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JAIMC**The Journal of Allama Iqbal Medical College**

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ABSTRACT: It should be structured, not more than 250 words, briefly mentioning under following sub-headings Objectives, Design, Place and duration of study, Methods, Results and Conclusion. Abstracts should be followed by 3-5 MeSH (Medical Subject Headings) words. Use appropriate terms to increase searchability of your study.

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FOSFOMYCIN; A BETTER CHOICE AGAINST BACTERIA CAUSING URINARY TRACT INFECTIONS.

Farhan Rasheed, Muhammad Aurangzeb, Ihsan Ullah Hashmi, Ahmad Yar

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Microbiology Department, Combined Military Hospital, Lahore

ABSTRACT

Introduction: Urinary tract infections (UTIs) are one of the most common infections among hospital acquired infections as well as community acquired infections. Evolving Antibacterial resistance among Gram positive as well as Gram negative bacteria is lead to search for options to deal with these bugs. The objective of this study was to assess the activity of Fosfomycin against clinical isolates from patients presenting to a tertiary care hospital, Lahore.

Material and Methods: Urine specimens were cultured on CLED agar according to WHO protocol. A total of 124 isolates including Gram negative bacilli and Gram positive cocci were included in this study. Patients from out door as well as indoor were included in this study. Antibacterial susceptibility testing was performed by using standard modified Kirby Bauer disc diffusion method, following guideline of CLSI 2014. Fosfomycin 200- μ g disc was used and zone diameter ≥ 16 mm was considered as susceptible.

RESULTS: Out of 81 isolates of *Escherichia coli* 81%(66) were susceptible to Fosfomycin, out of 15 isolates of *Enterococcus faecalis* 80% (12) were susceptible to Fosfomycin, one isolate of *Enterococcus faecium* was susceptible (100%) to Fosfomycin, out of 13 isolates of *Klebsiella pneumoniae* 54 % (7) were susceptible to Fosfomycin and one isolate of *Klebsiella oxytoca* was susceptible (100%) to Fosfomycin, out of 7 isolates of *Staphylococcus saprophyticus* 57% (4) were susceptible to Fosfomycin, 4 isolates of *Citrobacter freundii* were susceptible (100%) to Fosfomycin and one isolate of *Citrobacter braaki* and *Enterobacter cloacae* each were susceptible(100%) to Fosfomycin. Out of total 124 isolates 78% (97) were susceptible to Fosfomycin.

CONCLUSION: Fosfomycin is very good option for urinary tract infections. It has many advantages over other drugs like single dose therapy is required for uncomplicated UTI. Resistance to Fosfomycin is very low. It is active against both Gram positives as well as Gram Negative organisms. It do not posseses cross resistance with Beta lactam drugs. As our study shows it is active against even highly resistant isolates. It was also active against ESBL producing fours isolate of *Escherichia coli* and one isolate of *Klebsiella pneumoniae*.

Keywords: fosfomycin, urinary tract infections (UTI), *escherichia coli*, *klebsiella pneumoniae*

Urinary tract infections (UTIs) are among one of the most common bacterial infections in humans both in the community and hospital setting.⁽¹⁾ In most of the cases there is need to start treatment before the final culture results are available. Institution and area specific monitoring studies are aimed to gain knowledge about the type of pathogens responsible for UTIs and their antimicrobial susceptibility patterns may help the clinician to choose the right empirical treatment. A wide range of antimicrobial are accessible to treat UTIs

Fosfomycin, was discovered in Spain in 1969. It is available in both forms, orally as well as systemically. Fosfomycin trometamol and fosfomycin calcium are the two oral available forms of the drug whereas, fosfomycin disodium is available as

intravenous form. It is a broad spectrum antimicrobial agent with activity against various gram-positive as well as gram-negative bacteria which includes staphylococci, enterococci, *E. coli* and other gram-negative bacteria^[2,3]. It is a bactericidal antibiotic which interferes with cell wall synthesis by inhibiting phosphoenol pyruvate transferase which is the first enzyme involved in the peptidoglycan synthesis^[2]. There is no cross resistance of this antibiotic with others and it can be administered safely in combination with many other antibiotics^[2,3].

Fosfomycin has very good oral absorption with a bio-availability of 40% and majority of the drug is excreted unchanged in urine with very high concentration levels achieved in urine after a single oral dose^[2].

Renal elimination of Fosfomycin is of 95% and

no tubular secretion occurs^[3]. It has a relatively long elimination half-life, which varies between 4 and 8 hours^[3]. Urine levels remain high for prolonged period which makes it a suitable drug for the treatment of UTI. Besides urine,^[2-5].

E. coli is the most common organism causing the UTIs^[1]. With the inappropriate and inadvertent use of higher antibiotics, antimicrobial resistance emergence among these bacterial isolates has led to difficulty in treating these infections. As the antibiotic pipeline is getting empty with only few alternatives available for treating these resistant infections, old antibiotics like fosfomycin, nitrofurantoin, colistin have gained importance recently again^[6-7]. In the present study we have evaluated the antibacterial activity of fosfomycin against isolates causing UTIs.

METHODS

This cross sectional study was conducted at Microbiology department, Combined Military Hospital, Lahore, from January 2014 to October 2014. Midstream Urine specimens collected from different wards like surgical wards, medical wards, ICU, gynaecology ward, urology ward and also from outpatient department (OPD) were included in this study. Specimens from the both the genders were included in this study. Repeat specimens during same episode of illness, specimens having mixed growth, specimens from urine collection bag and Folley's catheter tips were excluded from the study. All urine specimens were cultured on Cysteine Lactose Electrolyte Deficient (CLED) agar according to WHO protocol.⁽⁸⁾ A total of 124 isolates including Gram negative bacilli and Gram positive cocci were included in this study. Gram negative rods which are intrinsically resistant to fosfomycin like *Acinetobacter baumannii* were excluded from this study.⁽⁹⁾ Bacterial isolates were identified on the basis of colonial morphology, Gram staining, Catalase test, coagulase test, Oxidase test, and biochemical profile using API 20 E and API 20NE. Antimicrobial susceptibility testing was performed by using standard modified Kirby bauer disc diffusion method. Zone sizes were interpreted following CLSI 2014 guideline. Fosfomycin 200- μ g disc was used and zone diameter ≥ 16 mm was considered susceptible.⁽⁹⁾

RESULTS

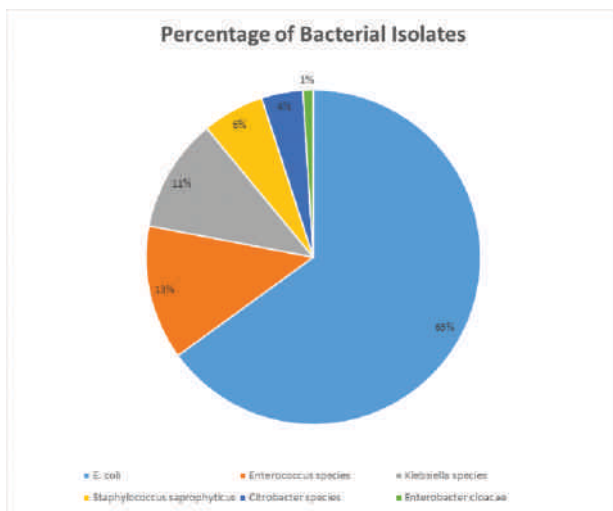
A total of 124 isolates were included in this study during study duration. 101 isolates were Gram negative rods and 23 were Gram positive cocci. Out of 81 isolates of *Escherichia coli* 81%(66) were susceptible to Fosfomycin, out of 15 isolates of

Enterococcus faecalis 80%(12) were susceptible to Fosfomycin, one isolate of *Enterococcus faecium* was susceptible (100%) to Fosfomycin, out of 13 isolates of *Klebsiella pneumoniae* 54 %(7) were susceptible to Fosfomycin and one isolate of *Klebsiella oxytoca* was susceptible (100%) to Fosfomycin, out of 7 isolates of *Staphylococcus saprophyticus* 57%(4) were susceptible to Fosfomycin, 4 isolates of *Citrobacter freundii* were susceptible (100%) to Fosfomycin and one isolate of *Citrobacter braaki* and *Enterobacter cloacae* each were susceptible(100%) to Fosfomycin. Out of total 101 Gram negative rods 79% (80) were susceptible to fosfomycin. Out of total 23 Gram positive cocci 74%(17) were susceptible to fosfomycin. Out of total 124 isolates 78% (97) were susceptible to Fosfomycin. Out of 81 isolates of *Escherichia coli*, four were extended spectrum beta lactamase (ESBL) producer, all of them were susceptible to fosfomycin. Out of 13 isolates of *Klebsiella pneumoniae*, only one was ESBL producer and it was susceptible to fosfomycin. So 5 ESBL producing gram negative rods were 100%(5) susceptible to fosfomycin.

DISCUSSION

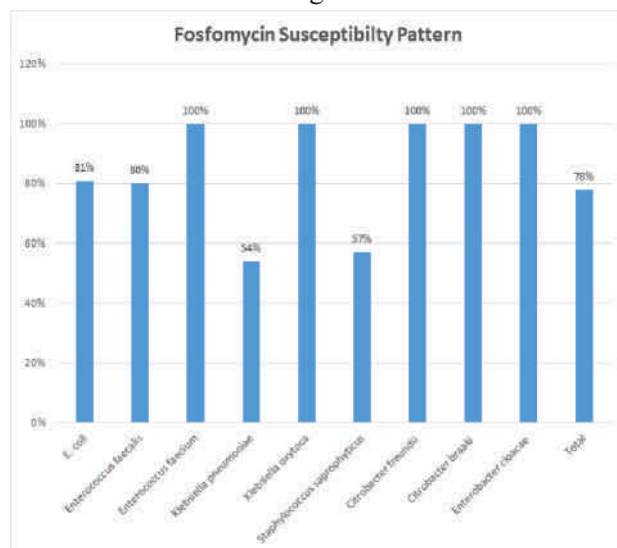
Fosfomycin is very good option for urinary tract infections. It has many advantages over other drugs like single dose therapy is required for uncomplicated UTI. Resistance to Fosfomycin is very low. It is active against both Gram positives as well as Gram Negative organisms. It does not possess cross resistance with Beta lactam drugs. It is active against even multidrug resistant (MDR) isolates. It was active against ESBL producing four isolate of *Escherichia coli* and one isolate of *Klebsiella pneumoniae*.

In our study, out of total 124 isolates 78% (97) were susceptible to Fosfomycin. Out of total 101



Gram negative rods 79% (80) were susceptible to fosfomycin. Out of total 23 Gram positive cocci 74%(17) were susceptible to fosfomycin

So many studies have been conducted on fosfomycin against organism causing urinary tract infections. Neuner et al conducted a study on fosfomycin against MDR urinary isolates in 2012.⁽¹⁰⁾ Fosfomycin was susceptible to 86% of urinary isolates. These isolates included both Gram positives as well as Gram negatives like Enterococcus



species, Pseudomonas aeruginosa, Escherichia coli, Klebsiella species. Most of the isolates were MDR including 13 carbapenem-resistant Klebsiella pneumoniae, 8 Pseudomonas aeruginosa, and 7 vancomycin-resistant Enterococcus faecium (VRE) isolates, 7 extended-spectrum beta-lactamase (ESBL) producers. Like our study most of the isolates (86%) were susceptible to fosfomycin.⁽¹⁰⁾

Maraki et al conducted a study from Greece in 2009.⁽¹¹⁾ A total 578 urinary isolates were included in this study. Both Gram positives as well as gram negatives were included in this study. Over all more than 89% of these isolates were susceptible to fosfomycin. These results are even better than our study results. In this study fosfomycin was susceptible to most of the MDR isolates including Vancomycin resistant Enterococci (VRE), Methicillin resistant Staphylococcus aureus (MRSA), ESBL producing Gram negative rods.⁽¹¹⁾

Matthews et al conducted a study in 2016. Among all urinary isolates tested during study duration, fosfomycin resistance was documented in 1% of E. coli vs. 19% of Klebsiella spp. They only tested Gram negative rods. Even these results are better than our study results in terms of resistance of fosfomycin.⁽¹²⁾

Noor et al conducted a similar study on urinary isolates in 2004 from Karachi, Pakistan. In this study 94% isolates were susceptible to fosfomycin. This study included only 56 Gram negative rods, most of them were MDR. In comparison our study included both Gram positive as well as Gram negative isolates and sample size of our study is more than double of this study.⁽¹³⁾

Wali et al conducted a study from Rawalpindi, Pakistan, in 2016. This study included 200 Gram Negative urinary isolates. Out of which 97 were MDR and 103 were non MDR. Fosfomycin susceptibility was better among MDR urinary isolates. 98% of MDR Isolates were susceptible to fosfomycin as compared to non MDR isolates. Fosfomycin susceptibility in this study is much better than our study especially against MDR isolates.⁽¹⁴⁾

Khan et al conducted a study on ESBL producing Gram negative rods causing urinary tract infections from Rawalpindi Pakistan in 2014. A total of 381 isolates were included in this study. Results were comparable with our results, as 84% of these ESBL producing isolates were susceptible to fosfomycin. In our study, all isolates were not ESBL producer but those who were ESBL producer were 100% susceptible to fosfomycin as compared to over 78% susceptibility of fosfomycin.⁽¹⁵⁾

Fosfomycin is a very good option for uncomplicated urinary tract infections. It is easy to administer as single oral dose. It is more active against MDR isolates. So it is proved to be better option where we are left with limited choices.

