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CONTENTS

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**Editorial**

1. **To Caffeinate or not?** \_\_\_\_\_ 1  
Mohsin Masud Jan

**Original Articles**

2. **Evaluation of Predictors for Severity of Dengue Fever at the Beginning of the Disease** \_\_\_\_\_ 2-5  
1. Rakhshinda Jabeen 2. Aftab Ahmed Siddiqui 3. Asif Qureshi
3. **Frequency of Diaphragmatic Trauma in Fire-Arm Injury of Abdominal Cases and Outcome of its Management** \_\_\_\_\_ 6-9  
1. Shabab Hussain 2. Viqar Aslam 3. Muhammad Sherose Khan 4. Waheed Alam 5. Sajjad Muhammad Khan 6. Waqar Alam Jan
4. **The Profile of Atopic Dermatitis in Out Patient Department of Dermatology Isra University Hospital** \_\_\_\_\_ 10-13  
1. Uzma Dost Muhammad Rajar 2. Navaid Kazi 3. Salman Ahmad Farsi Kazi
5. **The Correlation and Prognostic Significance of ESR and CRP Values with the Severity of Psoriasis with/without Psoriatic Arthropathy** \_\_\_\_\_ 14-16  
1. Bahram Khan Khoso 2. Irfan Shaikh
6. **The Quality of Sleep, Mood Stability and Coping Strategies Among House Officers** \_\_\_\_\_ 17-19  
1. Sarah Shahed 2. Fakhra Riaz
7. **Comparative Study of Efficacy of ORS with Paedicare (Ready to Use Solution) in Gastroenteritis in Children** \_\_\_\_\_ 20-23  
Muhammad Jalal
8. **Evaluation of Hearing Impairment in Children of School Going Age** \_\_\_\_\_ 24-26  
1. Itrat Jawed 2. Faheem Ahmed Khan 3. Raana Mahmood
9. **Efficacy and Safety of Glucantime for Cutaneous Leishmaniasis – Eight Years Experience at A Tertiary Care Hospital of Karachi** \_\_\_\_\_ 27-30  
1. Rabia Ghafoor 2. Bahram Khan Khoso 3. Sobia Fawad Hashmi
10. **Profile of Psychiatric Patients Attending Outpatient Clinic of a Tertiary Care Hospital, Karachi.** 31-34  
1. Ayesha Sarwat 2. Faryal Nawab 3. Nigmat Nisar
11. **An Observational Study done to Determine the Contrast in Stress Levels between Medical and Non-Medical Students conducted in Different Institutes in Karachi** \_\_\_\_\_ 35-39  
1. Zeba Saeed 2. Maria Atif 3. Bushra Bilal
12. **Frequency of Pregnancy Following Laparoscopic Ovarian Drilling in Patients with Clomiphene Resistant Polycystic Ovarian Syndrome** \_\_\_\_\_ 40-42  
1. Syed Muhammad Ali 2. Humera Shaheen 3. Sadia Nazir
13. **Management of Posterior Urethral Valves in Public Sector Hospital: Challenges Faced** \_\_\_\_\_ 43-46  
1. Muhammad Kashif 2. Asif Abbas 3. Mukhtar Hussain
14. **Prevalence of Skin Diseases in Patients Presenting at the Out Patient Department of Isra University Hospital Hyderabad: A Clinical Survey** \_\_\_\_\_ 47-50  
1. Navaid Kazi 2. Uzma Dost Muhammad Rajar 3. Salman Ahmad Farsi Kazi

**Guidelines and Instructions to Authors** \_\_\_\_\_ i-ii

**Editorial****To Caffeinate or not?****Mohsin Masud Jan**

Editor

Our Pakistani population is, for lack of other words, addicted, on a large scale, to tea. The rapid development and the booming business of tea houses and coffee shops all over the country is testament to this fact. Everyone drinks it, from the children to the senior citizens of our population, everyone is hooked. Some take it with sugar, some add sugar free sweeteners, some like it strong, others light. Everyone loves the buzz it provides, the increased attention, the jolt that a cup of coffee or tea can provide early in the morning when you're looking for a pick me up, or the extra shot of energy you need halfway through a grueling day and you reach for that energy drink, or order a cup of coffee or tea. All of that, is the effect of caffeine that you consume in that drink.

Lately, a debate has begun, whether or not caffeine is beneficial to us. Considering the vast amount of research being done, let us consider the benefits of caffeine consumption according to modern science.

- Coffee has been shown to reduce the risk of stroke by as much as 22%.<sup>1</sup>
- Several researches have shown that coffee can help reduce the risk of a myriad of cancers.<sup>2,3,4,5</sup>
- Coffee consumers have been shown to have a decreased risk of type 2 diabetes.<sup>6</sup>
- Coffee has also been shown to reduce the risk of kidney stones.<sup>7</sup>

Now that we've enlisted a few of the benefits from coffee, let's just bear in mind that these benefits come largely from the caffeine content in the coffee. The benefits seen in stroke and blood pressure come largely from the vasodilator effect of caffeine. Decaffeinated coffee just does not pack the same punch, there are benefits, but, reduced when compared to caffeinated coffee. And all of this being considered, there are limitations to caffeine intake itself, the recommended daily dosage does remain around 300mg of caffeine a day, which is 3-4 cups a day.

So the lesson for today is, all you caffeine guzzlers

out there, drink away, but remember, keep that drinking in moderation.

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# Evaluation of Predictors for Severity of Dengue Fever at the Beginning of the Disease

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## ABSTRACT

**Objective:** To evaluate the predictors of severity of dengue at the beginning of the disease

**Study Design:** Prospective and Observational study

**Place and Duration of study:** This study was conducted at Shan General Hospital and Trauma and General Hospital from July 2010 to 1<sup>st</sup> October 2011.

**Patients and Methods:** The study was conducted on all patients who were admitted and confirmed to have dengue fever after positive serology on day VI. There was pre-assigned protocol and every predictive marker was given one point.

**Results:** Patients who had  $\geq 4$  points at the time of presentation had more severe illness and developed more severe complications rather than those who had  $\leq 2$  points.

**Conclusion:** Dengue fever is becoming a major health problem. Predictive markers for severity of illness may help in detection of complication and its management.

**Key Words:** Dengue fever, Dengue hemorrhagic fever, Dengue shock syndrome, predictive markers

**Citation of article:** Jabeen R, Siddiqui AA, Qureshi A. Evaluation of Predictors for Severity of Dengue Fever at the Beginning of the Disease. Med Forum 2015;26(7):2-5.

## INTRODUCTION

Dengue is one of the most prevalent mosquito borne infection, which recently has become a major international public health burden. It is approximated that over 100 million dengue virus infections happen each year throughout the world.<sup>1</sup> Dengue is a major hazard in tropical and sub-tropical regions around the world, mostly in urban and sub-urban areas. Dengue haemorrhagic fever (DHF), was first recognized in 1940's during the dengue epidemics in Phillipines and Thailand, as a fatal threat, but today DHF affects most Asian countries.<sup>2</sup> It belongs to members of the family Flaviviridae, genus flavivirus.<sup>3</sup> There are four nearly related, although serologically distinct viruses known as DEN-1, DEN-2, DEN3 and DEN-4.<sup>4</sup>

The clinical demonstration of dengue viruses varies from asymptomatic, self limited dengue fever to DHF associated with shock syndrome. The severity of illness increases in sequential rather than primary infection.<sup>5</sup> An startling rise of dengue virus with complications is increasing in our part of the world in recent years.<sup>6</sup> We undertook this study in two different hospitals of Karachi from different locations. We elaborated

## PATIENTS AND METHODS

This prospective and observational study was conducted at Shan General Hospital and Trauma and General Hospital during the period of July 2010 to 1<sup>st</sup> October 2011. Predictors for severity of illness were designed prior to the commencement of study. They were designed according to the clinical features and laboratory parameters of the illness. Every predictor was given 1 point. The predictors for severity of illness included: ALT>50 IU, APTT >3sec from control, WBC <3000 on arrival, platelets <150,000 on arrival and fever of high grade with severe back pain. Patients having  $\leq 2$  points at the time of presentation had less chances of receiving platelets during the course of illness due to thrombocytopenia. Around 30% of patients require platelet transfusion. Patients with >3 points had 45% chances of receiving platelet transfusion and patients >4 points had 80-100% chance of requiring platelets infusion and they also had chances to develop DHF. Total 120 patients were included in the study from both hospitals, sixty from each hospital, with suspected history and clinical features of dengue fever. Out of 120 patients 90 were males. The age range among male patients was  $18 \pm 7$  years and among females it was  $30 \pm 7$  years. All patients admitted

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undergone complete blood count, erythrocyte sedimentation rate, malarial parasite, liver function test, prothrombin time (PT), activated partial thromboplastin time (APTT), urea, creatinine, and electrolytes at the time of admission and were repeated on days III, VI and X. At the time of admission they also had blood C/S, urine detailed report, urine C/S, ultrasound abdomen and chest X-ray. Dengue serology was sent on day VI of onset of symptoms.

**Inclusion criteria:** Patients with positive IgM or IgM and IgG both for dengue virus.

**Exclusion criteria:** Individuals with pre existing liver disease secondary to hepatitis B or C, patients with autoimmune illness and those who were on anticoagulants for any reason.

Patients with classical features of dengue but had negative dengue serology on day VI, were excluded from the study.

## RESULTS

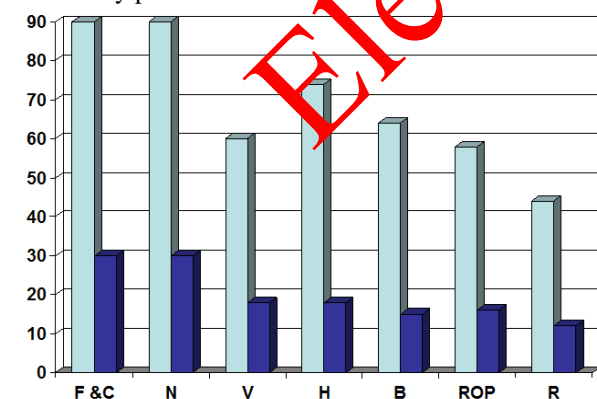
Patients with severe form of illness at the time of presentation i.e. having more than two symptoms and signs and having decreased platelet count ( $< 100,000$ ). Regarding symptoms of dengue fever, among 120 patients more than 50% had 3 symptoms at the time of presentation (figure 1).

Bleeding is one of the main features of dengue fever which also predicts the severity most. Precisely in our 120 patients, 6 had bleeding from multiple site and rest of the patients had it from one site (figure: 2).

On examination patients revealed different presentation (figure. 3).

Every patient had certain laboratory test on day one and then on subsequent days. The average of that result is shown in table 2 and 3.

Patients having platelet count less than 50,000 had twice daily platelet count.

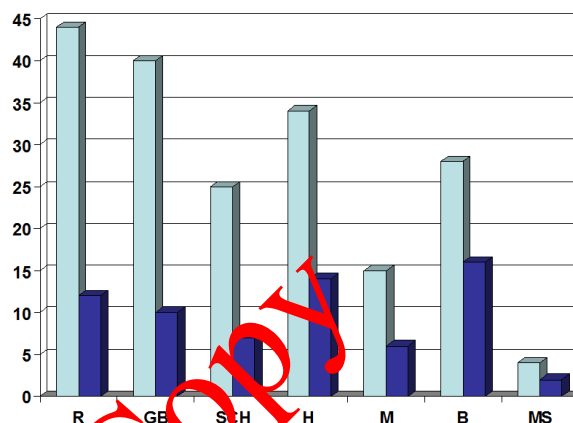


**F & C:** Fever and chills, **N:** Nausea  
**B:** Vomiting, **H:** Headache, **B:** Bodyache,  
**ROP:** Retro-orbital pain, **R:** Rash

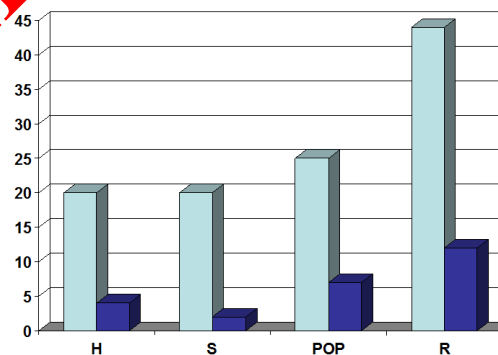
**Figure No. 1: Different symptomatology at the time of presentation** Male = 90, Female = 30

In our study total 7 patients had  $\geq 4$  points at the time of presentation. Eighteen patients had  $\geq 3$  points and 95 had  $\geq 2$  points at presentation (table 4).

Patients having  $\geq 4$  points at the time presentation have severe disease, or patients requiring platelet transfusion for multiple times had the increase chances of developing severe form of dengue fever i.e. DHF or DSS.



**Figure No. 2: Different bleeding pattern of the patients** Male=90, Female=30



**H:** Hepatomegaly **S:** Splenomegaly  
**POP:** Peri orbital puffiness **R:** Rash

**Figure No. 3: Different signs during illness** Male=90, Female=30

**Table No.1: Pre assigned predictive laboratory parameters on different days to evaluate the severity**

	Day 1	Day 3	Day 6	Day 10	Day 12
WBC Count	$<4,000$	$<2,500$	$<1,500$	$>3,500$	$>4000$
Platelet Count	$<150,000$	$<100,000$	$<50,000$	$>100,000$	$>150,000$
APTT	3-6 sec	7-9 sec	$>9$ sec	$<3$ sec	3 sec
ALT	70	200	400	$<70$	$<45$
Creatinine	1.4	1.6	$>1.6$	1.2	1.0

**Table No.2: Laboratory parameters among male patients n=90**

	Day 1	Day 3	Day 6	Day 10	Day12
WBC Count	86	86	81	81	88
Platelet Count	86	88	49	81	84
APTT	62	36	12	78	90
ALT	75	40	22	74	90
Creatinine	12	6	4	84	90

**Table No.3: Laboratory parameters among female patients n=30**

	Day1	Day 3	Day 6	Day 10	Day12
WBC Count	26	18	9	22	28
Platelet Count	24	16	14	21	26
APTT	15	5	3	7	30
ALT	18	9	5	21	30
Creatinine	6	4	2	20	30

**Table No.4: Points achieved by patients on arrival to the hospital n=120**

Points	Total patients	SGH	TGH
≥ 4	7	4	3
≥ 3	18	10	8
≥ 2	95	48	47

## DISCUSSION

Dengue is a pyretic illness that is caused by flavivirus and is endemic in more than 100 countries in tropical and sub tropical countries.<sup>7</sup> It is seen that mild dengue disease contributes more than half of the total public health burden of dengue associated illness,<sup>8</sup> the more grave manifestations of DHF and DSS provide the major impact for effects to prevent infection.<sup>8,9</sup> Dengue virus transmissions follow two general pattern, either epidemic or hyper endemic. Epidemic dengue transmissions occur when the introduction of dengue virus into a region is an abandoned event involving one virus strain.<sup>10</sup> Epidemicity is right now the predominant pattern of dengue virus transmission in smaller island nations, certain areas of South Africa and Asia. Hyper endemic transmission elaborates the continuous circulation of multiple dengue virus serotypes in the same area. Areas with hyper endemic dengue virus transmission contribute the vast majority of cases of dengue virus infection throughout the world. Between 5-10% of the susceptible population experience dengue virus infection annually in same region.<sup>11,12</sup> South East Asia extending from southern China to Southern Taiwan included in the hyper endemic area, as *A. aegypti* is present throughout the region. Pakistan and India experienced major out breaks of dengue fever in 2007, hyper endemic circulation of all four dengue serotypes appear to be established.<sup>13</sup> Majority of dengue virus infections produce mild, non specific symptoms or classic dengue fever. The more severe manifestations DHF and DSS, accounts only for less than 1% of

infection, which is also seen in our observation. Only 5% of our patients develop severe dengue fever and complications of dengue virus fever. The low risk of serious illness leads to the attention towards understanding the risk factor as well as to look for predictive marker for severity.

The risk factor includes type 2 genotype which is more prevalent in our part of the world.<sup>14,15</sup> Prior dengue exposure is another risk factor and it is also seen in our patients as those who had second episode of dengue develops more severe illness. It is also proven in other studies as one study from Bangkok<sup>16</sup> and one from Myanmar<sup>17</sup> proven the same result. The risk of dengue decline with age, especially after age 11, as we did not compare our adult patients with children so this is not observed in our study. Unlike other infectious disease dengue is more common in well nourished population rather than malnourished. This may be due to suppression of cellular immunity in malnutrition.<sup>18</sup>

The clinical features of dengue fever vary in different age groups. Infants and young children may present with nonspecific febrile illness with rash. Older children and adults either manifest as a mild febrile syndrome or the classical disease with sudden onset and high grade fever, severe headache, pain behind the eyes, muscle and joint pain with or without rash. All these symptoms were manifested by our patients. Because dramatic plasma leakage can develop suddenly and usually after a few days of fever, consequential attention has been advised upon the early identification of patients at higher risk for shock and other complications. Leukopenia, thrombocytopenia and a haemorrhagic diathesis are the characteristic haematologic findings in dengue virus infection. Leukopenia is one of the earliest presentation of the illness, and is of similar degree in DHF and dengue fever.<sup>19</sup> Thrombocytopenia is common in both dengue fever and DHF, but marked thrombocytopenia  $<100,000/\text{mm}^3$  is one of the criteria to define DHF. Multiple factors are responsible for fall in platelet count and are most severe late in the illness.<sup>20</sup> Manifestation of haemorrhagic diathesis in dengue virus infection range from a positive tourniquet test to life threatening haemorrhage. Mild elevation of serum aminotransferases is common in both dengue haemorrhagic fever, and it is noted earlier in illness. Deranged coagulation profile (PT, APTT) is another predictor for severity of illness.<sup>21</sup> In our study we have seen that patients coming with low leukocyte, low platelets, increase AST and deranged coagulation profile earlier the disease have more severe illness rather than those with near normal levels at the beginning of illness.

