolor was more with blood group B and O.
Conclusion: The pattern of distribution of rash is most commonly mixed while upper trunk involvement is next in our patients. The study depicts strong association of Pityriasis Versicolor with blood group B and O.

Key Words: Tinea versicolor; Dermatophytes; Malassezia furfur; Essential oils

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INTRODUCTION

In 1846, Eichsedt discovered Versicolor as fungal disease. Later, it was renamed as Microsporum Furfur by Robin. Malassez noted "spores" in 1853 and Baillon (1889) termed it as Malassez Furfur. Sabouraud, Castellani and Chalmers later used the genus name as Pityrosporum ovale. Gordon (1951) discovered a yeast and named it Pityrosporum orbiculare. Rashes like macules as varied pigmentations, dark brown or erythematous patches amongst the normal skin are presentation of Pityriasis versicolor[1]. Most commonly, back, abdomen, chest wall and upper limbs are involved. In children, face and forehead with hypo pigmented rash is affected.

1. Department of Dermatology. Islam Medical College, Sialkot.
2. Department of Surgery, Khawaja Muhammad Safdar Medical College, Sialkot.
3. Department of Dermatology, Allama Iqbal Memorial Teaching Hospital, Sialkot.

Correspondence: Dr. Muhammad Naeem, Assistant Professor of Dermatology. Islam Medical College, Sialkot.
Contact No.: 03018610194
E-mail: ansarlatif2013@gmail.com

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Less common areas involved are penis, genitalia, lower limbs, fore arms, knee and axillary pits[2]. Higher temperatures and higher humid areas of the world is the distribution of this disease; but the frequency varies and socio- economic and occupational factors also affect its occurrence. Transmission may be hereditary[3].

Caused by a yeast; Pityriasis versicolor is a benign and non-contagious rash which presents as colour changes due to presence of Malassezia Furfur that is a fungus in normal skin flora (also called pityrosporum). The population which is susceptible; the germ multiplies on skin and a rash presents. This infection seems to be triggered by humid and hot sunny climate. The treatment clears the rash. Susceptible people require regular treatment to avoid recurrence. Two morphologicalforms i.e. one ovoid and the other spherical, in which the germ is called Pityrosporum ovale and Pityrosporum orbiculare respectively[4,5,6]. Other names are tinea versicolor, dermatomycosis furfuracea and tinea flava. It is more common in the tropics. Evidence shows that Pityriasis versicolor is common in children[7,8,9,10]. There seems a strong association of ABO blood groups with the disease; and some studies in different regions were carried to see this relationship. No study in this regard is available from this region; so we wanted to study the prevalence of association of ABO blood groups in our patients.

MATERIALS AND METHODS

All patients reporting to our OPD during a period of 3 years were included. The patients with mixed infections were excluded and those did not get their blood grouping and 3 months treatment follow up were excluded from the study.

All rashes were examined with wood's lamp. Skin scrapings were taken for KOH examination. Blood samples of all the patients were sent for blood group typing. Data of patients was analysed using SPSS version 22.

RESULTS

Table No. I: General Data

Total patients attending OPD	6423
Diagnosed cases of Pitryasis Versicolor	197
Patients included in the study	170 (100%)
Age	1-15 years : 6(31.70%) 15-50 years : 148(58.53%) >60 years: 16(9.75%)
Sex (m : f)	(115:55) (70.8%:29.2%)

Table No.2: Association of Tinea. versicolor with ABO (n=170)(100%)

	Group A	Group B	Group O	Group AB
Females	4 (2.35%)	28 (16.47%)	14 (8.23%)	9 (5.29%)
males	9 (5.29%)	57 (33.52%)	28 (16.47%)	21 (12.35%)
Total	13 (7.64%)	85 (50.00%)	42 (24.70%)	30 (17.64%)

Table No.3: Distribution of lesions n=170 (100%)

Upper Trunk	45(26.47%)
Axillae	9(5.29%)
Face	7(4.11%)
Scalp	6(3.52%)
Groin/genitalia	6(3.52%)
Multiple areas	97(57.05%)

DISCUSSION

Scientists have studied relationship between ABO blood groups and different diseases. In Hansen disease or leprosy, Beigulman[11] studied the frequency of population with blood group O was more in patients of tuberculoid leprosy than lepromatous leprosy. Derensiki[12] observed higher incidence of coccidiomycosis in individuals from blood group B. Robinson[13], Socha& Kaezeria[14] reported the population with B group present gram negative infections with more frequency than other groups. Alkhafajiii[15] observed that 540.9% of patients having recurrent furunculosis by Staph aureus had blood group O followed by 22.7% having blood group B. Young & Roh[16] described identical features between trichophytonrubrum, trichophytonmentagrophytes and E. Floccosum cell wall proteins with that of types 5A1 and A2 human erythrocytes isoantigens which is suggestive of crossreactivity, would turn blood group A individuals more prone to chronic dermatophyte infections.

Alkhafajii and Alhasanawei 2014 studied the incidence of different dermatophytes in different ABO blood group patientsof Iranian population . The blood groups of 600 individuals of normal population were as follows: blood group A 22.7, O 27, AB 25. 4 , B 22. 3. In this study there is statistically significant ratio of cases of dermatophyte infections in patients of blood groups A and O including Tinea versicolor

CONCLUSION

The pattern of distribution of rash is most commonly mixed while upper trunk involvement is next in our patients. The study depicts strong association of Pitryasis Versicolor with blood group B and O.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Renal Allograft Rejection

Renal Allograft Rejection: Role of Tc99m-DTPA Renal Scan

Shafiq Ur Rehman Cheema[1], Sidra Cheema[2] and Sajeel Ejaz[3]

ABSTRACT

Objective: Tc99m- diethylene triamine pentaacitic acid (DTPA) renal renography has been used to evaluate renal transplant function with variable results. In this study we compared the results of renal scan with biopsies of renal allograft to evaluate the ability of renography to differentiate acute rejection from other causes of allograft dysfunction including acute tubular necrosis (ATN) and medication toxicity.

Study Design: Observational / cross sectional study.

Place and Duration of Study: This study was carried out in the Hope Kidney Clinic, Texas, USA from January 1, 2011 to December 31, 2012

Materials and Methods: All renal transplant patients at Hope Kidney Clinic, Laredo, Texas, USA who had Tc99m-DTPA renal scan for elevated serum creatinine and subsequent biopsy within 48 hours were included. A total of eighteen patients underwent allograft biopsy. We tested the hypothesis that decreased flow and function would predict acute rejection and in other etiologies such as ATN normal flow with or without impaired function would be seen.

Results: Four of 9 patients (44%) with impaired flow and function on renography had acute rejection, three of which has vascular component. Four of 9 patients (44%) with normal flow with or without normal function had rejection, none of which has a vascular component.

Conclusion: Based on these findings, it was concluded that Tc99m-DTPA renography is neither sensitive nor specific for the detection of acute allograft rejection butTc99m-DTPA renography may be more sensitive for detecting rejections with vascular component as all of those in this study demonstrated.

Key Words: kidney transplantation; Tc99m-DTPA renography; acute graft rejection, and radionuclide imaging.

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INTRODUCTION

Although episodes of allograft rejection are very common with at least one acute rejection episode in 50-60% renal allograft recipients, diagnosis may be difficult without a biopsy. Nuclear medicine renal scan is commonly used methods in the evaluation of kidney allograft dysfunction[1-4]. Some of the other diagnostic tests used are clinical features, allograft ultrasound, serum renal function tests, MRI and renal biopsy. These investigations help in the recognition of sudden and chronic complications related to kidneytransplantation[5-7]. Nuclear medicine renal scans may show delayed visualization of kidneys. Only limited data is available to assess the role of nuclear scan in detecting acute renal allograft rejection.

[1.] Department of Nephrology / Pathology[2] / Medicine[3], CMH Lahore Medical College, Lahore.

Correspondence: Shafiq Ur Rehman Cheema, Department of Medicine, Division of Nephrology, CMH Lahore Medical College, Lahore.
Contact No.: 0311-2381111
E-mail: shafiqcheema@yahoo.com

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The main objective of this study was to assess the role of renal scintigraphy with ^{99m}Tc-DTPA in the diagnosis of acute renal allograft rejection, when compared to transplant kidney biopsy.

MATERIALS AND METHODS

All renal transplant patients at Hope Kidney Clinic, Laredo, Texas, USA who had A Tc99m-DTPA renography for elevated serum creatinine and subsequent biopsy within 48 hours were included. A total of eighteen patients underwent allograft biopsy over the study period of two years. Transplant recipients' ages ranged from 25 to 62 years with mean age of 47 year, 12 were males (67%) and 4 (23%) were recipients from diseased donors. Kidney biopsy specimens were reviewed by an renal histopathologist according to the Banff 97 classification (13), using a 0 – 3 + semi quantitative scale. We tested the hypothesis that decreased flow and function would predict acute rejection and in other etiologies such as ATN normal flow with or without impaired function would be seen.

Statistical Analysis: Following were calculated: sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV). Kidney biopsy was considered the gold standard for comparison.

Renal Scintigraphic Studies: Details of renal scan findings with normal, acute rejection and ATN are given under the discussion section of this article.

RESULTS

1-*Cases*: Four of 9 patients (44%) with impaired flow and function on renography had acute rejection (Mild=2, Moderate=2), three of which has vascular component. The median time between transplant to biopsy was 1.5 months (range 0.13-3.6).The other five patients had tissue diagnosis of ATN (n=2), thrombotic microangiopathy (n=1), cholesterol emboli (n=1) and chronic allograft nephropathy (n=1).

2-*Controls:* Four of 9 patients (44%) with normal flow with or without normal function had rejection (Mild=2, Moderate=1, Severe=1), none of which has a vascular component. The median time between transplant to biopsy was 5.8 months (range= 2.6-9.6).The other five patients had obstructive uropathy (n=2), Pyelonephritis (n=1), ATN (n=1) and chronic allograft nephropathy (n=1)

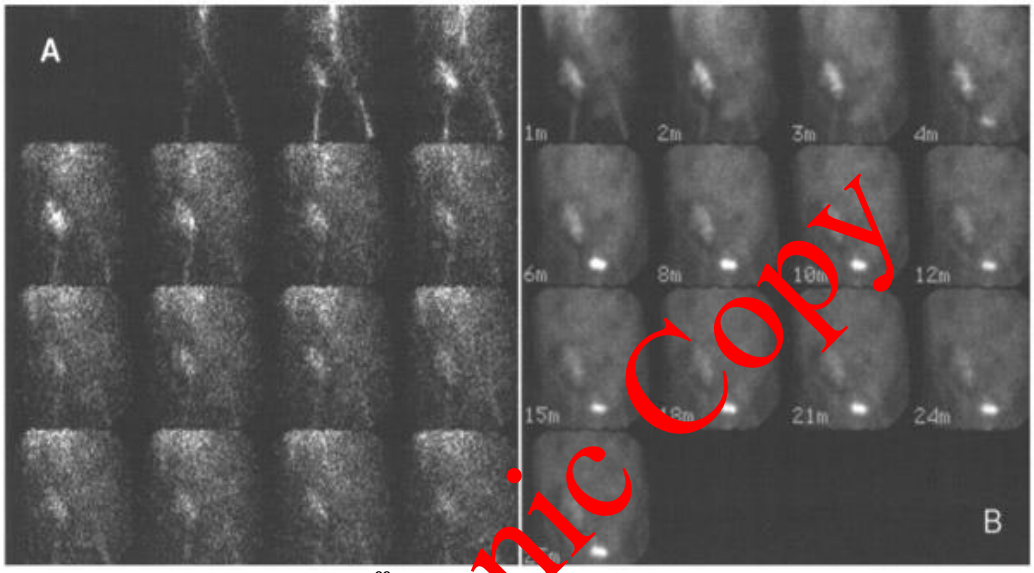

Figure No.1: Renal scientigraphic study with ^{99m}Tc-DTPA of a patient with acute tubular necrosis. A) Flow phase. Note the normal flow to the graft. B) Functional phase. There is mildly reduced accumulation of the radiotracer and moderate reduction of the concentration and excretion of the radiopharmaceutical. A rim of reduce drodioactivity is noted, peripheral to the kidney, peripheral to the kidney, mainly on its lateral border and is due to an hematama.

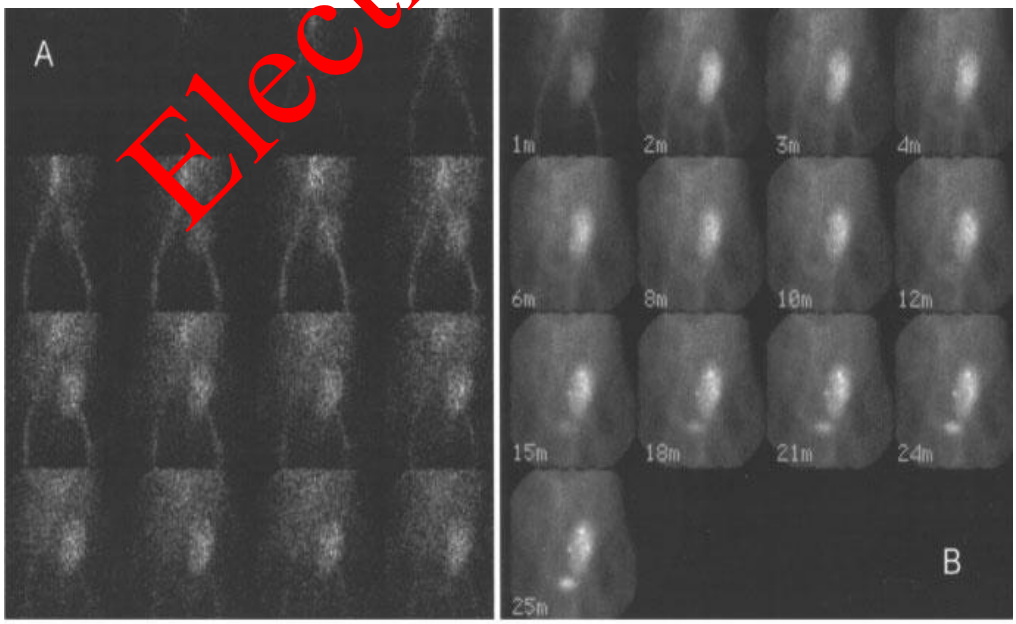

Figure No.2: Renal scintigraphic study with 99mTc-DTPA of a patient with acute rejection. A) Flow phase. Note the moderate reduction of the flow to the graft. There is moderately reduced accumulation, concentration and excretion of the radiotracer.

DISCUSSION

Our results showed Four of 9 patients (44%) with impaired flow and function on renography had acute rejection (Mild=2, Moderate=2), three of which has vascular component. So three out of 4 (75%) with vascular component on biopsy had findings consistent with rejection on renal scan. Our study showed lower sensitivity and specificity of renal scan in detection acute renal allograft rejection. The sensitivity, specificity, positive predictive value and negative predictive value of renal scan in detecting acute rejection was only 50%, 50%, 44% and 55% respectively.

Acute or chronic allograft rejection is a key issue in the follow-up of kidney transplanted recipients since it can cause kidney allograft failure. Several techniques used for the assessment of graft complications are designed for the early diagnosis of rejection. The most commonly used non-invasive methods are serum creatinine levels, glomerular filtration rates, Doppler sonograms, renal scintigraphy (mainly with ^{99m}Tc-DTPA or ^{99m}Tc-MAG_3), magnetic resonance imaging, and serum and immunologic markers. Kidney biopsy is considered the gold standard for accurate determination of kidney allograft dysfunctions.