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EXPERIENCE OF LAPAROSCOPIC ULTRASOUND IN MANAGEMENT OF HYDATID CYST OF LIVER

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ABSTRACT

Background: Hydatid cyst in humans is a zoonotic infection caused by larval stages of Echinococcus genus of cestode species. Management of hydatid cyst is Laparoscopic ultrasound assisted laparoscopic and open surgery.

Objective: To compare the outcome of laparoscopic ultrasound assisted laparoscopic versus open surgical treatment in patients undergoing hydatid cyst of liver

Material & Methods:

Study Design: randomized control trial.

Setting: Department of Surgical Unit 1, Allama Iqbal Medical College/ Jinnah hospital, Lahore.

Data collection: The patients were divided into two groups. One group treated with laparoscopic technique and other with open surgery. Outcomes were noted. All the collected data was entered and analyzed on SPSS version 21.

Results: The mean age of patients in group A was 44.27 ± 16.14 years and in group B was 41.77 ± 17.29 years. In group A, 15 males and 15 females. In group B, 20 males and 10 females. The mean duration of surgery in group A was 74.00 ± 8.88 min and in group B was 105.50 ± 9.70 min. In group A, wound infection present in 0 cases and in 7 cases in group B ($P < 0.05$). In group A, mean hospital stay was 5.97 ± 2.92 days while in group B, mean hospital stay was 12.43 ± 4.44 days ($P < 0.05$).

Conclusion: Laparoscopic ultrasound assisted laparoscopic showed better outcome than open surgical treatment in patients with hydatid cyst of liver

Keywords: hydatid disease of liver, laparoscopic, open surgery

Hydatid cyst in humans is a zoonotic infection caused by larval stages of the Echinococcus genus of cestode species. This parasite lives in intestine of dogs (definite host).¹ Liver and lungs are the most commonly affected organs whereas splenic infestation is rarer.² Hepatic cystic echinococcosis is an emerging disease in central Asia, particularly in Pakistan, due to the migration of infected people mainly from Afghanistan, Middle East.³

The prevalence and fertility of hydatid cysts was highest in camels (prevalence 17.29%; proportion fertile 95%), followed by sheep (prevalence 7.52%; proportion fertile 86.4%), buffalo (prevalence 7.19%; proportion fertile 84.3%), goats (prevalence 5.48%; proportion fertile 79.09%) and cattle (prevalence 5.18%; proportion fertile 75.25%).⁴ Hydatid cysts can rupture, which is the most severe complication of echinococcosis as it can cause anaphylactic reaction and seedling of secondary cysts.⁵

In humans it mostly occurs in liver, other common organs are lung, spleen, kidney and rarely brain. The conventional operative procedures enu-

cleation, evacuation, cystectomy and etc. involves a significant morbidity especially in term of wound infection.⁶ Laparoscopic approach has become increasingly popular in abdominal pathology of hydatid disease specially liver, although controversies regarding the role of laparoscopic technique in the management of hydatid disease have not been resolved to date.⁷ But Laparoscopic management has been revolutionized by laparoscopic ultrasound. Because it helps the surgeon to look into the tissues being operated upon, thereby compensating for the inability of physically palpating such tissues. Thus, it has not only helped to mimic open surgery, but has also refined the current techniques of laparoscopic operations and significantly reduce the surgery duration and time for localizing the lesion during laparoscopy.⁸

Rationale of this study is to compare the outcome of laparoscopic ultrasound assisted laparoscopic versus open surgical treatment in patients undergoing surgery for hydatid cyst of liver. Literature has showed that ultrasound assisted laparoscopic is more beneficial as compared to open

surgery. Open surgery increases the morbidity and also prolongs the hospital stay as well as the duration of open surgery is also long as compared to laparoscopic procedures. But unfortunately, there is no local study available and no other study has used laparoscopic ultrasound Probe as adjuvant to reduce the operative timing, hospital stay and consequent morbidity and mortality associated with open surgical management of hydatid cyst. So we want to conduct this study to implement the more beneficial method in local setting in future.

OBJECTIVE

To compare the outcome of laparoscopic ultrasound assisted laparoscopic versus open surgical treatment in patients undergoing surgery for hydatid liver

METHODS

Study Design: Randomized control trial study

Setting: Department of Surgical Unit-I Jinnah hospital, Lahore

Study Duration: 18 months (1st jan 2016 to 30th June 2017)

Sample Size: Sample size of 60 cases (30 each group) was calculated by using 95% confidence level, 80% power of test and taking mean operative time i.e. 67.5 ± 15 min with laparoscopic and 100 ± 37.5 min with open surgery for management of hydatid cyst.

Diagnosis: Diagnosis of hydatid cyst of liver was made by hematological, serological and imaging studies

Sampling Technique: Non probability consecutive sampling

Sample Selection

Inclusion Criteria: Patients 18-70 years of either gender diagnosed as cystic echinococcosis of liver (presence of 1-2 hydatid cyst of size >5 cm detected

on CT scan)

Exclusion Criteria: Patients with chronic liver disease (cirrhosis or coarse echotexture on USG), Peritonitis or Mechanical bowel obstruction (on x-ray)

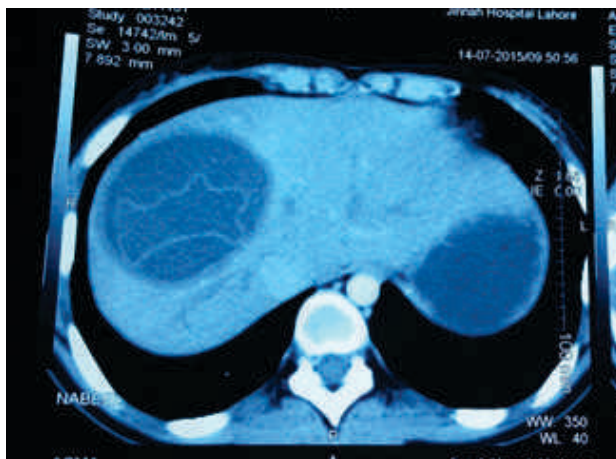
SURGICAL PROCEDURE

Pneumoperitoneum created using infraumbilical approach (verres needle) and conventional three port approach for hepatobiliary surgery adopted. After doing laparoscopy in all cases, high energy device (Ultrasound harmonic scalpel) was used to release adhesions between the parietal wall and liver or separation of omentum from liver. 20% hypertonic saline soaked ribbon gauze placed around the cyst area to avoid intraperitoneal spillage, laparoscopic ultrasound probe was used to identify the exact location, size, number of cysts and Doppler mode was used to look its vicinity to nearby vessels. After confirmation, aspiration needle was passed to aspirate the cyst fluid with 5-mm suction cannula placed next to the aspirating needle to avoid any spillage. Then 20% hypertonic saline was instilled in the cavity for 10 minutes and aspirated. Then harmonic scalpel was used to widened the cavity and all the contents aspirated with the help of 10mm sucker, germinal layer was separated and hemostasis secured. Cyst wall placed in self made glove pouch and removed through epigastric port. Saline soaked ribbon gauzes removed. Laparoscopy done for any spillage. 28F nelton drain placed in cyst cavity and cavity was packed with omentum. Ports removed and port sites stitched.

LAPAROSCOPIC ULTRASOUND PROBE

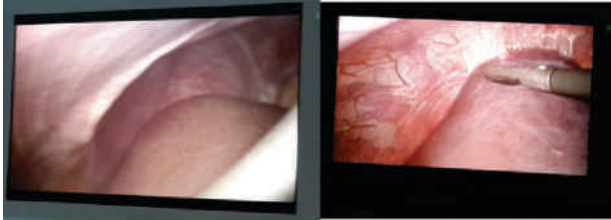
Laparoscopy view, followed by laparoscopic ultrasound probe being used to locate the cyst, size, depth and Doppler mode used to visualize nearby vascular structures

Data Collection Procedure: 60 patients fulfilling the inclusion criteria were selected. Informed consent was taken and the patients assured that their data would be kept confidential. Demographic information (name, age, sex), Body Mass Index, size and location of cysts were obtained. Then patients were randomly divided in two groups after lottery method. In group A, patients underwent laparoscopic ultrasound assisted laparoscopic and in group 2, open surgery was performed. All the operations were carried out by same surgical team under general anesthesia according to department protocols. Total duration of surgery was noted (calculated in minutes, from the laparoscopic port insertion or incision to the closure of skin incision). After surgery patients were

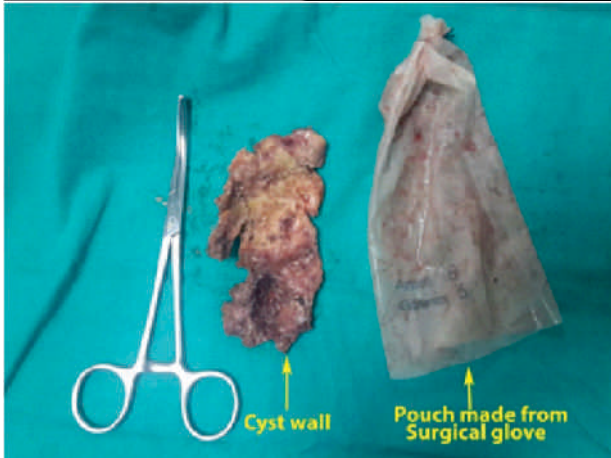
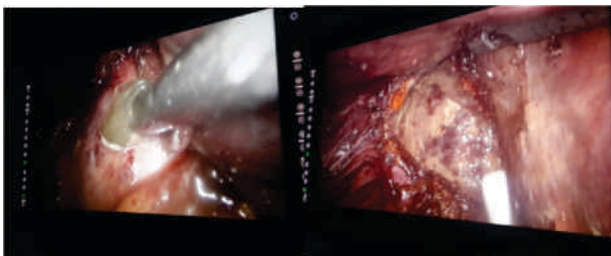




shifted to surgical ward and were managed. Wound



was assessed on daily basis till discharge. The total hospital stay was also noted (calculated in days after surgery till discharge). Wound infection and drain output and its nature were observed. All the data was



collected on a pre-designed Performa.

Data Analysis: The data was entered in SPSS version 21.0 and analyzed. Quantitative variables like age, cyst size, duration of surgery, hospital stay was analyzed by calculating mean and standard deviation. Frequency and percentage was calculated for categorical variables like gender and Wound infection. Both groups was compared by Chi Square test for categorical variables (Gender, Wound infection) and independent sample t-test for quantitative variables (Age, Cyst size, Duration of surgery, Hospital stay). P value of <0.05 was considered significant. Data will be stratified for

age, gender, number and size of cyst. Post-stratification, respective statistical tests were applied with $p\text{-value} \leq 0.05$ taken as significant.

RESULTS

The mean age of patients in group A was 44.27 ± 16.14 years and in group B was 41.77 ± 17.29 years. In group A, 15 were males while 15 were females. In group B, 20 were males while 10 were females. The mean cyst size of the group A patients was 7.37 ± 1.47 cm while in group B was 7.99 ± 1.66 cm. Table 1

The mean duration of surgery in group A was 74.00 ± 8.88 minutes and in group B was 105.50 ± 9.70 minutes. The difference was significant between both groups i.e. $p\text{-value} = 0.000$. In group A, wound infection was absent in all cases while in group B, wound infection was noted in 7 cases. Significant difference found between both groups i.e. $p\text{-value} = 0.005$. In group A, mean hospital stay was 5.97 ± 2.92 days while in group B, mean hospital stay was 12.43 ± 4.44 days. Significant difference found between both groups i.e. $p\text{-value} = 0.000$. Table 2

DISCUSSION

Hydatid disease is rare entity primarily affecting the population of developing country. With the passage of time, treatment of hydatid liver cysts has been undergoing revolutionary changes. The era of open surgery with its associated large incision and prolonged stay is now being challenged by lesser invasive procedures. Laparoscopically, the most important prerequisite of prevention of spillage of the hydatid content at all stages of surgical manipulation has been ensured by a number of methods by different surgeons.⁹

In our study the mean cyst size of the Laparoscopic Group patients was 7.37 ± 1.47 cm while in Open Surgery group was 7.99 ± 1.66 cm, the mean duration of surgery in Laparoscopic Group was 74.00 ± 8.88 minutes while in Open Surgery group was 105.50 ± 9.70 minutes. In Laparoscopic Group, wound infection was noted in 0 cases while in Open Surgery group, wound infection was noted in 7 cases. Laparoscopic group showed better outcome regarding wound infection and difference was statistically significant, whereas cyst size in both groups were insignificant.

Ali et al.⁶, resulted that through laparoscopic procedure no complication was noted. The median operative duration for open surgery was 100.00 minutes and for laparoscopic surgery 67.5 minutes (range 60-120). The median length of hospitali-

Table 1: Baseline characteristics of patients

	Study Groups	
	Laparoscopic surgery	Open Surgery
n	30	30
Age (years)	44.27±16.14	41.77±17.29
Sex	15 / 15	20 / 10
Cyst size(cm)	7.37±1.47	7.99±1.66

Table 2: Comparison of outcome in both groups

	Study Groups		p-value
	Laparoscopic surgery	Open Surgery	
Duration of surgery (min)	74.00±8.88	105.50±9.70	0.000
Wound infection	0	7	0.005
Hospital stay (days)	5.97±2.92	12.43±4.44	0.000

zation for open surgery was 8.0 days (range 7-14) and for laparoscopic surgery 5.0 days (range 4.0-7.0).