## CONCLUSION

It is concluded that dengue fever is a common public problem which is increasing every day, but DHF and



DSS are still not the main issue. Appropriate investigation, strict monitoring and appropriate supportive treatment can reduce the mortality in dengue fever. Predictive markers can reduce the mortality if used promptly. Thus it is advisable to use the predictive markers for the early detection of complications and then appropriate management.

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

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# Frequency of Diaphragmatic Trauma in Fire-Arm Injury of Abdominal Cases and Outcome of its Management

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## ABSTRACT

**Objective:** To determine frequency of diaphragmatic trauma in fire-arm injuries of abdomen and to determine outcome of its management.

**Study Design:** Retrospective study

**Place and Duration of study:** This study was conducted at Department of Surgery, Unit B, Lady Reading Hospital Peshawar over a period of one year from January 2014 to January 2015.

**Patients and Methods:** Record of all fire-arm injury cases, who presented during study period, was analyzed. Data were collected on pre-designed proforma from admitted patient record (patients charts) and operation theatre notes register. Demographic data, site and frequency of injury to diaphragm, operative findings, and outcome were the variables of study.

**Results:** Out of total 83 patients of fire-arm injuries, 14 (16.8%) patients had diaphragmatic trauma. Mean age of patient was 27.14 years. Male to female ratio was 4.9:1. Left dome of diaphragm was injured in 9 (64.28%) and right dome was involved in 4 (28.57%) of cases and in one patient (7.14%) patients central tendon of diaphragm was injured together with injury to pericardium that got expired.

**Conclusion:** Diaphragmatic injury though not as common in abdominal fire-arm injury. There should be however very low threshold for suspicion in cases of fire-arm injury of abdomen, where bullet trajectory or mechanism of injury is suggestive, because missing such injury is not devoid of complications. The patient should be thoroughly examined and investigated for exclusion of diaphragmatic injury.

**Key Words:** Fire-arm injury abdomen, Diaphragmatic injury

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## INTRODUCTION

The diaphragm is a flat muscle-membranous partition between abdominal cavity and thorax.<sup>1</sup> Although blunt injury of diaphragm is relatively common but here we present its involvement in fire-arm injury cases because it is considered as a marker of severe trauma moreover its rupture or perforation leads to jeopardy of two systems. The incidence of diaphragmatic injury varies from 0.8-5% in various series.<sup>2,3</sup> Blunt thoracic and abdominal traumas are associated with an incidence of 5-7%, whereas diaphragmatic injuries are seen in 3-15% of penetrating trauma.<sup>3</sup>

Patients of diaphragmatic injury usually present with difficulty in breathing or shortness of breath and shoulder and chest pain but these are usually masked by the manifestations of other associated organs injury.

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Now with the recent spiral computed tomography (spiral CT) and magnetic resonance imaging (MRI) the diagnosis can be made early and with precision but in the early acute phase of injury the patient may not be haemodynamically stable to be shifted for any of the specialized investigations.<sup>4</sup>

An accurate diagnosis requires a high index of suspicion based on trajectory of fire-arm bullet and thorough inspection of all viscera during exploration. Missed diaphragmatic injury may result in herniation and strangulation of intra-abdominal viscera into the thoracic cavity.<sup>1</sup> Therefore, the early detection, and prompt management of diaphragmatic injury, particularly in severely injured or poly-traumatized patients is very important to decrease morbidity and mortality.<sup>5,6</sup>

Our hospital is the oldest and major trauma dealing hospital of the province also receiving injured patients from across the border from Afghanistan so the aim was to project this relatively rare but important injury

associated with the compromise of physiology of two systems and to determine outcome of its management.

## PATIENTS AND METHODS

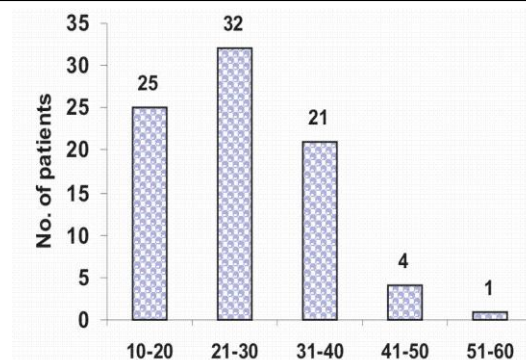
This was a retrospective analysis of consecutive 83 patients of fire-arm injuries admitted through Emergency Department to Surgical B Unit, Lady Reading Hospital Peshawar from January 2014 to January 2015. All cases above 14 years of age with fire-arm injuries presented during the study period were included in this study. Patients under 14 years or having other types of diaphragmatic injuries like stab and blunt trauma were excluded from this study. The data were collected on pre-designed proforma from admitted patients record (Patient's charts) and operation notes registers. Intra-operative diagnosis of diaphragmatic injury was made on abdominal exploration during emergency laparotomy. In all these patients repair of the defect was done by direct closure using monofilament polypropylene 1 suture and tube thoracostomy was performed. Concomitant procedures included repair of liver lacerations, splenorrhaphy, splenectomy, repair of gastric perforation, intestinal perforation, colostomies and nephrectomies or renal repairs were performed wherever required to deal associated organs injuries. Demographic data, site and frequency of injury to diaphragm, and other associated organs, and out come in terms of mortality, shifting to cardiothoracic unit for further intervention and routine discharge from our ward after recovery from associated organs injury were the variables of study. Data analysis was done through SPSS version 16.0.

## RESULTS

Total number of patients having fire-arm injuries was 83. Mean age of the patient was 27.14 years with standard deviation of 8.82 and range of 15-55 years. Frequency of fire-arm injury was more in age range of 21-30 years that is 32 out of 83 constituting 38.6% (Fig. 1). The incidence of abdominal fire-arm injuries were more in males as compared to female (Table 1). Male to female ratio was 4.9:1. Out of total 83 patients, 14 (16.83%) patients had diaphragmatic trauma. Out of these 14 patients only one (7.2%) was female. In none of the patients there was isolated diaphragmatic injury (Table 2). Left dome of diaphragm was injured in 8 (57.1%) and right dome was involved in 5 (35.7%) of cases and in one patient (7.2%) have central tendon of diaphragm was injured together with injury to pericardium who got expired (Table 3).

**Table No.1: Frequency and percentage of genders**

Gender	No.	%
Male	69	83.1
Female	14	16.9
Total	83	100.0



**Figure No.1: Frequency of fire arm injury according to age.**

**Table No.2: Frequency of diaphragmatic and other associated organ injuries (n = 14)**

Associated injury	No.	%
Liver + pancreaticobiliary + large bowel + diaphragm + pericardium (central tendon injured)	1	7.2
Liver + stomach + diaphragm	2	14.2
Liver + diaphragm	3	21.4
Spleen + stomach + diaphragm	1	7.2
Spleen + stomach + diaphragm + liver	1	7.2
Spleen + kidney + stomach + diaphragm	1	7.2
Spleen + diaphragm	4	28.4
Diaphragm + spleen + large bowel	1	7.2

**Table No.3: Frequency of part of diaphragm injured (n = 14)**

Part of diaphragm injured	No.	%
Left dome	8	57.1
Right dome	5	35.7
Central tendon	1	7.2

## DISCUSSION

Penetrating injuries constitute a significant percentage of cases seen at accident and emergency department of most hospitals and include both stab injuries and firearm injuries.<sup>7-9</sup> In this current study the no of admissions due to fire injuries were 83 (5.9%) of the total 1387 patients admitted through emergency in the year 2014. Out of total 83 patients, 14 (16.8%) patients had diaphragmatic trauma which falls within the same range as mentioned in literature.<sup>3,10-15</sup>

Our results indicate that most victims of firearm injuries were young males. Frequency of fire arm injury was more in age range of 21-30 years that is 32 out of 83 constituting 38.6% so this young males preponderance corresponds to different other studies,<sup>16-18</sup> mentioning that aggressive, emotional behaviour and socio-economic circumstances expose males of young age more to trauma and violence.

The majority of patients sustaining diaphragmatic lesions have additional associated injuries the same is



the case in this current study, there was no isolated diaphragmatic injury it could be because of the fact that in our patients we made the diagnosis on abdominal exploration already indicated because of hemodynamic instability due to abdominal organs injury, moreover isolated thoracic trauma patients are dealt by cardiothoracic unit of our hospital. This is also mentioned in literature that Diaphragmatic rupture should be suspected in patients with other organ injuries because there are no specific symptoms or diagnostic methods.<sup>19,20</sup>

The incidence of isolated diaphragmatic injuries ranges from 2 to 12%.<sup>21,22</sup> In our study the most frequently injured associated organs were liver and spleen which is according to that mentioned in literature.<sup>23</sup>

In our study left dome was the commonly injured part of diaphragm, it is mentioned that this part is least supported and is more susceptible to injury<sup>24</sup> but this is true in cases of blunt diaphragmatic trauma. Penetrating injuries can affect any part of body depending upon mechanism of injury, the increased frequency of injury to the left dome of diaphragm could be because of the fact that left side thoracic or thoracoabdominal trauma is considered more fatal due to presence of vital organs hence this is commonly targeted. We encounter single mortality that was because of injury to central tendon together with pericardium which is relatively rare injury in this context.<sup>25,26</sup>

Except for two cases which were shifted to thoracic unit for the management of clotted haemothorax rest were managed through tube thoracostomy along with laparotomy and repair of the diaphragm. Hence chest intubation remained a vital intervention.<sup>27-29</sup>

## CONCLUSION

Diaphragmatic injury though not as common in abdominal fire-arm injury. There should be however very low threshold for suspicion in cases of fire-arm injury of abdomen, where bullet trajectory or mechanism of injury is suggestive, because missing such injury is not devoid of complications. The patient should be thoroughly examined and investigated for exclusion of diaphragmatic injury.

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

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# The Profile of Atopic Dermatitis in Out Patient Department of Dermatology Isra University Hospital

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## ABSTRACT

**Objective:** To study the profile of atopic dermatitis in patients presenting at outpatient department of Dermatology of Isra University Hospital, Hyderabad.

**Study Design:** Observational study

**Place and Duration of Study:** This study was carried out at the Department of Dermatology, Isra University Hospital, Hyderabad from April 2012 to April 2014.

**Materials and Methods:** A sample of 100 patients of atopic dermatitis was selected through non probability purposive sampling as per inclusion and exclusion criteria. Atopic dermatitis was diagnosed on the basis of patient history and clinical presentation and clinical findings. The findings were collected on a predesigned structured proforma. Written informed consent was taken from the willing participants. Ethical approval was taken from the institute. Data was analyzed on SPSS 21.0 (IBM, incorporation, USA). Categorical variables were analyzed using chi square. P-value of statistical significance was taken at  $\leq 0.05$ .

**Results:** Age range was from 1 month to 12 years. 100 patients were diagnosed with atopic dermatitis out of 5000 patients with skin diseases over 2 years duration; this gives a prevalence of 2%. Onset before 10 years was noted in 60% of patients. 49% showed family history of atopy. 52% were having pure atopic dermatitis, of which 85% patients showed sub acute dermatitis at presentation. While 48% showed atopic dermatitis associated with allergic rhinitis, asthma, and or both. Bacterial infection was observed in 19%, viral infection in 17%, parasitic infection in 10% and fungal infection was noted in 3% of patients. Most patients were treated with a fairly simple regimen of moisturizers, topical steroids, and antibiotics for acute flares. Short courses of systemic steroids were used in 78 patients (78%).

**Conclusions:** The frequency of atopic dermatitis of present study is different to that reported in the Western literature, except for a significant and similar proportion of onset of atopic dermatitis and its clinical presentation.

**Key Words:** Atopic dermatitis, Allergic rhinitis, Atopic Asthma

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## INTRODUCTION

Atopic eczema (AE), also known as eczema or atopic dermatitis, is a common, chronic, recurrent inflammatory skin disease characterized by distressing pruritus, signs of inflammation and persistent dry skin. All body surfaces can be affected; however, the face and great flexures, such as neck, antecubital and popliteal folds, wrists as well as hands are among the most commonly involved.<sup>1</sup> The disease affects both genders and occurring primarily in infants and children and characterized by acute, sub acute and chronic lesions. In the acute phase, the affected areas present as erythematous papules and vesicles that become

excoriated, exudative, and secondarily infected. In the sub acute phase, there are excoriations and erythematous scaling papules and plaques present.<sup>1,2</sup> The prevalence of atopic dermatitis appears to have increased over the past three decades in Western countries, and current estimates suggest that 9±12% of children will suffer from atopic dermatitis.<sup>1-3</sup> Most of the studies on the epidemiology of atopic dermatitis are based on the Western population and there are few data in the Asian population, hence there is need to conduct studies in our local community. The present was conducted to describe the frequency and profile of atopic dermatitis patients presenting at the outpatient department of Dermatology, Isra University Hospital, Sindh

## MATERIALS AND METHODS

A sample of 100 patients with atopic dermatitis attending the outpatient department of Dermatology of Isra University Hospital was selected. The criteria for

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the diagnosis of atopic dermatitis were based on history and clinical presentation of disease. Patients with family/personal history of atopy of any age were included, while patients with concomitant skin disorders were excluded. The following information was specially looked for: personal and family history of atopy, aggravating factors, morphology of the dermatitis, associated with other findings such as Molluscum contagiosum, eczema herpeticum, impetigo and Folliculitis. Complications relating to disease, laboratory finding, treatment, and outcome were also scrutinized. Any information that was missing was obtained where ever possible from the patients on next follow-up.

The findings were collected on a predesigned structured proforma. Written informed consent was taken from the willing participants. Ethical approval was taken from the ethical review committee of the institute.

Data was analyzed on SPSS 21.0 (IBM, incorporation, USA). Categorical variables were analyzed using chi square. P-value of statistical significance was taken at  $\leq 0.05$ .

## RESULTS

One hundred patients were diagnosed with atopic dermatitis out of total 5000 patients with skin diseases attended the Isra University Hospital Hyderabad over 2 years duration; this gives a prevalence of 2%. Age range was noted as 1 month to 12 years (table 1). Of 100 patients, 51 were male children and 49 were female children, hence the male to female ratio was approximately less of 1:1. Of 100 patients, 37% patients revealed a family history of atopy. Atopic dermatitis was noted in 19%, allergic rhinitis in 13% and 5% gave a history of asthma (table 2). Atopic dermatitis categorized as pure and mixed was noted in 52% and 48% respectively. Of mixed atopic dermatitis, 23% revealed concomitant respiratory allergies, 23% allergic rhinitis, 12% atopic asthma and 43% proved of having concomitant asthma and allergic rhinitis (table 3). Sub acute atopic dermatitis was noted in most of patients i.e. 85%, while acute and chronic dermatides were noted in 4% and 11% respectively.

As regards the aggravating factors, cold weather, grass exposure, and thick woolen clothes were noted as most common. Table 4 shows the frequency of bacterial, viral, parasitic and fungal infections in 19%, 17%, 10% and 3% of patients respectively. Frequency of impetigo, Folliculitis, Molluscum contagiosum, dermatitis herpeticum, lice etc are shown in table 5.

Most patients were treated with a fairly simple regimen of moisturizers, topical steroids, and antibiotics for acute flares. Short courses of systemic steroids were used in 78 patients (78%). Topical antibiotics were prescribed in 18 patients: fusidic acid ointment was the most common followed by mupirocin ointment. Coal tar was used as soaps for scalp and body cleansing in 35

patients. 39 patients were prescribed systemic antimicrobials. Systemic steroids were not used in any patients in present study. The duration of follow-up ranged from 1 month to 1 year.

**Table No.1: Age categories of study population (n=100)**

Age group (years)	No.	%
0-2	30	30%
3-10	45	45%
11- 12	25	25%

**Table No.2: Family history of atopy in study population (n=100)**

Family history	No.	%
Atopic dermatitis	19	19
Allergic rhinitis	13	13
Asthma	5	5
No family history of atopy	63	63

**Table No.3: Rates of Atopic dermatitis and other concomitant allergies (n=100)**

Personal history	No.	%
Atopic dermatitis	52	52
Respiratory allergies	48	48
Allergic rhinitis	23	23
Asthma	12	12
Asthma and allergic rhinitis	13	13

**Table No.4: Frequency of various infections in study population (n=100)**

Infections	No.	%
Bacterial Infection	19	19
Viral Infections	17	17
Fungal Infections	3	3
Parasitic Infections	10	10

**Table No.5: Frequency of infective complications in study population (n=100)**

	No.	%
Impetigo	11	11
Molluscum contagiosum	12	12
Head lice	8	8
Folliculitis	8	8
Viral warts	3	3
Tinea infection	3	3
Dermatitis Herpeticum	2	2
Scabies	2	2

## DISCUSSION

Atopic dermatitis is also known as atopic eczema (AE) or eczema, is a chronic, recurrent and relapsing inflammatory skin disease characterized by distressing pruritus, signs of inflammation and persistent dry skin. All body surfaces can be affected; however, the face

and great flexures, such as neck, antecubital and popliteal folds, wrists as well as hands are among the most commonly involved. The disease affects both genders and starts mostly during infancy and childhood but is also prevalent in adults, personal or family history of atopy is common.<sup>2,15</sup>

Since the 1950s, the mainstay of treatment for AE has been emollients for dry skin, avoidance measures, ultraviolet (UV) therapy and the use of topical corticosteroids (TCS) for acute eczema flares. It is a disease of infancy and childhood with 80±90% of cases occurring before the age of 7 years.<sup>3,16</sup> the findings of present study are similar as we observed majority of patients (60%) had onset of the disease before the age of 10 years. The sex ratio was approximately less to 1:1 which is in keeping to previous studies.<sup>4,5</sup> While other studies had reported a female preponderance (1.7:1),<sup>6,7,14</sup> the findings are in contrast to present and previous studies.<sup>4,5</sup>

The prevalence of atopic dermatitis in present study was 2%. The 2% prevalence is in contrast to studies reported from Western countries (11% and 16%).<sup>5,8</sup> We are of opinion that the present study was based on hospital outpatient data, and it might be conceiving as the true prevalence may be higher in the community, as many cases of atopic dermatitis, especially the milder ones, had been treated by the general practitioners (GPs) and never reported.<sup>13</sup>

A hospital based study from Malaysia has reported prevalence of 3.7% which is also higher than present study.<sup>4</sup> The reason is clear that most of patients of AE remain under diagnosed and are never-reported. Atopic dermatitis categorized as pure and mixed was noted in 52% and 48% respectively. Of mixed atopic dermatitis, 23% revealed concomitant respiratory allergies, 23% allergic rhinitis, 12% atopic asthma and 13% proved of having concomitant asthma and allergic rhinitis (table 3). Sub acute atopic dermatitis was noted in most of patients i.e. 81%, while acute and chronic dermatides were noted in 4% and 11% respectively. The findings are highly consistent to a previous study reported by Diepgen and Fartasc.<sup>7</sup> Allergic rhinitis appeared to be more commonly associated with atopic dermatitis than does asthma and the findings are in keeping to previous studies.<sup>3,7,9</sup> In present study, the allergic rhinitis was 2 time more common than atopic asthma.