Tc99m-DTPA renography plays a crucial role in the study of renal graft dysfunctions[8]. Routinely, ^{99m}Tc-DTPA or ^{99m}Tc-MAG_3 is used[9-11]. The nuclear medicine assessment of renal allograft involves detailed analysis of the 3 phases of renal scan: the flow phase, the functional phase and the excretion phase (4, 12).^{99m}Tc-DTPA can be extremely useful in the evaluation of dysfunctional kidneys, since it has a reasonable extraction rate and a low cost.

Kidney biopsy on the other hand is considered the gold standard for the detection of renal graft complications. But kidney biopsy is an invasive test with a higher morbidity when compared to non-invasive diagnostic tests such as nuclear renal scan. Kidney biopsy should be performed only when non-invasive procedures are indeterminate. The overall precision of kidney biopsy has been reported to be more than 90 %[13,14].

Renal allograft dysfunction can be evaluated with filtered or tubular secreted radiopharmaceuticals using a three-phase approach. The phase one assesses the perfusion and is also known as the angiographic phase or the first-pass study. The phase two reflects the physiologic mode of clearance of that radiopharmaceutical (i.e., filtered of secreted). The third phase is the excretory phase, which reflects the glomerular filtration rate (GFR) and permits an assessment of the integrity of the genitourinary system.

Classically, *acute rejection* appears on nuclear medicine ^{99m}Tc-DTPA as delayed transplant visualization (decreased perfusion) on the first-pass renal scintianogiography phase, with poor parenchymal uptake and high background activity (poor renal function and clearance) in the second and third phases. Transplant rejections may also be detected by a number of static imaging techniques.

On nuclear medicine imaging studies, *ATN* typically shows good renal perfusion on the first-pass phase with ^{99m}Tc DTPA. On the second and third phases, ^{99m}Tc DTPA show poor parenchymal accumulation and wash-out of the radiotracer as a result of decreased glomerular filtration. In addition, high surrounding tissue background activity is seen as a result of poor overall plasma clearance of the radiotracer. In the third phase, however, there is a similar poor wash-out of the accumulated renal parenchymal activity as a result of diminished glomerular filtration. These findings are consistent with the pathophysiology of ATN, in which renal blood flow is preserved relative to glomerular filtration[15].

Our study findings were different from Adelina S. et al[16]. In this study the scintigraphic results were concordant with the biopsies in 86% of the cases studied. The sensitivities of renal scintigraphy for detection of acute tubular necrosis, acute allograft rejection (AR) and renal cortical necrosis (CN) were 98%, 87% and 100%, respectively. In the same study specificities and accuracies for detection of ATN, AR and CN were 89%, 86% and 100%, and 95%, 87% and 100%, respectively. It was concluded 99mTc-DTPA renal scan showed a good overall accuracy in the detection of acute renal graft complications. It can be used as a dependable tool in the regular evaluation of renal transplant recipients. But our study showed lower sensitivity and specificity of renal scan in detection acute renal allograft rejection. The sensitivity, specificity, positive predictive value and negative predictive value of renal scan in detecting acute rejection was only 50%, 50%, 44% and 55% respectively.

Accurate non-invasive methods to diagnose kidney dysfunctions, at a lower cost are the ideal techniques to be used. Delaney et al.[17] compared kidney biopsy, Doppler ultrasound and nuclear medicine renal scans for the detection of renal graft complications and also performed a cost analysis. Renal scan was the most sensitive method for detection of acute rejection (70% overall), while kidney biopsy and Doppler ultrasound had sensitivities as low as 52% and 43%, respectively. The cost of radionuclide scintigraphy was not ideal (only 9% lower than core biopsy).

Hall et al.[18] also compared renal allograft scintigraphy and ultrasound to biopsy findings. In this study ultrasound and renal scan was done within two days of kidney biopsy. They found out that renal allograft scintigraphy had a sensitivity of 96% for the detection of acute rejection while the sensitivity of ultrasound was just 21%. However, the specificity of scintigraphy was low at 54%.

Akhtar et al.[19] conducted a study looking at the sensitivity and specificity of Doppler ultrasound. They found that overall sensitivity and specificity of Doppler ultrasound was low for the detection of AR, ATN or cyclosporine toxicity. In another study, Aktas et al.[20] reported Doppler ultrasound sensitivities was low for low-grade rejection and as high as 88% for high-grade rejections.

Again, our study showed much lower sensitivity and specificity of renal scan in detection acute renal allograft rejection as compared the aforementioned studies. The sensitivity and specificity of renal scan in detecting acute rejection was only 50% in our study.

Khajehmugehi et al.[13] concluded after reviewing 230 episodes of AR in renal transplant recipients, that although the most sensitive (91%) way to diagnose AR was kidney biopsy, "the best mode of diagnosing rejection was DTPA isotope scanning." However, only the kidney biopsy can give the diagnosis and severity of the acute rejection, especially in cases when ATN is coupled with rejection or in presence of a vascular component of rejection.

Our study has limited number of patients. More studies and multicenter trials should be conducted to illustrate the benefits of noninvasive and preferred techniques so that core kidney biopsy with potential complications could be avoided.

CONCLUSION

1- Tc99m-DTPA renography is neither sensitive nor specific for the detection of acute allograft rejection.

2- Tc99m-DTPA renography may be more sensitive for detecting rejections with vascular component as all of those in this study demonstrated.

3. Kidney Biopsy remains the gold standard to diagnose, assess the severity of rejection and to rule out other potential causes of renal allograft dysfunction.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Vesico Vaginal Fistula Repair

Vesico Vaginal Fistula Repair with Wide Bore Tube for Urinary Drainage

Ashfaq Ahmad[1], Shazia Saeed[2] and Rohana Salam[2]

ABSTRACT

Objective: To assess the efficacy of wide bore tube in vesicovaginal fistula repair for urinary drainage.
Study Design: Observational / descriptive / cross sectional study.
Place and Duration of Study: This study was carried out in the Department of Gynae & Obs at Medical College/District Headquarter Hospital Mirpur Azad Kashmir from May 2009 to July 2012.
Materials and Methods: All the patients were evaluated with history, physical examination and required labs. Cystoscopy was done in all patients before surgery. Repair was done in two layers. Bladder was drained with 20fr open end drain for first 72 hours, which was replaced with Foley catheter.
Results: Total 28 patients with mean age 31 years (18-49 yrs), twenty three (82.1%) patients were having primary fistula while five (17.9%) had undergone surgical repair before. Location of fistulas were trigonal in 20 (71.4%) patients, supra trigonal 6 (21.4%) patients and 2 (7.1%) were involving the urethra. Twenty one (75%) patients were managed through vaginal route which include both trigonal and supra trigonal fistulas, remaining 7 (25%) repairs were done through the abdominal route. In twenty seven (96.4%) patients the repair was successful on removal of catheter.
Conclusion: Approach for repair of VVF depends upon the preference and experience of surgeon. Success rate can be improved by following basic principles and good urinary drainage with drain.
Key Words: Vesicovaginal fistula, Wide bore tube, Transvaginal Repair, Transabdominal repair

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INTRODUCTION

Vesicovaginal fistula (VVF) is a social problem and a stressful condition for a woman all over the world for the centuries. The most common cause of VVF especially in developing countries is prolonged labor and factors influencing this rate are lake of modern delivery facilities, trained staff, anemia, malnutrition, intrauterine fetal death (IUFD) and young maternal age (physical immaturity of the mother's body leads to cephalo pelvic disproportion).[1] Malnutrition, anemia, IUFD, obstetric labor, PPH followed by forceps delivery in a rural set up followed by obstetric hysterectomy with delay of 6-8 hrs are the few contributing factor.[2] In developed countries VVF formation because of obstetrical labor is uncommon; the common causes are related to operative injuries, malignant diseases and radiation therapy.[3-4] Hysterectomy as cause of VVF in developing countries is 1/1800 hysterectomies.[5] The risk factors of VVF formation in hysterectomies are previous uterine surgeries, pelvic radiations, endometriosis and anatomical distortion as large fibroid uterus.[6] Complicated VVF can be defined as those fistulas of size more than 3cm, fistula having previous repair attempt, having radiation therapy, malignancy, and fistula involving bladder neck or urethra.

Regarding management commonly followed practice for small fistulae is conservative management with proper undisturbed urinary drainage, antibiotics and in few cases some success (7-12.5%) with fulguration of that area has been reported.[7] Conservative management of a small VVF relies on spontaneous closure of the defect during a period of catheter drainage of bladder. Its success has been reported in small no of cases following hysterectomy, with catheterization times ranging from 19-54 days.[8] Vesicovaginal fistula remains a condition with divesting physical and social consequences for the patient, regardless of etiology. The successful management poses a significant challenge. Correct diagnosis and timely repair by an experience surgeon will improve outcomes and limit the clinical insult and distress that a vesicovaginal fistula invariably causes.[9] Controversies always exist regarding timing and method of repair it is stated the best outcome of successful surgical repair is with the initial repair.[10]

MATERIALS AND METHODS

This Cross sectional case series study was conducted at DHQ Hospital Bagh and Sheikh Khalifa Bin Zayed

[1.] Department of Urology / Gynae & Obs [2], Bolan Medical College Quetta

Correspondence: Ashfaq Ahmad, Assistant Prof. Urology, Medical College District Headquarter Hospital Mirpur Azad Kashmir
Contact No.: 0334-5915279
E-mail: raja0508@yahoo.com

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Alnahayan Hospital / CMH Muzaffarabad Azad Kashmir from May 2009 to July 2012. A total of 28 patients with mean age of 31 years (18-49 yrs) were included in this study who presented in Urology OPDs or referred from different health units and consultant clinics.

All the patients were evaluated with detailed history, physical examination, lab investigations, abdomen pelvic USG and IVU. In two patients CT–KUB with contrast was also performed. All the patients were booked for elective surgical list. Cystoscopy was performed before surgery in every patient to determine the site, size and number of fistula and to see ureteric orifice. Ureteric stenting was done if required. Vaginal speculum examination was also performed to see the vaginal capacity and mucosal integrity. On the basis of cystoscopy the route of repair was decided. In seven cases abdominal route was the choice, five were high up fistulas while two fistulas were involving the ureteric orifice in which ureteric re-implantation was done, rest of all the cases were repaired through vaginal route. In both routes repair was done in two layers, guide wire was passed in fistulus tract and pulled out from vagina and small size, Foley catheter was slided over it, traction was applied to bring the fistula in to closer view. Circular incision was made around the tract and a generous plane between the vagina and bladder was created. The margins were refreshed and repair was done in two layers without tension at 90^0 i.e. first layer repaired in horizontal while 2^{nd} layer in vertical direction. Bladder was drained with 20fr open end drain (usually chest tube) for first 72 hrs which was replaced with Foley catheter later on for 10-15 days. Patients were followed with 3 and 6 months' time.

RESULTS

This study include 28 patients with mean age 31 years (18-49 yrs), twenty three (82.1%) patients were having primary fistula while five (17.9%) had undergone surgical repair before. Same number and ratio were seen in nature of fistula i.e. simple and complex accordingly. Location of fistulas were trigonal in 20 (71.4%) patients, supra trigonal 6 (21.4%) patients and 2 (7.1%) were involving theurethra (Figure 1).

The most common etiological factor of VVF was obstetrical trauma i.e. 21 (75%) patients while post hysterectomy VVF in 7 (25%) patients. Twenty one (75%) patients were managedthrough vaginal route which include both trigonal and supra trigonal fistulas, remaining 7 (25%) repairs were done through the abdominal route, five were complex fistulas and two fistulas were high up. In 2 (7.1%) patients ureteric re-implantation was also done. Comparing the two different route of repair there is less blood loss (250ml vs 450ml) in transvaginal route. There is also shorter mean operation time, shorter hospital stay and lesser post op. analgesia requirement in transvaginal route (Table 1).

Twenty seven (96.4%) out of twenty eight patients repair was successful on removal of catheter. In one patient there was a small recurrent fistula for which re-catheterization done for next three weeks which healed spontaneously. In 11 patients we observed marked urgency which was treated first with antibiotics after C/S and with tolterodine if required.

Table 1: Comparison of transvaginal and transabdominal routs

Parameters	Transvaginal Rout	Transabdominal Rout	P-value
Mean age	31 years (18-49 yrs)		
Blood loss (ml)	250	450	<0.05*
Operation time (minutes)	66.56	71.21	<0.05*
Catheter drainage time	10	16	<0.05*

*P-value is significant at 5% level of significance.

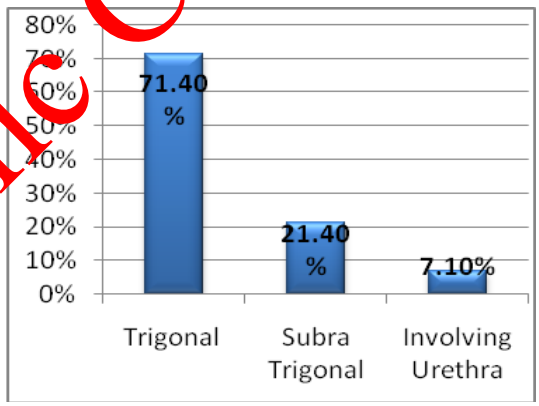

Figure No. 1: Location of Fistula

DISCUSSION

The occurrence of vesicovaginal fistula is rare in developed countries on the other hand this problem exists in reasonable size in underdeveloped countries. The obstetrical causes are commonest etiological factor in third world causing destruction of bladder base and urethra with compression against pubic bone during prolonged obstructed labor, instrumental deliveries or handling by untrained birth attendants.[11]

Vesicovaginal fistula in developed countries mostly occurs after pelvic surgery i-e abdominal hysterectomies, which occur in 0.05-0.5% cases. The obstetric etiology of VVF in developing countries is almost 70-95%.[12,13]

In Pakistan studies conducted at different centers have shown that 53.3-89.4% cases of VVF are due to complication of difficult labor. In another study the

cause of VVF was noted abdominal hysterectomy in (57.7%) patients and obstructed labor in (38.3%) patients.[14] Although these statistics are different from previously recorded in our country.[15,16]

In this present study we found that the most common etiological factor of VVF was obstetrical trauma in 75% patients while post hysterectomy VVF in 25% patients.

The technique used for surgical repair in this study is almost same as in different studies except the use of wide bore tube instead of Foley catheter and have observed good result i.e. 96.4% proper bladder drainage always play a key role in success. In some studies drainage with suprapubic catheter has been observed. The use of limited anterior cystotomy has improved the historically used morbid O, Connor procedure in which the bladder is bivalved to the level of fistula.[17] We performed repair in almost all the cases 3 months after developing fistula. Although there is no consciences on the definition and no statistical difference in the outcome or superiority of result in early and delayed repair, ideally early repair of VVF need diagnosis within 72 hrs of injury.[18,19] However different recent reports shows that there is no benefit in delaying repair as the acute inflammation subsides, and early repair have success rate equal to those previously mentioned strategy.[9]

The timing of repair after the occurrence of VVF is the most controversial aspect of repair of VVF. This contentious aspect of fistula management for shortening of waiting period is of both social and psychological benefit to whom who is always very distressed patients. One must not trade these issues for compromise to surgicalsuccess. Although early repair is now being advocated bysome authors.[14]

In our setup mostly patient have a trend of late treatment or surgical intervention that is delayed repair of months is commonly seen. In this present study the average delay time for repair was three months.