A study by Rajeev Sinha et al⁹ presented that minimally invasive management, including aspiration and laparoscopic intervention, appear to be viable alternatives to open surgery because they result in less morbidity. One study showed that mean operative time was 100±37.5 vs 67.5±15, p=0.000 and mean hospital stay was 8±1.75 vs. 5±0.75, p=0.000 with open surgical treatment vs laparoscopic ultrasound assisted laparoscopic in patients undergoing surgery for hydatid cyst abdomen, respectively.⁶

In a study comparing group 1(laparoscopic Ultrasound assisted Laparoscopic) vs group 2 (open) surgery of hydatid cyst the mean open operative time was 72 (45–140 min) in group 1 and 65 (35–120 min) in group 2 (p<0.001). The statistical analyses of postoperative outcome showed that the wound complications were significantly higher for open group (group 2: 8.72 and 5.23%, p = 0.015) than for the laparoscopic group.⁷

Another study by Sabelli et al.¹⁰, documented that the laparoscopic surgery reduced the reduced time range hospitalization, in the opinion of some authors, of 3-12 day against the mean hospitalization time range in the open that is of 9-20 days; mortality with the laparoscopic procedure goes down almost 0% as morbidity as that has determinate a dramatic and sensible reduction of the recurrence. Studies showed the reduced time range hospitalization that is for the laparoscopic surgery, in the opinion of some authors, 3 to 12 day against the mean hospitalization time range in the open that is 9 to 20 days; mortality

with the laparoscopic procedure goes down to almost 0% and morbidity has determinate dramatic and sensible reduction of recurrence.^{11,12}

A clinical trial comparing group 1 (laparoscopic) versus group 2 (open) surgery of hydatid cyst showed the mean operative time was 90 (70-110min) in group 1 and 110 (90-130min) in group 2 (p<0.001). The wound complication rate were respectively 0% in group 1 compared with 8.72 % in group 2 (p=0.015). The mean hospital stay was 6.42 (1-21 days) in group 1 and 11.7 (4-80 days) in group 2 (p = 0.001). One study by Tuxun et al.¹⁴, concluded that the laparoscopic approach is safe with acceptable mortality and morbidity for both conservative and radical resections in selected patients. Clinical outcomes are comparable to open surgery, albeit in a selected group of patients.

Perioperative morbidity after open surgery varies from 12% to 63% in open series and from 8% to 25% for laparoscopic studies, based on several factors, including age, size of the cyst, preoperative complications, particularly biliary–cyst communication, and the type of surgical procedure. No surgery-related death was reported for laparoscopic hydatid surgery, however two non-surgery-related postoperative deaths were reported.^{15,16} The reported recurrence rate for open surgery ranges from 0% to 4.5% in different studies, however the reported cumulative recurrence rate is 1.1% for the laparoscopic treatment of liver hydatid cysts.¹⁷

Our results are comparable to above studies regarding operative time, hospital stay and wound infection.

CONCLUSION

It has been proved in our study that laparoscopic ultrasound assisted laparoscopic showed better outcome than open surgical treatment in patients undergoing surgery for hydatid cyst of liver. Laparoscopic ultrasound and high energy devices (Harmonic) have revolutionized the management of hydatid hepatic cyst. It is recommended that these facilities should be provided in all teaching hospitals as other countries are providing to their citizens and state of art Laparoscopic training centers should be established in all teaching hospitals.

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AWARENESS & ATTITUDE AMONG LADY DOCTORS & LADY PARAMEDICS TOWARDS MENOPAUSAL SYMPTOMS AND HRT

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ABSTRACT

Objective: This study was aimed to assess the awareness and attitude of lady doctors and lady paramedics towards perimenopause and menopausal symptoms and the use of HRT.

Subjects and method: This is a cross sectional study done over a period of three months on lady doctors and lady paramedics working in teaching hospitals of Punjab and Sindh. These ladies were interviewed using a predesigned questionnaire.

Results: A total 150 questionnaires were filled after informed consent. About 48% of participants were post menopausal and 52% were Perimenopausal. Almost 90% of respondents were aware of different menopausal symptoms to some extent.

Among the sufferers, vasomotor symptoms were the most distressing symptoms which were present in 37.6 % of participants. In 59.44% of participants, the main source of information about these symptoms was books. Interestingly not even a single participant gave history of HRT for their symptoms. Only 6 participants (3.3%) took Progestogens and combined hormonal preparations for treatment of menstrual irregularities around menopause and 15 (10%) either took non hormonal therapy or calcium and multivitamin preparations.

Conclusion: The study revealed that most of lady health workers were aware of perimenopausal symptoms and the most common symptom was mood swings followed by hot flushes. Surprisingly no participant took HRT probably due to less severe symptoms and their different perception about menopause.

Keywords: awareness, health workers, menopause, HRT

Menopause is the depletion of ovarian function followed by cessation of menstruation and often diagnosed when a woman does not have menstrual period for 12 consecutive months without any other biological or physiological cause. It marks the end of reproductive life. The gradual or sudden cessation of estrogen and progesterone production by the ovaries impact many tissues from brain to skin.

Menopausal symptoms include vasomotor & genitourinary symptoms, sleep disturbances, mood alteration, depression, urinary tract infections, vaginal atrophy and increased health risks for several chronic disorder including osteoporosis, cardiovascular disease and loss of cognitive functions. It is less clear whether anxiety, irritability, depression, palpitation, skin dryness, loss of libido and fatigue can be attributed to menopause. Most women experience menopause between 45 and 54 years with an average age of 51 and peri menopause commences after 45 years⁽²⁾.

Menopausal symptoms frequently starts in the years before the final menstrual period and can last with unpredictable duration ranging from few years to more than 13 years.

Most of menopause symptoms are self limiting and not life threatening but are nevertheless unplea-

sant and sometimes disabling. Life expectancy is increasing and women may live about 30 years in the post menopausal state. It is therefore important that health, even in the deficiency of symptoms, quality of life is optimized during this time.

Attitude towards menopause vary across cultures and countries. There are numerous factors that contribute to a woman's attitude towards menopause and practice of HRT. These include demographic characteristic like age, race, religion, income, level of education and age at menopause. Apart from this, physician's attitude and media also play important role. The consciousness of menopause related symptoms among women in developing countries is not well known. Most of women reach menopause without having adequate knowledge about the events of this period and the ways to deal with the phenomenon. Further, menopause is perceived, understood and derived largely as a negative experience⁽³⁾. Unlike menstruation and conception, menopause has not been a major topic of discussion among the public. Very little information has been circulated to the public to increase knowledge on the subject. Review of literature, showed a number of studies that have been done to assess the knowledge and attitude of women towards menopausal symptoms and HRT. But all of them

were done among general population. So we decided to study the same aspect of woman's life in health care workers who are expected to know the best.

METHOD

This cross sectional study was carried out over a period of three months. The subjects were doctors and lady paramedics working in teaching hospitals of Punjab & Sindh.

150 doctors, lady paramedics with the age range of 45-60 years, were interviewed through a pre designed questionnaire. The questionnaire was divided into 3 sections.

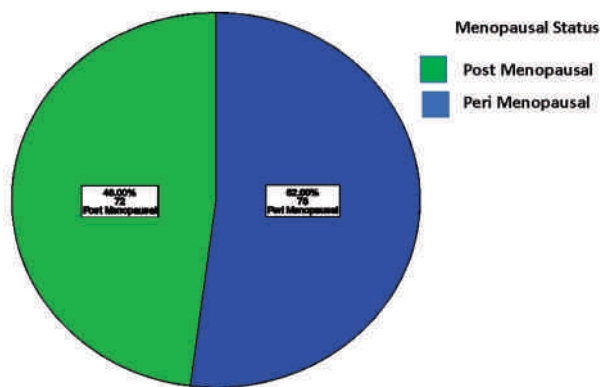
1. Sociodemographic information including age, educational level, occupation, age at menopause and menopausal status.
2. Awareness about menopause and perimenopausal symptoms.
3. Questions on menopausal symptoms and use of HRT were designed to evaluate the respondent's knowledge and awareness, source of information and practice of hormonal/non hormonal treatment.

The questionnaire was distributed in person requesting an early response and was then collected back. SPSS version – was used to analyze the data.

RESULTS

Total 150 questionnaires were distributed among doctors and nurses working in teaching hospitals of Lahore & Karachi and all were returned back.

48% of the respondents were postmenopausal

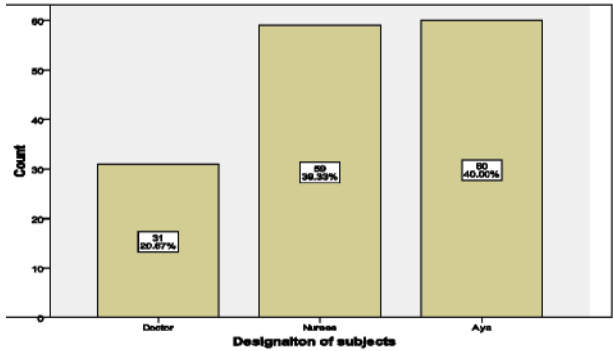


and 52 % were premenopausal (Fig 1).

Figure 1

Among respondents almost 20% were doctors, 40% nurses and 40% were other paramedics. (Table1)

Table1: Distribution of subjects according to designation.



90% of respondents were aware of menopause and related symptoms to some extent and 10% were totally ignorant and main source of knowledge was books(Fig2 & Table 2).

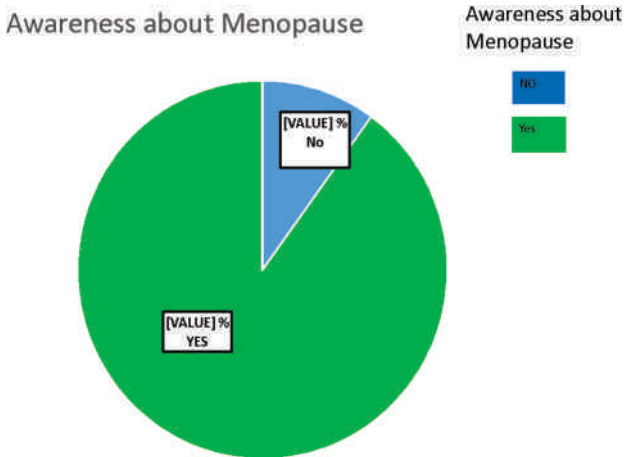


Figure 2

Table 2: Source of Knowledge about menopausal / perimenopausal symptoms

Coming to the prevalence of menopausal symptoms, the most frequently occurring symptom was mood swings followed by hot flushes, night sweats, insomnia, genitourinary symptoms and others(Table

3).

Symptoms	Responses		Percentage of cases
	N	Percentage	
Hot flushes	69	20.1 %	56.1 %
Night sweats	60	17.5 %	48.8 %
Insomnia	59	17.2 %	48.0 %
Mood Swings	77	22.4 %	62.6 %
Genitourinary Symptoms	50	14.6 %	40.7 %
Any other	28	8.2%	22.8 %
Total	343	100 %	278.9 %

Table 3: Frequency of Menopausal Symptoms

Interestingly, not a single participant took HRT for their symptoms. Only 6 participants (3.3%) took progestogens and combined hormonal preparations for the t/m of menstrual irregularities around menopause and 15(10 %) either took non hormonal therapy or Ca and multivitamin preparations.

DISCUSSION

Menopause is considered as a natural process that nearly all women go through at a certain point in their lives. With the rise in the elderly population experiencing menopause symptoms and its long term consequences, the need for a solution to overcome this problem has grabbed the attention of medical field.

Different studies showed that knowledge and attitudes towards menopause and HRT differ across the regions and countries according to their social and cultural factors^(4,5,6). Understanding the similarities and differences among women's perceptions, attitudes and expectations improves the delivery of appropriate care and promotes life style and increase the quality of life. A novelty of our study is that we assessed awareness and attitude towards menopausal symptoms & HRT among population working in hospital.

Our survey shows that awareness about menopausal symptom among health care professionals is quite high as expected. Interestingly the most common symptom was mood swings followed by hot flushes, night sweats and insomnia. This finding is supported by study done by Osama Muhammad Ibrahim⁽⁷⁾. While hot flushes and night sweats is the commonest symptom experienced in Caucasian population⁽¹¹⁾

Though 5 out of 150 respondents (3.3%) took Progestogens and combined hormonal preparations for treatment of menstrual irregularities around menopause and some consumed non hormonal multivitamins & Ca supplements to counter the

effects of menopause. But interestingly, even among doctors and nurses working in hospital environment, not a single participant took HRT. This is contrary to the related studies available in the literature. The same study done by Osama Mohammad Ibrahim⁽⁷⁾, half of the participants (48%) were using a variety of HRT to control their symptoms.

Total lack of use of HRT in our study can be explained by our women's different attitude towards their health, menopause and HRT. Although our study population were health care workers, yet they did not pay adequate attention to these symptoms and thought that the complaints would subside on their own with passage of time. At the same time, they felt shy and embarrassed while answering to the questions related to their personal life. Moreover symptoms were not much bothersome in my study population and different studies supports this fact by stating that hot flushes and other menopausal symptoms are more prevalent in European and North Americans as compare to Asians.⁽⁷⁻⁹⁾ Last but not the least, some sort of confusion about the real benefits and risks still exists among clinicians also, which probably accounts for very low acceptance of this treatment.