Both bacterial and viral skin infections are common in patients with atopic dermatitis. Staphylococcus aureus colonizes the skin in 90% of patients with atopic dermatitis.<sup>11</sup> Furthermore, the more severe the dermatitis, the higher the rate of colonization (100%).<sup>12</sup> Not only does this secondary bacterial infection produce weeping or crusted impetiginized plaques and pustules and this results in acute cases of the dermatitis.

The present study concludes that a large number of atopic dermatitis are present in community, hence true prevalence is missing.

## CONCLUSION

The frequency of atopic dermatitis of present study is different to that reported in the Western literature, except for a significant and similar proportion of onset of atopic dermatitis and its clinical presentation. The present study concludes that a large number of atopic dermatitis may be existing which remains under diagnosed and moreover under reported, hence there is an urgent need to conduct further large scale community based studies to reach to true prevalence of the problem.

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

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# The Correlation and Prognostic Significance of ESR and CRP Values with the Severity of Psoriasis with/without Psoriatic Arthropathy

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## ABSTRACT

**Objective:** The aim of our study was to determine the levels of ESR and CRP in psoriasis with/without psoriatic arthritis and to find whether there is any correlation of their values with its severity and presence or absence of psoriatic arthropathy.

**Study Design:** Prospective study.

**Place and Duration of Study:** This study was conducted at Jinnah Postgraduate Medical Centre, Karachi from January 2014 to August 2014.

**Materials and Methods:** 60 patients, 35 males and 25 females were enrolled. After detailed history and severity assessment by PASI, blood was sent for ESR and CRP levels. All data was documented and analyzed.

**Result:** There were 60 patients (35 males and 25 females) with age ranging from 20-65 years and had a history of psoriasis from 1-38 years. 89% had chronic plaque psoriasis and 30% had psoriatic arthropathy. PASI score ranged from 4-26 (Mean  $7.92 \pm 6.38$ ). The means of ESR and CRP were  $16.44 \pm 11.66$  mm/hr and  $3.84 \pm 3.63$  mg/L respectively. Neither ESR nor CRP levels directly correlated with PASI or with psoriatic arthropathy.

**Conclusion:** ESR and CRP doesn't seem to have prognostic significance in mild to moderate psoriasis and psoriatic arthropathy. However there might be any role of ESR or CRP in patients with severe psoriatic arthropathy.

**Key Words:** Psoriasis, Psoriatic Arthropathy ESR, CRP

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## INTRODUCTION

Psoriasis is a chronic systemic inflammatory dermatosis of skin with or without involvement of joints. Its incidence varies among different races and geographical locations. Worldwide incidence is about 1 to 3% in general population.<sup>1</sup> Psoriasis has been found to be associated with many co-morbidities. Those include hypertension, MI, DM and metabolic syndrome.<sup>2,3,4,5,6,7,8</sup> There is no common present laboratory abnormality in uncomplicated psoriasis however patients with severe psoriasis and/or psoriatic arthritis might have increased levels of C-reactive protein, IgM, IgA, IgG, and decreased level of albumin, haemoglobin, and serum iron. Inflammatory markers such as ESR and CRP have been studied and found to be elevated in many inflammatory conditions<sup>9,10,11</sup> but according to some authors these are not reliable indicators for the severity of psoriasis.<sup>12,13,14,15</sup> However their importance cannot be undermined as inflammatory markers to detect acute inflammation and to observe response to treatment in psoriasis and are being used in many therapeutic trials.<sup>16,17,18</sup>

However there is paucity of data on serum ESR and CRP levels in patient with psoriasis in our country, therefore this study was conducted on ESR and C-reactive protein to assess whether there was any correlation between these variables with the severity of psoriasis and/or psoriatic arthritis in our set up.

## MATERIALS AND METHODS

This was an open prospective study. After ethical approval, 50 patients both male and female, ages 18 and above, suffering from psoriasis were randomly selected from the Dermatology Department of the Jinnah Postgraduate Medical Centre Karachi, Pakistan. All Patients were assessed on one occasion. Detailed history followed by detailed physical examination was conducted to note the extent of psoriasis and for the presence or absence of psoriatic arthropathy. Subjects were assessed for the severity and scoring was done by PASI (Psoriasis area Severity index) scoring method. Blood was taken by venous puncture and was examined for Erythrocyte sedimentation rate at one hour and C-reactive protein.

On completion of study data was tabled and statistically analysed. For comparison between two groups student t-test and Mann Whitney U test were used. Correlation analyses were done with the 2-tailed, Rank Spearman Correlation test.

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## RESULTS

60 patients, 35 males and 25 females were enrolled from outpatient and inpatient Department of Dermatology of Jinnah Postgraduate Medical Centre Karachi. Their ages range from 20-65 years (Mean  $48.92 \pm 16.65$ ) and had a history of psoriasis ranging from 1-38 years (Mean  $22.4 \pm 16.75$ )

Most of the patients had chronic plaque psoriasis 89% followed by palmoplantar 4%, guttate 4% and erythrodermic in 3% of cases.

Psoriatic arthropathy was present in 30% of patients. 57.90% were males and 42.10% were females.

PASI score ranged from .4-26 (Mean  $7.92 \pm 6.38$ ). 78% of patients had PASI less than 10 (Table 1).

**Table No.1: Distribution of range and mean of PASI**

	PASI	
	Range	Mean
All patients	.4-26	$7.92 \pm 6.38$
Male	1.2-26	$8.55 \pm 6.52$
Female	.4-24.2	$7.47 \pm 6.36$
Significance at $p < 0.05$	Not significant	

The ESR value ranged from 2-54 mm/hr in the study and the mean was found as follows,  $16.44 \pm 12.66$  mm/hr for all patients,  $14.76 \pm 11.79$  for males and  $17.66 \pm 13.32$  for females.

**Table No.2: Distribution of range and mean ESR values according to the presence or absence of psoriatic arthropathy.**

	ESR		P-value	Significance at $p < 0.05$
	Range	Mean		
No psoriatic arthropathy	2-44	$14.36 \pm 11.53$	.1067	Not significant
Psoriatic arthropathy	4-54	$20.47 \pm 14.08$		

**Table No.3: Distribution of range and mean CRP values according to presence or absence of arthropathy**

	CRP		p-value (student t-test)	Significance
	Range	Mean		
No psoriatic arthropathy	1-10	$3.55 \pm 3.51$	0.446972	NS
Psoriatic arthropathy	1-10	$4.41 \pm 3.89$		

Most of the patients in this study had CRP within the normal range. The range was from 1-10 (Mean  $3.84 \pm 3.63$ ).

Patients who had psoriatic arthritis had a slightly higher mean ESR ( $20.47 \pm 14.08$ ) as compared to those who did not have any arthropathy ( $14.36 \pm 11.53$ ) (Table 2).

There was no significant difference in CRP values in patients having arthropathy and those without it (Table 3)

There was no direct correlation of ESR values with PASI (Table-4 ).

CRP values did not correlate with PASI (Table-4).

**Table No.4 A summary of correlation analysis**

Variables	Correlation (R value)	Degrees of freedom (n)	P-value	Significance
ESR Vs PASI	0.103492	50	$p > 0.05$	Not significant
CRP Vs PASI	0.030296	50	$p > 0.05$	Not significant
ESR Vs CRP	-.319422	50	$< 0.05$	Significant

## DISCUSSION

Psoriasis is a very complex disorder of unknown origin. Its behaviour cannot be predicted in any individual however it is said that psoriasis with early onset has more prolonged and protracted course. Though exact pathogenesis is not known but psoriasis is thought to be T1 mediated disease and there is role of different cytokines and adhesion molecules in causing and propagating the inflammation associated with this disease. Different cytokines involved are IL1, IL6, IL8, TNF-I released by keratinocytes and IL-2, IFN-K, TNF-I (Type I cytokine profile). There is also aberrant expression of ELAM-1, VCAM-1 and ICAM-1 adhesion molecules. This inflammatory response is not limited only to cutaneous tissue but involvement of internal system also occur making psoriasis a systemic disease.<sup>19,20,21,22</sup> Therefore there is always a need of a biological marker to assess disease severity and any associated co-morbid and to monitor response to therapy objectively and to find new targets therapies in patients with psoriasis.<sup>6</sup>

ESR and CRP both are important inflammatory markers and are being used to assess the severity, prognosis and therapeutic response for different inflammatory conditions. Their level can predict any associated severe complication like cardiovascular event or any other comorbid,<sup>23</sup> CRP is being considered as a good biologic marker because it rises rapidly in acute inflammation and quickly declines with successful treatment.<sup>24</sup>

In our study ESR and CRP values did not correlate with PASI scoring. There was no significant difference in the ESR and CRP values between patients having arthropathy and those without arthropathy. This finding supports those of previous studies in which no significant higher values of ESR and CRP were

found<sup>12,13,17</sup>. However many other studies have demonstrated significantly higher values of ESR and CRP in patients with severe disease than those with milder form of psoriasis.<sup>16,18,25</sup>. Most of the patients in our study had mild arthropathy and PASI of less than 10, this might have resulted in lower values of these two parameters. Other reason could be small sample size of our patients. On the basis of the findings of this study one may conclude that ESR and CRP values though important for the assessment of psoriasis in severe form but probably do not have any prognostic significance in mild to moderate disease and also in mild to moderate psoriatic arthropathy. However in patients with severe psoriatic arthropathy, there might be any role of ESR or CRP.

## CONCLUSION

ESR and CRP doesn't seem to have prognostic significance in mild to moderate psoriasis and psoriatic arthropathy. However there might be any role of ESR or CRP in patients with severe psoriatic arthropathy.

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

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# The Quality of Sleep, Mood Stability and Coping Strategies Among House Officers

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## ABSTRACT

**Objective:** To look into the relationship between quality of sleep, mood stability and coping strategies among house officers.

**Study Design:** Cross sectional study

**Place of Study:** This study was conducted at Jinnah Hospital, Ganga Ram Hospital, Lady Wallington Hospital and Mayo Hospital, Lahore for a period of one month.

**Materials and methods:** The sample comprised 120 male and female salaried House Officers working in five public sector hospitals in Lahore. The Pittsburgh Sleep Quality Index, Brunel Mood Scale, and the Proactive Coping Inventory were used for data collection.

**Results:** The study yielded interesting relationships; a strong positive correlation was found between mood stability and sleep quality. The number of hours that the respondents worked in a day on average was positively, though weakly, correlated with mood stability. A positive though weak relationship between mood stability and sleep quality was observed. Mood stability and hours of sleep were found to be significantly negatively correlated. The results are in many ways similar to findings reported by researchers in the developed countries. This study has highlighted some factors that might affect the physical and psychological well being of new entrants into a profession. The findings can be helpful in devising strategies for improving quality of such professionals' life as well as their performance by improving their sleep quality as well as proactive coping strategy most appropriate for them.

**Conclusion:** The correlation between sleep quality, mood stability, and coping strategies may have significant implications and may impact young medical professionals' performance. Their performance may be enhanced optimally by considering these variables in assigning duties and responsibilities.

**Key Words:** House Officers, Mood Stability, Sleep Quality, Coping Strategies

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## INTRODUCTION

Medical practitioners functioning in hospitals undergo stress of varying frequency and intensity most of the times. This is even more true in case of house officers whose work hours may be heavier and more demanding than their senior colleagues. Their routine may negatively affect their sleep pattern, quality of sleep, mood stability, and coping strategies. Sleep being one of the essential ingredients of a person's well being may affect one's overall health, mood, and socio psychological harmony. Poor quality of sleep may in turn also play a hurdle in one's professional productivity. The impact of poor quality of sleep, or insufficient sleep, might have quite negative consequences for one's optimal functioning on one hand and interpersonal relations on the other. Research suggests that depression, harsh or bad-temper, low patience may be seen in people who do not take proper

sleep. Insufficient sleep can make one slow in daily activities. The likelihood that one may take pointless risks and make inappropriate choices will be higher when driving; poor job or school performance may be expected.<sup>1</sup>

Many researchers have revealed the deleterious effects of poor sleep.<sup>2</sup>

Sleep may also affect people's moods, and a person's mood may in turn affect his or her overall functioning, social behavior, feeling of well being, and problem solving. Our moods play a vital role in the way we carry out different tasks. Tasks that might seem almost impossible under routine circumstances may be performed very well when one is in a good mood. On the contrary a common pleasant activity may not be generating associated joy and entertainment if one is experiencing bad or low mood. Even most joyous events might become meaningless while one is undergoing low mood<sup>3</sup>. Research studies have demonstrated the effect of positive as well as negative moods on the performance at work. However the positive moods tend to move more<sup>4</sup>.

Another important variable, people's coping ability, helps them in taking charge of difficult life situations

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and in overcoming stress. Psychologists have identified a variety of coping strategies that people might adopt for dealing with stress. Two broad categories could be emotion focused coping and problem solving efforts. However other categories include confrontative coping, seeking social support, planful problem solving, self control, distancing, positive appraisal, accepting responsibility, and finally escaping or avoiding the stressful event or situation. There is no dearth of psychological research highlighting the nature and significance of coping and its relationship with physical health and psychological well being.<sup>5,6,7,8</sup>

Another way of understanding coping is to look at reactive coping, anticipatory coping, preventive coping, and proactive coping. Proactive coping is perhaps the most positive way of handling life situations. As opposed to coping strategies whereby people either react to a problem situation or try to be prepared for facing a feared situation, proactive coping has the element of resourcefulness.

Research has also suggested that disrupted circadian rhythm may affect the workers' health as well as quality of work. Also its relationship with mood has been identified. Research is also suggestive of the significance of coping styles used by people.<sup>10,11,12,13,14</sup>

## MATERIALS AND METHODS

The sample comprised 120 male and female (N=47+73) salaried house officers selected from four public hospitals in Lahore. The maximum age of the respondents was 31 years. A majority of the respondents were aged between 24 and 27 years. They were selected from the gynaecology, surgery, and medical wards.

Brunel Mood Scale, Pittsburgh Sleep Quality Index, and Coping Strategies Inventory were used.<sup>15,16,17,18</sup>

## RESULTS

The findings of the study revealed a number of variables that may be affecting young professional's mood stability. Although the study was not designed to identify cause-effect relationship, it does allude to some meaningful directions for such research.

The data showed that most house officers could sleep for 6 hours per day on average while around 60% of them worked for 9-12 hours daily.

The independent sample t-test analysis did not yield any gender differences; On mood stability score females were ( $M=52.43$ ,  $SD=14.24$ ) and males ( $M=55.38$ ,  $SD=14.24$ ),  $p=0.253$  at  $p>.05$ .

On coping strategy too, whereby  $t=-.610$  with females ( $M=1.50E2$ ,  $SD=26.19$ ) males with ( $M=1.47E2$ ,  $SD=22.87$ ),  $p=0.543$  at  $p>.05$ .

Some minor differences were observed quality of sleep;  $t=1.50$  with females ( $M=6.73$ ,  $SD=3.01$ ) males ( $M=7.36$ ,  $SD=3.47$ ),  $p=0.136$  at  $p>.05$ .

However the study yielded some interesting correlations (Table 1).

**Table No.1: Correlation between Mood Stability, Sleep Quality, Work Hours per day, Coping Strategy, and Hours of sleep (N=120)**

Variables	SQ	WH	CS	HS
MS	.254**	.082	.058	-.059

Note: MS = Mood Stability, SQ = Sleep Quality, WH= work hours per day, CS= Coping, strategy, HS= Hours of sleep.

\*\*Correlation is significant at 0.01 levels (two-tailed).

Mood stability and sleep quality of the respondents were significantly positively correlated. However the correlation between Mood Stability and Work Hours was non significant; so was the correlation between Mood Stability and Coping strategy. Nevertheless the two correlations were positive.

An interesting correlation was observed in terms of negative correlation between mood stability and hours of sleep.

## DISCUSSION

This research endeavor was undertaken to examine house officers' quality of sleep, mood stability and coping strategies. Not many studies have looked into the relationship between these variables in similar indigenous samples. Only negligible gender differences were found in the respondents' mood stability scores, females scoring lower. Previous research has suggested that females have low level of mood stability. Gender differences, though not very large, were found in the sleep quality among the respondents. These findings may be understood in the light of some previous researches as well which showed that women may not be having a desirable amount of sleep because they have to give time to responsibilities other than simply their professional work or education.<sup>19,20,21</sup>

The positive correlation between mood stability and sleep quality may find some support by findings reported by Kunert, King and Kolkhorst<sup>20</sup> indicating that much higher level of fatigue and poor sleep quality may be experienced by those working in shifts.