Most of simple fistulas irrespective of their locations are easily accessible transvaginally while in complex fistulas it is recommended that trans-abdominal approach should be considered.[20] Endoscopic VVF fulguration appears to be a safe and effective day care procedure for small vesicovaginal fistula, with decreasing morbidity and reduced hospital stay and improving cosmoses.[21] Two third (2/3) of patients with obstetrical fistulas can be cured, through transvaginal surgical approach with complete restoration of continence.[6]

According to the results of our study it was noted that by comparing the two different route of repair there is significantly (p value <0.05) less blood loss (250ml vs 450ml) in transvaginal route. There is also shorter mean operation time, shorter hospital stay and lesser post op. analgesia requirement in transvaginal route.

There is no “best” approach for all patients with vesicovaginal fistula different factors such as size, location and need of ancillary procedures have an impact on the choice of approach, the most important factor is commonly the experience of the operating surgeon.[22] WHO recommends that 90% of the closed fistula should be also continent, and this implies the complete cure of the patient.[23] The key to successful repair of VVF lies in the classic principles defined by Couvelaire in 1953” good visualization, good dissection, good approximation of the margins and good urine drainage.[24] In our study we achieve the 96.4% success rate on removal of catheter; this is because of proper technique and good drainage of urine post operatively.

CONCLUSION

The cause of vesicovaginal fistula remains largely due to obstetrical reasons. Management of VVF should be individualized depending upon site, size and local findings; approach for repair depends upon the preference and experience of surgeon. Transvaginal approach is cost effective and less invasive having comparable results. Were common that much better results can be achieved by following basic principles of repair and good urinary drainage with the help of wide bore drain.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Bowel Obstruction

Frequency of Causes of Mechanical Bowel Obstruction

Shabab Hussain, Viqar Aslam, Shahid Rahman, Waheed Alam, Sajjad Muhammad Khan and Waqar Alam Jan

ABSTRACT

Objective: To find out the frequency of different causes of mechanical bowel obstruction.
Study Design: Observational / descriptive study
Place and Duration of Study: This study was carried out the Surgical B Unit of MTI, Lady Reading Hospital Peshawar from March 2015 to December 2015.
Patients and Methods: All the patients presented with signs and symptoms of bowel obstruction were included in the study while those with non mechanical bowel obstruction like paralytic ileus and peritonitis were excluded from the study. Patient's demographic features and all the data were recorded.
Results: Total 50 patients were included in the study. The age range of the patient was 15-80 years with mean age was 42.98±17.60 years. Thirty seven 74% patients were male and 13 (26%) were female constituting male to female ratio of 2.84:1. Out of 50 patients operated for mechanical bowel obstruction, commonest cause of bowel obstruction was post operative adhesions which accounted for 17 (34%) followed by sigmoid volulus in 10 (20%) cases and intestinal tuberculosis in 8 (16%) patients.
Conclusion: Adhesions and sigmoid volvulus were the common causes of intestinal obstruction. Although patients presenting with sub acute intestinal obstruction can be treated conservatively initially, should they develop signs and symptoms of gut ischemia, when conservative treatment fails or in most cases of acute intestinal obstruction immediate surgical exploration is still required.
Key words: Bowel obstruction, Mechanical, Adhesions, Sigmoid volvulus

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INTRODUCTION

Intestinal obstruction can be defined as partial or complete blockage to the transit of intestinal contents. It is a frequent and serious surgical condition which carries high morbidity and mortality without prompt diagnoses and subsequent management. It accounts for 20% of admission to surgical ward according to a study.[2] There are two main types of Intestinal obstruction that is Mechanical and Non mechanical.[3]
The pathognomonic features of bowel obstruction are pain abdomen, vomiting, absolute or relative constipation, abdominal distension.[4] Patient with intestinal obstruction are often severely dehydrated and in shock therefore, need frequent monitoring of vital signs, fluid and electrolytes balance and measurement of abdominal girth for distension and clinical progress to determine the need for surgical intervention in case patient condition deteriorates in terms of pyrexia, increasing distension and abdominal guarding and rigidity which signifies impending bowel ischaemia or perforation.[5] Thus key to success in the management of such cases as adequate fluid resuscitation, maintaining electrolytes balance, early diagnoses and timely surgical intervention if needed.[6]
Common etiologies of bowel obstruction mentioned in literature can be classified into congenital for example various bands and acquired which inlude post operative or tuberculous or neoplastic adhesions, obstructed hernias, tumors, foreign bodies, inflammatory bowel disease, fecal impaction and volvulus.[5,7,8] Throughout the world the causes of intestinal obstruction vary according to geographic distribution of patients.[9]
As already mentioned earlier that etiological spectrum of mechanical bowel obstruction is subjected to variations according to geographical area of distribution of patients therefore this study was designed with the objective of finding out frequency of different causes of intestinal obstruction in our set up and to devise possible preventive measures for decreasing the incidence of this condition.

MATERIALS AND METHODS

This prospective and descriptive study was conducted in surgical B Unit of MTI, Lady Reading Hospital Peshawar from March 2015 to December 2015. All the patients above the age of 14 years presented with signs

Department of General Surgery, Lady Reading Hospital, Peshawar

Correspondence: Dr. Shabab Hussain, Registrar, Department of General Surgery, Lady Reading Hospital, Peshawar
Contact No.: 03339619411
E-mail: shababdr@gmail.com

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and symptoms of bowel obstruction were included in the study while those with non mechanical bowel obstruction like paralytic ileus and peritonitis were excluded from the study. The diagnosis of intestinal obstruction was made on the basis of detailed history, physical examination, and imaging investigations like X-ray abdomen erect and supine and ultra sound scan of the abdomen. Other routine baseline investigations like those for GA fitness and to exclude non mechanical cause of intestinal obstruction and for the management of intestinal. The baseline investigations included were full blood count, serum electrolytes, blood urea, serum creatinine, X-ray chest and ECG. Almost all the patients under laparotomy after taking written informed consent and resuscitation. Surgical exploration was performed in those cases who did not respond to conservative treatment and where mechanical cause of intestinal obstruction was suspected. Biopsy was taken where ever indicated for tissue diagnoses. Patients demographic features and all the data were recorded on predesigned proforma and were analysed through SPSS version 16.0.

RESULTS

Table No.1: Demographic information of the patients

Variable	No.	%age
Age (years)		
15 – 40	28	56.0
41 – 60	15	30.0
61 – 80	7	14.0
Gender		
Male	37	74.0
Female	13	13.0

Table No.2: Frequency of causes of bowel obstruction

Cause of bowel obstruction	No.	%age
Adhesions	17	34.0
Intraluminal Gossypiboma	1	2.0
Congenital band between Mickel diveticulum and umbilicus	1	2.0
Intestinal Tuberculosis	8	16.0
Intessuception	1	2.0
Sigmoid volvulus	10	20.0
Caecal volvulus	2	4.0
Rectal growth (cancer)	3	6.0
Obstructed hernia	5	10.0
Carcinomatosis peritonei	1	2.0
Transverse colon volvulus	1	2.0

A total of 50 patients with mechanical bowel obstruction were managed during the mentioned study period. The age range of the patient was 15-80 years. Mean age of the patient was 42.98±17.60 years. Thirty seven 74% patients were male and 13 (26%) were female constituting male to female ratio of 2.84:1 (Table 1). Commonest cause of bowel obstruction in this series was post operative adhesions which accounted for 17 (34%) followed by sigmoid volulus in 10 (20%) cases intestinal tuberculosis in 8 (16%) patients details of causes of intestinal obstruction (Table 2).

DISCUSSION

Bowel obstruction is common surgical emergency which carries significant morbidity and mortality and has got wide range of etiological spectrum. In our study the mean age of the patients was 42.98 years which corresponds to that mentioned in literature[1]. There is male predominance in our series which is also in accordance with other studies.[10-12]

In our study the main cause of mechanical bowel obstruction was adhesions followed by sigmoid volvulus and tuberculosis was the third most common cause. Two other studies have also shown that adhesions were the common reasons for intestinal obstruction.[5,10] In contrast to our study, studies by Zahid et al[13] and Naseer et al[2] have shown that intestinal tuberculosis was the commonest cause of mechanical bowel obstruction. As mentioned earlier that this variation in the results could be due to different patterns of diseases which vary geographically. Some studies also shows that strangulated hernias are the common cause of obstruction.[1,14,15]

Our results show that sigmoid volvulus is the second common cause which is different from other studies.[1,2-15] The reason behind could be the fact that sigmoid volvulus is much more common in this part of the world as compared to the developing world.[16] Literature shows that even in Pakistan the sigmoid volvulus is most common in pathans population.[17]

CONCLUSION

Bowel obstruction is not uncommon surgical emergency. In our set up adhesions and sigmoid volvulus were the common causes of intestinal obstruction. Although patients presenting with sub acute intestinal obstruction can be treated conservatively initially, should they develop signs and symptoms of gut ischemia, when conservative treatment fails or in most cases of acute intestinal obstruction immediate surgical exploration is still required. There is a famous saying that 'Never let the sun go down on a closed loop obstruction'.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Thyroid Dysfunction
Hep. C Treatment

Overt Thyroid Dysfunction During Treatment of Hepatitis C Patients with Interferon and Ribavirin

Nazir Ahmad[1], Jawed Akhtar Samo[2] and Hammad-Ur-Rehman Bhatti[3]

ABSTRACT

Objective: To find out the thyroid dysfunctions during treatment hepatitis C patients with Interferon and Ribavirin.
Study Design: Observational / descriptive study
Place and Duration of Study: This study was carried out at the Teaching Hospital, Ghazi Khan Medical College, DG Khan from April 2015 to January 2016.
Patients and Methods: Fifty patients of chronic HCV were enrolled.
Results: Out of 50 treated patients 35 were female and 15 were male. Fifteen (15%) patients developed thyroid dysfunction and out of these 15 patients (11 female [73.3%] and 4 male [26.7%]).Ten (66.6%) out of 15 patients developed hypothyroidism and 5(33.3%) out of 15 patients developed hyperthyroidism. Seven (70%) out of 10 patients who developed hypothyroidism needed levothyroxine therapy. Two (40%) out of 5 patients who developed hyperthyroidism needed carbimazol therapy for their symptoms and disease control. All patients completed hepatitis C treatment with combined Peg-Interferon Alpha-2a and Ribavirin therapy.
Conclusion: The involvement between thyroid dysfunction in hepatitis C individuals and management with IFN-alpha and RIBA.

Key Words: Interferon Alpha-2a, Ribavirin, Chronic hepatitis C

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INTRODUCTION

The most important reason of chronic hepatic disease, cirrhosis and hepatocellular carcinoma is hepatitis C. The global prevalence is 3% encompassing 170 million victims. 4 million new cases are added to the pool due to contaminated injection needles, transfusion contamination and parents contact.[1] The trend has stabilized now-a-dyas.[2] In North America, it is the most common chronic blood borne infection.[3]
In women with chronic HCV infection, thyroid disorders are common. The patients with HCV infection presents the anti-thyroid antibodies are 5% to 17%, 2%-13% patients have hypothyroidism.[4] Elder women have the maximum frequency of both thyroid antibodies and thyroid disease. Most patients are asymptomatic hypothyroidism and do not need exact management. It is debated whether or not the prevalence is higher than in age and sex-matched controls.[5]

[1.] Department of of Medicine, District Teaching Hospital, Ghazi Khan Medical College, DG Khan.
[2.] Department of of Medicine, Khairpur Medical College, Khairpur Mirs
[3.] Department of Medicine, Islam Medical College Sialkot

Correspondence: Dr. Nazir Ahmad, Assistant Professor of Medicine, District Teaching Hospital, Ghazi Khan Medical College, DG Khan
Contact No.: 0300-9638128
E-mail: drmalik.nazir.ahmed@gmail.com

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IFN therapy is not a contraindication in the presence of low titres of autoantibodies. In patients with high titres since recovery is complete at the end of therapy interruption of IFN therapy is not needed. TSH and autoantibodies should be checked before, during and after IFN treatment, and counselling should be offered to patients regarding thyroid dysfunction.[6] This review questions the relationship of IFN and ribavirin (RIBA) for treatment of HCV and thyroid dysfunction.
Several extrahepatic diseases that occur with chronic HCV come out to be straight associated to the viral infection. These comprised cryoglobulinemia, lymphoma, thyroiditis, lichen planus and porphyria cutanea tarda.[7-10] This may also be a side effect of interferon (IFN)-based treatment. Chronic HCV virus infection has the highest prevalence of thyroid autoantibodies and disorders.[11,12]

MATERIALS AND METHODS

This prospective study was carried out Teaching Hospital, Ghazi Khan Medical College, DG Khan from July 2015 to January 2016. Fifty patients of chronic HCV were enrolled.

RESULTS

Out of 50 patients, 35 were female and 15 were male. During treatment with combination of Peg-interferon alpha-2a and Ribavirin therapy, among 15 patients, 11 females (73.3%) and 4 males (26.7%) developed overt thyroid disease and were diagnosed clinically and

biochemically suffering from thyroid dysfunction. Ten (66.6%) suffered from overt hypothyroidism and 5 (33.3%) patients developed hyperthyroidism. Fatigue, weight loss, irritability and nervousness were reported by all five patients with hyperthyroidism but palpitations and resting tremors occurred in only 2 out of the 5 patients also had in hands. Seven (70%) patients having hypothyroidism were treated with levothyroxine and they responded well to the treatment clinically and biochemically and 6(60%) had normal levels of TSH management of chronic HCV. Most patients were infected with genotype 3.

DISCUSSION

The prevalence of thyroid dysfunction with interferon therapy in patients contaminated with chronic hepatitis C ranges from 2.5% to 30%[11,12], the mean being of 6.6%. [13] The prevalence of Hypothyroidism (3.8%) was slightly higher than hyperthyroidism (2.8%). The fact that higher doses of interferon alpha are used to treat chronic hepatitis-B infection[14] but thyroid disease is less common in chronic hepatitis B infection when compared with hepatitis-C treated patients. This points to synergistic effects of interferon therapy and HCV infection in the causation of thyroid disease. It is known that Interferon results in the commencement and propagation of dendritic and memory T cells.[13] The destruction of thyroid gland is caused by auto-antibodies subsequent to interface with hepatitis-C virus particle present in it.[15] When interferon alpha is added further obliteration of reddened gland occurs. Moreover interferon therapy has direct toxic effect on thyroid cells.[16] This leads to biphasic thyroid response in the form of hypo and hyperthyroidism.

4.7% to 27.8% of patients develop thyroid dysfunction with this therapy, the mean being frequency 12.1%. When interferon is used alone the frequency is as low as 6.6%.[17] The percentage proportion of hypothyroidism to hyperthyroidism in many studies is higher (8.1%: 3.8%) compared to our study (10%: 5%). Moreover female percentage proportion was higher internationally (17.7%: 8.3%) in relation to our study (11%: 4%). Overall our prevalence of thyroid disorders (15%) was higher than colleagues elsewhere reported.(3%).[18] As expected fatigue, myalgias and depression were common with hypothyroidism. Therefore thyroid function test should be routinely performed.[17.]

We agree with international literature that combination therapy should be sustained; even in those who develop overt thyroid disease.[12] Most thyroid disorders do not need long-standing therapy and often return to normal. Workers[18] have found that interferon alpha induced thyroid related disorders were reversible in 61.2% of cases (55.8% hypothyroidism and 69.7% hyperthyroidism).

CONCLUSION

The association among thyroid dysfunction in hepatitis C individuals and management with IFN-alpha and RIBA exists.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Medical Graduate's Choice of Dentistry

Wahab Kadri[1], M. Junaid Lakhani[2], Anjum Tariq[3], Umeed Javed[2], Sidra Khan[2] and Ume Aimen Arif[2]

ABSTRACT

Objective: To determine the factors affecting how medical graduates of Karachi choose their dental health care providers.