Conclusion/Recommendations

Menopause may affect different women differently. Our study revealed that majority of the study population working in teaching hospitals was aware of Perimenopausal symptoms. Most of the respondents believed that menopause is a natural process and the symptoms they suffered were also not much bothersome. This perception had influenced their health seeking behavior.

Among the symptomatic women, the commonest symptom was mood swings followed by hot flushes. In such cases HRT could have been considered to make their lives easy had they sought medical advice.

All women should be targeted for creating awareness and providing health care information and guidance on possible life style adjustment and possible need of HRT in very few selected cases for smooth transition from pre to post menopausal stage.

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HEMATOLOGICAL CHANGES IN MALARIA: CORRELATION TO PLASMODIUM SPECIES

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ABSTRACT

Objective: To identify the spectrum of hematological changes in patients with malaria and to evaluate the possible role of Plasmodium species in the pathogenesis of these changes.

Design: cross sectional study .

Setting: Allama Iqbal Medical College/Jinnah Hospital Lahore, from september2011-April 2016.

Subjects: The study enrolled 66 patients with malaria, (28 infected with Plasmodium falciparum, 35 infected with Plasmodium vivax, and 3 infected with both species i.e., mixed infections).

Intervention: Antimalarial drugs

Material and method: Beside history taking, clinical examination, and routine laboratory work, thick and thin blood films were prepared and examined from all patients for defining the species involved. In addition, blood picture (red and white blood cells, platelets, and reticulocytes) was studied in all patients. Malarial species was also confirmed by immunochromatographic technique (ICT malaria) which can differentiate falciparum from other species on the basis of detection of HRP2 and malarial Aldolase

Results: Anemia and thrombocytopenia were the two most important hematological abnormalities seen in cases of plasmodium infection. The degree of anemia and thrombocytopenia was related more to P. falciparum infection than with P. vivax infection and mixed infections and then started improving. Hematological changes continued to deteriorate for 1-2 days after anti-malarial therapy. One P. falciparum infection was associated with severe hematologic abnormalities, disseminated intravascular coagulopathy (DIC), and acute respiratory distress syndrome (ARDS) and another one was noted in a patient who was positive for hepatitis and developed CLD.

Conclusion: Plasmodium falciparum infection is associated with severe clinical and hematological abnormalities. Subsequent follow up of blood cells and platelets are of utmost importance particularly in cases infected with P. falciparum or mixed infections.

Keywords: hemoglobin, malaria parasite, platelets, red blood cells, white blood cells

Malaria is considered to be a great health problem in some of the highly populated areas of the world^{1,2}. The infection rate for the world population is estimated to be 250million per year and the mortality rate is also high at 1-2million per year. Pakistan is an endemic area for malaria^{3,4}.

Today, the most significant problem in the management of malaria is drug resistance of falciparum malaria to the various antimalarial drugs and occurrence of complications⁵. Most of the systemic complications from malaria results from hyperparasitemia. Mortality is very high (10-30%) in complicated P. falciparum infestation. Hematologic abnormalities are the most common complications present in malaria and play a major role in the fatality^{6,7}. Prediction of the hematological changes help the clinician to establish an effective and early therapeutic intervention in order to prevent the occurrence of any major complications. The aim of our study was to investigate the different hematological changes in patients with malaria and to define

the possible role of Plasmodium species in the pathogenesis of these changes.

METHODS

The study enrolled 66 patients with malaria, (28 infected with Plasmodium falciparum, 35 infected with Plasmodium vivax, and 3 infected with both species i.e, mixed infections). All patients were subjected to thorough history taking with a special attention to history of previous malaria infection and complete physical examination including hepatosplenomegaly. For examination of blood film for Plasmodium species, venous blood collected in EDTA tube received in Haematology laboratory of Allama Iqbal Medical college was used. The species of Plasmodium was diagnosed by microscopy of 10% Giemsa stained thick and thin blood films. Slides were examined at least twice to record the species of the plasmodium parasite. All positive cases were confirmed by immunochromatographic technique using parasitic HRP2 and Aldolase. Complete blood picture (white and red blood cell

count, hematocrit, hemoglobin and red blood cell indices) and coagulation profile were done immediately on admission. Blood cells, hematocrit, hemoglobin, platelet count and blood film were checked on daily basis after anti-malarial therapy until no evidence of active infection was found as indicated by the absence of schizont or ring stages from the blood films. Cases with active infection by fifth day were followed at day seven and 14.

Statistical Analysis:

Data were collected and coded then entered into an IBM compatible computer using the SPSS version 20 for Windows. Qualitative variables were expressed as number and percentage while quantitative variables were expressed as mean and standard deviation. The arithmetic mean was used as a measure of central tendency, while the standard deviation was used as a measure of dispersion. The following statistical tests were used:

The Fisher's exact test was used as a nonparametric test of significance for comparison between the distribution of two qualitative variables. The p-value of <0.05 was chosen as the level of significance in all statistical tests.

RESULTS

Out of 66 patients included in this study, 41% were females and 59% were males. The mean age was 31 years with majority of patients belonging to paediatric age group. 16 patients were between 1-10 years of age. It may be due to immunity acquired in adults. Out of 66 patients 35 were diagnosed as having vivax, 28 had falciparum and 3 had mixed infestation. Mean platelet count was $55 \times 10^9/l \pm 35$.

In plasmodium falciparum infestation majority of the patients have platelet count $<50 \times 10^9/l$. While in plasmodium vivax infection majority of the patients have platelet count between $100-150 \times 10^9/l$.

Mean Hemoglobin in falciparum infection was 6.6g/dl, and in vivax infection was 8.1g/dl and in mixed infection was 8g/dl. Mean MCV in falciparum infection was 69fl, in vivax was 79fl and in mixed infection was 72fl. RDW in falciparum infection was 51.7fl, in vivax was 51fl and in mixed infection was 40 fl. Majority of the patients with severe anaemia had falciparum infestation. Although this difference of hemoglobin between the two species was not significant.

Thrombocytopenia was also severe in falciparum malaria. One of our patients with falciparum malaria presented with severe infection and DIC. He also developed acute respiratory distress syndrome.

Changes in WBC was not marked in our study. Mean TLC was $8.1 \pm 3.26 \times 10^9$ in falciparum, $6.4 \pm 2.24 \times 10^9$ in vivax and $5 \pm 2.3 \times 10^9$ in mixed infection. Mean TLC (total Leukocyte count) was within normal limits in all these cases.

Organomegaly was also noted in majority of our patients with malaria. 61% of these patients had either splenomegaly or hepatomegaly or both. 48% have splenomegaly, 8% have hepatosplenomegaly and 5% have hepatomegaly.

DISCUSSION

The symptoms with which patients presented in cases of this study were concordant with clinical features most mentioned in medical literature, including fever, chills, hepatosplenomegaly². Thrombocytopenia often accompanies malaria and is usually mild to moderate and maybe symptomatic. Haematological abnormalities are common. Thrombocytopenia occurs in 60-80%⁸ of malaria cases and anaemia in 25% cases in different studies.⁹ Finding of thrombocytopenia with anaemia is an important clue to the diagnosis of malaria in patients with fever. In this study 81% of patients suffering from malaria showed some degree of thrombocytopenia. These figures are in accordance to studies done by other investigators as 71% by Robinson¹² and 58.97% by Rodriguez et al.¹³ Thrombocytopenia is considered to be an important predictor of severity in children with falciparum malaria.¹³ Bashwari et al¹⁴ from Saudi Arabia has reported anaemia in 60% and thrombocytopenia in 53% of cases. In Liberia Mahmood et al¹⁶ reported a total of 145 patients who had Plasmodium falciparum malaria. Out of these 109 (75.18%) developed thrombocytopenia. The sensitivity of the platelet count was considered as a predictor of malaria, was 80.11% while specificity was 81.36%. The positive predictive value was calculated as 63.87% and the negative predictive value was calculated as 90.86%. He concluded an extended search for malarial parasite in patients having thrombocytopenia on smear.¹⁶ It is a general consensus that thrombocytopenia is very common in malaria^{10,17} and this is usually believed to be more common in Plasmodium falciparum malaria, as has been observed in this study.

Of particular interest in this study was the presence of hepatomegaly in twenty five cases, which had been reported in the literature as common sign associated with a complication of vivax malaria.⁷

According to Tobón, et al., the fact that patients seek medical attendance at different stages of the disease could mean that some symptoms of severity

might be present while others are not seen at admission of the patients¹⁰. This may result in different approaches towards case diagnosis, treatment and paraclinical examination and explain the disparity in data between cases.

CONCLUSION

Hematological abnormalities are considered as hallmark of malaria and they are more commonly found in *P. falciparum* infection. Anemia and thrombocytopenia are the classical changes. The mechanisms underlying the pathogenesis of anemia are found to be diverse and complex in nature. Changes in the white cells are not so significant and there are also different reports, regarding these changes studies to define the role of platelets in the pathophysiology of severe malaria. Prospective studies in future on other important hematological derangements such as coagulopathy (DIC) bone marrow changes and immune dysregulation are required for better understanding of hematological complications of malaria.

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ANTIBIOTICS USE UNDER INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS GUIDELINES IN PEDIATRIC OUTDOOR IN A TERTIARY CARE HOSPITAL

Huda Jamil, Nabeeha Khalil, Tahreem Amjad

ABSTRACT

Background: In developing countries there is a necessity of investigating the suitability of antibiotics prescription within the Integrated Management of Childhood Illness (IMCI) strategy in the context of routine outdoor practices in public sector tertiary care hospitals. Non-adherence to IMCI recommendations for prescription of antibiotics is common in routine settings in public and private sector.

Objectives: The objective of this study is to evaluate antibiotics prescription within the Guidelines of Integrated Management of Childhood Illness (IMCI) in Pediatric Outdoor of tertiary care Hospital.

Methods:

Study Duration: April – May 2014

Sampling Technique: Non probability / purposive sampling

Inclusion Criteria: Children of age 2 weeks to 5 years visiting Jinnah hospital OPD with their parents or guardian were interviewed

Study Setting: Pediatrics OPD, Jinnah Hospital, Lahore

Data Collection and analysis: 300 children and their parents / accompanying person fulfilling the inclusion criteria after consultation from pediatric consultation were interviewed regarding their disease status and prescription by the doctor regarding antibiotics and other conditions. Data was entered and analyzed in SPSS ver: 17.0. Mean and standard deviation was calculated for numerical variables like age, duration of illness. Frequency and tabulation was calculated for diseased or condition presented in pediatric OPD, use of antibiotics or drugs given under IMCI guidelines.

Results: Among 300 children included in study mean age of children was 36.0 ± 20.42 months. 60% were male and 40% female. Presenting complaints among children were, 75.0% presented fever, 26.4% had loose motions, 22.3% has vomiting, 20.3% had cough. 12.8% presented with abdominal pain. Among those who received antibiotics, 10% received third generation cephalosporin's (ceftriaxone, cefexime), 10.7% penicillin's (mostly amoxicillin and piperacillin), 4% ciprofloxacin. 30% received combination of 2 or 3 antibiotics (14.7% combination of ceftriaxone and amikacin (aminoglycoside), According to IMCI guidelines 34% were not appropriately treated, 20.7% received antibiotics when they should not and 13.3% did not received antibiotics when they should have.

Conclusion: There low adherence to IMCI recommendations for prescription of antibiotics in routine outpatient settings The study shows highly prevalent use of third generation cephalosporin's.

Keywords: IMNCI guidelines, antibiotics, outpatients.

In developing countries, case management approaches for the diagnosis and treatment of childhood illness in often use a limited set of signs and symptoms and standardized measures for disease classification and treatment. Such approaches have been documented to reduce both cause-specific and overall childhood mortality for children with acute respiratory infections and diarrheal diseases.² The success of these disease-specific approaches led WHO and UNICEF to incorporate them into a set of guidelines for the integrated management of childhood illness (IMCI). IMCI includes modules or subsets of guidelines for the recognition and management of children with acute

respiratory infections, diarrhea, measles, malaria and other febrile illness, and malnutrition — conditions responsible for over 70% of childhood deaths in developing countries.³ Since children often present to a health care facility with more than one disease and different disease entities may be manifested by the same array of common symptoms, the IMCI scheme allows for the simultaneous diagnosis of more than one disease and ensures that each will receive treatment, if indicated. Pneumonia, diarrhea and malaria are the worldwide leading causes of death in children under five (apart from perinatal mortality). Over an estimated 5 million deaths occur yearly due to these three diseases, over

90% of which occur in Africa and other developing countries with limited resources.^{1,2} [1][2] Few available studies show that at a community level and in outpatient settings, pneumonia, diarrhea and malaria are similarly responsible for a high burden of morbidity in developing countries.^{4,7} Despite being used for more than 20 years, few studies have investigated IMCI strategy's effectiveness and appropriateness. Especially, there is limited information on how well health workers comply with IMCI guidelines in routine practice, and on the impact of IMCI recommendations on health outcomes.^{8,9} Although most experts agree that the introduction of IMCI has improved the quality of care at limited cost,¹⁰ However, there are certain limitation to IMCI for example the objective diagnostic tools is absent and there are no consideration of the local epidemiology. This may result in low specificity of IMCI algorithms, especially to identify bacterial infections that require antibiotics.^{11,12, 15-20} Hence, many children might receive unnecessary antibiotics. Moreover, it is still debatable how many children get benefitted who receive antibiotics prescribed according to IMCI recommendations. For example, a study carried out in Pakistan demonstrated that children with mild pneumonia did not benefit from antibiotics.²¹ The study was conducted in an outpatients setting of a tertiary care hospital.