The present research has yielded some useful information however it had some limitations too. A larger sized sample could make the findings more generalizable. Nevertheless it has highlighted some significant variables that may have a deep impact on a professional's performance at work and well being at personal level. Although very strong relationships have been missing but the analysis of the variables under investigation is suggestive of mutual connections. By considering these variables and their relationship in mind, very conducive and job satisfying work environments can be designed.

## CONCLUSION

The work environment and working conditions may affect a person's performance. People's personal well being and professional growth are related. One's physical well being may affect the psychological well being, in turn affecting one's professional growth. The work environment needs to be designed in a manner whereby the employees feel affiliation with the workplace, where the negative influence on employees' mood is the minimum, and where the workers feel physical and mental preparedness for carrying out responsibilities.

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

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# Comparative Study of Efficacy of ORS with Paedicare (Ready to Use Solution) in Gastroenteritis in Children

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## ABSTRACT

**Objective:** To compare the efficacy of ORS with paedicare (Woodward's England, ready to use solution) as oral rehydration therapy in children up to 10 years of age.

**Study Design:** Randomized clinical trial.

**Place and Duration of Study:** This study was conducted in Women Medical College affiliated teaching hospital in Abbottabad from 1 April 2014 to 1 October 2014.

**Materials and Methods:** A sample of 100 patients suffering from dehydration was subjected to therapy. 50 of them were given ORS and 50 were given Paedicare (a ready to use oral electrolyte solution). The patients were kept under observation and results were noted.

**Results:** out of the children treated with ORS 42 were successfully rehydrated within two days and 8 children took one week to recover while those treated with Paedicare 48 were rehydrated within two days and 2 children took one week to recover. Those children requiring more than two days recovering had associated illnesses like upper respiratory tract infection, otitis media and measles.

**Conclusion:** Both ORS and Paedicare were effective in treating rehydration. Paedicare seem to be more hygienic, well constituted and had better results but ORS was less costly than Paedicare and has an edge over Paedicare especially among poor people.

**Key Words:** ORS, paedicare, oral rehydration therapy, dehydration.

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## INTRODUCTION

In third world countries in general and Pakistan in particular acute gastroenteritis leading to dehydration is a common cause of morbidity and mortality especially in the less privileged class<sup>1</sup>. Oral rehydration therapy (ORT)<sup>2,3</sup> is recommended by World Health Organization as first-line therapy for mild to moderate dehydration.<sup>4,5</sup>

Acute diarrheal illnesses now ranks 2<sup>nd</sup> to acute respiratory illness, used to be 1<sup>st</sup> in the past, is responsible for killing around 760 000 children every year<sup>6</sup>. Diarrhoea can last several days, and can leave the body without the water and salts that are necessary for survival. Most people who die from diarrhea actually die from severe dehydration and fluid loss<sup>7</sup>. Children who are malnourished or have impaired immunity or people living with HIV are most at risk of life-threatening diarrhoea.

Diarrhea is defined as the passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual).<sup>8</sup> Frequent passing of formed stools is not diarrhea, nor is the passing of

loose, "pasty" stools by breastfed babies. Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person-to-person as a result of poor hygiene<sup>9</sup>.

Interventions to prevent diarrhoea, including safe drinking-water, use of improved sanitation and hand washing with soap can reduce disease risk. Since most of diarrheal death are caused by dehydration,<sup>10</sup>, the importance of oral rehydration has been recognized and many types of oral rehydration solutions have been proposed<sup>11,12,13</sup>.

There are many inherent benefits of ORT that make it a desirable therapy<sup>14</sup>. Patients can be treated successfully with ORT and do not require intravenous access<sup>15,16</sup>, a painful and difficult procedure in young children. Furthermore, parents who learn to administer ORT correctly acquire a skill that can be used at home for ongoing and future illnesses<sup>17,18</sup>.

The optimum composition and concentration of ingredients are still debated, two of these preparation ORS and paedicare (Woodward's ready to use oral electrolyte solution) are easily available in market that differ in composition and cost<sup>19,20</sup>.

The composition of formulation of ORS and Paedicare are shown in the Table 1 and 2.<sup>21,22</sup>

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**Table No.1: Formulation of ORS**

Reduced osmolrity ORS	Grams/L	Reduced osmolality ORS	Mmol/L
Sodium Chloride	2.6	Sodium	75
Potassium Chloride	1.5	Potassium	20
Glucose anhydrous	13.5	Chloride	65
Trisodium citrate dehydrate	2.9	Glucose anhydrous	75
		Citrate	10
		Total Osmolarity	245

**Table No.2: Composition of Paedicare**

Paedicare 500ml contains	
• Sodium chloride -----	1.75gm
• Potassium Chloride -----	0.75gm
• Glucose Anhydrous -----	10gm
• Trisodium Citrate Dihydrate -----	1.45gm

## MATERIALS AND METHODS

The study was conducted in Women Medical College affiliated teaching hospital Abbottabad, among patient (children) with gastroenteritis having dehydration during time period from 1<sup>st</sup> April to 1<sup>st</sup> October 2014. Acute gastroenteritis cases are at peak in summer. One hundred children with age up to 10 years were selected and subjected to study. Patients were randomized to of 2 treatment groups (ORT or Paedicare) and rehydrated. Data was collected and analyzed.

After recording history, physical examination and initial investigation which included CBC, blood urea and electrolytes, routine uria and stool examination were done. Culture and sensitivity and other investigations were done if indicated.

Blood urea and electrolytes were done periodically till electrolytes were normal. Dehydration up to 5% was classified as mild, 5% to 10% moderate and more than 10% was classified as severe.

Rehydration of 50 children was done with ORS 50ml/kg for mild dehydration 75ml/kg for moderate and 100ml/kg for severe over a period of 4 - 6 hours and continued if needed for 12-18hours. The other 50 children were given paedicare in the same regime.

After initial rehydration children were allowed to have breast feed or diluted formula foods or soft diet based on previous diet. Maintenance fluid was calculated according to age and weight and supplementary ORS/paedicare given 10ml/kg after each loose motion. Antidiarrheal was not used routinely and antibiotic were given in indicated cases. Children with prolonged diarrhea were given lactose free (ALII), protein free (ISOMilk) diet. Children were discharged as soon as

they recovered but malnourished children were kept for feeding for gaining weight.

## RESULTS

Out of 50 patients who were given ORS, 42 were successfully rehydrated with ORS alone, 8 were given I.V. Dextrose saline for less than 12 hours since vomiting prevented from having ORS and (probably rushed to I.V fluids).42 of these patients recovered in two days while 8 of them took one week.

Out of the other 50 patients who were given paedicare, 2 needed I.V fluids because of the same reason. Out of which 48 patients recovered in 2 days and 2 needed one week.

Overall 15% required special milk. Those who needed one week to recover were associated with upper respiratory tract infection, otitis media and measles.

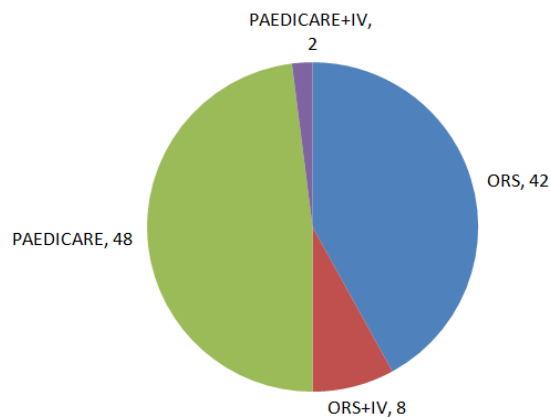
The results are shown in table 3 and 4 and pie chart.

**Table No. 3: Electrolyte and Urea levels in patients rehydrated with ORS**

	Initial	6 hours	24 hours
Na	132.42meq/L	137.15meq/L	137.66meq/L
K	3.36meq/L	4.18meq/L	4.27meq/L
Bicarbonate	17.43mmol/L	18.20mmol/L	19.12mmol/L
Cl	96.36meq/L	100.10meq/L	100.94meq/L
Urea	18.12mg/dl	16.55mg/dl	9.24mg/dl

**Table No.4: Electrolyte and Urea levels in patients rehydrated with PAEDICARE**

	Initial	6 hours	24 hours
Na	134.02meq/L	135.99meq/L	136.21meq/L
K	3.4meq/L	4.8mq/L	5.1meq/L
Bicarbonate	16.21mmol/L	17.89mmol/	19.57mmol/L
Cl	97.41meq/L	99.12meq/L	101.76meq/L
Urea	22.4mg/dl	19.21mg/dl	13.62mg/dl

**Pie Chart No.1: Regime of Rehydration**

## DISCUSSION

The study revealed that both ORS and paedicare were effective as rehydration solution, serum sodium level were within normal range after rehydration with either solution, although ORS contains more sodium than paedicare.<sup>23,24</sup> Potassium was also within normal range after rehydration; both solutions contain same concentration of potassium. The results also showed that urea level which was raised came to normal within twenty four hours. The patients that were breastfed recovered earlier than bottle fed patients. Children on solid food also had a good recovery. Older children responded well to the rehydration therapy than younger children. Those dehydrated patients who had associated diseases showed a delayed recovery<sup>25</sup>. Underweight children needed a longer time to recover than children with normal weight. The socioeconomic status of the parents also had a favorable effect on recovery. The coordination in rehydration therapy between health care persons and educated mothers was more fruitful than non educated. It took longer time to educate these mothers regarding the formulation and making solution of ORS. Personal hygiene like hand washing, the use of boiled water remains the key to success. As paedicare was a ready to use solution so it was far more easier for the mothers to administer. Initially 18 children out of 100 vomited but later on vomiting subsided on continuation of the fluids. Flavor of rehydration solution may be a contributing factor in vomiting. The follow up was uneventful and satisfactory for most of the children but it took longer time for patients with associated illnesses. Vitamin supplements were advised to the patients which were kept on antibiotic. Additional zinc supplements are having a favorable effects on the course of the disease<sup>26</sup>. Some patients had acidosis which was efficiently corrected by both ORS and Paedicare. During treatment the costs of both solutions were also kept under consideration and it was noted that although both rehydration solutions were effective in treating dehydration and acidosis, but paedicare was more hygienic with a success rate of 96 percent while that of ORS is 84 percent and its composition was more better than ORS, but the cost of paedicare was higher than standard ORS solution which made ORS the preferred choice of rehydration therapy by poor people.<sup>27,28</sup>

## CONCLUSION

Gastroenteritis, the most common illness in children is preventable and curable. The cause of death is dehydration and salt imbalance. The introduction of ORS has revolutionized the treatment. In this study rehydration therapy by ORS and paedicare were compared. According to the results of this study, paedicare (ready to use solution) a well constituted and

more hygienic, but treatment with ORS was more affordable by poor people.

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

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# Evaluation of Hearing Impairment in Children of School Going Age

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## ABSTRACT

**Objective:** The timely identification of severity of hearing loss in school age children will decrease the morbidity and this morbidity can be corrected by timely treatment.

**Study Design:** Community-base cohort study.

**Place and Duration of Study:** This study was conducted in ENT department of Abbasi Shaheed Hospital, KMC, Karachi from January 2011 to Jan 2012.

**Materials and Methods:** The suspected cases were referred to the ENT department of Abbasi Shaheed Hospital adjoining schools and suspected cases of hearing difficulty noticed by the parents. After taking informed consent from both sexes and age ranges from 6-16 years were included in the study.

**Results:** This study shows male were slight more 54 patients. Highest number of patients was found in 13 years of age 16 patients i.e 16%. In 53 patients risk factor was present. Maximum number of children had moderate hearing loss 26 children (26%).

**Conclusion:** Early school going child with mild to moderate hearing loss is difficult to detect during routine examination. Audiological screening is necessary for detection of hearing loss in early school going child.

**Key Words:** Deafness, hearing loss, decrease hearing

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## INTRODUCTION

Hearing impairment in school going children is the major problem in all around the world, because it causes marked disability and handicap<sup>1,2,3</sup>. By taking proper management and preventive measures the incidence of hearing loss in children can be reduced<sup>4,5</sup>. For the development of normal language and I.Q. (Intelligence quotient) child should hear normally because language development depends on hearing<sup>6</sup>. Usually in third world countries there is no facilities for screening of hearing in routine clinical examination and school health authorities don't have any audiological assessment facilities<sup>7</sup>. Audiometric assessment plays a important role in detection of hearing loss in early age child Children with moderately severe, bilateral hearing loss, profound hearing loss are detected early before schooling, they develop more receptive skill as compare to expressive skills<sup>7,8</sup>. Screening programme of hearing at the time of school entrance should be started for mild to moderated hearing loss which is helpful in early detection of hearing loss and manage accordingly<sup>9, 10</sup>. The effect of hearing loss depends on age of onset, severity of hearing loss, location of lesion in auditory system and cause of hearing loss.

P.T.A. (Pure tone audiometry) is the basic of hearing through which threshold of hearing is measured. Pure tone audiometry is defined as "lowest intensity at which given stimulus can elicit a response". It gives information of the listener's sensitivity to stimuli. Audiometry is inexpensive and simple screening devices and can be used in public health programs. If Hearing defect in early childhood is identified it reduced the community disability by taking proper measures.

The auditory pathway is sensitive to assault and also damage from disease, extreme environmental conditions (i.e. noise), trauma genetic imperfection, and also due to age. These may result in conductive hearing loss, sensory or (neural) retrocochlear hearing loss. The objective of this study is to evaluate the degree of hearing impairment. Early detection of hearing impairment will reduce the morbidity.

## MATERIALS AND METHODS

Study was conducted in ear, nose and throat department of Abbasi Shaheed Hospital. Abbasi Shaheed Hospital is the tertiary care hospital which cover large population. This study was done between January 2011 to Jan 2012. In this study, 100 hearing impaired children selected after taking informed consent.

**Inclusion criteria:** Both sexes. 6-years and above and 16 years below  
Hearing impaired.

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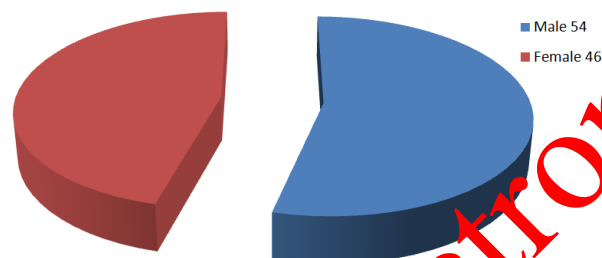
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**Exclusion criteria:** Previous history of ear surgery. Other medical problem like diabetes, hepatitis, craniofacial abnormality, glomerulonephritis. Otological examination and audiometry assessment was done. If foreign body or impacted wax was found during examination it was removed. Calibrated Pure tone audiometer with TDH-39 was used for audiological assessment. Average pure tone are 0.5, 1, 2 KHZ was used to assess hearing loss. Categories are: slight hearing loss (16-25 db), mild hearing loss (26- 40 db), moderate hearing loss (41-55 db), moderately severe hearing loss (56-70 db), severe hearing loss (71- 90 db) and profound hearing loss (>90db)

## RESULTS

100 Patients (n=100) were selected in this study in which 54 were boys and 46 were girls. Male female ratio was 1.17. The highest incidence of age was 13 years which was 16 patients (16%) followed by 10 years 14 patients (14%) which shown in table 1. In table 2, 53 children (53%) had risk factors of hearing loss. In bar chart shows degree of hearing loss in which shows mostly children had moderate hearing loss which was 26 patients (26%) followed by slight hearing loss, 19 children (19%). 18 children (16%) had moderately severe hearing loss.



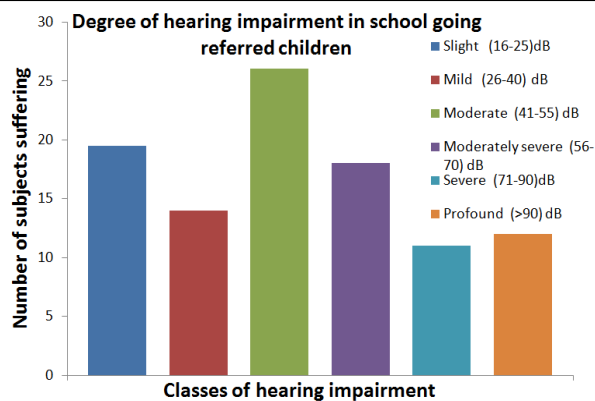
**Pie Chart: Male female ratio**

**Table No.1: Age Incidence**

Age	No. of patients	%age
6	7	7%
7	7	7%
8	6	6%
9	1	1%
10	14	14%
11	10	10%
12	13	13%
13	16	16%
14	9	9%
15	9	9%
16	8	8%

**Table No.2: Presence of Risk Factor**

Yes	53	53%
No	47	47%



**Bar Chart**

## DISCUSSION

Hearing loss in children is a very common problem<sup>4</sup> ranging from one to three per 1000 individuals; this may be increased if risk factors are present<sup>11,12</sup>. Hearing impaired child shows significant deficiency in educational activities. Actually most of the time children spend their day in learning activity (receptive vocabulary)<sup>13</sup>. Usually schools don't have screening programme as a routine examination audiological assessment. At time of school entry hearing screening programme has to be started for early detection of hearing problem and start rehabilitation programme especially in developing countries<sup>6,7</sup>. Early detection will minimize the damaging impact on the development of language and listening skill as well as learning process caused by hearing loss<sup>14,15</sup>.