Study Design: Observational / descriptive / cross sectional study.

Place and Duration of Study: This study was carried out at Jinnah Medical and Dental College, Karachi from August 2014 to December 2014.

Materials and Methods: The study was conducted at Jinnah Medical and Dental College. A 11-item questionnaire was used to collect the data. The data was collected from medical college graduates of Karachi to determine the factors affecting how medical graduates choose their dental health care providers. The questionnaire involved attributes ranging from dental practice to reputation, X-ray facility within clinics, skills/ experience, timings and availability, sterilization, location, Clinical Setup (general appearance/ambiance), qualification, Payment Plans (installments, credit cards, etc.) and Treatment charges. The study included 382 doctors. The data was stored in excel worksheet and was analyzed using SPSS.

Results: 26% of the respondents selected 'skills/ experience' as the most important attribute in selecting a dentist while 20% of the respondents picked 'sterilization' and 17% of the respondents chose 'qualification' as their top reason for the selection of dentist. Reputation of the dentist was selected by 14% of the respondents whereas 10 % selected treatment charges as their reason for selecting a dentist. Clinical setup and location accounted for 9 and 4 % respectively.

Conclusion: In conclusion skills/ experience, reputation of the dentist and sterilization standards of clinic are were the most important factors while selecting a dentist.

Key Words: Medical graduates, Dentist selection, Sterilization, Skills

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INTRODUCTION

Dental health has significant impact on individual's personal and social life.[1] Dental diseases burden is reduced in most developed countries owing to quality oral care initiatives. This decline is not seen in most of the developing countries and the cost of dental treatment has also increased over time. Therefore, governments are trying to upgrade dental health care policies to provide decent oral health care facilities to their people.

There are a number of factors that people consider when they chose dental clinic like; the location, ambiance, and dental facilities these are vital factors in selection of dental clinic.

1. Department of Orthodontics / Oral Maxilophacial Surgery[2] / Operative Dentistry[3], Jinnah Medical and Dental College, Karachi.

Correspondence: Prof. M. Junaid Lakhani, Department of Oral Maxillofacial Surgery, Jinnah Medical and Dental College, Karachi.
Contact No.: 0300-8222287
E-mail: drmjunaid@hotmail.com

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Regular dental checkups, leads to good oral health outcomes and improves people's quality of life.[2] Selection of dentist depends on a variety of factors, including qualification of the dentist, access to care, socio-economic, and attitudes toward dental care.[3,4] These factors, in turn, may vary across geographic locations and demographic groups.[5]

The purpose of this study was to find out how and why medical graduates choose dentists for their oral care needs.

MATERIALS AND METHODS

The study was conducted at Jinnah Medical and Dental College. An 11-item questionnaire was used to collect the data. To examine the research questions, data was collected from 382 respondents comprising of medical graduates between the ages of 24-35 years living in Karachi.

An observational descriptive study was conducted to find out how and why people choose dentists for oral care needs. The questionnaire involved attributes ranging from dental practice to reputation, X-ray facility within clinics, skills/ experience, timings and availability, sterilization, location, Clinical Setup (general appearance/ambiance), qualification, Payment

Plans (installments, credit cards, etc.) and Treatment charges.

A total of 382 self-administered questionnaires were personally handed over to the respondents randomly. The respondents filled the questionnaires in the presence of the researcher so to expedite the process and answer and potential enquiries. This study used simple random sampling procedure to gather an unbiased data from a large population. The questionnaires were numbered from 1-382. The data was stored in excel worksheet and was analyzed using SPSS.

RESULTS

To examine the research questions, data was collected from 382 respondents comprising of medical graduates living in Karachi The age of the respondents were between 24 and 33 years mean age was 26.33 years (SD 2.23). There were 265 females and 117 males.

Amongst the 10 preferences given to the respondents in the questionnaire, skills / experience was the most frequently picked reason for selection of dentists whereas sterilization and qualification stood second and third respectively.

26% of the respondents selected 'skills/ experience' as the most important attribute in selecting a dentist while 20% of the respondents picked 'sterilization' and 17% of the respondents chose 'qualification' as their top reason for the selection of dentist. Reputation of the dentist was selected by 14% of the respondents whereas 10 % selected treatment charges as their reason for selecting a dentist. Clinical setup and location accounted for 9 and 4 % respectively.

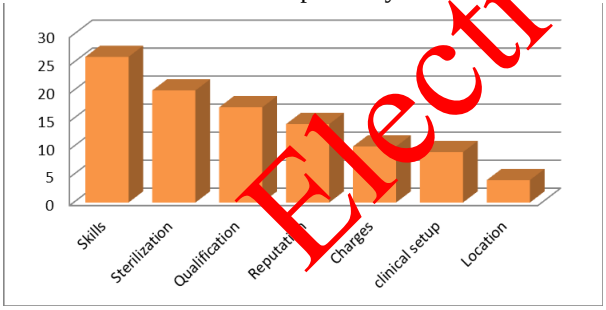

Figure No.1: Reasons for selection of dentist

DISCUSSION

Dental problems immensely contribute towards the disease burden of Pakistan. This is a multifactorial problem ranging from socioeconomic to education and attitudes of the patient. But in patients who have access to dental care and socio-economic conditions that do not stop them to have dental care still have some priorities in managing their oral health. Selection of dental practice is an important consideration by the patient and is governed by certain factors that may be related to the patient and/or services. A study, comprising of 382 subjects from well to do socio economic background was conducted to find out how and why people choose dentists for oral care needs, highlighted many patient and practice related attributes considered important by the consumers of oral care services. Our study took into account factors like reputation, skills/ experience of the dentist, X-ray facility within clinics, timings and availability, sterilization, location, Clinical Setup (general appearance/ambiance), qualification, Payment Plans (installments, credit cards, etc.) and Treatment charges. The subjects were also asked to prioritize their responses. In our study 26% subjects selected skills/ experience of the dentist suggesting highly skilled dentist is a strong factor for selection by patients. Similarly sterilization was selected by 20% of patients when it comes for selection of a dentist. For factors relating to dentist reputation 14% and qualification 17% turned out to be key factors while selecting a dentist.

A study conducted in Northern European countries gives us information on choices made for patient's health care. It depicts that a number of patient's traits are responsible for the choices they make. Included are characteristics like patient's age, gender, level of education, distance and means of transportation etc.

In the current study most of the respondents chose skills/experience, reputation and sterilization as their first choice. Qualification of dentists was also among the important attributes mentioned by the respondents.

Throughout the world, social wealth discrepancy and costly treatments have been blamed for difficulty in accessibility to quality dental care and thus leading to poor oral health. A Nigerian study revealed that exorbitant charges of dental treatment are also a hindrance to dental treatment utilization and was listed next to of dental injections.[6] In the current study, however, 'treatment charges' (10%) was not a major deciding factor as subjects were selected from middle to high socio economic class.

Ziaei and co-researchers did a study to determine patient satisfaction towards ophthalmic treatments.[7] They observed that doctor's availability and the treatment quality had the strongest correlation with the level of overall satisfaction and choice of health care providers while ambiance and monetaryl aspects had the weakest. Researchers have reported that education level and occupation of the patients were also responsible for the level of satisfaction and possibly a reason to select the dentist this study however did not take in to account the demographic variables while analyzing the data.

There is a widespread belief that the likelihood of dental services utilization will increase if the clinics were located nearby. On the contrary, the present study shows that location was not a deciding factor for most of the patients, as they considered skills/ experience, reputation and sterilization the most important factors among all other attributes

The outcome of the dental treatment depends largely on the standard of dental treatment received. An inference could be made, based on the prior studies, that patients' satisfaction would be pivotal to get other patients to visit a dental practice.[8,9,10] Patients usually look for the dental practices which have better quality, using newer technologies and treatment done by competent dentists and refer their friends and relatives.

The distance of the dental clinic from respondents' home, which was found to have less effect on patients decision in the current study, might be of more concern to people living in other cities as our sample belonged to middle class and it is assumed that means of transportation was not a major deterrent in choosing a dental clinic, explaining findings of some studies in which the difficulties in reaching a practice was found to be an important factor.[11]

CONCLUSION

In conclusion skills/ experience, reputation of the dentist and sterilization standards of clinic are were the most important factors while selecting a dentist.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Effect of Ramadan Fasting on Peptic Ulcer Disease and Peptic Perforation

Fazal ur Rahman[1], Muhammad Ashraf Salam[1] and Muhammad Ishaq[1]

ABSTRACT

Objective: To compare the frequency of patients presenting with peptic ulcer disease (PUD) and peptic perforation during holy month of Ramadan with those presenting the month after Ramadan (Shawwal) in the Hijrah calendar and to assess the effect of risk factors on PUD and peptic perforation such as smoking, non-steroidal anti-inflammatory drugs usage, a previous history of acid peptic disease and the age groups and gender of patients.

Study Design: Observational / descriptive study

Place and Duration of Study: This study was carried out in Medical and Surgical Units of KTH (Khyber Teaching Hospital) Peshawar from 2012 to 2014..

Research Methodology: A total of 213 patients were included in this study presenting during this three years period. Patients were included or excluded according to a pre-set "inclusion or exclusion criteria".

Results: 62%(132) of all the patients presented during the three months of Ramadan as compared to 38%(81) of the patients presented three months after the Ramadan, x^2=8.193, P value is 0.004295 and result is significant at p<0.05.Ninety six(46%) patients were smokers, 132(62%) of the patients were in the 20 to 40 year age group and male to female ratio was 5:1.Symptoms associated with peptic ulcer disease found in patients during Ramadan is more than after Ramadan.

Conclusions: This study clearly showed the increased frequency of peptic ulcer disease and peptic perforation during the Holy month of Ramadan stresses on the need of precaution especially for smokers, non-steroidal anti-inflammation drugs users and patients with the history of acid peptic disease during this month.

Key words: Ramadan fasting, peptic ulcer disease and perforation, risk factors

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INTRODUCTION

Sustained fasting over a period of time or has been a feature of several of the world's major religions. For Islam, the whole of the holy month of Ramadan is a time of strictly observed fasting during the daylight hours. Globally, nearly 1 billion Muslims are obliged to abstain from eating and drinking from sunrise to sunset. They must also abstain from taking oral medications as well as intravenous fluids and nutrients[1,2]. During night hours of Ramadan, eating and drinking tend to increase[1,3]. This pattern of intermitted eating and fasting is different from other types of fasting or ongoing food deprivation[4].

The incidence of peptic ulcer disease and its complications especially perforation has declined over the past several years because of the introduction of anti-ulcer medication and helicobacter eradication therapy[5,6].

Inclusion criteria:

1 Already diagnosed patients of peptic ulcer disease presented in emergency with symptoms..

2. Patients diagnosed in surgical and medical units of KTH.

Exclusion Criteria:

1. Patients not giving their consent for being included in the study.

2. Patients having hepatic, gall-bladder, and pancreatic disease. Etc.

MATERIALS AND METHODS

Patients with peptic ulcer disease and peptic perforation were included in this study. A complete history and physical examination was done, especial emphasis was placed on the history of cigarette smoking, lifestyle habits of eating, drinking, previous surgery for perforated peptic ulcer and previous history of acid peptic disease, use of non-steroidal anti-inflammatory drugs, age and gender of the patients was noted on especially designed proforma. Data were collected

[1.] Department of Surgery, Jinnah Medical College, Peshawar

Correspondence: Prof. Dr. Muhammad Ishaq, Chairman & Founder, Jinnah Medical College, Peshawar
Contact No.: 091-5602471-74
E-mail: sohaib765@hotmail.com

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from the medical and surgical units of admitted and diagnosed patients. Patients were diagnosed either in surgical units by x-rays abdomen erect position (perforation) or post operatively by laporotomy for perforation while in medical units, upper gastrointestinal endoscopy with or without biopsy and blood H-Pylori tests and other investigations like blood complete picture, blood sugar, serum urea and creatinine were done for diagnosis and resuscitation with subsequent surgical and medical treatment.

RESULTS

The total number of patents presenting with peptic ulcer disease in the KTH during three years was 213. Out of these patients 62 %(n=132) presented in the three months of Ramadan in three years and 38%(n=81) of the patients presented in three months (Shawwal) after the Ramadan, x^2=8.193, P value is 0.004205 and the result is significant at p<0.05. If we breakdown these cases years wise we see that in 2012 the number of patients that presented with the peptic ulcer disease was 33% (n=71), where in the month of Ramadan they were 35% (n=46) and 40% (n=32) during the next month. In 2013, 30 %(n=64) patients were presented with ulcer disease from which 33 %(n=44) were during Ramadan and 28 %(n=23) in the next month.

During 2014, 37 %(n=78) patients presented with peptic ulcer disease from which 32 %(n=42) were in Ramadan and 32 %(n=26) during the next month.

All the patients were also stratified age wise into groups; the first group was less than 20years the second was between 20 and 40 years of age; whereas the third group had patients more than 40 years of age and 74(35%) patients were more than 40years of age, as shown in figure1.

Table No.1: Yearly distribution of patients presenting with peptic ulcer disease.

Years	No of patients n=213	Ramadan n=132 (62%)	Next month n=81 (38%)	This result is significant at P<0.05
2012	71(33%)	46(35%)	32(40%)	
2013	64(30%)	44(33%)	23(28%)	
2014	78(37%)	42(32%)	26(32%)	

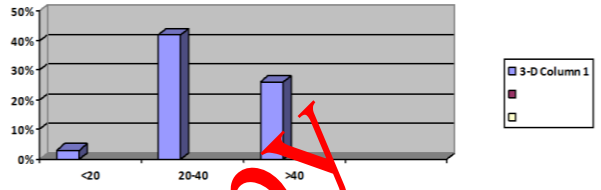

Figure No.1: Age groups and percentage of patients in each age group

In gender distribution the ratio between male and female was 5:1 in favor of male. 46% (n=96) out of the total number of patients has a history of smoking whereas 54 %(n=117) were non-smokers. 10% (n=22) patients of perforated duodenal ulcer has history of regular use of non-steroidal anti-inflammatory agents.

Table No.2: Symptoms associated with peptic ulcer disease found in patients during after Ramadan (2012-2014).

Variables	During Ramadan (n=132)	After Ramadan (n=81)	X^2	P-values	
Previous history of PUD (Dyspepsia)	94(124.68%)	21(17.01%)	13.6188	0.000224	P<0.05
Pain epigastrium	112(147.84%)	36(29.16%)	7.4861	0.006221	P<0.05
Associated symptoms (Anorexia)	72(95.48%)	23(18.63%)	5.6086	0.017837	P<0.05
Perforations	22(29,04%)	4(3.24%)	5.1844	0.02279	P<0.05
Medicine used (NSAID, aspirin) Anti peptic ulcer drugs	34(44.88%)	8(6.48%)	5.5627	0.01834	P<0.05

DISCUSSION

There is some evidence from EI-Hazmi MAF and Hakkou F et al that although a reduction in eating frequency during Ramadan, but that each meal is nutritionally denser than meals taken outside of Ramadan[7,8].

In spite of these and our previous reports suggesting a reversible increase in acid and pepsin secretion, which may be involved in the increase of dyspeptic symptoms seen during the Ramadan[2,8]. Change in lifestyle, which may be associated with an increase of the gastric acidity mainly in the diurnal phase[9,10].