Objective

The objective of this study was to evaluate the prescription of Antibiotics within the IMCI Guidelines in Pediatric Outpatient Settings of tertiary care hospital.

METHODS

A Cross-sectional study was conducted at Pediatric OPD among children with their parents seeking treatment for various ailments. 300 prescription were selected through a non-probability / purposive sampling. The data regarding their demographic details, presenting complaints, diagnosis, and use of antibiotics was collected from the guardian of the child and the physician. Those prescriptions fulfilling the inclusion criteria after consultation from pediatric consultation were evaluated for antibiotics use according to IMCI guidelines. All the information was entered in a structured questionnaire. Data was entered and analyzed in SPSS ver: 17.0. Mean and standard deviation was calculated for numerical variables like age, duration of illness. Frequency and tabulation was calculated for presenting complaints, diagnosis

of illness and prescription of antibiotics or drugs given under IMCI guidelines.

RESULTS

300 children prescription were collected. Mean age of children was 36.27+20.42 months. 60% were male and 40% females. Presenting complaints among children were analyzed 75.0% of cases presented fever, 26.4% had loose motions, 22.3% has vomiting, 20.3% had cough. 12.8% presented with abdominal pain. 38.7% were diagnosed as ARI, 24.0% were diagnosed as diarrhea, dysentery and enteric fever, 11.3% presented with malaria and 12.0% presented with urinary tract infection. (table no: 2) Among 56.0% of subjects those who received antibiotics, 40% received third generation cephalosporin's (ceftriaxone, cefexime), 10.7% penicillin's (mostly amoxicillin, clavulanate and piperacillin), 24.3 % ciprofloxacin. 21.0 % received combination of 2 or 3 antibiotics. only 4 % received antimalarial (artemether and lumefantrine). There was excessive use of third generation cephalosporin's esp. ceftriaxone which is recommended in case severe infections disease. According to IMCI guidelines 35.3% received antibiotics when they should, 20.7% received antibiotics when they should not and 13.3% did not received antibiotics when they should have and 30.7% did not received antibiotics when they should have, thus 51.4% were not treated appropriately. (Received antibiotics when they should not have + did not received antibiotic when they should have). (Table no:1)

DISCUSSION

The IMCI strategy has been used for more than 20 years; however, few studies have investigated its effectiveness and appropriateness. There is limited information, especially, on how well health workers comply with IMCI guidelines in routine practice, and on the impact of IMCI recommendations on health outcomes.^{14,15} Although most experts agree to the fact that the introduction of IMCI has improved the quality of care at a limited cost.¹⁶ There are certain limitation to IMCI for example the objective diagnostic tools is absent and there are no consideration of the local epidemiology. This may result in low specificity of IMCI algorithms, especially to identify bacterial infections that require antibiotics.^{3,15,17-20} Therefore, many children might receive unnecessary antibiotics. Moreover, it is still debatable how many children get benefitted who receive antibiotics prescribed according to IMCI recommendations. For instance, a study from Pakistan demonstrated that children with mild

Table 1: Demographic and clinical profile of subjects

Variables n= 300	Frequency	Percent
Age Mean = 31.27 SD= 2043 Min=2 months Max = 60 months		
< 1 year	93	31.0
1-3 year	125	41.7
4- 5 year	82	27.3
Gender		
Male	180	60.0
Female	120	40.0
Diagnosis by attending physician		
Diarrhea, dysentery, Enteric fever	72	24.0
Malaria	34	11.3
ARI (upper and lower respiratory tract infection)	116	38.7
Enteric fever	24	8.0
Measles	14	4.6
Urinary tract infection	36	12.0
Skin infections	4	1.3
IMCI guidelines for antibiotics		
Received antibiotics when they should	106	35.3
Received antibiotics when they should not have	62	20.7
Did not received antibiotic when they should not have	40	13.3
Did not received antibiotics when they should have	92	30.7

Table 2: Presenting complaints Multiple response Frequencies

Presenting complaint	Responses		Percent of Cases
	N	Percent	
Fever	222	38.0%	75.0%
Loose motion	78	13.4%	26.4%
Vomiting	66	11.3%	22.3%
Cough	60	10.3%	20.3%
Abdominal pain	39	6.5%	12.8%
Respiratory difficulty	28	4.8%	9.5%
Sore throat	14	2.4%	4.7%
Under weight and height	22	3.8%	7.4%
Child not eating	28	4.8%	9.5%
Fits	9	3.1%	6.1%
Ear discharge	10	1.7%	3.4%
Total	584	100.0%	197.3%

pneumonia did not benefit from antibiotics.²¹ The study was carried out in controlled conditions with defined inclusion and exclusion criteria. The

accuracy of diagnosis and the impact of appropriate treatment on health outcomes in routine practice has not been investigated by any study. Papua New Guinea (PNG) has a high burden of malaria in coastal areas, whereas the leading cause of admission in children under five years nationally is pneumonia.²²⁻²⁴ Case management of sick children is almost exclusively syndrome-based using IMCI guidelines. In outpatient settings, there are few diagnostic tools and until 2011 microscopy or RDTs were hardly available in health facilities to confirm malarial infections. Therefore, common diseases such as pneumonia, malaria or otitis media are covered by prescribing presumptive treatments with antimalarials and/or antibiotics. No data are available on the performance of the IMCI strategy in outpatient settings in PNG, as in many places.

Such approaches have been documented to decrease both cause-specific and overall childhood mortality for children with acute respiratory infections and diarrheal diseases.^{1,2} The success of these disease-specific approaches has led WHO and UNICEF to incorporate them into a set of guidelines for the integrated management of childhood illness (IMCI). IMCI includes modules or subsets of guidelines for the recognition and management of children with acute respiratory infections, diarrhea, measles, malaria and other febrile illness, and malnutrition — conditions responsible for over 70% of childhood deaths in developing countries.³ Since children may present to a health care facility with more than one disease and different disease entities may be manifested by the same array of common symptoms, the IMCI scheme allows for the simultaneous diagnosis of more than one disease and ensures that each will receive treatment, if indicated. For the evaluation of febrile children the IMCI guidelines contain a module that focuses on the diagnosis and treatment of malaria. The high predictive value of fever for malaria makes this focus appropriate in areas where malaria is highly prevalent⁴ In other regions where malaria is less common, fever may be more predictive of bacterial infection. A classification system that identifies with good sensitivity febrile children who are likely to have a bacterial infection is important to assure appropriate antimicrobial therapy. In identifying children with bacterial infection in an area of low malaria prevalence, the performance of the IMCI fever module has never been evaluated. The objectives of this study were to determine how well the IMCI guidelines perform in identifying children with bacterial infections in need of antibiotics in an area of low malaria prevalence and how much the

existing IMCI fever module (which identifies children as having "very severe febrile disease" in a non-malarious area) contributes to the overall IMCI performance, and to evaluate alternative fever modules for inclusion in the integrated guidelines. In considering how to adapt the IMCI guidelines for an area of low malaria prevalence several observations may be useful.

In our study according to IMCI guidelines 35.3% received antibiotics when they should, 20.7% received antibiotics when they should not and 13.3% did not received antibiotics when they should have and 30.7% did not received antibiotics when they should have, thus 51.4% were not treated appropriately. (Received antibiotics when they should not have + did not received antibiotic when they should have). (Table no:1)

These observations show that the IMCI guidelines could be simplified by removing the fever module in an area of low malaria prevalence and adding stiff neck to the list of danger signs. In our study population, all children with meningitis would have received antibiotics if this change had been in place.

Among 56.0% of subjects those who received antibiotics, 40% received third generation cephalosporin's (ceftriaxone, cefexime), 10.7% penicillin's (mostly amoxicillin, clavuanate and piperacillin), 24.3 % ciprofloxacin. 21.0 % received combination of 2 or 3 antibiotics. only 4 % received antimalarial (artemether and lumefantrine) . There was excessive use of third generation cephalosporin's esp. ceftriaxone which is recommended in case of severe infections disease.

Alternatively, the IMCI guidelines could be improved by retaining the fever module but improving the sensitivity of that module by examining the child for a stiff neck and danger signs, as is currently done, and asking parents if their child has an increased respiratory rate. Febrile children with a stiff neck, danger signs or parental report of increased respiratory rate would receive antibiotics.

CONCLUSION:

The conclusion of our study is:

- There is excessive use of antibiotics with a low adherence to IMCI recommendations for prescription of antibiotics in routine outpatient settings.
- Regardless of severity of disease or condition, use of broad-spectrum antibiotics is first priority.
- The lack of specificity of the present recommendations to differentiate children with true

bacterial diseases and those with viral infections leads to absence of effectiveness of antibiotics.

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KNOWLEDGE AND PRACTICES REGARDING FOOT CARE IN DIABETIC PATIENTS PRESENTING IN MEDICAL OPD & INDOORS OF VARIOUS PUBLIC SECTOR HOSPITALS OF LAHORE

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ABSTRACT

Background and Objective: Foot ulceration and amputation cause extensive burden on individuals and health care system. Due to multi-factorial pathology of diabetic foot ulceration the person with diabetes should receive health education which is tailored to the individual's risk status, promote self-care and address misconception. Diabetic patients are at high risk of developing complications. One of major complication is foot ulcer which may lead to amputation. This can be prevented up to some extent by accurate interpretation of medical information regarding ulcer causes and risk factors. So we are conducting this research to assess the “Knowledge and Practices Regarding Foot Care in Diabetic Patient” and will make some recommendations to prevent foot ulcer.

Material and Methods: A cross-sectional study was carried out over a period of 3 months from 1st April to 30th of June 2014 at OPD & Indoor of various public sector hospitals of Lahore” (Services hospital, Mayo hospital, Lahore General Hospital, Jinnah Hospital Lahore). About 206 samples were collected by using Non probability / purposive sampling technique.

Those patients agreed to participate asked to sign informed consent. A self-designed questionnaire consisting of closed and open ended questions was provided to each patient. Questionnaire having demographic related item such as age, gender, Ethnicity, Address, Religion, and economical history of mother and father. Every patient was guided how to fill the questionnaire and be assured that their response will be treated with utmost confidentiality or practice if scoreless than 50 % (less than 8).

Data entered and analyzed in SPSS Version: 17.0. Simple frequency distribution table generated for dependent and independent variables. Chi-square was applied to find out whether there are any significant socioeconomic factors on knowledge and practices regarding foot care in diabetics. 15 questions were asked regarding knowledge and practices of foot care. Each correct question will be given one mark.

Results: Patients having good knowledge and practices were 17%. Patients having adequate knowledge and practices were 65 %. Patients who have very poor knowledge regarding foot care practices were only 18%.

Conclusion: This simple quality initiative reinforces the notion that Diabetic patients, who are at the risk of developing foot ulcers should receive ongoing foot specific patient education.

Keywords: foot care, diabetes mellitus, diabetic foot disease, amputation risk factors

Diabetes Mellitus is a syndrome of chronic hyperglycemia due to relative insulin deficiency, resistance or both. About 10-15% of diabetic patients develop foot ulcers at some stage in their lives. Diabetic foot problems are responsible for nearly 50% of all diabetes related hospital admissions. Diabetes currently affects about 200 million people worldwide and is expected to reach 333 million by 2025, with most of the massive burden falling in developing countries. Every year 3.2 million deaths are attributable to the disease, no matter where people are from and where they live. However, many people are more vulnerable because

they do not have access to appropriate health care and education. Poverty and social exclusion increase the risks of developing diabetes, the complications associated with the disease and dying as a consequence of diabetes.¹

Foot ulcers are chronic complications of diabetes and have been reported to occur after a mean interval of 13 years from the diagnosis of diabetes in a Nigerian population.¹⁰ Diabetic Foot Ulcer may become more common in clinical practice in the tropics with the increasing prevalence of diabetes in the Nigerian and Ghanaian adult populations.² In addition to causing pain and morbidity, foot

lesions in diabetic patients also have substantial economic consequences, beside the direct costs of foot complications, there are also indirect costs relating to loss of productivity, individual patients' and family costs and loss of health related quality of life. The lifetime risk of a person with diabetes developing a foot ulcer could be as high as 25%, and it is believed that every 30 seconds a lower limb is lost somewhere in the world as a consequence of diabetes.³

Nerve damage, circulation problems, and infections can lead to serious foot problems if you have diabetes. However, there are precautions you can take to maintain healthy feet.⁴ Good management of your diabetes and an overall healthy lifestyle helps to keep this disease under control. This should include regular monitoring of blood sugar, regular exercise, a balanced diet rich in fruits and vegetables, and regular medical exams. People with diabetes should also avoid sitting with crossed legs or standing in one position for long time.⁵ The importance of foot care cannot be denied in diabetic patients. The life time prevalence of foot ulceration in patients with diabetes is about 15% and the most frequent component causes for lower-extremity ulcers are trauma, neuropathy, and deformity, which are present in majority of patients.⁶

OPERATIONAL DEFINITION

Diabetes mellitus is a syndrome of chronic hyperglycemia due to relative insulin deficiency, insulin resistance or both

Inclusion criteria & Exclusion criteria:

It includes diagnosed cases of type 1 and type 2 diabetes since 6 months who had never developed foot ulcers and undiagnosed cases of diabetes were excluded.