In this study evaluate the hearing loss in school going children. Male children predominance as compare to female; male were 54 (54%) while female were 46 (46%); male female ratio was 1.17. The highest number of hearing impaired patients was noted at 13 years of age which was 16 patients (16%) followed by 10 years of age 14 children (14%). In 53 cases (53%) children had risk factors present while 47 children (47%) had no risk factors. Le Roux study shows 51.1% children had a positive risk factor in childhood hearing loss<sup>16</sup>. The mild to moderate degree hearing loss found more in this study. Most of the children had moderate hearing loss 26 children 26%. Slight hearing loss and moderately severe hearing loss were 19 children (19%) and 18 children (18%) respectively. Previous study also correlates with this study<sup>8,9,10</sup>. Children with moderate to severe hearing loss and severe to profound hearing loss identified earlier as compare to mild to moderate hearing loss.<sup>112</sup>. Hearing impaired child has more difficulty in learning grammar, vocabulary and verbal commands as compare to normal hearing child<sup>13</sup>. Thousands of children in ordinary schools are mild degree hearing loss and this hearing is un-noticed by the patients or by teacher/parents but most cases are treatable<sup>17</sup>. One study shows that children with minimal hearing has poor performance in comprehensive task as

compare to normal hearing<sup>18</sup>. The American Speech-Language Hearing Association made a comprehensive list in which suggest responsibilities of audiologist in education include educational, amplification, training, and rehabilitation. Educational audiologist has important role in screening programme if audiological services are not present in school. Various technologies are available now a days to screen new born babies for hearing impairment<sup>19,20</sup>. Hearing evaluation in very important in early life, we can get information about nature and extend of the hearing impairment and also get information about implication or surgical management is beneficial or not. If implication is beneficial should referred for hearing aid.

## CONCLUSION

Mild to moderate hearing loss in school going child is difficult to diagnose in routine clinical examination. For this purpose specific audiological screening programme should be started because mild to moderate hearing loss is treatable if early diagnosis is made and proper treatment will start.

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

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# Efficacy and Safety of Glucantime for Cutaneous Leishmaniasis – Eight Years Experience at A Tertiary Care Hospital of Karachi

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## ABSTRACT

**Objective:** To observe the efficacy and adverse effect profile of Glucantime in treatment of cutaneous leishmaniasis.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was conducted in Dermatology Department, JPMC Karachi from Jan 2007 to Jan 2015.

**Materials and Methods:** 252 patients of CL, diagnosed clinically and confirmed parasitologically were treated with injection glucantime. After taking history and physical examination, baseline complete blood count, Liver function tests, Renal function tests and ECG were performed. 76 patients were treated with intralesional injection and 156 patients were treated with intramuscular Glucantime. Treatment response was observed and adverse effects were noted. The data was recorded and analysed on SPSS version 16. Mean  $\pm$ SD was calculated for continuous variables like age, duration of disease. Categorical values like gender, type, morphology, site of lesions efficacy and adverse effects were recorded as numbers and percentages.

**Results:** The mean age of I/L group was  $31.4 \pm 11.6$  and for I/M group. Efficacy of intramuscular Glucantime was 76.3% in intralesional group and 86.9% in intramuscular group. Adverse effects were seen in 25 % of intralesional and 26.9 % of intramuscular group.

**Conclusion:** Glucantime is effective and well tolerated drug in Old World CL both by intramuscular or intralesional route.

**Key Words:** Cutaneous Leishmaniasis, glucantime, intralesional, intramuscular, efficacy.

**Citation of article:** Ghafoor R, Khoso BK, Hashmi SF. Efficacy and Safety of Glucantime for Cutaneous Leishmaniasis-Eight Years Experience at A Tertiary Care Hospital of Karachi. Med Forum 2015;26(7):27-30.

## INTRODUCTION

Cutaneous Leishmaniasis (CL) is endemic in 95 countries of world. WHO Estimates annual incidence of 0.7 to 1.2 million new cases world wide.<sup>1</sup> In the Old World (the Eastern Hemisphere), CL is found in some parts of Asia, Middle East, Africa and Southern Europe.<sup>2</sup> In Pakistan CL is prevalent in certain belts of Khyber Pakhtunkhwa, coastal areas of Baluchistan, interior Sindh and scattered areas of Punjab.<sup>2</sup> It is a parasite borne disease caused by protozoa Leishmania. Its incidence is increasing creating a major public health problem. Up to 20 species of CL have been found to be pathogenic. *L. Major*, *L. Tropica*, and *L. infantum* are major pathogens found in Asia and Africa. S. Ayub et al. conducted a study on thirty patients in Multan for species identification and found all cases were caused by *L. Tropica*.<sup>3</sup> Incubation period is variable, ranging from few days to a year. Final outcome depends upon host immune status and pathogen interactions. Lesion may heal itself over a period of 1 to 2 years depending upon immune status of host, leaving a cribriform scar.

<sup>4</sup>The main concerns are unsightly appearance, disfiguring scar and chances of spread. The aim of treatment is to speed up healing and limit scarring.<sup>5</sup>

Various Local and systemic treatment options have been used for its treatment over years. Pentavalent antimonials are, however, drug of choice. Although meglumine antimonite (Glucantime®, Sanofi, France) have been used for about eight decades for treatment of cutaneous Leishmaniasis, both intralesional and intramuscular, the main problems with this drug is its parenteral route, long duration of treatment and reports of many potentially serious adverse effects. Resistance to antimonials is also being reported from different regions of world.<sup>6</sup> There is paucity of data regarding efficacy and safety of this drug in Pakistan. Firdous et al conducted a study on troops deployed in Baluchistan which showed overall response rate of 81% and adverse effects in 14% of patients.<sup>11</sup>

The aim of present study was to observe the treatment response and adverse effect profile of intralesional and intramuscular glucantime for treatment of CL in our patients.

## MATERIALS AND METHODS

This descriptive cross-sectional study was conducted in Dermatology Department Jinnah Postgraduate Medical

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centre, Karachi, from January 2007 to January 2015. 252 patients of CL diagnosed by trained clinician and confirmed parasitologically by slit skin smear or histopathology were enrolled. Complete history was taken and physical examination was done. Age, duration, site and number of lesions, type and morphology, previous treatment used, co-morbid conditions like hepatic, cardiac or renal disease, any known drug allergy were recorded. Baseline Complete blood count, Liver function tests, renal function tests, ECG and chest x-ray were performed. These investigations were repeated weekly during course of treatment. Adverse effects symptoms were asked and recorded. Those patients having <3 lesions, sites not on face joints or adjacent to vital structures, sporotrichoid and Lupoid leishmaniasis were treated with Intralesional glucantime. Injection glucantime was infiltrated with an insulin syringe around the lesion till blanching of lesions. The injection was repeated every 3<sup>rd</sup> day. The patients who had >3 lesions, sites on face or near joints, sporotrichoid and lupoid Leishmaniasis and those who failed intralesional therapy were treated with intramuscular Glucantime, given intragluteally in doses of 20mg/kg of body weight for 21 days. Ulcer charting was done and infiltration was measured during the course of therapy to see the response. Responders were defined as at least 70% reduction in infiltration or ulcer size after 21 days of therapy. The patients were followed for 6 weeks after therapy.

The data was recorded and analysed on SPSS version 16. Mean  $\pm$ SD was calculated for continuous variables like age, duration of disease. Categorical values like gender, type, morphology, site of lesions, efficacy and adverse effects were recorded as numbers and percentages.

## RESULTS

A total of 252 patients of CL were studied during the period of 8 years, among them 156 were treated with intramuscular glucantime and 76 were treated intralesional injection. The mean age of I/L group was  $31.4 \pm 11.6$  and for I/M group. Efficacy of Intramuscular Glucantime was 76.3% in intralesional group and 86.9% in intramuscular group. Adverse effects were seen in 25 % of intralesional and 26.9 % of intramuscular group. Clinical and demographic profile of patients is presented in table 1. Efficacy was recorded for I/L and I/M group and is shown in table - 2, adverse effects are shown in Table 3.

## DISCUSSION

Glucantime has been considered as the drug of choice for CL since it was first used in 1929.<sup>7</sup> The active compound of glucantime is Pentavalent antimony.<sup>8</sup> Although CL is a self-healing condition, treatment is indicated to reduce the duration of illness, and morbidity caused by persistent lesion, on face or near

joint and to prevent dissemination to skin, mucosa and viscera. Exact mechanism of its Leishmanicidal action is not known how ever it is postulated that it is converted into active trivalent compound and inhibits parasitic phosphofructokinase, glycolytic and oxidative pathways of therefore reducing ATP synthesis required for parasite survival resulting in death of parasite.<sup>8</sup> It may be given intramuscularly or intralesionally in selected patients. Intralesional injection for cutaneous leishmaniasis was first used in Algeria and was approved by WHO. It is popular and effectively used for selected cases.<sup>9</sup>

**Table No.1: Clinical and demographic characteristics of patents (n=252)**

Parameter	Intralesional group (I/L) N=76	Intramuscular group (I/M) N=156
<b>Age (years)</b>		
Mean $\pm$ SD	$31.4 \pm 11.6$	$29.1 \pm 13.4$
Min-Max	10 - 60 years	2 - 60 years
<b>Gender</b>		
Male	46	98
Female	30	58
<b>Duration of disease</b>		
<3 months	32	88
>3 months	24	68
Mean $\pm$ SD	$7.4 \pm 4.2$	$6.36 \pm 5.2$
<b>Site of lesion</b>		
Lower Limb	30	91
upper limb	24	40
Face	-	16
Trunk	2	3
<b>Type of Lesion</b>		
Dry	24	50
Wet	52	106
<b>Morphology of lesion</b>		
Volcano ulcer	35	88
Nodular	12	12
Plaque	14	23
Ulcerated	08	14
sporotrichoid	0	07
Verrucous	07	05
Lupoid	0	04
Others	01	03
<b>Total</b>	<b>76</b>	<b>156</b>

**Table No.2: Efficacy of glucantime intralesional (I/L) and intramuscular (I/M) group**

Response	Intralesional group (I/L) n=76	Intramuscular group (I/M) n=156
Responders	58(76.3%)	140(89.7%)
Non-responders	18(23.7%)	16(10.3%)
Total	76	156



**Table No.3:- Adverse effects of Intralesional(I/L) and Intramuscular group(I/M)**

Adverse effects	Intralesional group(I/L) n=76	Intramuscular group(I/M) n=156
Local reaction	7	8
Secondary infection	6	4
Arthralgia and myalgia	3	12
Headache	2	10
Fever	-	8
Anorexia	-	1
Anaphylactic Reaction	-	1
Haematological	-	-
Raised ALT	-	4
Cardiac	-	-
Vasovagal syncope	1	-
Total	19(25%)	42(26.9%)

There are variable results of studies regarding efficacy of drug in old world CL. In Pakistan Firdous et al conducted a study on troops deployed in Baluchistan which showed overall response rate of 81%.<sup>10</sup> A study in Iran by Mohammadzadeh M et al showed overall high failure rate (22.6%).<sup>11</sup> There are reports of increasing overall resistance of Leishmaniasis for Glucantime. B. Parmochanadi et al in Iran found 34.9% were clinically unresponsive.<sup>12</sup> The difference in treatment response might be due to different species of leishmania and genomic variation.<sup>13</sup> In this study we found the response rate to be 76.3% for intramuscular group and 86.9% for intralesional group. Treatment with glucantime has been associated with many adverse effects. The commonly observed adverse effects are however mild like fever, arthralgias and myalgias, anorexia.<sup>14</sup> Few serious complications like renal failure, pancreatitis, cardiac and haematological have been reported.<sup>15,16,17</sup> Side effects are dose dependant and are directly related to concentration of antimony in plasma and skin of patient.<sup>18</sup> Malika RB et al reported adverse effects 17 out of 67 patients (25%) in Tunisia.<sup>19</sup> Another study by masmoudi A et al found adverse reactions in 19% of patients.<sup>20</sup> Dar NR et al observed Glucantime fever to be common side effect which may result in massive investigations to search cause of fever if drug fever is not kept in mind.<sup>21</sup> In our study we found that the frequency of adverse effects in I/L group to be 25%. Local reactions and secondary infections are common which can be treated with antibiotics and NSAIDS. One case of vasovagal syncope with bradycardia was observed who recovered. Systemic adverse effects with I/L glucantime are minimal. Among the patients treated with I/M injections, adverse effects were 26.9% Most

of these adverse effects were mild, arthralgia and myalgia being most common followed by headache, fever and anorexia. Two cases of injection site necrosis following I/M injection were observed which required surgical debridement. One case of non-fatal anaphylactic reaction immediately after test dose was observed. No case of severe adverse event like cardiac, renal or pancreatitis was recorded. ALT was deranged in four patients.

The limitations of study are retrospective study design, species identification of parasite was not done due to limited resources and origin of patients could not be done as resistance may be prevalent in certain regions than others.

## CONCLUSION

Therefore our study concludes that Glucantime is effective and well tolerated drug in Old world CL. However, search for alternative drugs should be continued as to avoid development of resistance against this drug.

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

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# Profile of Psychiatric Patients Attending Outpatient Clinic of a Tertiary Care Hospital, Karachi

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## ABSTRACT

**Objective:** The objective of this study is to determine the frequency of psychiatric illnesses among patients attending psychiatric outpatient department of tertiary care hospital Karachi.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was conducted in Psychiatric Out - patient Department of a Tertiary Care Public Sector Hospital of Karachi from July 2014 to December 2014.

**Materials and Methods:** About 560 psychiatric patients profile was determined during July -2014 to December 2014. The patients were diagnosed and classified on the basis of DSM -IV criteria by a consultant psychiatrist. The patient complete profile was obtained from the Hospital record. The data obtained was entered and analyzed by using SPSS version 21.

**Results:** Among the total five hundred and sixty psychiatric patients, 51.5 % were males and 48.5% were females. Fifty percent of the patients had Depression, 30.9% patients had anxiety, 29% had psychosis and 24% patients had Schizophrenia. More than half of the patients belong to young age group 20 – 40 years. About ninety four percent patients were not referred and reached to the hospital in advance stages of diseases.

**Conclusion:** This study concluded that the proportion of Psychiatric illnesses are high and majority of patients had depression, major victims of the psychiatric disorders are from most productive age group of our society which is an alarming situation and majority not referred by any physician seeking consultation on self - help basis.

**Key words:** Psychiatric, Illnesses, Karachi Pakistan

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## INTRODUCTION

Psychiatric illness is the leading cause of morbidity and disability worldwide. Mental illnesses refer to the cluster of illnesses which affects people of all age group. It is an important health problem which refers to how people feel, behave and interact with the people around them. The spectrum of this issue ranges from simple mood disorder to permanent disability and even death<sup>1</sup>. It has been estimated that globally more than 400 million people have been affected by some kind of mental illness during their lifetime and majority of them residing in developing countries<sup>2</sup>.

According to WHO report of 2014, nearly 83 million people of United States have been diagnosed with psychiatric disorder among all the psychiatric illness, depression is the most common. The WHO European Region report stated that 1 out of 15 people suffer from major depression which is remarkably high and quite alarming<sup>3</sup>. In the prevalence studies of United States almost 14.8 million people were diagnosed to have

major depression, 48 million were affected by anxiety disorders and 2.4 million had schizophrenia and psychosis<sup>4</sup>. The study of Nepal, 2011 reported Schizophrenia as one of the most common psychiatric illness in Psychiatry ward of the tertiary care hospital and psychotic disorders being the second<sup>5</sup>. The study of South Africa reported lifetime prevalence of common mental disorders about 30%<sup>6</sup>. The Ministry of Health and Family welfare of India suggested the lifetime prevalence of mental disorders nearly 12 % which is likely to increase to almost 15% by the year 2020<sup>7</sup>. In Pakistan the mental health is highly under-estimated. It is a huge burden on the health care system of Pakistan. The cross sectional study, conducted in Karachi reported 12% prevalence of psychiatric illness among the general practice patients<sup>8</sup>, while another study has estimated the prevalence rate of mental illness in the community about 34% with highest proportion among females<sup>9</sup>. Gadit and et.al in 2007 reported depression as the most common psychiatric illness with the rates of 6%, Schizophrenia 2 %, anxiety 3% and Obsessive compulsive disorder was about 7%<sup>10</sup>. In the prevalence study of psychiatric patients there was male preponderance and majority of them belonged to young and middle age groups<sup>11,12</sup>.

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Mental Health problems are mostly studied in primary health Care settings in Pakistan<sup>13</sup>, recent hospital based data is not available and most of the mental health illness remain unrecognized and sometimes ignored even by the well renowned practitioners nationwide and timely referral from general practitioners to psychiatrist is lacking in our scenario. The aim of the study is to determine the frequency and pattern of psychiatric illnesses among patients attending psychiatric clinic of a public sector teaching hospital of Karachi, Pakistan.

## MATERIALS AND METHODS

This cross sectional study was conducted in Dow University Hospital, Karachi, Ojha Campus which is a tertiary care Hospital. This Hospital caters more than 1000 daily visits in the Outpatient clinics and almost 50 patients in the psychiatry OPD. The patients attending psychiatric Out-patient department during the period of six months from July 2014 to December 2014 were included in the study. About 560 diagnosed patients consecutively visited during study duration were taken. The patients were diagnosed by using the criteria of DSM-IV classification. Information regarding their socio-demographics (age and gender) and referral status was obtained from the medical record. The data was entered and analyzed by using Statistical Package of Social Sciences version 21. Data was grouped according to the age into four categories. Frequencies and percentages were calculated for the age, gender, referral status and the psychiatric illnesses of the patients.

## RESULTS

Tables 1 showed that out of 560 (51.4 %) patients were males and 48.6% were females. Ages of the respondents ranged between 2-83 years with mean age of 34.1 years. The sample was divided into 4 groups according to age, the highest number (49%) of patients were in 21-40 years of age group. Majority of the patients visited Psychiatry outpatient on the basis of self-referral, only 34 patients were referred by the clinicians.