In our series the result were quite conclusive in showing that the number of patients that presented during the holy month of Ramadan was for more than those who presented during the rest of the month. In total about 62% of the patients presented in the three months of Ramadan and only 38% presented during the three months after Ramadan. This clearly showed that there were some factors, which along with fasting results in increase number of patients in peptic ulcer disease and its complications.It means that there is an elevated risk for duodenal ulcer perforation at the time of Ramadan and they have suggested that higher risk patients with dyspepsia and/or a history of PUD in whom active H. pylori infection has been excluded should be considered for prophylactic acid suppression therapy before embarking on fasting in Ramadan[17,18].

During the history taking of these patients, especially emphasis was placed on charting the risk factors for peptic ulcer disease. The results in the end concluded that factors like a previous history of acid peptic disease was seen in 124% in the holy month of Ramadan while17% had a history of acid peptic disease month after Ramadan which is an important finding. Similarly we found that in total 46% of the entire patient were smokers, and that the percentage of smokers who presented with a peptic disease and perforation during the holy month of Ramadan was more than 17% while 10% was noted in the rest of the months. In our study we noted that non-steroidal anti-inflammatory drugs were taken regularly by 45% of the patients either for pain relief or for a cardiac disease during the holy month of Ramadan, further cementing our conclusion that risk factors like a history of acid peptic disease, regular smoking and use of non-steroidal anti-inflammatory drugs during the month of Ramadan increases a patients predispositions to peptic ulcer disease and perforation.

Worldwide the gender, which is favored by peptic ulcer disease and perforation, is male. Our results are in agreement with Abu Farsakh[11], who reported that male gender is a risk factor for peptic ulcer perforation. Donderici et al[12]. reported an increase in peptic ulcer complications during Ramadan, particularly among women. We did not find this and in fact peptic ulcer disease and complications were more frequent in the month of Ramadan but reported more in male gender and in our series the male to female ratio for perforated duodenal ulcer and peptic disease was 5:1. In a number of western studies like the one by columnet al[13] or the one by Walt at al[14]. show ratio 4:1. Cuschieri et[15]. al have shown a lower ratio that is ranging from 2:1. Lastly we also recorded the predominant age group in which the patients presented to us and the result showed that most of the patients presented in the age group between 20 and 40 years that is around 62% patients. In more than 40 year's group there were 35% patients which is also a quite significant percentage. These results show that peptic ulcer is predominant an adult disease with its predominance around 40 years age bracket. According to predominant age group in the west is also between 40 and 49 years, thus our results were similar to those in the western literature[16].

CONCLUSION

It is concluded that during the holy month of Ramadan people who are regular smokers, who have a history of acid peptic disease and the ones regularly use of non-steroidal anti-inflammatory drugs are at increased risk of peptic ulcer disease and its complication. These patients should take necessary precautions like use of H2 blocker, cessation of smoking and dietary restriction especially the fatty and spicy diets (especially pakoras, samosas and pickles etc) during holy month of Ramadan. Further research using intra gastric pH monitoring would further substantiate the findings of this series.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Non-Firearm Fatalities

Frequency of Non-Firearm Fatalities in Interior Sindh

Pardeep Kumar[1], Nadia Aslam[1] and Ejaz Ahmad[2]

ABSTRACT

Objectives: To observe the frequency of non-firearm fatalities in interior of Sindh.
Study Design: Observational / descriptive study.
Place and Duration of Study: This study was carried out in the Mortuary of Liaquat University Hospital Hyderabad (LUH) from1st January, 2015 to 31st December, 2015.
Materials and Methods: Fatality records were obtained from mortuary of (LUH) Hyderabad, which comprises of police inquest reports and postmortem reports. During study period 217 cases of Medico legal deaths were brought for postmortem examination in the mortuary of LUH. All cases were sorted according to age, sex and cause of medico legal / unnatural deaths and data was analyzed.
Results: The most common type of unnatural death found in every age group was homicide. Among 155 homicidal deaths, road traffic accidents seen in 57 cases (36.77%) as the major cause of death mostly accidental but sometimes may be homicidal. Next cause is sharp weapons which engulf lives of 30 (19.35%) humans. Only 02 (1.29%) cases of suicide were brought to medico legal section. In 05(3.22%) cases cause of death remains undetermined. Out of total 155 cases, 118 were males (76.12%) and females were 37(23.87%). The age group most commonly involved was of 21-40years; next group with majority is between ages of 41-60 years while death in 01-20 years of age is equal to deaths in age group of 61-80 years.
Conclusion: Our study concludes that among the homicidal deaths non firearm fatalities are predominately due to road traffic accidents followed by sharp weapons.

Key Words: Medico Legal Deaths, Homicide, Accidents, Firearm, Unnatural Deaths.

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INTRODUCTION

Death is universal truth but no human being like this bitter fact. According to our Holy books every living thing must taste the death. A natural death occurs because of any disease or ageing and is unnatural when caused by other reasons rather than aging or disease. Unnatural deaths may be accidental, suicidal, homicidal or undetermined. According to UNODC (United Nations Office on Drugs and Crime) reported a global average intentional homicide rate of 6.2 per 100,000 populations for 2012 with Pakistan having homicidal rate highest in South Asia. The statics of unnatural deaths is the best parameter to assess the position of law and orderin specific area. Mode of unnatural deaths reflects the social, moral and mental status of people of each locale. This is strongly believed by all religions that time & place of death is fixed, but deaths which is unnatural, unexpected and especially resulting from violence are creating panic and grief in the family members of deceased but also have unhealthy and depressive effects among relatives, friends and even on the society.[1,2, 3]

Every Human being is born free, being citizen of an independent democratic country has legal and religious right to live free and let leave the others to be free. History of crime and violence dates back since life on earth begins probably, but investigation and strategies to control them is the feature of civilization which is improving day by day. Violence results in revenge which may effects the innocents more than the real culprits. Nowadays because of decline in economy and morals ratio of crime and fatalities increased.[4] Many studies were conducted on different parameters of unnatural deaths, in different parts of our country but no such study is conducted in best of our knowledge to determine the fatalities by others than firearm in our setup. The results of this study will bring attention in people about deaths due to others reasons not by firearm like road traffic accidents which are worldwide common causes of unnatural death may be due to homicidal intentions. Prompt strategies and rules and regulations should be implicated for prevention of such mishaps.

MATERIALS AND METHODS

This observational / descriptive study was conducted at the mortuary of LUH Hyderabad which is a tertiary

[1.] Department of Forensic Medicine, Liaquat University of Medical and Health Sciences, Jamshoro, Sindh.
[2.] Department of Forensic Medicine, Peoples University of Medical and Health Sciences, Nawabshah, Sindh.

Correspondence: Pardeep Kumar, Asstt. Prof. of Forensic Medicine, Liaquat University of Medical and Health Sciences, Jamshoro, Sindh.
Contact No.: 0333-2727337
E-mail: pusharamesh1998@gmail.com

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care Hospital attached with Liaquat University of Medical and Health Sciences for a period of one year from January 2015 to December 2015. This study included all the cases of unnatural deaths brought for autopsy in the mortuary. Cases in which cause of death is firearm injury were excluded.

As per rules only authorized medical officer conduct medicolegal autopsiesin the mortuary. The examination of dead bodies were begins with examination of clothing, thorough examination of body before and after dissection of the body to rule out the cause, type, time of death, the weapon/cause responsible for death. If cause of death could not be determined, suspected tissues and body fluids were collected for detailed, histological and toxicological diagnosis. Dissection of body was carried by Robert Virchow's technique. All the body cavities i.e. Cranium, thoracic and abdominal cavities were dissected; organs were examined grossly. Data regarding age, gender and cause of death was noted. The relatives of the victims were also inquired for circumstances in suspected cases of suicidal deaths. The data entered on Performa, statistically analyzed and the results were summarized in tables and charts. [5, 6, 7]

Ethical Considerations: Permission was obtained from police surgeon at LUH Hyderabad.

RESULTS

Among 155 victims of Medico legal deaths, 148 (95.5%) deaths were homicidal, suicidal deaths was in 02(1.29%) cases while in 05 (3.22%) cases cause of death was unknown.

Males were victimized more 118(76.12%) while females were 37 (23.87%)out of 155. According to age majority of the deaths were in age of 21-40years, next group with majority is between ages 41-60 years while death in 01-20 years of age is equal to 61-80 years. The detailed distribution of age& gender is shown in Table 1

Table No.1: Age and sex wise distribution of Medico legal deaths (155)

Age group (Years)	Male	Female	Total	% age
01-20	14	07	21	13.54%
21-40	53	18	71	45.8%
41- 60	32	10	42	27.09%
61-80	19	02	21	13.54%
81-100	00	00	00	00
	118 (76.12%)	37 (23.87%)	155	99.97%

Among 155 cases of homicidal death, as we exclude gunshot injurieswhich was common weapon used by the offender next commonly used weapon in interior Sindh is axe which usually present in every home of villages. Sharp forces like axe and knives took lives of 18 males and 12females, whereas blunt weapons cause the death of 14 victims 09 males and 05 females. Strangulation kill 19 persons; while death due to throttling / smothering was seen in 09 cases while another 02 victims died of hanging.

Death due to poison is seen in 04 cases whereas 12 died of drowning. The poor victims of accidental fatalities including road traffic accidents in 57 as the major cause of non-firearm fatality while in train accidents 05 persons lost their lives. Electric shock was seen in 01 case due to short circuiting. 04 died because of intake of poison mixed with food given in enmity. Among total 02 suicidal deaths both females ended their life by burning themselves with petrol on clothes.

Table No.2: Distribution of Medico legal death cases (n=155)

Types	Male	Female	No. of cases	% age
Sharp Force	18	12	30	19.35%
Blunt Force	09	05	14	9.03%
Strangulation	15	04	19	12.25%
Throttling/Smothering	06	03	09	5.80%
Hanging	01	01	02	1.29%
Burning	00	02	02	1.29%
Poisoning	03	01	04	2.58%
Drowning	11	01	12	7.74%
Electric shock	01	00	01	0.64%
Road traffic accidents	51	06	57	36.77%
Train accident	03	02	05	3.22%
Total	118	37	155	100%

DISCUSSION

Out of 46 million population of Sindh, 50% are rural dwellers mostly uneducated and belonging to low socioeconomic statuses. Many people beside illegal firearm possession possess other sharp and blunt tools in their daily house hold usage like axe, spade, sickle, hammers etc. In this study wetried to find out the cause of deaths other than firearm in cases of unnatural deaths brought for medico legal autopsies in the mortuary of LUH.

Out of total 155 Medico legal deaths, 148 (95.5%) cases were of homicides, suicidal deaths were in 02(1.29%) cases while in 05 (3.22%) cases cause was undetermined seen in graph 1. These findingare similar with findings of studies conducted by Muhammad Umar and Muhammad Hamayun, who found homicidal deaths predominant in all unnatural deaths.[8, 9]

The most targeted gender is the male who is caring taker of family mostly whose loss impact badly on emotion and economy of the family. Among 155 cases, 118 males were (76.12%) and females 37(23.87%) which is probably similar globally. Muhammad Zahid Bashir and Sachidananda also reported the same as males are more exposed to outdoor activities, more aggressive and in South Asia still females are more confined to home and respected more than other parts

of world which may be a safety factor to them to some extent. Similar results showing male victimized more is also seen in study conducted at Bahawalpur.[10,11,12]

Regarding age group our results correspond with the studies in different regions of Pakistan and other countries reporting medico legal deaths more in age group of 21-40 years. This is may be due to more active period of individual's life when everyone is full of energy and aggression in this age with short temperament and no botheration for end results.[13,14,15]

Among 155 cases of homicidal death the poor victims of accidental fatalities including road traffic accidents in 57 as the major cause of non-firearm fatality while in train accidents 05 person lost their lives. According to Pakistan Bureau of Statistics data on traffic accidents in Pakistan from 2004 to 2013, deaths in road accidents in Sindh was recorded the highest at up to 86 percent. Train deaths are not seen in big track accidents but unfortunately all five expired either crossing unmanned level crossing or road with no railway phataks on bikes. [16,17]

Sharp forces like axe and knives took lives of 18 males and 12females,whereas blunt weapons cause the death of 14 victims 09 males and 05 females which is contrasting to study conducted by Umar Memon who find blunt object is more frequently used by assailant as compared to sharp weapon/tool.[8]

Killing of 19 victims was by manual strangulation; while death caused by asphyxia due to throttling / smothering in 09 cases, 02 victims died of hanging.More or less similar results were concluded by FarhatMirza and Anjum Zia.[18,19]

Death due to poison is seen in 04 caseswhereas 13 died of drowning which is one of the difficult tasks for the forensic expert to decide on autopsy whether it is homicidal, suicidal or accidental. Decision is purely based on eye witness and circumstances. Most of the time it is accidental as teenagers without precaution swim and bath in summer in nearby canals. Cases of drowning are only reported by GM yousfani and Umar Memon's study which shows drowning as second common cause of accidental death.[8]

Electric shock was seen in 01 case due to short circuiting. Among total 02 suicidal deaths both females ended their life by burning themselves with petrol on clothes. BelayatHussain's study in Dhaka also shows the same. Poor females are tortured physically and mentally so they may commit suicide. Suicide due to dowry matters is very common in India.[20]

CONCLUSION

This study concludes homicide was the commonest manner of death as compared to others. Road traffic accident followed by sharp object injury is the predominant non firearm fatality. The males belonging to age group between 21-40 years were commonly victimized. As Road Traffic Accidents was the major cause of unnatural death, the law and order situation regarding this issue must be improved. Driving license especially for heavy duty vehicle is granted on just subscription of fee without any physical or mental test. There is no proper investigation of drunken or narcotic usage by drivers or pedestrians. Keeping this scenario in mind we assume road traffic accidents a conflict situation between homicide and accident very difficult to distinguish especially in high profile cases. Author intend that for homicidal assaults we need to improve behavioral and psychological attitudes but for God sake accidental unnatural deaths must be reduced just by strict implementation of laws especially in cases of road traffic accidents both for drivers and pedestrians like preliminary breath test for drivers and use of zebra crossings and overhead bridges for saving life not time and effort. It's our duty to make Road traffic act as part of practice not only for print and publication.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Hospital Waste Management

Hospital Waste Management Plan at Bahawal Victoria Hospital, Bahawalpur

Muhammad Safdar Baig[1], Muhammad Ashraf Arif[2], Riaz Ahmed Bhutto[3] and Syed Muhammad Yasir[4]

ABSTRACT

Objective: To describe hospital waste management plan in our setting for primary to tertiary hospitals and to make it environmental friendly with respect staff safety.

Study Design: Observational / cross sectional study.

Place and Duration of Study: This study was carried out at Bahawal Victoria Hospital, Bahawalpur from May to August 2015.

Materials and Methods: This study carried out as an assignment for the course of Environmental and Occupational Health point of view. Data has been collected from the staff of the BV Hospital and the Quaid-e-Azam Medical College, Bahawalpur as our study subjects. The purpose of this paper is to outline the hospital waste management plan in our setting from primary to tertiary hospitals in a comprehensive way to put forward suggestions for further improvement.

Results: Among the hospital staff particularly doctors were not aware of any hospital waste management protocol/plan. Similarly nobody form the hospital staff recalled any training program or such activity to be performed in their respective wards or departments since ever. Just the concerned nursing staff had sort of interaction with the sanitary workers and the sweepers engage in their routine hospital cleaning process supervised by the sanitary inspectors. As such no health facilities had properly implemented any hospital waste management plan in accordance to expected standard and practices; just routine maintenance of the hospital cleanliness is being carried out and the wastes were collected and moved to the point of transportation or being transported direct to its disposal point.

Conclusion: There is need to develop Hospital Waste Management policy and plan for institutions along with its allocation of appropriate funds. Hosp Waste disposal standard operating procedures in a way that such model can be implemented anywhere by little modification as per need assessment basis in all of our healthcare settings.