METHODS

A cross-sectional study was carried out over a period of 3 months from 1st April to 30th of June 2014 at OPD & Indoor of various public sector hospitals of Lahore” (Services hospital, Mayo hospital, Lahore General Hospital, Jinnah Hospital Lahore). About 206 samples were collected by using Non probability / purposive sampling technique.

Those patients agreed to participate asked to sign informed consent. A self-designed questionnaire consisting of closed and open ended questions was provided to each patient. Questionnaire having demographic related item such as age, gender, Ethnicity, Address, Religion, and economical history of mother and father. Every patient was guided how to fill the questionnaire and be assured that their

response will be treated with utmost confidentiality or practice if score less than 50 % (less than 8).

Data entered and analyzed in SPSS Version: 17.0. Simple frequency distribution table generated for dependent and independent variables. Chi-square was applied to find out whether there are any significant socioeconomic factors on knowledge and practices regarding foot care in diabetics. 15 questions were asked regarding knowledge and practices of foot care. Each correct question will be given one mark.

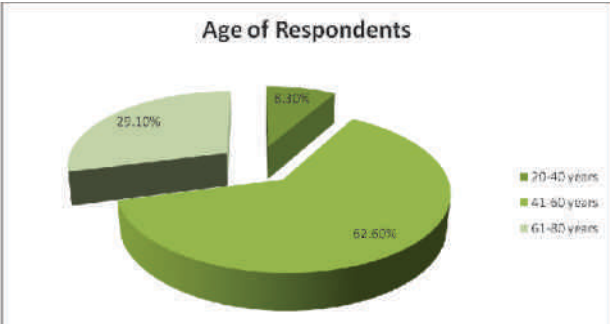
Good knowledge if score is more than 70% (11-15)

Satisfactory knowledge if score 50-70% (10-8)

Poor knowledge if score less than 50% (less than 8)

Good practice if score is more than 70% (11-15)

Satisfactory practice if score is 50-70% (10-8)



Poor practice if score less than 50 % (less than 8)

RESULTS

Mean age of the participants was 54 years with S.D of 11 years. 25.73% participants were male and 74.27% were female. 11.65% were unemployed, 11.53% were house wife, 28.64% were farmer, 9.2% were skilled worker, 27.87% were government or private employees and 7.28% was businessman. 62.6% people were of age between 41-60 years 29.1% people were of age between 61-80 years and 8.3% people were of age between 20-40 years. Regarding

Footcare knowledge and practices Frequencies

		Responses		Percent of Cases
		N	Percent	
Daily examination		132	9.9%	64.1%
Care of Callosities / cuts / wounds		146	11.0%	70.9%
Normal heel preferred		187	14.1%	90.8%
Use soft material shoes		93	7.0%	45.1%
Adequate knowledge about nail cutting		56	4.2%	27.2%
Prefer open shoes		78	5.9%	37.9%
Use shoes with foreparts		164	12.4%	79.6%
Regular Medicine compliance		98	7.4%	47.6%
Regular check up of foot for injury		144	10.9%	69.9%
Weekly visit to doctors for follow-up		7	.5%	3.4%
Avoid Walking bare foot		96	7.2%	46.6%
Regular Inspection of foot ware		104	7.8%	50.5%
Use Suitable temperature of water		22	1.7%	10.7%
Total		1327	100.0%	644.2%

a. Dichotomy group tabulated at value 1.

Knowledge and practices & Gender of Subjects Cross tabulation

		Count	Gender of Subjects		Total
			Male	Female	
Knowledge and practices	Poor Knowledge (Score<4)	Count	28	9	37
		% within Gender of Subjects	18.3%	17.0%	18.0%
	Adequate Knowledge (Score 4-8)	Count	92	42	134
		% within Gender of Subjects	60.1%	79.2%	65.0%
Good Knowledge (Score 9 - 13)	Count	33	2	35	
	% within Gender of Subjects	21.6%	3.8%	17.0%	
Total	Count	153	53	206	
	% within Gender of Subjects	100.0%	100.0%	100.0%	

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.586 ^a	2	.008

Knowledge and practices & Age of Subjects Cross tabulation

		Count	Age of subjects			Total
			20-40 years	41-60 years	61-80 years	
Knowledge and practices	Poor Knowledge (Score<4)	Count	4	17	16	37
		% within Age of subjects	23.5 %	13.2%	26.7%	18.0 %
	Adequate Knowledge (Score 4 - 8)	Count	9	87	38	134
		% within Age of subjects	52.9 %	67.4%	63.3%	65.0 %
Good Knowledge (Score 9 - 13)	Count	4	25	6	35	
	% within Age of subjects	23.5 %	19.4%	10.0%	17.0 %	
Total	Count	17	129	60	206	
	% within Age of subjects	100.0 %	100.0 %	100.0 %	100.0 %	

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.579 ^a	4	.108

Knowledge & practices 9.9% people daily examine their feet. 11% people do care of callosities/ cuts and wounds, 14.1% people prefer normal heel, 7% people use soft shoe material, 4.2% people have adequate knowledge about nail cutting, 5.9% people prefer open shoes, 12.4% people use shoes with foreparts, 7.4% people have regular medicine compliance and 10.9% people have regular checkup of foot for injury. While 5% people weekly visit doctors for follow-up, 7.2% percent people avoid walking bare foot, 7.8% people have regular inspection of foot ware and 1.7% people use suitable temperature of water.

DISCUSSION

A proportion of type 2 diabetic patient are not offered adequate foot care, even in the presence of major risk factor for lower limb complication. Patient knowledge and practices are strongly related to physician attitude. Our questionnaire was useful in assessing current foot care practices on the point in time basis. It reveals that most of patients are ignorant about simple foot care practices like daily inspecting the foot. Knowledge about the cutting of nail was also very poor. A study conducted at Holy Family Hospital, Pakistan reveals that those with foot ulcer also have same practices as without foot ulcers. Therefore the mere experience of going through foot ulcer is not enough to bring change in the attitude of patients.⁵ To access the knowledge and practices regarding foot care a questionnaire was completed by Diabetes Research Group, South Asia,

UK, and knowledge score was calculated and current practice determined. According to our research deficiency in knowledge included the inability to sense minor injury to feet was 64.1%, open shoes 79.6%, regular medicine 47.1%, avoid bare foot walking 46.6%, normal heel preferred 90.8%.

Barrier to practices were mainly due to comorbidity. Those individuals who received foot care education or have had their examined by doctors are more regular to inspect their foot. The study conducted at Iran showed that more than 50% of patient reported that they had not had their feet examined by doctor 28% referred tolled that they had not received health education about foot ulcer. In our research results are more in percentage than the previous one. As foot self-examination was not performed by 64.1% of included patients. It was shown that despite the ongoing education program only 57% patients were able to respond the questionnaire accurately.

This reinforce that the patient who are at high risk developing foot ulcer should receive education about foot care by health professionals. This information needs to be constant reinforced as retention drops with time. In the survey of physician practices behavior in USA related to Diabetes Mellitus about the physician adherence to patient education regarding diabetic complications, it was found that adherence was high about the for eye examination, blood pressure measurements, neurological and circulatory checkup. Adherence was low about the checkup of teeth, gums, foot inspection and laboratory investigation using blood and urine. Internist usually have high adherence rate and consultants usually low.

Studies have shown that accurate interpretation of medical information regarding foot ulcer causes and nature of foot ulcer enhanced preventive foot self foot care.⁹ In another study in which multiple approaches were used to teach the patient about the self-foot examination, foot washing, proper, footwear, it was found that intensive education improved the knowledge of patient regarding diabetic foot care and practices. Those who adhere to foot care education program are more satisfied regarding their foot care than prior to the program. The patient himself plays an important role in diabetic foot disease so patient knowledge is very important. The use of customized shoes reduced the development of new foot ulcer up to 58%.

CONCLUSION

This simple quality initiative reinforces the

notion that Diabetic patients, who are at the risk of developing foot ulcers should receive ongoing foot specific patient education.

Recommendations:

- Proper Health Education regarding Diabetic Foot Ulcers should be given to patients by Health Professionals.
- The feet should wash daily in tap water.
- Mild soap should also be used and feet should be dried by gentle patting.
- A moisturizing cream or lotion should be applied.
- The use of customized shoes reduced the development of new foot ulcer.
- A particular effective strategy is to make specific recommendation to the patient in the form of a contract and to advice the patient to request the feet be examined at every visit to doctor or nurse.

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FAT TRANSPLANTATION VERSUS ADIPOSE-DERIVED STROMAL VASCULAR FRACTION(SVF) IN MOUTH FUNCTIONAL DISABILITY DUE TO EARLY ORAL SUBMUCOUS FIBROSIS

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M Tahir Saeed, Nazmeen Arif, Maha Tariq, Maham Younus

ABSTRACT

Purpose: The aim of this study was to prospectively compare the efficacy of Fat Transplantation and SVF injection for the treatment of Mouth Functional Disability due to early Oral Submucous Fibrosis.

Materials and Methods: Ten patients were enrolled from the outpatient clinic of Oral and Maxillofacial Surgery Department of Sharif Medical City hospital. Patients were divided into two groups as follows: 5 patients were treated with fat transplantation and 5 patients received infiltration of Stromal vascular fraction (SVF). All patients (age 18–55 years) were clinically assessed pre-operatively as per Inclusion criteria of no previous ulcerative lesions, appearance of new lesions, and/or clinical signs of inflammation within the last 6 months. After the first treatment, all patients underwent the second session of same procedure 3 months later. Follow-up was at 1 week, 1 month, and 1 year. Mouth opening was assessed in centimetres (Maximal Mouth Opening, MMO).

Results : A significant increase of mouth opening was shown in group A (p value 0.0171; p : 2.9994) and in group B (p value 0.0322; p : 2.5873); instead the difference of improvement between groups A and B was statistically insignificant (p value 0.5833; p : 0.5587).

Conclusion: We noticed that both procedures obtained significant results but neither one emerged as a first-choice technique. The present clinical experimentation should be regarded as a starting point for further experimental research and clinical trials

Oral submucous fibrosis (OSF), first described in the early 1950s, is a potentially malignant disease most prevalent in Asians. It is a chronic progressive disorder and its clinical presentation depends on the stage of the disease at detection. The majority of patients present with an intolerance to spicy food, rigidity of lip, tongue and palate leading to varying degrees of limitation of opening of the mouth and tongue movement. OSF typically affects the buccal mucosa, lips, retromolar areas, soft palate, and occasionally the pharynx and the esophagus¹. Early lesions appear as a blanching of the mucosa, whereas later lesions demonstrate palpable fibrous bands that make the mucosa pale and thick and stiff. When a patient blows a whistle or inflates a balloon, the usual puffed-out appearance of the cheeks is missing. In the tongue, depapillation of mucosa around the tip and lateral margins may occur with blanching or fibrosis of the ventral mucosa. Fibrosis of the tongue and the floor of the mouth interfere with tongue movement. Hard palate involvement includes extensively blanched mucosa.²

When the disease was first described in 1952, it was classified as an idiopathic disorder. However,

researchers stated various etiological factors like areca nut, capsaicin in chilies, micronutrient deficiencies of iron, zinc and essential vitamins and a possible autoimmune role which raises the possibility of a genetic predisposition of some individuals to develop OSF^{3,7,8}. However, from the available scientific literature, it is clear that the regular use of areca nut is the major etiological factor. The amount of areca nut in betel quid and the frequency and duration of chewing betel quid are clearly related to the development of OSF. The direct contact of the quid mixture with oral tissues results in their continuous irritation by various components, including biologically active alkaloids (arecoline, arecaine, arecolidine, guvacoline, guvacine, flavonoids (tannins and catechins) and copper⁴. The constituents of areca nut cause fibrosis and hyalinization of sub epithelial tissues that accounts for most of the clinical features encountered in this condition^{10,11,12,13}. Increased collagen synthesis or reduced collagen degradation also are possible mechanisms in the development of the disease^{5,6,9}.

Oral submucous fibrosis is diagnosed on clinical criteria including mucosal blanching,

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burning, hardening, and the presence of characteristic fibrous bands, and is associated with gradual inability to open the mouth. Mouth-opening is an objectively verifiable criterion by which severity of the disease can be assessed (functional stage). Clinically, it may be classified by the site of the fibrous bands (clinical stage)¹⁴ as shown in Table 1.

METHODS

From February to May 2016, ten consecutive OSF patients (7 female and 3 male), were enrolled from the outpatient clinic of the Department of Oral and Maxillofacial Surgery of Sharif Medical City Hospital who agreed by a written informed consent to participate in the study. A questionnaire was developed for early detection of oral submucous

Table 1: Clinical and functional staging

Clinical stage
1. Faucial bands only
2. Faucial and buccal bands
3. Faucial, buccal, and labial bands
Functional stage
A Mouth opening > 20 mm
B Mouth opening 11–19 mm
C Mouth opening 10 mm or <10 mm

fibrosis shown in table 2.

The patients which were selected had functional stage B and C for OSF .The group was homogeneous for age (age range: 20–48 years), disease state, and duration and finally for clinical characteristics.

Inclusion criteria called for signs of no previous ulcerative lesions, appearance of new lesions, and/or clinical signs of inflammation within the last 6 months.