The psychiatric disorders were categorized into 5 major categories. Among all the psychiatric illnesses the frequency of depression was highest 289 (51.6%) and anxiety was the second most common illness 173 (30.9 %), 29 (5.2%) patients had psychosis, 24 (4.3 %) had schizophrenia. and 45 (8%) of patients had other psychiatric illnesses including; Obsession, Mental retardation, Substance abuse, Attention deficit hyperactivity disorder and epilepsy.

Table 2 showed that out of 288 male patients 146 (51.4 %) had depression; while out of 272 females 143 (49.5%) had depression. Similarly other psychiatric illnesses had equal gender distribution except Schizophrenia in which female preponderance was more as compared to males with a ratio of 1:1.39.

Other psychiatric disorders \* included Obsessions, Mental retardation, Attention deficit hyperactivity Disorder and Substance abuse.

**Table No.1: Characteristics visiting of the patient Psychiatric OPD (N=560)**

Characteristics of Psychiatric Patients	Frequency (n) N=560	Percentages (%)
Age (in years)		
1-20	110	19.6
21-40	274	48.9
41-60	142	25.4
>60	34	6.1
Gender		
Male	288	51.4
Female	272	48.6
Referral		
Self	526	93.9
Medical/Others	34	6.1
Diagnosis		
Anxiety	173	30.9
Depression	289	51.6
Psychosis	29	5.2
Schizophrenia	24	4.3
Other ( BPD, OCD, Epilepsy, MR, Addiction)	45	8.0

N= total number of patients

**Table No.2: Distribution of psychiatric illness according to Gender.**

Psychiatric illness	Male		Female	
	N=288	%(51.4)	N=272	%(48.6)
Depression	146	50.5	143	49.5
Anxiety	94	54.3	79	45.7
Psychosis	15	51.7	14	48.3
Schizophrenia	10	41.7	14	58.3
Others*	23	51.1	22	48.9

N = total number of patient

**Table No.3: Distribution of Psychiatric illnesses according to age.**

Age (in years)	Anxiety N=173	Depression N= 289	Psychosis N=29	Schizophrenia N=24	Others N=45
1-20	45 (26)	34 (11.8)	9 (31)	6 (25)	16 (35.6)
21-40	76 (43.9)	154 (53.3)	16 (55.2)	12 (50)	16 (35.6)
41-60	47 (27.2)	75 (26.5)	4 (13)	5 (20.8)	11 (24.4)
>60	5 (2.9)	26 (9)	0	1 (4.2)	2 (4.4)

Table 3 describes the distribution of psychiatric illnesses according to different age groups.



The psychiatric illnesses were found more in 21-40 years of age group which includes; depression 154(53.3%), psychosis 16(55%), and schizophrenia 12 (50%) and anxiety 76 (43.9%).

## DISCUSSION

The present study suggested that psychiatric illnesses are more common in the middle age group (20-40 years) Majority of the patients who were visiting psychiatric OPD were not referred by any medical practitioner and visited on the basis of self - help.

There was no gender difference observed in our study. A study conducted in India<sup>13</sup> reported the similar results and another Hospital based study conducted in Karachi reported psychiatric morbidity with equal gender distribution<sup>14</sup>. In contrast to these findings and another study from India reported higher psychiatric illnesses among women as compared to men<sup>15</sup>. Moreover the community based systematic review from Pakistan showed that the common mental disorders were found with prevalence of 25-57% among females and 10-15% among males<sup>16</sup>.

The findings of this study reported that Psychiatric disorders are more prevalent among the middle age group individuals. Similar findings have been reported in a study conducted in Saudi Arabia<sup>17</sup> that found highest proportion of psychiatric disorders among people of 20-49 years of age, another study conducted in India<sup>18</sup> reported similar findings. Contrary to these findings a study from Nepal<sup>19</sup>,<sup>20</sup> reported that majority of the psychiatric patient's belonged to young age group (15-24).

Pakistan's population has been exposed to socio-political instability, economic uncertainty, violence, regional conflict and dislocation for at more than past two decades. These are risk factors for psychiatric illnesses and may help explain the findings of this study. About half of the patients presented in psychiatry clinic during this study period had depression and frequency of anxiety was more next to depression. Similar findings have been reported from studies conducted in Saudi Arabia<sup>21</sup> and Nigeria<sup>22</sup> that depression was commonly presented disorder among all the psychiatric illnesses. On contrary to these findings of above mentioned studies several other studies from South Africa, United States and Finland reported lower proportion of depression<sup>6, 23, 24</sup>.

Timely referral is important in prevention of emergency complications of psychiatric disorders. In developing countries the psychiatry referral rate by general Practitioners is very low and emergency admissions are high with serious psychiatric complications. In this study majority of the patients visited psychiatric OPD on their self-assessment and not referred by any medical Practitioner. Only 6.1 % of the patients were referred by health care providers, which is quite alarming situation as timely referral can prevent further

complications and provide good outcome of treatment. Similar results have been reported by the study conducted in India<sup>25</sup> that only 5.4% of the patients referred for psychiatric treatment and these patients came to in emergency department. A timely referral is necessary to prevent emergency situation and fatal consequences of the diseases. In contrast to the findings of these studies few studies from developed countries reported that referral status has been increased and their standards improved as compared to the past<sup>26</sup>. A study conducted in South Africa<sup>27</sup> analyzed the quality of referral letter to the psychiatry department and they reported that majority of them had inappropriate and inadequate information. This is an alarming situation of under-estimation and misdiagnosis of the psychiatric illnesses by the medical practitioners which leads to serious complications and patients end up in emergency situation which can easily be prevented through timely referral and prompt treatment.

**Strengths and limitations of the Study:** It was conducted in a tertiary care hospital of Karachi which caters the biggest portion of the population of Karachi from all the localities and patients were diagnosed by the trained psychiatrist on the basis of DSM IV criteria for diagnosis of psychiatric illness. This is a hospital based study and findings cannot be generalized to the whole population.

**Recommendations;** Future researches focused on the general population, longitudinal multicenter studies with assessment of disability, functioning and quality of life in clinical psychiatric illness are recommended for better outcome of mental illness management.

## CONCLUSION

This study concluded that proportions of psychiatric illnesses are increasing with high proportion of depression. The productive middle age is the most common age group affected. The lack of timely referral from general practitioner leads to increase in psychiatry morbidity and burden on emergency of tertiary care hospitals.

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

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# An Observational Study done to Determine the Contrast in Stress Levels between Medical and Non-Medical Students conducted in Different Institutes in Karachi

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## ABSTRACT

**Objective:** To compare the stress level of Medical Students and their Non Medical counterparts in different Institutes of Karachi.

**Study Design:** Retrospective / observational study.

**Place and Duration of Study:** This study was carried in various professional institutes i.e. AKMU, JMDC, LNMC, NUST, Bahria University, FAST, at various engineering schools. i.e. Karachi school of Arts, Iqra University and Indus Valley School of Arts, IoBM, Bahria University, SZABIST from April –August 2014.

**Materials and Methods:** With the help of Convenient Sampling Method, 12 different colleges were shortlisted. A total of 571 students were chosen with the help of Simple Random Sampling Method. For the purpose of data collection, a questionnaire was developed which was pre tested and pre coded. Data was analyzed with the help of SPSS version 20.0.

**Results:** Average age of students came out to be  $20 \pm 6$  years. 76.3% (n= 113) of the medical students studied long hours at night in comparison to students of engineering 53.2% (n=77), arts 19.2% (n=26) and commerce/MBA/accounts 64.8% (n=92). 60.1% (n=89) of the medical students complained of constant tiredness and exhaustion. 68.3% (n=101) medical students complained of deadlines that were difficult to meet, as compared to 62.8% (n=91) of engineering students, 58% (n=79) of arts students and 60.6% (n=86) of commerce/MBA /accounts.

**Conclusion:** it is concluded from our study that the medical students are more prone to get stressed as compared to other non medical students.

**Key Words:** Medical Students, Stress, Non Medical Professionals

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## INTRODUCTION

Various studies have defined Stress as variation/ imbalance in the internal environment of human being's physiology. This stress can have either a positive or negative perspective depending on the outcome, as inflicted by this particular stress. Positive stress compels a person to continue striving for the goals that he has set for himself. However, some times this Positive stress may turn into Negative stress, when an individual fails to cope with the burden of this added stress/pressure. As a result of this negative pressure, the person may lose his interest in the tasks that he has chosen for the achievement of his goals, with no sense of mental relaxation whatsoever<sup>1</sup>. This observation was also enforced by another study that considers stress as not only a mental character, but also implies that stress

has a physical component, affecting the overall health and wellbeing of an individual. It is a validated fact that professional education and especially medical education among the rest of other Professional courses, is more strainful and hectic. This in turns leads to higher levels of stress and fatigue in medical students.<sup>2</sup> For medical students immense load of studies, continues mental strain and fatigue and lack of awareness about stress coping techniques are continuous stressors. A large majority of medical students have confided as being under unbearable strain at some point in time during their medical course, however the students of fourth and final years experienced far greater stress as compared to students of the first three years of medical school. During this period of stress majority of the students experience feeling of helplessness, mood swings, lack of concentration and anger bouts. Further more these complains were enhanced during studies and assessments. The level of stress was found to be

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inversely proportional to the educational accomplishment<sup>2,3,4,5,6,7,8</sup>.

The fact has been scientifically proven by research that the undergraduate students of medical college faces immense stress which leads to deterioration of their learning capabilities and their ability to deal effectively complex and challenging situations. This decline in mental wellbeing of the students is a progressive phenomenon throughout their entire duration of their training as medical professionals<sup>4,9,10,11,12,13,14</sup>.

In studies conducted in Malaysian and Thai universities, it was observed that the medical students are more psychologically effected as compared to general population. However, this disturbance in the emotional wellbeing was more pronounced in students of these universities as compared to students attending British universities. The situation become grimmer when these students refuse to consult doctors for such problems, as primary stress can be a useful predictor of other health threatening conditions. In grave circumstances some students may experience complex psychological outcome and may not even refrain from attempting suicide. Therefore it is imperative for the counselors and facilitators to understand these stressors as they may not only have an impact on the educational achievement of these students but may also be detrimental to their health in general<sup>2,5,11,15,16</sup>.

It has also been observed that a number of medical schools follow stern and strict discipline leading to further increase in pressure on students to give their best in their academic performance. This educational culture promotes a feeling of rivalry and contest among students rather than healthy collaborative activities leading to further increase in the level of stress. This undue strain which initiate at the very level of undergraduate medical studies may prosper during the course of post graduate education and may even become a permanent part for the rest of their lives<sup>11</sup>. Multiple factors have been recognized as significant stressors, for instance hectic study schedule, long course duration, less availability of time and lack of appropriate utilization of available time. It would be wrong to blame only the academics for the increase stress on the medical students as the psychological susceptibility of the students may also be a contributory factor for this stress to some extent. As a method of coping strategy of this stress students should be encouraged to avail professional help that may lower down their stress level<sup>17</sup>.

According to one of the studies, more than half of the students of a medical college affirmed of being affected by some degree of strain, however only a small percentage of these students admitted of having exceptionally increased levels of stress<sup>18</sup>.

In contrast to medical studies, students attending other courses which incorporate psychology and sports in their curriculum experience much lower stress levels.

By introducing stress coping strategies and creating students friendly educational culture the detrimental effects of stress can be reduced<sup>19</sup>.

In one of the studies it was found that the students living in the hostels were significantly over- stressed in comparison to the students who live with their families. Similarly the students who have had adverse life experiences in their childhood were more prone to stress as compared to their fellow colleagues<sup>20</sup>.

Researchers have found that as medical students initiates their course, their mental and emotional condition is almost same as that of the general population. However as their studies progress the level of stress increases. Females are more prone to get stressed as compared to their male counterparts<sup>2,21</sup>.

## MATERIALS AND METHODS

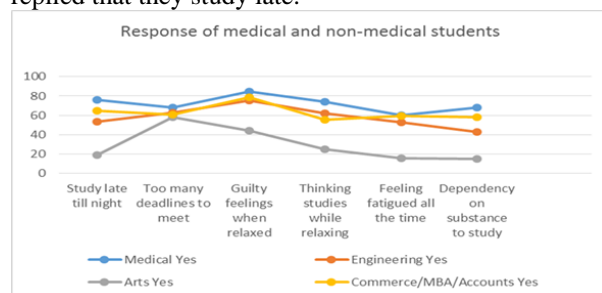
A cross sectional study was undertaken with second and third year students of a number of professional schools. The study was conducted from April –August 2014 .With the help of Non-Randomized Convenient Sampling method, 12 professional schools of Karachi were identified. They were categorized into medical, engineering, arts and commerce/MBA/accounts and among these, 3 schools from each category were chosen for data collection.

The Aga Khan Medical University (AKMU), Jinnah Medical & Dental College (JMDC) and Liaquat National Medical College (LNMC) were selected under the category of medical schools. National University of Science and Technology (NUST), Bahria University and Foundation of Advancement of Science and Technology (FAST) were selected for the various engineering schools. Karachi school of Arts, Iqra University and Indus Valley School of Arts were opted in for the arts category. Whereas Institute of Business Management (IoBM), Bahria University and ShaheedZulfiqar Ali Bhutto Institute of Science and Technology (SZABIST) were decided on as Commerce/MBA/accounts category for the data collection. Approval from concerned authorities were taken before initiation of the data collection. The sample size of 600 students was taken from the 12 professional schools. 50 students per school were selected with the help of Simple Random Sampling methods. Their attendance sheets were utilized for this very purpose. Strict ethical discipline was maintained and prior consent was taken from the participants with the assurance that the specific information would not be shared publically. For the purpose of data collection a questionnaire was developed by seeking assistance from other stress standardized questionnaire however, making modifications as per our requirements. Questionnaire was piloted and coded prior to initiating data collection. For the purpose of data analysis SPSS version 20.0 was utilized.

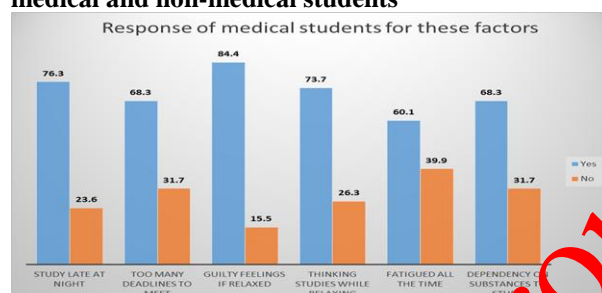


## RESULTS

From the sample size of 600, 571 respondents were finalized for analysis. Stress came out to be high among medical students as compared to their non-medical counterparts in almost all the groups. 20±6 year was the average age of the responding students. When asked about studying late at night 76.3 % (n=113) of the medical students replied in affirmation. However 53.2% (n=77) of the engineering, 19.2% (n=26) of arts and 64.8% (n=92) of commerce/MBA/accounts students replied that they study late.



**Figure No.1: Shows contrast between responses of medical and non-medical students**



**Figure No. 2: Demonstrate the replies of medical students for different variables**



**Figure No. 3: Represents answers of Professional students for different variables**

When enquired about the deadlines 68.3% (n=101) medical students opined that there are too many deadlines to meet which are hard to cope with. On the other hand 62.8% (n=91) of the engineering students, 58% (n=79) of arts and 60.6% (n=86) of commerce/MBA/accounts had this issue.

With respect to the guilt feeling which majority of the students experience when they are not studying, 84.4% (n=125) of medical students confided as having these feelings. Similarly 75.2% (n=101) of engineering

students 44.1% (n=60) of arts students and 78.9% (n=112) of commerce/MBA/accounts perceived these feelings.

Interestingly 60.1% (n=89) of medical students experience fatigue and tiredness despite having adequate sleep. This feeling of fatigue was shared with 52.2% (n=76) of engineering students, 15.4% (n=21) of arts and 59.2% (n=84) of commerce/MBA/accounts students.

When asked about reliance on stimulants in order to stay awake late at night for the purpose of study, 68.3% (n=101) of medical students 43% (n=62) of engineering students, 14.8% (n=20) and 57.8% (n=82) of commerce/MBA/accounts students were found to be dependents on such substances.

## DISCUSSION

Different studies have scientifically proven a variety of contributing factors for causation of stress. This stress results in prominent physiological, emotional and social challenges<sup>3,4,11,22</sup>. Generally, professional students are affected more by stress but this phenomenon is enhanced particularly so in medical students<sup>2,3,9,10,23</sup>. This specific research was conducted with the aim to ascertain the difference in the levels of stress between medical and non-medical professional students. In our study we observed that stress level was higher in medical students as compared to engineering, arts and commerce/MBA/accounts students. Similar findings were also found in some other studies<sup>5,10,13,16</sup>.

The stress was prevalent in medical students with 73% of them suffering from it as compared with 56% of non-medical students. These observations were also seen in some other national and international studies<sup>5,15</sup>.

In our study one of the most prominent factor for the initiation and progression of stress was found to be gender with females responding to be more stressed than their male colleagues. This observation was also re-enforced by different other studies<sup>2,6,9,10,21,24</sup>. This variation in the level of stress in the male and female can be contributed to the physiological, social and cultural responsibilities associated with to females<sup>2,7,9</sup>.

Besides other stressors, academics and assessments were found to be most eminent and vital, negatively affecting the educational outcomes of the students. These stressors also add to the grievousness of stress<sup>3,10,17,25</sup>. A directly proportional association has been scientifically validated between stress and educational achievement of students attending medical school<sup>3,5,10,11,24</sup>. Students try to make use of miscellaneous techniques to get rid of their stress which may include listening music, involvement in sports and social interaction with friends<sup>2,3,17,19</sup>.