Key Words: Hospital Waste Management, Plan, Protocol.

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INTRODUCTION

The Hospital Waste is one of the major sources of cross infection in our hospital settings as it is hazardous not only for the hospital staff but also for the patients and their attendants who come across it.[1]The reason behind this cross infection is the poor handling of the hospital waste in our country.

It mostly consists of lethal contaminated highly infectious material collected from hospital wards and clinics, outdoors and operation theatre settings and usually includes the used syringes, empty bottles, cartages, drips, and blood, urine and intravenous bags almost all over the world.[1,2] From the literature search the sharp objects included in the above mentioned hospital wastes are the main source of cross infections for the hospital workers and handlers of these waste as a source of nosocomal infection.[2, 3]

As per hospital waste management estimates from the scientific literature search from all over the world about one percent of the total hospital waste is infectious in nature while more than fifteen percent out of this is main source of cross infection from hospital settings.[3]

It is now well documented that the developed countries of the world are generating more quantity of the hospital wastes as compared to economically under developed and poor countries, according the World Health Organization statistics the estimated waste generated from the economically developed country is about six kilograms while this figure is about three

[1.] Department of Oral & Dental Surgery / Anatomy[2], Quaid-e-Azam Medical College and Bahawal Victoria Hospital Bahawalpur.
[3.] Department of Community Medicine, Altibri Medical College, Isra University Karachi.
[4.] Sandeman Provincial Tertiary Care Hospital, Quetta.

Correspondence: Dr. Muhammad Safar Baig, Assistant Professor & Head of Department of Oral & Dental Surgery, Quaid-e-Azam Medical College and Bahawal Victoria Hospital Bahawalpur.
Contact No.: 0300-6821103
E-mail: safdarbeg@gmail.com

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kilograms from the under developed countries per person per year including South East Asian countries.[3, 4] According to WHO protocols the hospital waste is considered to be most hazardous substance which even need to treated prior to its disposal through process of proper treatment protocols.[4] If hospital waste is not treated properly it not only put the hospital staff concerned with patients treatment at risk for cross infection but also the house keeping staff, sweepers, the waste collectors and the general public as well.[5] The hospital waste when disposed off as open dumping which contain human organ parts is most dangerous one which need to be handled carefully according to standard waste management protocols.[6] If mixed with the other hospital waste, it will contaminate the other waste making it more at risk of cross infection for patients and general public as well.[7]

The results of a study from Nepal by Paudel et al showed that the hospital staff concerned with waste collection and its disposal are usually not aware of the hazardous effects of the hospital contaminated waste in our settings particularly in South East Asia.[5] It was also noticed that their poor handling of the waste with respect to its disposal put them at more risk of acquiring hospital acquire cross infections.[8, 9]

By the year 2007, there were estimated more than 90,000 hospital bed occupancy in our country and the estimated waste generation per hospitalized bed ranged from 1.5 to 2 kilograms per day.[10] The results of the hospital base studies from Pakistan has shown that neither the hospital staff nor the practicing physicians and surgeons do not follow any standard protocols for hospital waste proper disposal at the public and private sector. This non compliance practice to abide by the standard waste management protocols not only put them at risk of nosocomal infection but also put the complete hospital environment at hazard of cross infection at the same time.[11]

It has been documented through many local studies from the main cities of our country and also pointed out by the independent media for the awareness of common people to educate them about the hazards of hospital waste from our healthcare settings, it is not only the source of hospital acquired infection but also a source of earning for scavengers through collection of these used disposable hospital wastes for recycling and when resold in the same local market to earn their daily livings.[12] There is no doubt about it the poor low paid hospital housekeeping staff has been involved in such activities but there is no check and balance in our setting to stop this ill legal practices from our hospitals due non compliance of the standard hospital waste management protocols.[13] This is one of the important reason for the high rate of needle sharp instrument prick injury in our hospitals among the medical staff as compared to the paramedics.[14]

MATERIALS AND METHODS

Total 135 hospital staff were interview and included in this study from our institution three hospital settings at Bahwal Victoria Hospital and the Quaid-e-Azam Medical College, Bahawalpur no private sector hospitals and clinics were not interested to be part of this study as per their own free will. A hospital waste management protocol semi structured questionnaire was developed as part of data collection and a trained data collector medical doctor of the same hospital and institution carried out this whole process of data collection in about two week time. This questionnaire also consists of some observational part to record the on going process and the plan or protocol to be followed in the wards by the staff concerned for collection of hospital waste and its disposal and during the administration of the this data collection tool some issues raised by the respondents were also answered and the questionnaire was improved to record these important finding as our observations in our study. The interviewer visited the hospital wards, various surgical and medical out patients departments including the department of dentistry and our accident and emergency, medical collage departments like anatomy, pathology and other basic and clinical settings and it was good to know that some of our study subjects were already aware of the hospital waste management related protocols as part of Punjab Healthcare Commissions minimum standards in hospital settings. During our visit to hospital various departments and wards at the time of data collection, the process Of waste handling on site situation with respect to its collection, storage in different colour coding bags, then its transportation to the point of disposal were also notices and recorded very carefully.

RESULTS

As per our study results at our institution no protocol or hospital waste management plan was being followed, the routine hospital ward cleanliness was being done by the housekeeping staff under no direct supervision.

Table No.1: Segregation of Hospital and College side waste

Sr. #	Color scheme	Used for collection of waste material type
1.	Red Bags	Blood bags, tissue organ, swabs, drip sets syringes etc
2.	Yellow Bags	Sharpe objects like needles, blades, etc
3.	Black Bags	General hosp and lab wastes from college side

The overall incharge of this whole process was the hospital sanitary inspector who was going to monitor it from his office who himself was not aware of any standard protocol or any hospital waste management

plan as a written document everything was being carried out on verbal orders through senior ward boys as the supervisors. The hospital waste was being transported after its collection from the various wards, outdoors, departments etc and directly shifted to its disposal place for burial or dumping at specified filth collection area by the hospital sweepers without any sorting process as the red, yellow and black bags; although in some department they have been provided. As yet no facility of incinerator has been functional at the institutional level, perhaps in the process of installation.

Table No. 2: No of interviews and data collected from hospital staff sanitary workers and housekeeping servants

Hospital/Unit Department	No. of Doctors	No. of staff Nurses	No. Sanitary workers	No. of Ward Servants	No. of Admin staff	Medical Superintendent	Total
Victoria Hospital	10	9	13	14	5	1	52
The Civil Hosp	12	6	10	12	4	1	44
Departments Medical College	13	7	9	9	-	-	38
Total	**35**	**22**	**32**	**35**	**9**	**2**	**135**

DISCUSSION

The hospital waste management situation described here has been ascertained from our field observations during data collection by visiting and carefully recording the ongoing situation by data collectors at our institution the Bahawal Victoria Hospital and Quaid-e-Azam Medical College, Bahawalpur in the light of the hospital waste management rules 2005 and the minimum healthcare delivery standards as laid down by the Punjab healthcare commission regarding disposal of hospital wastes.[10, 13]

From the above mentioned standards, the only choice for hospital waste proper disposal is the use of incinerator in all the healthcare settings.[14] It has also been pointed out and well documented the use of un-regularized incinerator has also hazardous effect for the human health.[15] It has been suggested that a common healthcare waste management disposal for the public and private sector as relatively low cost and affordable option is better choice in a vicinity in the form of incinerator.[16]

There is increased risk of mishandling of the hospital related infectious material containing bio-medical fluid and body organs, sharp needles, blood and urine bags etc which put the general public and the whole environment at risk of cross infection.[17] Another where it cannot be afford is the proper designed landfill which is also universal acceptance if built on scientific grounds in our settings.[18] There is need to take into account all the precautionary measures that such landfills should be built away from the main community settlement areas as it should not become source of ground water contamination.[19, 20]

There is need to properly implement the laws and regulations in our healthcare delivery settings for the disposal of the hospital waste to avoid serious threats of cross infection control due to mishandling of such hazardous waste. There is much gap between theory and things in practice in the real life scenario in our settings due to non compliance of the environmental protection rules and regulations.[21]

CONCLUSION

There is need to develop the Hospital Waste Management policy and plan for each institution along with its allocation of appropriate funds. There should be a Hospital Waste Management Committees by its designated head and members accordingly to develop SOPs separately for each dept and specialty and training of the concerned staff. There should have been proper execution of the Waste Management Plan as per formulated SOPs and monitoring and evaluation for continuous quality control and feedback within institution frame work.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Risk Factors of Coronary Artery Disease

Knowledge Regarding Modifiable Risk Factors about Coronary Artery Disease in an Urban Male Population

Shehzad Aslam[1], Malik Tayyab Hussnain[4], Muhammad Khan[5], Aamir Nazir[2], Asma Abdul Razzaq[3] and Shahid Abbas[6]

ABSTRACT

Objective: To ascertain knowledge of modifiable risk factors about coronary artery disease in an urban male population of Sargodha city; Pakistan.
Study Design: Observational / cross sectional study.
Place and Duration of Study: This study was carried in urban male population of Sargodha city, Pakistan from November, 1st to 30th 2015.
Materials and Methods: This study was carried out to recognize knowledge of modifiable risk factors about coronary artery disease in an urban male population of Sargodha city. All 100 married male apparently healthy participants; 25-60 years of age were included.
Results: The mean age of subjects was 40.12±10.22 years. The frequency of smoking (28%) was significantly higher in study population, sedentary lifestyle (25%) obesity (22%), use of salt (17%) and use of fat (8%) respectively.
Conclusion: The present study determines a poor knowledge of modifiable risk factors regarding Coronary artery disease in the urban male population. Therefore, there is an immediate need to initiate measures to raise awareness of these modifiable risk factors so that individuals at high risk for future Coronary artery disease can be managed.
Key words: Coronary artery disease, Frequency, Male population, Urban area

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INTRODUCTION

Coronary artery disease is one of the utmost collective causes of death and disease in equally industrialised and unindustrialized countries. It is an important origin of loss, and its impact to death is increasing.[1] Majority of those distress from coronary artery disease go to the lower middle socioeconomic section of the people. The comparative threat of emerging coronary artery ailment in Pakistani men is premier in initial eternities. A study conducted in an urban area of Pakistan that concluded that individuals of middle age or older had a stroke TIA or both. The average age of stroke was 50 years or 10 years or 10 years younger than in Western populations.[2]

The occurrence of Coronary artery disease is expected to intensification more on behalf of fast development and its associated existence variations, with modifications in nutrition, and lack of exercise.[3]
Hameed et al[4] have reported a Pakistani teenager, who grieved a cardiac problems, excluding for low levels of high density lipoprotein and slightly elevated homocysteine intensities. Generally, a third of Pakistani citizen above of 45 years have elevated blood pressure.[5] Typically tobacco berri/cigar/cigarette/hukka smoking, practice of using ghee, vegetable fat in cooking, elevated serum lipid are proved as evidence for such menace in the community especially young adults.[6]
Pakistani people develop coronary artery disease at a much lower level of dietary fat.[7] In elevation of levels of homocysteine is conjoint and reflects very deprived dietetic practices such as not eating additional fruits and vegetal as well as burning and profound scorching that terminates maximum of the nutrients.
Smoking is the furthermost mutual menace and dynamic amongst the masculine individuals. In spite of its excessive popularity, awareness regarding coronary artery disease hazard issues is low.[8] Information about coronary artery disease and its predisposing aspects is an important pre-requisite for an individual to implement as social changes for coronary artery disease

1. Department of Cardiology / Medicine[2] / Radiology[3], Sargodha Medical College Hospital Sargodha
4. Department of Medicine, Rai Medical College Hospital Sargodha.
5. Department of Medicine, DHQ Teaching Hospital Sargodha
6. Department of Cardiology, Faisalabad Institute of Cardiology Faisalabad

Correspondence: Dr. Shehzad Aslam, Assistant Professor; Cardiology, Sargodha Medical College Hospital, Sargodha
Contact No.: 0300-9603946
E-mail: dr_shehzad_aslam@yahoo.com

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prevention. There are conspicuous breaches in information of coronary artery disease, its menace influences, and symptoms in our populace resulting in inadequate precautionary behaviour patterns. Didactic courses are immediately essential to develop the level of understanding of coronary artery disease in the Pakistani community.[9]

The purpose was conducting such research to determine knowledge of modifiable risk factors for coronary artery disease in an urban male population of Sargodha city; Pakistan. To identify baseline facts and figures to create awareness strategies among most of the prevalent age groups to control/minimize the menace of this cure able disease.

MATERIALS AND METHODS

It was a descriptive cross sectional study conducted from November, 1st to 30th 2015. A total of 100 male respondents from urban population of Sargodha city were approached after written consent for interviewing about modifiable risk factors regarding Coronary artery disease. These respondents were selected through using 'non-probability' purposive sampling technique. Apparently healthy person living in area of city Sargodha, age 25 to 60 years and married male gender were included. Known to have coronary artery disease was excluded.

RESULTS

It was revealed that knowledge of modifiable risk factors about coronary artery disease in an urban male population of Sargodha city; Pakistan found as: The mean age of subjects was 40.12±10.22 years. The frequency of smoking (28%) was significantly higher in study population, sedentary lifestyle (25%) obesity (22%), use of salt (17%) and use of fat (8%) respectively (Fig. 1).

Figure No. 1: Frequency of risk factors (%)

DISCUSSION

This study inspected the frequency of modifiable risk factors for Coronary artery disease in male study population were as, smoking was significantly higher (28%), sedentary lifestyle (25%) obesity (22%), use of salt (17%) and use of fat (8%). The current outcomes were matched with the conclusions in the research established that 46.2% of men were overweight. Related consequences were originated by a research conceded in India among men revealed overweight in 47%, as peril factors in the study group. Another study by Mohan and Deepa[10] showed the overweight was 60.2% various other studies have also shown alike inclinations in the unlike peoples.

CONCLUSION

There is an instant requirement to increase consciousness amongst the overall populace about these danger aspects of such disease complex, so we have to encourage them for accurate nutrition and physical exercise, and at the same time improve strategies for transmission and protective satisfying events to pinpoint and accomplish community at great menace for future coronary artery disease.

Strengths: This research is the primarily of its nature to scrutinize among male community of urban population of different age sets living in many parts of city Sargodha. Principal investigator interviewed all participants himself to maintain quality of information.

Acknowledgement: "I am cordially thankful to the all participants for their consent and participation in this research study, I also grateful to my institutional seniors, junior's contacts for their utmost guidance, favour and help to accomplish this agenda."

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Sexual Assault

Study of the Cases of Sexual Assault; Reported at a Tertiary Care Hospital in Bahawalpur

Altaf Pervez Qasim[1], Aslam Baig[2] and Muhammad Ashraf Ali[2]

ABSTRACT

Objectives: The present study was undertaken with objectives to study the socio-demographic and medico-legal characteristics in victims of sexual assault reporting for medico legal examination at tertiary care hospital at Bahawalpur.

Study Design: Observational / descriptive study

Place and Duration of Study: This study was carried out in the Department of Accident& Emergency of a tertiary care hospital at Bahawalpur from 1st January, 2013 to 31st December, 2014.

Materials and Methods: This study was conducted on 87 cases of sexual assault received in the Department of Accident & Emergency of Bahawal Victoria Hospital, Bahawalpur during the calendar years 2013 &2014. The details pertaining to socio-demographic factors such as age, marital status, residential background, and profession of the victim, time interval between the incidence and medico-legal examination and associated physical / genital injuries sustained by the victims were also recorded. The results of the different specimens sent to the forensic science laboratory for further examination were collected & tabulated on a self designed Performa.