Exclusion criteria were as follows: pregnancy or lactation, any immunomodulating or immunosuppressive therapy within the last 4 weeks and any topical therapy within the last 2 weeks except for the use of emollients, and finally patient's refusal to participate in the study.

Patients were divided into two groups as follows: 5 patients were treated with fat transplantation “group A” (lipofilling) and 5 patients received infiltration of stromal vascular fraction (SVF) “group B”.

After the first treatment, all patients underwent the second session of same procedure 3 months later. Follow-up was at 1 week, 1 month, and 1 year.

Mouth opening was assessed in centimeters

(Maximal Mouth Opening, MMO) by measuring the distance between the tips of upper and lower right incisive teeth (mean of two consecutive measurements).

The patients were asked to fill in a questionnaire in which their degree of satisfaction could be expressed by the following ratings: unsatisfied, moderately satisfied, rather satisfied, and very satisfied.

Autologous Fat /stromal vascular fraction (SVF) preparation and Transplantation Procedure.

The periumbilical region was the donor site for all patients. After the administration of local modified Klein solution, 1 liter of sodium chloride 0.9%, 20mL of lidocaine 2%, and 1mL of epinephrine 1 : 200,000, adipose tissue was harvested using hand generated suction by means of a one-hole blunt 3mm cannula attached to a 10 cc Luerlock syringe. Such non-traumatic low-negative pressure drain method preserves adipocytes intact and viable for transfer^{15,16}.

A total amount of 40mL of lipoaspirate was harvested from the abdomen, decanted 15 minutes

Table 2: Questionnaire was developed for early detection of oral submucous fibrosis

1. Do you often feel stiff cheeks and difficulty in opening mouth?	yes	no
2. Do you often feel burning sensation in mouth while eating hot or spicy food?	yes	no
3. Do you frequently feel dryness in mouth?	yes	no
4. Do you frequently feel pain in ear/throat region?	yes	no
5. Do you frequently feel numbness in mouth?	yes	no
6. Do you frequently have vesicles and/or ulceration in mouth?	yes	no
7. Do you frequently feel difficulty in swallowing?	yes	no

(Figure 1) and only the layer containing adipocytes was used for fat injection.

Figure 1: Decantation of the lipoasperate

For preparation of SVF the adipose tissue was transferred to a soft plastic bag with a 120 µm internal filter. Adipose tissue was mechanically digested rubbing the tissue down until it passed through the filter. The disrupted portion of the tissue, including the SVF, was collected through a bottom connector and then centrifuged for 10 min at 400 g. The resulting bottom phase (around 10 ml) was then partially transferred to a new syringe of the volume required for the injection.

The fat infiltration was performed using a blunt injection cannula of 2mm in diameter. Perioral region was injected using many radiating passages at the subcutaneous level for a total of 16 mL. The cannula was inserted in 4 symmetric sites extra-orally: 2 located just upon and 2 just below labia commissures as well as intraorally in a similar way submucosally.¹⁷

The infiltration stromal vascular fraction (SVF) was done using 2mL syringes provided with a 30-gauge 1/2 needle infiltration was done at the subcutaneous level of selected perioral regions: six areas, two in the upper lip and two in the lower lip (two lateral for each lip), plus one area for each opposite mouth corner region. Antibiotics were given to all patients as a precautionary measure.

RESULTS

Maximal Mouth Opening, after 1-year follow-up. Patients of both groups benefited from the treatments for mouth opening. A significant increase of mouth opening was shown in group A (p value 0.0171; p : 2.9994) and in group B (p value 0.0322; p : 2.5873); instead the difference of improvement between groups A and B was statistically insignificant (p value 0.5833; p : 0.5587).

DISCUSSION:

Limitation of mouth opening is the most important clinical problem of OSF. Trismus impairs the ability to eat, speak, and even to receive dental treatment. No known treatment for OSF is effective, although conservative and surgical interventions such as myotomy, coronoidectomy and excision of fibrotic bands, can be done. Reconstruction using such techniques as buccal pad flap, superficial temporal flap and forearm flap, can also be performed^{18,19,20}.

Alternative procedures, such as insertion of an oral stent, physiotherapy, local heat therapy, mouth exercises using acrylic carrots and ice cream sticks, have been tried with variable rates of success.^{21,22}

In most cases, depending on the stage of disease and extent of oral involvement, therapy consisting of a combination of the above-mentioned drugs and

surgery might be useful.^{23,24,25} Other treatment modalities include use of micronutrients and minerals, carbon dioxide laser, pentoxifylline, lyco-

Table 3: Maximal Mouth Opening (MMO) by measuring the distance between the tips of upper and lower right incisive teeth in group A

Patients	Pretreatment opening mouth (cm)	Posttreatment opening mouth (cm)
1	3.5	4.3
2	2.4	3.6
3	2.6	3.9
4	3.4	4.3
5	3.4	4.2

Table 3: Maximal Mouth Opening (MMO) by measuring the distance between the tips of upper and lower right incisive teeth in group B

Patients	Pretreatment opening mouth (cm)	Posttreatment opening mouth (cm)
1	3.5	4.6
2	2.7	3.8
3	3.3	4.6
4	3.6	4.3
5	2.6	3.8

pene, immunized milk, interferon gamma, turmeric, hyalase, chymotrypsin and collagenase.²⁶⁻²⁹

In recent years, there has been growing emphasis on the use of stromal vascular fraction (SVF) for advanced cell therapy, due to their ability to differentiate into multiple cell types. It is well established that Mesenchymal stem cells (MSCs) secrete a broad spectrum of bioactive molecules with immunoregulatory and/or regenerative activities.

Findings of this study showed that both the injection of a Fat graft and adipose-derived SVF have been able to provide a significant clinical improvement in function restoration, with durable results for at least 6 months from treatment.

MSCs can exert a great effect on local tissue repair by modulating the local environment and activating endogenous progenitor cells. Taken together, these properties make MSCs promising candidates for cell therapy in various diseases. In particular, adipose-derived stem cells (Stromal vascular fraction (SVF)), isolated from stromal vascular fraction, are able to differentiate into various cell lineages such as chondrocytes, osteoblasts, and adipocytes and to exert potent immunomodulatory, pro-angiogenic, anti-apoptotic, anti-fibrotic, and anti-inflammatory effects important in

preventing tissue degeneration. In particular, Stromal vascular fraction (SVF) ' angiogenic and immunomodulatory properties, including a suppressive response on collagen reactive T cells and the capacity to restore immune tolerance by inhibiting the inflammatory response in vivo, strongly suggest their use for chronic pathologies, such as oral submucous fibrosis³⁰.

Despite the advantages of cell-based approaches, in terms of both effectiveness and therapeutic potential, the diffusion of such therapies is still limited by Availability of qualified personnel.

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COMPARATIVE STUDY OF TYPHIDOT AND WIDAL WITH BLOOD CULTURES IN THE DIAGNOSIS OF TYPHOID FEVER REPORTED AT CHILDREN HOSPITAL LAHORE

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ABSTRACT

Objective: Purpose of this study is comparison of sensitivity and specificity of Widal test and Typhoid with blood culture, in the diagnosis of Typhoid fever.

Patients and Method: This was a Cross sectional study conducted at Immunology & Serology dept, The Children's Hospital Lahore from July 2015 to February 2016. Blood samples were collected from 123 children suspected of typhoid fever, coming to outdoor. Commercially available laboratory methods for detecting Typhoid fever were applied; including enzyme linked immune sorbent assay (ELISA), Agglutination and Blood culture and results of these techniques were compared. Statistical analysis was done using SPSS 20.

Results: Out of 123 clinically diagnosed typhoid cases, 8 (6.5%) were blood culture positive for Salmonella typhi, 26 (21.1%) were Widal positive and 46 (37.4%) were Typhoid (by Elisa) positive. Sensitivity, specificity and efficacy of Typhoid (By Elisa) were 87.5%, 66.5% and 67.4% respectively which is greater than Widal test. The p value of chi square for (comparison of widal with culture) was 0.039 and for (comparison of Typhidot with culture) was 0.002, which showed that there was a significant difference between the results of two techniques. Blood culture was taken as gold standard. Conclusion: Blood culture and Widal test are used as conventional methods in the diagnosis of the typhoid fever. Typhoid (by ELISA) is a new, reliable, specific and sensitive serological test for diagnosing typhoid fever. It offers the advantage of rapid & early diagnosis, with a sensitivity & specificity of 87.5% & 66.0% respectively in culture proven cases.

Keywords: typhoid fever, widal test, typhoid (by Elisa IgG and IgM), blood culture

Typhoid fever is a fever of acute febrile illness that is mostly caused by salmonella typhi (S.typhi) gram negative bacteria¹. S.typhi belongs to the Enterobacteriaceae family of gram-negative bacteria². A systemic disease Typhoid fever caused by Salmonella typhi is the major cause of morbidity and mortality worldwide³. WHO induce for annual global incidence of salmonella infection are about 20 million cases, which is a greater than six hundred thousand (> 600, 000) death. It is found in tropical countries including India, South and Central America and Africa, where they constitute serious reason and source of morbidity and mortality, including rapid population growth, increased urbanization, limited safe water and infrastructure and health problems⁴. According to center of disease control and prevention report there are 21.6 million cases of typhoid annually, with the incidence of varying from 100 to 1000 per 10000 population and

600000 deaths occur per year. Typhoid fever represents 4th most common cause of death in Pakistan⁵.

S.Typhi is a rod shape of gram positive bacteria with 2-3 µm length and a diameter of 0.4-0.6 µm. It is motile due to peritrichous flagella (H-d antigens), which is also encountered in 80 other bio-serotypes of salmonella. S.Typhi has three antigenic structures: somatic or O antigen, surface and flagellar antigens⁶. In general, boiling of S.typhi cells can destroy flagellar antigens because these are proteins in nature. Boiling can also destroys the capsular Vi-antigen and therefore these are removed from the cell surface. In contrast, boiling has no effect on O-antigens because these are part of lipopolysaccharide and its heat-stable because it is composed of lipid and carbohydrate⁷.

Human beings are the main reservoir host for typhoid fever; and it is transmitted by faecally

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contaminated water and food in endemic areas especially by carriers handling food⁸. The bacteria are carried by white blood cells carried the bacteria to liver, spleen and bone marrow. During first exposure bacteria multiply in the cells of these organs and re-enter in the blood stream⁹.

The clinical presentation of typhoid fever starts with mild illness with low-grade fever, malaise, and slight dry cough to a severe clinical picture with abdominal discomfort and multiple complications. Many other factors influence the severity of the infection.

As the signs and symptoms of typhoid fever are nonspecific, laboratory tests are essential for accurate diagnosis and early treatment. Laboratory investigations involve Blood culture, Widal test and Typhoid (By Elisa IgG and IgM).

The causative agent, is most frequently isolated from blood culture during the first week of illness but can also be isolated during the second or third week of illness¹⁰. Isolation of Salmonella Typhi is the current gold standard method for confirming a case of typhoid fever. However, it is not always available. A failure to isolate the organism may be caused by several factors: (i) the limitations of laboratory media (ii) the presence of antibiotics; (iii) the volume of the specimen cultured or (iv) the time of collection, patients with a history of fever for 7 to 10 days being more likely than others to have a positive blood culture¹¹.

Because bacteriologic culture facilities are limited in many developing countries where typhoid fever is endemic, so in these areas Widal sero diagnostic test is widely used¹². The Widal test has been used for almost 100 years, in developing countries and is still regarded as a useful test in endemic areas¹³. The Widal test has two parameters for S.typhi, 'TO' somatic or cell wall antigen and 'TH' the flagellar antigen. This test is based on the fact that usually there is an increase in the titres of agglutination antibodies against O and H-antigens of S.typhi during the course of typhoid fever¹⁴.

Typhoid (By Elisa IgG and IgM) Enzyme Linked Immuno Sorbent Assay is the other test used to ascertain the diagnosis of typhoid fever and it is considered more reliable as compared to Widal test due to multiple reasons¹⁵. Hence it is widely used in all third world countries as a reliable and affordable means of detecting typhoid. Typhoid (By Elisa) is done by ELISA kit which detects IgM and IgG antibodies against the outer membrane protein (OMP) of the Salmonella typhi. The Typhoid (by Elisa) gives positive result within 2–3 days of

infection. The test is based on the presence of specific IgM and IgG antibodies. IgM shows recent infection whereas IgG denote previous infection¹⁶. The objective of this study is to determine the result of Blood Culture, Widal test and Typhoid (By Elisa IgG and IgM), to compare the sensitivity and specificity of Typhoid (By Elisa IgG and IgM) and widal test with blood culture and to compare the NPV, PPV and Accuracy of Typhoid (By Elisa IgG and IgM) and widal.

METHODS

A comparative study of Typhoid (by Elisa) and Widal test in the diagnosis of typhoid fever was conducted from September 2015 to February 2016. Inclusion criteria: - 123 clinically suspected cases of typhoid fever, of 5-15 age groups and both sexes included in the study group. Exclusion criteria: - Fever patient with alternative diagnosis were excluded from the study. Collection of specimen: - About 5 ml of blood sample was collected by clean venipuncture. 3 ml blood was poured in the culture bottle for blood culture and remaining allowed clotting at room temperature. Clotted sample centrifuged at 2000 rpm for 2 minutes and serum was separated. Serum was used for widal test and typhoid (by Elisa). After the collection of sample they were labeled by lab number. Culture bottle sent to the Microbiology lab and serum saved for the Typhoid (By Elisa) and Widal test.