More than half of the medical students replied that they get refractory guilt while they relax. According to them the time they spend on relaxation is considered a luxury that should rather be spent on more important academic

activities. Despite their attempt to relax, they get more fatigued due to these feelings of regret. On the other hand 73% of the medical students affirmed that their thoughts keep revolving around their studies even during their leisure time. Such feelings may further propagate their stress<sup>7</sup>. is a proven conviction that stress and fatigue decrease our intellectual performance<sup>3,4,8,11,21,26,27</sup> and on the other hand has an adverse affect on our physical soundness which may decrease overall efficiency and robustness.<sup>3,5,13</sup>

60% of the medical students complained of constant exhaustion even after taking sufficient sleep, whereas 59% of the students of Commerce/MBA/Accounts had this similar problem as compared to only 15% of their Arts counterparts.

As a method of stress management, drugs and alcohol may be seen as a hideout by some students. However, this strategy adversely affects their physical, emotional and educational performance. This might be an initial step that may lead to permanent adherence to these substances.<sup>26,28</sup>

## CONCLUSION

This study concludes that the stress experienced by the medical students exceeds the stress experienced by other non medical professional students. Teachers in medical institutes have an important responsibility of identification of different stressors amongst their students, and they should be properly equipped with appropriate techniques to manage the factors leading to stress.

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

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# Frequency of Pregnancy Following Laparoscopic Ovarian Drilling in Patients with Clomiphene Resistant Polycystic Ovarian Syndrome

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## ABSTRACT

**Objective:** To determine the frequency of pregnancy following laparoscopic ovarian drilling in patients with clomiphene citrate resistant polycystic ovarian syndrome.

**Study Design:** Retrospective / Observational study

**Place and Duration of Study:** This study was carried out in the Department of Obstetrics and Gynaecology DG Khan Medical College, Dera Ghazi Khan from November 2012 to May 2013.

**Patients and Methods:** One hundred eligible patients who suffer from anovulatory infertility and who failed to respond to the treatment with clomiphene citrate were enrolled from outpatient department.

**Results:** Overall frequency of PCOS was 4.84%. Majority of cases of PCOS were in age group 20-30 years. 72% of cases were having primary infertility and 28% were having secondary infertility. 41.86% of cases were resistant to CC given in a dose of 150 mg for three consecutive cycles. Conception rate was 66% in 6 month follow up period after LOD.

**Conclusion:** Laparoscopic ovarian drilling with diathermy should be considered to be a preferred choice for the infertile women with history of failed response to clomiphene treatment as compared to the use of gonadotrophins.

**Key Words:** Polycystic ovary syndrome, Laparoscopic ovarian drilling, Clomiphene citrate resistance

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## INTRODUCTION

The problem of polycystic ovarian disease syndrome (PCOD/PCOS) has been the subject of research studies over the past sixty years. The major clinical manifestations are menstrual irregularities, signs of androgen excess, and obesity. Anovulation is a common problem in women with polycystic ovarian disease. Clomiphene citrate (CC) is the accepted first-line treatment for infertile women with polycystic ovarian disease, but 25% of these patients show no response to CC, and remain anovulatory despite increasing doses.<sup>2</sup> Human menopausal gonadotropins, follicle stimulating hormone, or combination of gonadotropin-releasing hormone agonist and gonadotropins may be used as a second-line treatment. However, the patients treated with these hormones tend to develop a multifollicle response, with the associated risks of ovarian hyperstimulation syndrome (OHSS) and multiple pregnancies. Laparoscopic ovarian drilling with diathermy has been reported to be a successful method of ovulation induction for those women who do

not respond to clomiphene citrate, human menopausal gonadotropins, follicle stimulating hormone, or combination of gonadotropin releasing hormone agonist, and gonadotropins.<sup>3</sup> Pregnancy rates of 27–73% have been reported in the literature. Unlike ovulation stimulation regimens, there is no increase in the risk of multiple pregnancies or ovarian hyperstimulation after LOD. Pregnancies are most likely to occur within 6 months of surgery.<sup>4</sup>

## PATIENTS AND METHODS

This study was carried out in the Department of Obstetrics and Gynaecology DG Khan Medical College, Dera Ghazi Khan from November 2012 to May 2013. One hundred eligible patients who suffer from anovulatory infertility and who failed to respond to the treatment with clomiphene citrate were enrolled from outpatient department. Laparoscopy was performed via three ports. A 10 mm laparoscope was inserted in the primary sub-umbilical trocar and the two additional 5 mm trocars were inserted in the lower abdomen. To manipulate the ovary, a grasping forceps was used to hold the ovarian ligament; and the other secondary port was used to introduce a diathermy needle. Four to six holes were made in the ovarian capsule with a unipolar coagulation current at a power

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of 40 watts for 4 seconds. Then the pregnancy was recorded (defined by positive urine hCG and the presence of an intrauterine pregnancy verified by a vaginal ultrasound) during 6 months follow up without the use of any additional ovulatory agents. Data was entered and analyzed using computer programme SPSS 10.

## RESULTS

Out of 258 cases of PCOS, 41.9% were resistant to CC given in a dose of 150 mg for three consecutive cycles. Among the 108 resistant cases, 100 were selected for LOD. Majority of the patients (55%) were in age group of 20-30 years (Table 1). 89% of cases presented with Oligomenorrhea (Table 2). Out of 100 cases of PCOS, a large majority of 72% was having primary infertility (Table 3).

**Table No.1: Distribution according to age (n=100)**

Age (years)	No.	%
< 20	29	29.0
20-30	55	55.0
31-35	16	16.0

**Table No.2: Distribution according to presenting complains (n=100)**

Clinical features	No.	%
Oligomenorrhea	89	89.0
Hirsutism	77	77.0
Acne	40	40.0

**Table No.3: Distribution according to infertility status (n=100)**

Type of infertility	No.	%
Primary	72	72.0
Secondary	28	28.0

## DISCUSSION

The Polycystic Ovarian Syndrome (PCOS) remains an incompletely understood entity that appears with regularity in the practice of most gynaecologists. As the presenting symptom of this group of patients is often infertility due to chronic anovulation, restoration of ovulatory function assumes paramount importance. For all those patients of PCOS who are found to be having a poor response to Clomiphene Citrate, the choice of treatment rests between medical ovulation induction using higher doses, higher stimulants like gonadotrophins or the use of laparoscopic surgical method. Potential advantages of the surgical methods include multiple ovulatory cycles from a single treatment and elimination of the risk of Ovarian Hyperstimulation Syndrome (OHSS). Additionally, high cost and intensive monitoring associated with gonadotropin therapy can be avoided. The objective of this study was to determine the frequency of pregnancy following laparoscopic ovarian drilling in our patients

with clomiphene citrate resistant polycystic ovarian syndrome.

PCOS is one of the most common endocrine disorders of women in the reproductive age group, with a prevalence of 4-12%.<sup>5</sup> In various European studies, the prevalence of PCOS was 6.5-8%.<sup>6</sup> Under the Rotterdam criteria, the prevalence was 11.9±2.4%.<sup>7</sup> Our study is showing a little higher frequency of PCOS (26.63%) in infertility cases but this is corresponding with study of Driscoll DA in which the incidence were estimated to be 11-26%.<sup>8</sup> In another study, of a total of 113 consecutive women recruited, 32 (28.3%) were diagnosed as having PCOS.<sup>9</sup> Overall frequency was 4.84% in the present study.

Clomiphene citrate has been used as a first-line ovulation induction agent for over 40 years.<sup>10</sup> The majority of women who have infertility associated with chronic anovulation in this disorder ovulate in response to clomiphene citrate. However, up to 30 percent remain anovulatory. Furthermore, of the roughly 70 percent who do ovulate in response to clomiphene citrate, only one-half will conceive.<sup>11</sup>

The first line therapy for anovulation is clomiphene citrate (CC) but unfortunately, ovulation is not achieved in almost 40% of PCOS. Various authors have reported a failure of ovulation at particular dose/cycles.<sup>12</sup> The rate of anovulation at a dose of 150 mg in the study conducted by Branigan et al<sup>13</sup> was 28% and 29% in the one conducted by Lobo.<sup>14</sup> The present study showed a 41.86% anovulatory rate with 150mg/three cycles which is comparable with above mentioned studies. Other reported a rate of anovulation as high as 72% with 100 mg cc in three consecutive cycles.<sup>15</sup> In 1.10 patients who failed to conceive on clomiphene citrate (treatment started from minimum dose of 50 mg/day to 150 mg/day from day 2-6 of menstrual cycle).<sup>7</sup>

Oligomenorrhea was the most common clinical finding in all subjects i.e. 89% and 77% were having hirsutism. Acne was found to be observed in 40% of cases. This is comparable with a study in which Hirsutism was the most common clinical finding in all subjects of the study group and 75% of the control group showed hirsutism of various grades. Amenorrhea was more common than oligomenorrhea. The occurrence of hirsutism of 85% in the present study is almost similar to that of Adams.<sup>16</sup>

Primary infertility was observed in 72% of cases and secondary infertility in 28%. This was in agreement with a study in which 72.8% cases were of primary infertility and 27.2% of secondary infertility.<sup>7</sup> In another study, eleven (68.75%) patients had primary infertility and Five (31.25%) patients presented with secondary infertility.

In our study the conception rate was 66% in a six month study period. Which remains in agreement with most of the previous studies. Armar and Lachelin<sup>17</sup>

reported a pregnancy rate of 66%<sup>17</sup>, Naether et al 70%.<sup>18</sup> After treatment and 6 months follow up, ovulation occurred in 14 (87.5%) patients. Eleven (68.75%) women succeeded in conceiving. In another International study between June 1996 and June 2003, there were 182 pregnancies in 153 PCOS patients who were treated with laparoscopic ovarian drilling.<sup>19</sup> Some authors have found a correlation between the number of points cauterized and the ovulation rate. We had used maximum 6 points and did not find any difference between 6 and 8 point approach.

## CONCLUSION

Laparoscopic ovarian drilling with diathermy should be considered as a preferable choice for infertile women with a history of failed response to clomiphene treatment as compared to the use of gonadotrophins.

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

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# Management of Posterior Urethral Valves in Public Sector Hospital: Challenges Faced

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## ABSTRACT

**Objective:** To adjudge the mode of presentation, upshot of treatment and complications of posterior urethral valve in our habitat.

**Study Design:** Descriptive study

**Place and Duration of Study;** This study was conducted at Department of Pediatric Urology, The Children's Hospital & ICH Multan from 1<sup>st</sup> October 2012 to October 2014

**Subjects and Methods:** All the information were entered on a structured sheet, like presenting features with their duration, treatment done and its outcome, complications of the disease. The data was later analyzed with the help of software.

**Results:** Two hundred thirty patients were included in the study. Median age range from 3days–10 years (median age 2.5 years). Mean time tenure before clinical presentation was 2.5 years. Obstructive symptoms were present in all patients while UTI was second most common and present in two hundred and ten patients (91%), Vesicoureteral reflux was seen in eighty patients (35%), Neurogenic bladder was present in thirty five (15%), and forty patients (17%) presented with significant renal parenchymal damage. Micturating cystourethrogram confirmed the findings of posterior urethral valve. Cystoscopy and fulguration of valves was done in all patients and supra vesical diversion was done later in selected cases.

**Conclusion:** Study results concluded that delayed presentation of the disease is customary in our society. This is linked with lofty morbidity and mortality rates. Efforts should be made in improving awareness among healthcare professionals at primary and secondary care centre for early diagnosis and treatment.

**Key Words:** Urosepsis, Vesicoureteral reflux, Renal insufficiency, Vesicostomy, Ureterostomy

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## INTRODUCTION

Posterior urethral valve (PUV) is the most ordinary congenital abnormality causing bladder outflow obstruction in male infants. No studies so far has been done that show the exact incidence of this anomaly in our population. Reports from developed countries like United States and Europe show that its incidence is 1:8000 and 1:25,000 male live births whereas, urinary obstruction diagnosed in utero is about 10%.<sup>1</sup>

In countries with good healthcare facilities, majority of PUV cases are identified by routine antenatal scan<sup>2</sup>. The grossly dilated kidneys, ureters, thick walled bladder with Key hole sign are easily identified with modern machines. As routine Ultrasonography is readily available in developed world with good expertise, majority of congenital obstructive lesions are diagnosed early.

The overall incidence of PUV in western countries is decreasing. This could be due to wide spread use of antenatal scan resulting in diagnosis and then deliberate abortion of fetuses. In a report by Cromie, extensive antenatal detection of anomalies resulted in termination of pregnancies in 46% of cases.<sup>3</sup>

Clinical presentation of PUV is variable and depends on several factors like age of presentation and types of valve. Obstructive symptoms predominate while recurrent urinary tract infection with fever and anemia are also common complaints.<sup>4</sup> If diagnosis is delayed then obstruction leads to high back pressure on the renal parenchyma that results in its impairment. Several studies show that delayed treatment of PUVs is the common cause of chronic renal failure.<sup>5</sup>

Another report proved that, the risk factors for PUV even with good health care facilities regarding diagnosis and treatment, 13%-64% of children still deteriorate and evolve chronic renal failure.<sup>6</sup> Antenatal detection and fetal intervention has no impact on the outcome of these patients. This indicates that there are still many aspects of the disease which are not completely understood.

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The point of study is to appraise posterior urethral valves (PUV) in a developing country with target on the mode of presentation, outcome of the disease and the difficulties of management faced in our society.

## MATERIALS AND METHODS

It is a descriptive retrospective study conducted at the Department of Pediatric Urology, Children Hospital & ICH Multan. In patients whose diagnosis of PUV was confirmed with Micturating cystourethrogram and cystoscopy were reviewed and included in this study. Duration of study was of two years from 1<sup>st</sup> October 2012 to October 2014. Data such as age, presenting symptoms with their duration, complications and their management were noted on structured sheet. All basic investigations like (CBC, CUE and culture sensitivity, RPM, S/E) diagnostic imaging like Ultrasound abdomen, Voiding cystourethrogram and DTPA renal scan were done. Some patients with renal failure were managed by the pediatric nephrology and urology units of children hospital complex.

Patients were initially stabilized with temporary catheter drainage, antibiotics and intravenous fluid if needed. Some patients with severe renal failure were managed by peritoneal dialysis. After initial stabilization, Cystoscopy and fulguration of valves was done in all patients and foley's catheter was placed for two to five days. Patients were discharged on 2<sup>nd</sup> day with antibiotics for four to ten days. Routine first follow up was at two weeks and second follow up was at six weeks and third follow up was at 4 months. All routine tests like RPM, CUE & culture sensitivity and ultrasound abdomen were done at every visit. MUG was done at four months and DTPA and DMSA renal scan were repeated at 6 months in patients with unilateral or bilateral reflux and renal failure.

After fulguration patients presented with VUR having recurrent acute UTI, or progressive renal deterioration, were further managed by supravescical urinary diversion. Patients with progressive renal failure were given supportive treatment in Pediatric nephrology ward with medication, peritoneal or haemodialysis. Data was analyzed by SPSS-20.

## RESULTS

There were two hundred thirty patients included in the study. Median age of presentation was found 2.75 years (range 2 days to 10 years) Figure I. The mean time duration before clinical presentation was 2.59 years. Antenatal scans were available in only 10 patients (4.3%). Difficulty in passing urine was the most common abnormality found in almost all patients (100%). Second most common presentation was recurrent urinary tract infections with fever in 207 patients (90%); (*Escherichia coli* accounted for 66%, *Pseudomonas aeruginosa* 5% *Klebsiella* 14%), while

15% did not grow any organism. Failure to thrive was found in 65 patients (28.2%).

On examination palpable bladder was found in 175 patients (76%), anemia (haemoglobin <10 mg/dl) in 131 patients (56.9%) and high blood pressure in 20 patients (8.7%). Serum creatinine at presentation was below 1.5mg/dl in 90 patients and greater than 1.8mg/dl in 50 patients. Thirty five patients (15.2%) needed peritoneal dialysis before surgery. On cystourethrogram vesicoureteral reflux was found in 80 patients (34.7%). Unilateral reflux was found in 45 patients (19.5%) while bilateral reflux was found in 35 patients (15.2%). Large decompensated bladder was found in 35 patients (15%).

After surgery, average follow up was six to eighteen months, 150 patients (65%) remained stable and finally stopped follow up. Seventy patients (30.4%) suffered from recurrent urinary tract infection (>3 episodes /year) requiring admission in hospital and intravenous antibiotics. Persistent vesicoureteral reflux resulted in loss of one or both kidneys in 45 pts (19.5%) and cutaneous ureterostomy was performed later in 10 pts (4.3%) and none had vesicostomy. Forty five patients (19.5%) developed chronic renal failure and underwent dialysis for their survival. Peritoneal dialysis was done in 23% while haemodialysis in 8%. The record of rest of 69% could not be traced and they probably died due to lack of access to renal replacement therapy. Figure 2

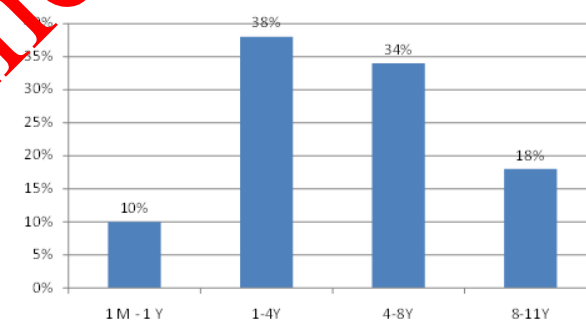


Figure No.1: Presenting age pattern

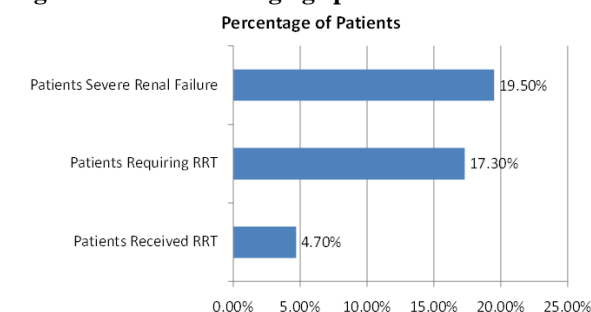


Figure No.2: Distribution of renal failure availability of dialysis

## DISCUSSION

Posterior urethral valve a scarce obstructing condition that involve the whole urinary tract and if untreated can



seriously affect the life of newborn. Even with timely diagnosis and treatment, the child still faces multiple disabilities like urinary incontinence or chronic renal failure.<sup>7,8</sup>

Several studies indicate that early presentation improves the overall outcome of patients with valves. But the data on this issue is conflicting. Commonly held view is that with early presentation, diagnosis can be made and proper treatment can be started. This enables protection of renal parenchyma.<sup>9,10</sup> All the complications of delayed diagnosis like hydronephrosis, Urinary tract infection, urinary ascites and renal failure can be prevented.<sup>11</sup> PUV diagnosis is easy with prenatal scan in majority of cases in western world<sup>12,13</sup>, only 10 (4.3%) of our patients were diagnosed on prenatal scan. Poor healthcare facilities in the periphery, poverty and inefficient system of referral to tertiary care centers are major barriers for early diagnosis.