Results: The study revealed that incidence of sexual assault was common in urban citizens as compared to the rural areas. The most vulnerable age group was 11-20 years involving 36(41.38%) cases followed by those belonging to 3rd decade of life involving 30(34.48%) victims. Of the total 87 cases of alleged sexual assault, 35(40.23%) were students whereas 55 (63.22%) were unmarried. As regard the time interval between sexual assault and examination, 20(22.99%)victims presented themselves for medico legal examination within24 hours of the incidence. Hymen was found torn/ruptured with old tears in 72(82.76%) cases and fresh tear was noticed in 15(17.24%) victims whereas no Virgo intacta was found among all sexual assault cases. Vaginal swabs were found stained with spermatozoa in 56(64.36%) cases and on naked eye examination; the clothes of 22(25.29%)victims were stained with semen.

Conclusion: The most vulnerable age group affected by the sexual violence in Bahawalpur belonged to 11-20 years and majority unmarried. Rape &Sexual Assault is underreported crime due to social stigma. A joint effort by law enforcing agencies, Judiciary & civil society should be made in collaboration of electronic and print media to eliminate the sexual violence from the community. The study may help to enhance awareness among public and implement the strategies to make the society a safe place for females particularly the unmarried younger age group.

Key Words: Sexual Violence, Assault, Victims, Women, Medico-legal

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INTRODUCTION

Sexual Violence is primarily a crime of power and control. It can impact all people, regardless of age, ethnicity, race or economic status. The increasing trend of sexual violence against women has been incorporated in the Global statistics showing that at least one in every five women experiences rape or attempted rape during her lifetime [1].

[1.] Department of Forensic Medicine, Punjab Medical College, Faisalabad.
[2.] Department of Forensic Medicine, Quaid-e-Azam Medical College, Bahawalpur.

Correspondence: Dr. Altaf Pervez Qasim,, Associate Professor, Forensic Medicine, Punjab Medical College, Faisalabad.
Contact No.: 0300-9651475
E-mail: drapq95@yahoo.com

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The incidence of rape and other forms of sexual violence is increasing Worldwide [2]. Sexual offences are considered as a crime against women everywhere in the world and always been a part of human culture. The victims of sexual violence are not only robbed of their dignity and pride by way of seduction by men outside but may become a victim of cruelty by her saviors within the four walls of her own house [3]. This type of violence transgresses the boundaries of caste, creed, religion and prevalent in almost all societies. Sexual offences, when assume the form of sexual violence may lead to murder, suicide and acute depression and ultimately disturbs the social well being of the victim. They may be rejected by those close to them, ostracized by their communities and in extreme cases murdered by the perpetrator [4].

Reported rape statistics vary from 1.19538 per 1,000 people in South Africa to 0.142172 per 1,000 people in United Kingdom [5]. The statistics for rape in USA are also alarming; according to a report, 1.8 million of the

22.3 million adolescents been sexually assaulted [6]. In India, sex crimes against women and girls are mainly manifested in the form of rape, molestation, sexual harassment, kidnapping and abduction for sexual purposes and trafficking of girls for sexual exploitation [7]. According to a US report on human right violation, rape is the fastest growing crime in India but still under-reported [8]. Sexual assault is a complex crime to analyze because many cases are never reported and no age is exempted from these crimes which are usually committed by males to fulfill their sexual desire, to show masculinity, to get control of the victim & to take revenge [9].

The increasing crime scenario of sexual assault has proved to be a hazard to women's freedom and a menace for the law enforcement agencies[10]. The long lasting effects of mental trauma experienced by the victim may linger till the end of her life [11]. It has been reported in the most recent international data that one in three women worldwide experiences physical or sexual violence by a partner or non-partner in their families [12]. The highest number of sexual assault cases was officially reported as per 2014 statistics, in Delhi for the first time in history [13].

Despite its pervasiveness and devastating impacts of sexual assault victims across the world, the responses of criminal justice system is problematic [14]. The purpose of this study was to ascertain sexual violence in Bahawalpur City and to analyze the data with respect to socio-demographic characteristics, medico legal examination and to evaluate the role of forensic examination in dealing with sexual assault cases.

MATERIALS AND METHODS

The study was conducted in Accident & Emergency Department of a tertiary care health institution, Bahawal Victoria Hospital, Bahawalpur Pakistan. It was based on all the cases of alleged sexual assault in females reported for medico legal examination during the period from January, 2013 to December, 2014. The data was retrieved by examining the original record of medico-legal certificates, history narrated by the victims during examination, detail of injuries as mentioned in MLC registers and results of the specimens sent to Punjab Forensic Science Agency for further examination. The details pertaining to socio-demographic factors such as age, marital status, occupation, time interval between the incidence and medico legal examination and results of different specimens sent for chemical analysis & serological examination were entered on a self designed Performa. The data was then analyzed and discussed.

RESULTS

In the present study, 87 cases of sexual assault in females were examined during the calendar years 2013& 2014. Majority 58(66.67%) cases of sexual assault were urban citizens while 29(33.33%) victims belonged to the rural areas near the boundaries of Bahawalpur City. It was found that age of the victims ranged from 09 years old child to 49 years old women. The most vulnerable age group was 11-20 years involving (36) (41.38%) cases followed by 30 (34.48%) victims belonging to the 3rd decade of life. Fifty five (63.22%) victims of sexual assault were unmarried followed by 32 (36.78%) married. The majority 35(40.23%) victims were students followed by 20(22.99%) servants working under private capacity in the homes whereas 15 (17.24%) factory workers / private employees and 10 (11.50%) house wives also became the victim of sexual violence and no information was available in the record about occupation of 7 (8.04%) cases. [Table-1]

As regard interval between sexual assault & medico legal examination, 20(22.99%) victims reported for medico legal examination within 24 hours of the incidence followed by 32(36.78%) cases attending the medico legal clinic after 24–48 hours,15 (17.24%) cases presented after 48 – 72 hours, 9 (10.34%) cases were examined after 72 – 96 hours, 7 (8.04%) after seven days and 4(4.08%) victims of sexual assault were medico legally examined two weeks after the incidence. [Table-2]

Table No.1: Socio-demographic profile of sexual assault cases

Category	Frequency	%age
Residential background:		
Rural	29	33.33%
Urban	58	66.67%
Total	87	100
Age group (in years):	Frequency	%age
0 – 10	5	5.75%
11 – 20	36	41.38%
21 – 30	30	34.48%
31 – 40	15	17.24%
41 – 50	01	1.15%
Total	87	100
Marital status:		
Unmarried	55	63.22%
Married	32	36.78%
Total	87	100
Occupation:		
Students	35	40.23%
Servants	20	22.99%
Employees in Private Sector	15	17.24%
Housewives	10	11.50%
Information not available	07	8.04%
Total	87	100

Thirty (34.48%) victims showed injuries either on genitalia or multiple parts of the body and out of those,

only 7(8.04%) had injuries on the Perineal areas without involving vulva / vagina but 15 (17.24%) cases had Injuries on the genitalia along with vulva / vagina. General injuries like bruises & abrasions were noted only in 8 (9.20%) cases but no injury was found on any part over the body of 57 (65.52%) cases.[Table-3]

On vaginal examination, hymen was found ruptured with old healed tears in 72(82.76%) cases and freshly torn with recent tears in 15(17.24%) cases. However, no case was found having intact hymen. [Table-4]

Table No.2: Time interval between sexual assault & examination.

Time Interval	No. of Cases	Percentage
Within 24 Hours	20	22.99%
24 – 48 Hours	32	36.78%
48 – 72 Hours	15	17.24%
72 – 96 Hours	09	10.34%
4 – 7 days	07	8.04%
7 – 14 days	04	4.60%

Table No.3: Associated injuries on the body of victims

Type of injury	Frequency	Percentage
General injuries	08	9.20%
Injuries on the Perineal areas	07	8.04%
Fresh injury on Vulva / Vagina	15	17.24%
No associated injury	57	65.52%
Total	87	100

Table No.4: Condition of Hymen in victims of Sexual Assault

Examination of Hymen	Frequency	Percentage
Hymen ruptured / old tear	72	82.76%
Hymen torn / recent tear	15	17.24%
Total	87	100

According to the reports of Forensic Science Laboratory, the spermatozoa were detected in 56(64.37%) cases on vaginal swabs indicating recent act of sexual intercourse. Twenty two (25.29%) cases were negative for semen whereas reports of 9 (10.34%) cases were not available in the record. [Figure-1]

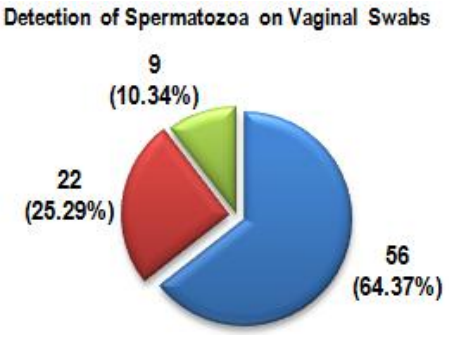

Figure No. 1: Status of the Reports of Forensic Science Lab:

While examining the clothes, stains were noted on the clothes of 22(25.29%) victims and no stain was seen in 33 (37.93%) cases whereas clothes were not presented at the time of medico legal examination in 30 (34.48%) cases. However, clothes were changed after the incidence in 2 (2.30%) cases only. [Figure-2]

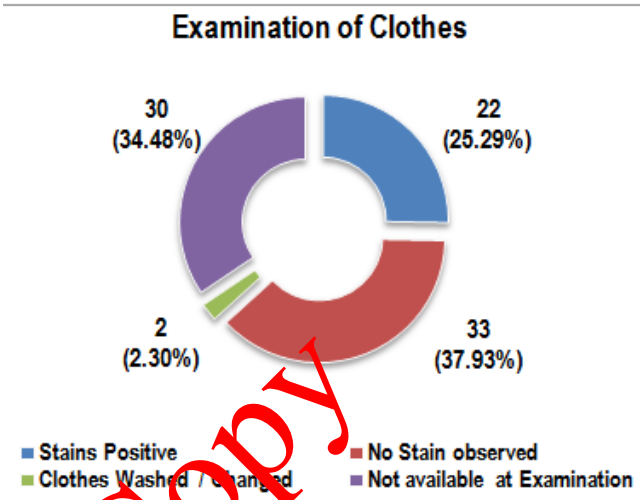

Figure No.2: Examination of clothes of Sexual Assault victims

DISCUSSION

Sexual violence against women is considered as one of the most common crime all over the world and violates our cultural and religious values. Cases of sexual violence could be higher in number because many victims do not report for the reason for being ashamed, embarrassed and afraid of being blamed by the friends, relatives & the society where they live [15]. In our study, sexual assault was most commonly observed in young girls of age group of 11-20 years, majority of them being unmarried and students. These results are in agreement with the studies conducted by Tamuli et al[4], Bhowmik and Chaliha[10] and Bandyopadhayet al [15].

The most vulnerable age in our study, was 11-20 years in 36(41.38%) cases followed by 18-30 years in 30(34.48%) cases. The findings of this study are in agreement with those of Tailor et al [16] showing majority of female victims in the age group of 14-17 years. Another study conducted by Demireva et al [17] noted the involvement of 38.73% victims of sexual assault in the age group of 14-17. Similar finding have been reported in some other studies [18,19,20,21,26] indicating the 11-20 years as highly affected age in sexual assault cases. A study conducted by Bandyopadhayet al [15] reported that 36% victims below 18 years of age were involved in sexual violence. According to Tariq et al [19] the highly vulnerable age group for sexual assault was 10-19 years whereas Suri and Sanjeeda [22] commented that the age of 11-15 years was highly affected. Another local study conducted by Irum Suhail et al [23] revealed the involvement of 55.2% victims of age group 10 – 19

years in sexual assault. In view of the studies conducted in different jurisdictions, it can be concluded that no age is safe from sexual assault. This age group is more vulnerable to sexual assault due to the fact that the female adolescents are less mature and may not be able to protect themselves from either acquaintance persons or strangers.

The time duration between sexual act and medico legal examination is one of the most important factor to establish the case of sexual assault but majority of the victims were reluctant to report because of embarrassment, shame and feeling of guilt. In our study only 20 (22.99%) cases presented for medico legal examination within 24 hours of the sexual assault whereas 32(36.78%) cases reported on the next 24–48 hours. Similarly, 30.26% cases of alleged sexual assault were medico legally examined during initial 24 hours of the incidence as reported by Irum Suhail et al [23]. This low reporting rate was also seen in a study conducted at Lahore [24] where only 4.8 % of the victims were examined within 24 hours. In a study conducted by Arif et al [21] the medico legal examination was done in 24.3% victims of sexual assault on the second day of incidence and another study conducted by Haider et al [9], documented that 37.93% victims were examined on second day of incidence while Pal et al [20] reported that 42.85% cases were examined on second day of the incidence. Kaushik N et al [27] reported only 7.48% victims examined on the same day of sexual assault and in our study 22.99% cases were examined within 24 hours of incidence. This delay may be due to various taboos and embarrassment of being exposed. Many victims do not report about the incidence for the reason that they are ashamed or afraid of being blamed [25]. Unfortunately in our society such type of incidence is linked to family honors therefore the whole family is brought into making the decision of being exposed to law enforcing agencies.

Fifty five (63.22%) victims of sexual assault were unmarried followed by 32(36.78%) married. Almost similar findings have been reported by other studies [4,15,19] in which 63% victims of sexual assault were unmarried. In a study conducted by Qasim AP et al [26] the authors reported the involvement of 65% unmarried victims in sexual assault. According to the study conducted by Pal et al [20] the unmarried victims were 77.14% while Irum Suhail et al [23] reported that 77.6% unmarried girls became victims of sexual violence whereas Suri and Sanjeeda [22] reported that 96% victims of sexual assault in their study were unmarried. However, findings of our study are in contrast to those of Haider et al [9] in a study conducted at Dera Ismail Khan, observing 41.4% victims unmarried as compared to 58.6 married. Majority 35(40.23%) victims in our study, were students. Almost similar findings were reported by other authors [16,18,20]. Findings of our study are consistent with Kaushik N et al [27] indicating involvement of 41.06% students in sexual assault.

On examination of Perineal areas, in our study, recent / fresh tears were found in hymen of 17.24% cases and old tears in 82.76% victims. Pal et al [20] found hymenal tear or rupture of hymen in 88.57% cases and hymen intact in 11.42 % cases. Bhowmik and Chaliha [10] found hymen intact in 8.88% cases. Haider et al [9] found old hymenal tear in 63.8% cases, recent tear in 32.8% cases. Arif et al [21] observed old hymenal tear in 77.6% and fresh tear in 22.3% cases. Physical evidence of violence either on genitalia or other parts of the body were observed in 37(42.53%) victims in our study. Injuries on genitalia and vulva / vagina were noted in 22 (25.28%) cases extra genital injuries over the different parts of body were found on 8(9.20%) cases only. Pal et al [20] reported extra genital injuries in 20.0% victims whereas genital injuries were observed in 11.42% cases. Extra genital injuries were also noted by Arif et al [21] in 10.8% victims. Evidence of Physical violence on the body was present in only 15% of the victims in study by Hassan et al [24] and the study conducted in Dhaka city by Al-Azad et al [28] revealed that 39.57% victims had genital injuries and 36.09% had extra genital injuries.