Study by Yousaf et al have shown that contrary to early belief, early diagnosis is more commonly seen with severe degree of hydronephrosis resulting in poor survival<sup>14</sup>. In a similar study by Ansari<sup>15</sup> and colleagues in which he compared two groups of more than 90 patients with early and late presentation. They found that all the parameters of chronic renal failure which include azotemia, increased mean serum creatinine and hypertension were more in patients who presented late. The different results in several studies indicate that there are other factors beside age in predicting outcome in valve patients.

Most common presenting symptoms of PUV reported in multiple studies were painful micturition, poor urinary flow or dribbling of urine. It was present in almost all of our patients.

Recurrent Urinary tract infection is frequently encountered complication of PUV that causes significant morbidity. It is present in 90% of our patients as well. The commonest organism encountered is Ecoli in almost 65% of cases. Many factors are responsible for this complex UTI.<sup>16</sup> Urinary stasis due to obstruction, dysfunctional bladder, recurrent catheterisation attempts by untrained persons and VUR all contribute towards this complicated infection. Recent study by Brian Et el show that infected urine with high grade reflux can escort to renal scarring and trigger the ascension of cortical scars and renal failure.<sup>17</sup>

Increased serum creatinine score upon time of presentation is considered to be another prognostic predictor of valve patient outcome.<sup>18</sup> Its incidence in our study was 22% (50 patients). Initial serum creatinine may be high but after urinary drainage, decreasing serum creatinine is good prognostic indicator of renal function recovery. Similarly rising serum creatinine after effective drainage of urinary tract is significant and indicates poor prognosis of outcome

of renal function. In a recent study by Coleman R on changes in creatinine velocity, 25-40% of infants of PUV even with excellent care develop chronic renal failure before reaching adult age.<sup>19</sup>

The overall incidence of VUR is high and found in one-third to one-half of patients. In our study it was present in 35% of patients. It is usually secondary to high intravesical pressure. Milder grades of reflux are resolved with conservative management but high grades of reflux occurring in a kidney with decreased GFR rarely under goes complete resolution. VUR causes progressive renal damage as evident in many patients, who had initial stable renal function nonetheless led to end stage renal failure over time. There is a strong association between progression to renal failure and risk factors such as the presence of recurrent urinary infection, bilateral vesicoureteral reflux and renal dysplasia.

Most of our children presented late with renal failure (19.5%). The justification for shelve presentation amongst our patients are due to widespread penury and lack of diagnostic and treatment facilities in our rural population. Common misbelieve that poor urinary stream is a fugitive event and will improve with circumcision is another cause of delayed referral. All the complications of delayed presentation can be avoided with early diagnosis and prompt intervention. Patient survival rate, 68% in our society is liken to the rest of world's developed setups in Asia (87.5%) and developed countries (96.2-100%).<sup>21,23</sup>

The low survival figures in our society ask compelling attention. Special programs to educate the practitioners and medical persons at primary and secondary health care centers should be encouraged. All mothers with history of oligohydramnios should be checked for PUV when born. Patients having trait and hallmark of urinary tract infection claim entire investigations to rule out concealed urogenital congenital defect.

## CONCLUSION

Early diagnosis with immediate, instantaneous and swift treatment is the corner stone for the entire upshot of PUV patients. This is peculiarly important in poor society like ours where smoothness for renal transplant and dialysis facilities for children are not cheerfully available.

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

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# Prevalence of Skin Diseases in Patients Presenting at the Out Patient Department of Isra University Hospital Hyderabad: A Clinical Survey

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## ABSTRACT

**Objective:** The present study was conducted to investigate the prevalence of skin diseases in patients reporting at the Out Patient Department of Isra University Hospital Hyderabad.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was carried out at Out Patient Department of Isra University Hospital Hyderabad from April 2006 – April 2014.

**Patients and Methods:** A total of 2067 patients (1096 males and 971 females) were examined initially. Patients were selected through non probability purposive sampling as per inclusion and exclusion criteria. Because of limited time and workforce, only six dermatoses of main interest were recorded. Patients were examined by consultant dermatologist. Written informed consent was taken from the willing participants. Ethical approval was taken from the institute. Data was analyzed on SPSS 21.0 (IBM, incorporation, USA). Categorical variables were analyzed using chi square. P-value of statistical significance was taken at  $\leq 0.05$ .

**Results:** Acne vulgaris was found in girls and boys (11 to 35 years age range) with comedones being the earliest presentation. Prevalence of acne, melasma and ephelides was noted as 18%, 9.4% and 9% respectively. The prevalence of bacterial, fungal, and viral infections, scabies and head lice was observed as 9%, 9%, 3%, 9% and 8% respectively. The prevalence of eczema was 9%, atopic dermatitis 2%, seborrhoic dermatitis 2%, lichen planus 9%, vitiligo was 2%. Corns were noted in 0.6%, Alopecia areata in 0.1%, psoriasis in 0.1% and Keloids in 0.6% of the patients.

**Conclusion:** Acne vulgaris was the most common skin disease while melasma and scabies were common diseases. Less prevalence was observed for the atopic dermatitis, seborrhoic dermatitis, and lichen planus. Alopecia areata, psoriasis, vitiligo and Keloids were uncommon.

**Key Words:** Acne vulgaris, Scabies, Melasma, Atopic Dermatitis

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## INTRODUCTION

Epidemiological studies on skin diseases in the general population, especially in children, teenagers and in adults are, on the whole, still limited. The reported incidence or prevalence of pediatric or adolescent dermatoses varies, depending on the ethnic background, generation change, socioeconomic status, environmental factors and study design.<sup>1-5</sup> Many previous epidemiological studies have the following restrictions: (i) Survey of patients in schools and community-based settings could not completely reflect the real situation in general population.<sup>6</sup> (ii) Self-administered questionnaire studies or survey conducted by non-dermatologists make the validity of the diagnosis problematic.<sup>3,7</sup>

Dermatoses such as acne, Keloids, melasma and alopecia, although not life-threatening, may be particularly distressing for this age group. For some chronic and recalcitrant skin diseases such as atopic dermatitis, seborrhoic dermatitis, ichthyosis and psoriasis, the disease course and therapeutic decisions concerning long-term safety may worry the affected families. Treatment of recalcitrant cases of warts, scars, post inflammatory hyper or hypopigmentation and Keloids may pose a challenge for dermatologists in consideration of the young age of the patient. Among the infectious dermatoses in children and adults, treatment of warts, especially periungual warts, is usually challenging and associated with lot of pain and soreness.<sup>2-4</sup>

Although a worldwide increase in atopic dermatitis prevalence has been reported, the trend in Hyderabad over the last few decades has not yet been well delineated. The present study was designed to investigate the skin disease prevalence in the Out Patient Department of Isra University Hospital. The

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present study will help in understating the common skin diseases and making local data available for better patient management.

## MATERIALS AND METHODS

The present Cross sectional study was conducted at the Out Patient Department of Isra University Hospital Hyderabad from April 2006 – April 2014. A total of 2067 patients (1096 males and 971 females) were examined initially. Patients were selected through non probability purposive sampling as per inclusion and exclusion criteria. Because of limited time and workforce, only six dermatoses of main interest were recorded. Patients were examined by consultant dermatologist, including a careful examination of the scalp and body lesions. Presence of at least three to five comedones was required for diagnosis of acne. Ephelides were identified by their characteristic appearance on sun-exposed areas as groups of discrete, brown to yellowish, round or speckled macules in a diameter of 2–3 mm.<sup>9</sup> The diagnosis of AD must fulfill the following three criteria: (i) pruritus; (ii) chronic or relapsing history for at least 6 months; and (iii) typical morphology and distribution including acute eczematous change or chronic lichenification, prurigo and hyperpigmentation.<sup>10</sup> The diagnosis of warts, psoriasis and alopecia areata (AA) was made by clinical observation without histopathological examination. Keloid was defined as an overgrowth of dense fibrous tissue extending beyond the borders of the injury lasting for over 6 months. Data collected from patients were encoded, registered and verified on a relational database. Written informed consent was taken from the willing participants. Ethical approval was taken from the institute. Data was analyzed on SPSS 21.0 (IBM, incorporation, USA). Categorical variables were analyzed using chi square. Pearson's correlation was used for association of variables. P-value of statistical significance was taken at  $\leq 0.05$ .

## RESULTS

The overall prevalence of acne was 17.5% (95% confidence interval CI 16.5–18.9%), increasing with age from 0.2% at 6 years to 47.3% at 11 years. The clinical manifestation included comedones, papules and pustules, with comedones being the earliest manifest lesions noticed as young as at age 6, whereas inflammatory lesions were first seen in children from 7 years of age. No nodulocystic acne was found in our series. Comedones could be already identified in girls at age 6 (prevalence = 0.32%) and 1 year later in boys (prevalence = 0.30%). There were significantly more girls affected than boys in our population (1.9: 1) ( $P < 0.001$ ), with positive correlation between the acne prevalence and the increasing age (Pearson's  $r = 0.930$ ;  $P = 0.007$ ).

The overall prevalence of headlice was estimated at 8% (95% CI 7.5–9.3%), increasing with the advanced age (Pearson's  $r = 0.975$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ). The prevalence of seborrhoic dermatitis in the inspected patients were 2% (95% CI 1.1–2.1%), with slightly more females affected than males (1.2: 1) without statistical significance ( $P = 0.186$ ). It was most frequently observed at ages 28–39. The disease prevalence did not correlate with age (Pearson's  $r = -2.49$ ;  $P = 0.63$ ).

The overall prevalence of ephelides was estimated at 8.8% (95% CI 7.5–9.3%), increasing with the advanced age (Pearson's  $r = 0.975$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ).

The prevalence of vitiligo in the inspected patients were 2% (95% CI 1.1–2.1%). The prevalence of viral infections approximated 3% (95% CI 1.9– 3%), with the highest infection rate in the age group 10–11 years, without gender difference. A clustered but not a dispersed pattern of spatial distribution of the viral infections cases was found and confirmed (variance/mean = 1.81 > 1,  $P < 0.0001$ ). The average point prevalence of AD in the inspected patients were 2% (95% CI 1.1–2.1%), with slightly more males affected than females (1.4: 1) without statistical significance ( $P = 0.186$ ). AD was most frequently observed at ages 8–9 (2.5%), which declined abruptly at the age of 11 years. The disease prevalence did not correlate with age (Pearson's  $r = -2.49$ ;  $P = 0.63$ ). The overall prevalence of fungal skin infections were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's  $r = 0.975$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ). Only few cases with having a single hairless patch were identified (prevalence 0.1%, 95% CI 0.099–0.101%). None of these patients were found to have other associated skin diseases, such as vitiligo or AD. The overall prevalence of scabies were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's  $r = 0.975$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ). The overall prevalence of melasma was estimated at 9.4% (96% CI 7.5–9.6%), increasing with the advanced age (Pearson's  $r = 0.985$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ). Only few cases with having a papules and patches of psoriasis were identified (prevalence 0.1%, 95% CI 0.099–0.101%). The overall prevalence of eczema were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's  $r = 0.975$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ). The overall prevalence of bacterial skin infections were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's  $r = 0.975$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ). Keloid was with overall prevalence of 0.6% (95% CI 0.598–0.602%), showing no age difference (Pearson's  $r = -0.262$ ;  $P = 0.616$ ). Except in one male who has Keloid at the site of acne lesion on front of



chest, two females who had Keloid on her left dorsal feet and right lobe of ear due to traumatic injury, all of the other Keloids were located at previous sites of vaccination. The overall prevalence of bacterial skin infections were estimated at 9% (95% CI 7.5–9.6%), increasing with the advanced age (Pearson's  $r = 0.975$ ;  $P = 0.01$ ). There was no gender difference ( $P = 0.35$ ). Overall prevalence of corns was 0.6% (95% CI 0.598–0.602%), showing no age difference (Pearson's  $r = -0.262$ ;  $P = 0.616$ ).

## DISCUSSION

Acne is estimated to affect 9.4% of the global population, making it the eighth most prevalent disease worldwide. But in our study prevalence rate of acne vulgaris in OPD patients is 18%. This condition is almost ubiquitous in adolescents; in one study performed in New Zealand<sup>3</sup> surveying high school students over the age of 16 years, 91% of males and 79% of females reported acne. While acne is commonly viewed as a disorder of adolescence, it may persist into adulthood and often may present for the first time in adulthood.<sup>2</sup> Adult acne is a common reason for patients to present for dermatological evaluation, and adults in fact make up a large portion of the patient population seen by dermatologists for acne. Epidemiology of office visits for acne in one American study demonstrated that adult patients with acne, mostly women, comprise the majority of visits (61.9%), with adolescents (peak age 15–17 years) presenting in 36.5% of visits.<sup>4</sup> The actual prevalence of acne in the adult population has not been well defined;<sup>5</sup> Acne vulgaris, a chronic disorder of the pilosebaceous units, is common in adolescents. Community-based studies in the UK, Australia, New Zealand, and Singapore have found prevalence rates ranging from 27% in early adolescence to 93% in late adolescence.<sup>6, 8</sup> Acne is also the most common skin disease in adults.<sup>7</sup> The proportions of acne vulgaris in hospital-based studies of skin disease in Africa have been reported to be 4.6% in Ghana,<sup>4</sup> 6.7% in Nigeria,<sup>2, 9</sup> and up to 17.5% in South Africa.<sup>7</sup> Melasma is prevalent in approximately 10% of American population. It is found in all racial groups and is more common in subjects with darker skin phototypes. A number of topical treatments and procedures have been used for melasma.<sup>10</sup>

The occurrence of freckles is influenced by both genetic and environmental factors such as lifestyle. The prevalence of freckles in a random sampling of Israeli-born males at age 17 was 13.2%, with the rates gradually decreasing from 24.8% in the highest risk group of melanoma formation (incidence rates 3.8–10.5 per 105) to 1.8% in the lowest risk group of melanoma development (incidence rates 0.0–0.7 per 105).<sup>11</sup> On the basis of these findings, factors other than solar irradiation must be considered in the evaluation of the

association between ephelides and the development of skin cancer in Asian people.

Viral infections are extremely less common in OPD patients. Our study showed an increased prevalence in the older children without significant gender preference ( $P = 0.418$ ). Although person-to-person transmission is highly suspected, the true risk factors remain largely unknown.

It is generally thought that the prevalence of AD has been increasing over the past decades, even allowing for changes in disease definition and an increase in community awareness of AD.<sup>13</sup> However, in a previous questionnaire study carried out in Taipei, Taiwan measuring the 1-year-period prevalence of AD from 1994 to 1995 as part of the International Study of Asthma and Allergies in Children (ISAAC), AD was identified in 2% of the total 16 206 school children (6–7 and 13–14 years old).<sup>14</sup> The current study indicated that the overall prevalence of AD among schoolchildren in Taiwan changed little over the past decade (2% in 1994 vs. 1.7% in 2004,  $P = 0.248$ ). The low prevalence in Taiwan suggests that in addition to the Westernized lifestyle and different genetic backgrounds, some unknown factors may strongly influence the manifestation of AD. Although a generally decreased AD prevalence with increasing age was observed in some studies, the highest AD prevalence in our schoolchildren was seen in the 8–9-year-olds.<sup>14</sup>

The worldwide incidence or prevalence of psoriasis varies considerably, with incidence higher in Caucasians but low in American Indians, West African and North American blacks, Japanese and Eskimos.<sup>15</sup> Psoriasis is a common, immune-mediated, inflammatory skin condition of unknown etiology that requires life-long treatment once the disease has progressed to an advanced stage.<sup>15</sup> Prevalence varies with geographical area and race/ethnicity, and in Europe and the USA approximately 1–3% of the population is affected.<sup>16</sup> but in our OPD patients incidence of psoriasis was less as compare to the western literature. In patients with psoriasis, comorbidities have been identified that occur more frequently than in the general population, which appear to be associated with the presence of psoriasis.<sup>16</sup> Prevalence of AA in the pediatric group was estimated to lie between 0.01% and 0.03%, with 60% of patients experiencing their first episodes before 20 years of age.<sup>17</sup> The low point prevalence in our OPD patients around 0.1%. Keloid occurs more commonly among dark-skinned people than among Caucasians,<sup>18</sup> and is a common disease encountered in the dermatology clinic in Taiwan but its treatment has been disappointing. The frequency of Keloid caused by BCG vaccination was reported to approximate 2–4% in the general population,<sup>18</sup> Our survey showed only 0.6% OPD patients aged 10–40 years have Keloids without gender variation (boy to girl = 1.24,  $P = 0.631$ ).

## CONCLUSION

Acne vulgaris was the most common skin disease while melasma and scabies were common diseases. Less prevalence was observed for the atopic dermatitis, seborhoic dermatitis, and lichen planus. Alopecia areata, psoriasis, vitiligo and Keloids were uncommon. Further studies are recommended.

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

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