For the purpose of linking the case of sexual assault to the assailant, the detection of semen and spermatozoa is of utmost importance. In our study, Semen was detected on vaginal swabs in 56(64.37%) cases of sexual assault. This can be explained by the fact that the probability of detection of semen decreases as the interval between assault and medical examination increases. This is in agreement with study conducted by Arif et al [21] who reported that swabs collected for semen detection were positive in 18.2% cases. Bandyopadhay et al [15] detected semen in 24.07% cases. Pal et al [20] reported semen positive in 22.85% cases. The chances of yielding positive result diminish if the victim had washed genitalia after the assault or washed or changed the clothes.

CONCLUSION

The physical violence against women is a significant public health problem as well as fundamental violation of women's human rights and is universally condemned. The accused of sexual assault are acquitted by the courts of law for want of adequate evidence but those should be identified and socially ostracized as these beasts are not worthy of being accepted in civilized society. The most vulnerable age group belonged to 11-20 years, unmarried girls. Sexual Assault is under reported crime due to social stigma. Delay in medical examination resulted in loss of vital trace evidence. Early reporting / examination of sexual assault victims are of vital importance to collect medical evidence enabling forensic science laboratory experts to ultimately help judiciary to punish the

criminals involved in such heinous crimes. A joint effort by law enforcing agencies, Judiciary & civil society should be made in collaboration of electronic and print media to eliminate the sexual violence from the society.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Original Article

Quality of Life in Dialysis Patients

To Assess Health-Related Quality of Life and Co-Morbidity Pattern in Hemodialysis Patients

Ghulam Abbas[1], Sohail Safdar[2], Ijaz ul Haque[2] and Mahtab Ahmad[3]

ABSTRACT

Objective: To assess health-related quality of life and co-morbidity pattern in hemodialysis patients
Study Design: Observational / cross sectional study.
Place and Duration of Study: This study was carried out in the Department of Nephrology Department, Nishtar Medical Hospital, Multan from February 2015 to January 2016.
Materials and Methods: By a non probability purposive sampling procedure, 123 hemodialysis patients from our hemodialysis center in Nishtar Hospital Multan(Pakistan) were interviewed by resident doctor according to the SF-36 Scales. The means and standard deviations for each of eight scales were calculated, each domain ranges from 0-100, the highest scores indicating better quality of life. Comorbidities like DM, Hypertension ,ischemic heart disease lung disease etc were also recorded.
Results: The scores of the eight scales in the hemodialysis patients were 49.92 ±30.9[illegible] 38.82 ±41.39, 46.73 ±26.54, 40.52 ± 21.65, 43.98 ±21.82, 49.43 ±27.76, 49.85 ±40.59 and 59.93 ±17.3[illegible] Co-morbidities pattern were hypertension in 104(84.6%),DM 59(48%),ischemic heart disease 23(18.7%) and other co morbidities were less common. The scores of most of the scale in the patients with co morbidities were lower as compared to patients without co morbidities. Data obtained was entered by a doctor in SPSS version 20 and was analyzed to compute descriptive statistics of the numerical variables while frequencies and their percentages for categorical variables of the study.
Conclusion: The results of our study indicate that quality of life was poor among patients on hemodialysis particularly those having co-morbidities. Hypertension and diabetes were major co-morbidities in our study. Quality of life score was lower in female patients than that of male patients. Proper management of co-morbidities can improve quality of life of these patients which will decrease disease morbidity and mortality. This will also provide psychological and financial relief to the suffering families and also be cost effective for hospital authorities in terms of availability of space.
Key Words: Hemodialysis, **Q**uality of life, SF-36 questionnaire,

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INTRODUCTION

Prolonged survival and related clinical outcomes, the functioning and well-being which define end-stage renal disease population is an important component of the effective medical therapy. Current developments in history of medical sciences such as "Chronic dialysis, peritoneal dialysis and kidney transplantation" are major achievement in practice of Nephrology and they have contributed to improve life expectancy in such patients.

In today's medical services Patients' functional status, improved physical and mental performance and increased level of Satisfaction of these services beside expenditures involved in medical care defines quality of medical care in any society.[1]

The hospital staff should clearly realize importance of these factors and to individualize and support the patients.[2]

It is difficult to define quality of life as it is related with different dimensions like physical health, mental health, satisfaction, interpersonal relationships, socioeconomic & residential status for their survival beyond expectations.[3]

Patients having chronic ailments like ESRD in which disease cure is not a real objective of the treating physician, where functioning and well being of the patient is ultimate goal of medical therapy. In patients with chronic kidney disease quality of life can not only be generalized with increased rate of survival but also implies the importance of quality of survival in suffering patients.[3,4]

[1.] Department of Nephrology / Research Centre[2], Nishtar Medical College, Multan
[3.] Department of Pharmacology, Bahauddin Zakariya University, Multan

Correspondence: Dr. Ghulam Abbas, Asstt. Prof. of Nephrology, Nishtar Medical College, Multan
Contact No.: 0332-6181795
E-mail: drgabbas74@gmail.com

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Patients on hemodialysis who undergo dialysis sessions at regular basis generally exhibit poor quality of life, particularly in developing countries.[5]

The SF36, an established and a well-recognized, scoring system to ascertain quality of life which has 8 different independent domains with two summary component being used all over the world and has already been validated. It contains both disease specific and general components which reflect the patient's perceptions and viewpoints. The eight domains of this instrument includes physical function , role emotional, role physical emotional wellbeing, vitality, body pain, general health and social function . The score ranges from 0- 100 of every domain.[6]

The higher score shows better quality of each component which is target of dialysis treatment in our routine practice. A change of five in each domain is practically and clinically important and impact medical care.[4,7] The years of quality survival and QOL of patients with chronic non-communicable diseases like ESRD is still rising in developing countries[8].

Most of the data on this topic comes from developed western countries where patients have quality healthcare facilities and no financial limitations whereas in developing countries there is scarcity of the data on this hot issue. This study was done at Nisthar Hospital Multan which is a major tertiary care health facility in Southern Punjab providing medical care to more than 40 million population of this area. The present study describes the quality of life scores measured in patients undergoing hemodialysis at our hospital and their comorbidities pattern by using the SF 36-item questionnaire.

MATERIALS AND METHODS

All the subjects were explained and informed consent was taken. The questionnaire KDQOL-SF36 was used and patients on maintenance hemodialysis for more than three months were interviewed by a resident doctor according to the questionnaire. Validity of interview was done re interviewing by the head of Department having postfellowship eight years experience in double blind way then he/she was allowed to interview the all patients. We included patients on dialysis aged more than 18 years who had to undergo regularly hemodialysis with frequency of 2 – 3 times per week for more than 3 months duration who were able to understand local language urdu, Punjabi or saraiki. Patients were excluded if they had any history of malignancies confirmed from their medical records, multiple organ system dysfunction assessed clinically on history and record, those having difficulty in hearing and those who had undergone any major surgery in previous three months.

All the subjects (123) were enrolled from Department of Nephrology Nishtar Hospital Multan. Strict adherence to the inclusion and exclusion criteria was ensured to maintain quality control procedure. After registration, interviewing doctor asked relevant questions to document socio demographic distribution and clinical variables of the study were obtained directly from patients or from their medical records. The variables specifically, co morbidities like hypertension, diabetes, ischemic heart disease ,lung diseases, peripheral vascular disease, renal stone disease, duration on hemodialysis, Hemoglobin, serum albumin and calcium and phosphate were recorded in the study.

Data obtained was entered by a doctor in SPSS version 20 and was analyzed to compute descriptive statistics of the numerical variables while frequencies and their percentages for categorical variables of the study. Cross-tabulation was done to see the impact of categorical variables and independent sample t test for numerical variable

RESULTS

A total of 123 patients participated in the study among them 61 were male and 62 were females. Their mean age was 50.2 ± 14.7.

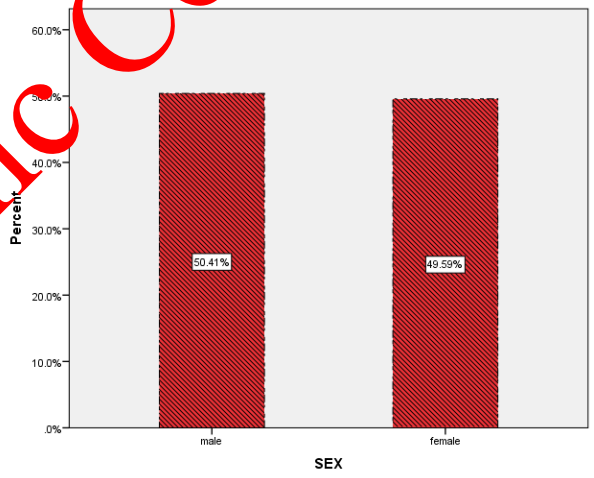

Figure No. 1: Gender distribution (n=123)

Table No. 1: Pattern of co-morbidities of hemodialysis. (n=123)

Variable	Yes	No
Diabetes	59(48%)	64 (52%)
Hypertension	104(84.6%)	19(15.4%)
Ischemic Heart disease	23(18.7%)	100(81.3%)
Nephrolithiasis	5(4.1%)	118(95.9%)
Peripheral vascular disease	2(1.6%)	121(98.4%)
Lung disease	2(1.6%)	121(98.4%)
Cerebrovascular accident	3(2.4%)	120(97.6%)

Co morbidities pattern of study population is given in table one. Co-morbidities pattern were hypertension in 104(84.6%),DM 59(48%),ischemic heart disease

23(18.7%) and other co morbidities were less common. Quality of life scores of total population and patients with comorbidities are summarised in table 2 .The hypertensive and diabetic population has lower scores than non hypertensive and nondiabetic patients. The female patients reported lower QOL scores in all domains except role emotional.

Other demographic and laboratory parameters have shown that frequency of dialysis were twice in 56(45.5%) and thrice in 67(54.5%) per week. Mean duration of dialysis was 31.20±39.52 months, mean dry weight 58.14±13.76 kg, mean hemoglobin was 9.47±1.87g/dl, serum albumin 3.86±0.77 g/dl, serum creatinine 9.54±3.32 mg/dl, Blood urea nitrogen 60.43± 19.45 mg/dl, serum calcium 8.41±0.96 mg/dl, and serum Po4 was 7.81±5.73 mg/dl .Phosphorus and hemoglobin was poorly managed in our patients.

We applied the multiple linear stepwise regression model of Physical Component Summary to know the various factors affecting the quality of life the four variables of age, sex, hemoglobin, and diabetes mellitus were variables having significant impact (P<0.01), while in that of Mental Component Summary, the two variables of age and hemoglobin were significant predictors of quality of life (P<0.01).

Table No. 2: Quality of life score with co-morbidity pattern. (n = 123)

QOL° Domains	Total (N=123)	Diabetes (n=59)	Hypertension (n=104)	IHD° (n=23)	CVA° (N=3)	PVD° (N=2)	LD° N=2	Stone° N=5
Physical Function	49.92± 30.90	48.69± 28.52	49.13± 30.82	36.30± 27.18	40.00± 35.00	17.50± 10.60	47.50± 31.82	58.00± 46.44
Role-Physical	38.82± 41.39	30.52± 38.58	34.86± 39.63	29.35± 38.17	00.00± 00.00	12.50± 17.67	00.00± 00.00	45.00± 54.19
Body Pain	46.73± 26.54	43.80± 24.38	44.68± 26.17	49.87± 27.57	51.00± 44.8[illegible]	100.00± 00.00	58.00± 22.62	35.40± 8.76
General Health	40.52± 21.65	37.66± 21.60	39.43± 21.93	32.91± 21.70	13.33± 17.55	56.00± 29.69	26.00± 15.55	53.80± 28.50
Vitality	43.98± 21.82	40.17± 22.76	42.79± 21.70	32.[illegible]± 22.04	15.00± 15.00	40.00± 14.14	45.00± 7.07	50.00± 25.45
Social Function	49.43± 27.76	50.88± 24.43	50.76± 27.81	52.19± 28.87	70.83± 19.09	87.50± 9.50	31.25± 8.83	17.50± 28.77
Role emotional	49.85± 40.59	48.00± 39.78	47.73± 39.62	28.94± 35.2	44.44± 50.91	50.00± 70.71	50.00± 70.71	26.66± 43.46
Mental Health	59.93± 17.36	57.76± 18.91	58.[illegible]± 17.47	51.30± 18.67	46.67± 33.30	80.00± 5.65	50.00± 2.82	65.60± 21.09

°QOL;quality of life, IHD; ischemic heart disease, PVD; peripheral vascular disease, LD;Lung disease, Stone;Renal stone disease

DISCUSSION

To measure dialysis adequacy, quality of life of CKD patients is a primary indicator for dialysis units. Mortality in patients on dialysis is influenced with health related quality of life. The SF36, an established and a well-recognized, scoring system to ascertain quality of life which has 8 different independent domains with two summary component being used all over the world and has already been validated. The main objective of the nephrologists is to enhance functional capabilities of dialysis patients so that they are more satisfied and can enjoy their living.

The results of our study have demonstrated that physical and mental health is affected in dialysis patients particularly those having co-morbidities like diabetes, hypertension, IHD etc. This leads to increase disease morbidity and exerts extra pressure on healthcare facilities in terms of occupying beds and more investments in health sector as well as by suffering the families. This increase in disease morbidity is not only restricted to the patient but also affects the life of their families in terms of psychological, social and economical stress. Moreover this disease hits main workforce of the society (in their middle ages) so it has great impact on national economy as well due to the disabilities and family income also suffers as they are more dependent on therapy to sustain their survival. Same findings have been reported in different studies done in different population subsets comparing their decreased functional well being with that of general population[9,10]. We did not compare this with our healthy control subjects because it has already been proved by many studies.

Chronic diseases such as Diabetes, PVD, hypertension etc have already been reported to have an influence on the quality of life of the patients. Although the spectrum of different co-morbidities differ from disease to disease as has been noticed in our study. Previous studies have already documented diabetes being a co-morbid disease of chronic kidney disease which results in very poor quality of life of these patients, these findings are in compliance with our study results [11,12.]

In our study, overall quality of life score was poor in patients with peripheral vascular disease, ischemic heart

disease and cerebrovascular accident as it has been reported in other reports[13,14]. Quality of life may be significantly compromised with increasing number of co-morbidites among targeted population[13].

In all domains quality of life was poor in female populations as compared with male patients which constitute 52 % of our total population of Pakistan. Although the root cause of this gender specific difference has not been defined clearly, however all the females had some degree of depression due to aesthetic appearance issues and economic dependency on their family members in our study. Similar results have been observed in many different studies reporting lower quality of life score in female patients than that of male patients.[15, 16, 17, 22]

Anemia and hypoalbuminemia were very common in our study, again both these are associated with poor quality of life, this association with poor quality of life has been established in other studies as well.[18,19,20,21] These findings emphasize the importance of early intervention for correction of these parameters, so that their negative effect on quality of life may be minimized.

The major limitations of the current study were that it is single centre study and questionnaires were not self administered, due to language barrier it was interviewed as our major dialysis population education status were illiterate.

CONCLUSION

The results of our study indicate that quality of life was poor among patients on hemodialysis particularly those having co-morbidities. Hypertension and diabetes were major co-morbidities in our study. Quality of life score was lower in female patients than that of male patients. Proper management of co-morbidities can improve quality of life of these patients which will decrease disease morbidity and mortality. This will also provide psychological and financial relief to the suffering families and also be cost effective for hospital authorities in terms of availability of space.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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When appropriate may be included.

ACKNOWLEDGMENTS

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CONTACT: **66-R, Phase-VIII, Defence Housing Authority, Lahore.**
Mob. 0331-6361436, 0300-4879016, 0345-4221303, 0345-4221323
E-mail. med_forum@hotmail.com,
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