After inoculation of blood into BHI biphasic media, culture bottle was tilted and incubated at upright position at 37°C for up to 7 days and checked for evidence of growth on day 1, 2, 3 and 7. The bottles showing signs of growth were sub cultured on blood agar and MacConkey's agar and incubated over night at 37°C. Isolates were further confirmed by biochemical test. Widal testing was performed on serum sample using Accucare Widal kit (Human, Wiesbaden Germany) by the method of Agglutination. Sample was examined for microscopically the presence or absence of clumps. The presence of agglutination indicates positive result. Typhoid (By Elisa IgG and IgM) was done on serum by using the Typhoid (Calbiotech Austin Dr, Spring Valley, CA, 91978) kit. It is a qualitative antibody detection test with total assay time of 1 hour. It contains reagents and antigen dotted strips for detection of specific IgM and IgG antibodies to Salmonella. Results were measured by strip reader at 450nm wavelength.

Statistical Analysis: Appropriate statistical data analysis technique by using SPSS 20.0 (Statistical Package of Social Sciences) was applied. Frequencies and percentages were given for qualitative

variables. The comparison of Typhoid (By Elisa) with Blood Culture among the groups were compared with a Chi-Square test ($p=0.002$). The comparison of Widal test with Blood culture was analyzed by Pearson Correlation ($p=0.032$). $P<0.05$ was considered to indicate a statistically significant result.

Ethical issues: All the subjects included in this study were informed about the study. They were explained that their blood would be used for research purpose only and their names would be kept confidential. A written informed consent was obtained from all the participants before the sample collection.

RESULTS:

This study was conducted in 3 months period to compare the sensitivity and specificity of typhoid (by ELISA IgG and IgM) and widal test with blood culture. A total of 123 cases clinically diagnosed as typhoid fever were included. 5ml of blood sample was collected, 3ml blood was poured in culture bottle for culture and remaining 2ml used for widal test and Typhoid (by Elisa IgG and IgM). Two age groups were studied, Out of 123, 97(78.8%) lie in 5-10 age group and 26(13.4%) lie in 11-15 age group. From the study population, 68(55.3%) were males and 55(44.7%) were females and ratio of male to female was 1.7:1.3.

Out of 123, 8 cases (6.5%) were positive on blood culture, 26(21.1%) by Widal test and 46 cases (37.4%) by typhoid (by ELISA IgG and IgM). Table 01

Out of 8 blood culture positive cases (taken as gold standard) only 4 were positive by Widal test & 4 were negative. Out of 26 positive by Widal test only 4 were positive and 22 negative by blood culture. Table 02

Out of 123 cases 46 were positive by typhidot test. Out of 46 typhidot positives, 27 were positive and 39 negative by blood culture. Out of 8 blood culture positive cases 7 were positive and 1 were negative by Typhi dot test. Table 03

Widal test has a sensitivity of 50.0%, specificity of 80.0%, with a PPV of 15.3%, NPV of 95.8% and accuracy of test of 78.8% in comparison with blood culture results. Typhoid (by ELISA IgG and IgM) has sensitivity of 87.5%, specificity of 66.0%, PPV of 15.2%, NPV of 98.7% and accuracy of test is 67.4% in comparison with blood culture results. Table 04

The P value of chi square for typhoid (by Elisa IgG and IgM) test was 0.002 and it was significant, And The P value (0.039) of chi square for widal

showed that there was a significant difference between the results of these two techniques for the detection of Typhoid fever.

DISCUSSION:

Typhoid fever is caused by Salmonella typhi. Man is the only known reservoir of Infection¹⁷. A complication of Typhoid fever is mainly due to multidrug resistant S. typhi with higher rates of morbidity and mortality and has caused a significant therapeutic and public health problem¹⁸.

The current study included 123 clinically diagnosed typhoid patients that comprise of 68 males (55.3%) and 55 females (44.7%) female and the age was between 5-15 years. Regarding the Percentage of male and age of subject, the current study is in the agreement with the study of Gizachew

Table 1: Results of blood culture, Widal and Typhidot amongst Selected cases

Results	Typhidot	Widal	Blood Culture
	No (%)	No (%)	No (%)
Positive	46(37.4)	26(21.1)	8(6.5)
Negative	77(62.6)	97(78.9)	115(93.5)
Total	123(100)	123(100)	123(100)

et al who included 58.9% male and age between 14-19 years¹⁹. Another study conducted in india by Sherwal et al totally disagreed with this study. And reasons may be due to sample size, study design and study duration difference²⁰.

Table 2: Comparison of Widal test with blood culture

		Culture		Total
		Positive	Negative	
Widal	Positive	4(3.3%)	22(17.9)	26(21.1)
	Negative	4(3.3%)	93(75.6%)	97(78.9%)
Total		8(6.6%)	115(93.%)	123(100%)

P value 0.039, which is significant.

Clinical diagnosis of typhoid fever is difficult and uncertain, particularly in early stages. Laboratory facilities are essential to ensure optimal diag-

Table 3: Comparison of typhidot with blood culture

		Culture		Total
		Positive	Negative	
Widal	Positive	7(5.7%)	39(31.7%)	46(37.4%)
	Negative	1(0.8%)	76(61.8%)	77(62.6%)
Total		8(6.5%)	115(93.5%)	123(100%)

P value 0.002, which is highly significant.

nosis, appropriate therapy and relevant public health management, but clinical suspicion is necessary before the laboratory assistance can be mobilized 13 Laboratory investigation involves Blood Culture, Widal test and Typhoid (By Elisa IgG and IgM).

Blood culture is the gold standard diagnostic method for diagnosis of typhoid fever but its utility in early diagnosis is limited in early phase of illness thereby making the isolation of the organism difficult. In this study, out of 123 only 6.8% were positive by blood culture. These findings were quite

Table 4: Sensitivity, specificity, PPV, NPV and efficiency of Typhidot and Widal with blood culture

	Typhidot	Widal test
Sensitivity	0.875(87.5%)	0.50(50.0%)
Specificity	0.660(66.0%)	0.808(80.8%)
PPV	0.152(15.2%)	0.153(15.3%)
NPV	0.987(98.7%)	0.958(95.8%)
Accuracy of test	0.674(67.4%)	0.788(78.8%)

different from the findings in Indian study by Balakrishna et al in which they found the 14% positive cases of Blood Culture²¹. The various reasons for this difference may include multiresistant drugs, long or short incubation period and expertise error.

Out of 123 patients 21.1% cases were positive by Widal test. A similar study conducted by Balakrishna et al agreed with this study they found 21.5% positive cases by Widal test. This is in agreement with another study of Yaramis A et al (20%)²². These findings were quite different from the findings in India (New Delhi) conducted by Sherwal et al in which 57% cases were positive by Widal test, which was high than our study²⁰. The reason for this difference may include large sample size and manufacturing kit difference.

In the present study Widal test has sensitivity of 50.0% and specificity of 80.0%. It is consistent with another study in Aga Khan University Karachi Pakistan conducted by Bhutta and Mansurali which have similar results²³.

The positive predictive value of Widal test in the present study is 15.3% which is inconsistent with (90%) Gopalakrishnan V et al⁸. The negative predictive value of the present study 95.8% is consistent with (90.1%) Gopalakrishnan V et al. Another study had 55% NPV conducted by Bhutta and Mansurali which is lower due to their less negative cases²³.

In the present study, 37.4% of the cases were positive by typhoid (by Elisa). A similar study showed approximately same findings conducted by

Bhutta and Mansurali²³. Other studies have shown higher percentage of positivity including Sherwal et al²⁰. Results of Typhidot test was considered positive if IgM was positive regardless of whether IgG was positive or negative. Typhidot test might find masking effect in which IgM was masked by high IgG levels where IgG was likely to come from past infection.

In the present study Typhidot test has sensitivity of 87% and specificity of 66%. Sensitivity is consistent with Sherwal et al (85%) and Bhutta ZA et al (84%)^{20,23}. The specificity of the present study is consistent with Jesudason et al (65%) Olsen SJ et al (69%) and Dutta S et al (63%)^{24, 25, 13}. The positive predictive value of Typhidot test in the present study i.e., 15.2% is consistent with (17.7) Gopalakrishnan V et al⁸. The negative predictive value of the present study 98.7 is consistent with (90.1) Gopalakrishnan V et al (99.4)⁸. This dot Enzyme Immuno Assay test offers simplicity, speed, economy, early diagnosis, specificity, sensitivity and high negative and positive predictive values.

CONCLUSION:

Blood culture and Widal test are used as conventional methods in the diagnosis of the typhoid fever. Typhoid (by Elisa) test is a new, reliable, specific, easy and rapid serological test introduced commercially for the diagnosis of typhoid fever. It offers the advantage of rapid & early diagnosis, with a sensitivity & specificity of 87.5% & 66.0% respectively in culture proven cases.

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VAGINAL CARRIAGE RATE OF GROUP B STREPTOCOCCUS IN PREGNANT WOMEN AT CHAUDHARY REHMAT ALI HOSPITAL, LAHORE

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Group B Streptococcus (GBS) is a leading cause of cystitis, amnionitis, endometritis, and still-birth in the pregnant women all over the world.¹ A considerable percentage of the GBS colonized neonates (1–3%) suffer invasive early-onset group B Streptococcus disease (EOGBSD) which could prove fatal in neonates.² Early-onset GBS infection can present as neonatal sepsis, meningitis or pneumonia, which are associated with high mortality and morbidity.³ The infants who survive are often left with permanent disabilities of development, specifically mental retardation, hearing or vision loss and speech problems.^{4,5,6} The rate of GBS colonization in pregnant females varies from 5–30% depending upon the demography and multiple factors which effect its carriage rate.⁷ The rates of maternal and neonatal GBS carriage resulting in early onset neonatal disease may vary in different communities, so it should be thoroughly evaluated in

each and every healthcare setting offering antenatal care to the population, thus allowing appropriate preventive strategy to be selected.⁸ The prevalence of GBS vaginal colonization in pregnant women in different studies was as follows; America 14%, Asia-Pacific 19%, India/Pakistan 12%, Sub-Saharan Africa 19%, Middle-East/North Africa 22%.⁹ Islam medium can be used to detect GBS in mixed cultures and this is especially useful for women in labour.¹⁰ The most likely reservoir of GBS is the gastrointestinal tract, and the most frequent site of secondary spread is the genitourinary tract. The neonates get colonized with GBS by the aspiration of infected amniotic fluid, or by vertical transmission during the passage through the colonized vaginal canal.^{11,12} The GBS carriage rate is 40–70% in neonates who are born to the colonized mothers.¹³ The most important risk factor for early-onset neonatal disease is maternal GBS colonization at time of delivery.^{14,15} Sepsis,

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low birth weight and asphyxia are the immediate predisposing factors to neonatal bacterial infections.¹⁶ It is recommended by Centers for Disease Control and Prevention (CDC) that all pregnant women at 35–37 weeks should have prenatal screening for GBS colonization of the vagina and rectum which is based on the results of culture-based screening strategy relative to the risk-based strategy.¹⁷ The successful implementation of screening recommendations is likely to have contributed to the documented 27% decrease in the incidence of EOGBSD from 1999–2001 to 2003–2005.¹⁸ Implementation of prevention programs can decrease the morbidity and mortality resulting from GBS disease and it is more cost-effective to prevent GBS infection in the neonates than to treat GBS infections.¹⁹ There is need of data on the incidence of GBS in neonates, preventive measures and the outcome of infected neonates.²⁰ The data from different areas of Pakistan is very limited and is generally of the pregnant women and negligible work has been done on the prevalence of GBS in the neonates. This study aimed at finding out the prevalence of GBS in both the mothers and their neonates.

Hypothesis: The most important risk factor for early-onset neonatal disease is maternal GBS colonization at time of delivery

Patients and Methods:

Study Design: Cross sectional study

Study Setting: Research was conducted at Department of Gynaecology at Chaudhary Rehmat Ali Hospital, Lahore and Department Of Pathology Continental Medical College, Lahore.

Duration: 6 Months from January, 2016 to June, 2016

Sample Selection: Random samples of pregnant women fulfilling the specified selection criteria at the time of delivery were included and their respective neonates were included as their pair study units.

Inclusion Criteria: Pregnant women between 20–40 years of age at the time of admission in the hospital for term, normal vaginal delivery were included in this study. All neonates of respective included mothers were also included.

Exclusion Criteria: Pregnant females with systemic diseases like pregnancy induced hypertension/ hypertension, diabetes mellitus, chronic infectious diseases, patients on antibiotics, and those with obstetrical problems like placenta previa, preterm delivery (less than 37 completed weeks of gestation), prolonged rupture of membranes (an interval between rupture of membranes and delivery of 18 hours or longer before the baby is born) were excluded from the study.

Sampling Technique: The culture specimens from the lower vagina of 200 pregnant women prior to any management, at the time of admission in the hospital for normal, term vaginal delivery were collected without a speculum using sterilized disposable cotton swabs. Swabs were also collected from the abdominal skin and ear canals of the neonates born to these mothers immediately after delivery. The swabs were placed in Amies agar gel medium and transported to the Microbiology Laboratory within 24 hours. Swabs were inoculated on Blood Agar and incubated aerobically for 24 hours at 37 °C and on Group B Streptococcus agar (Islam medium) and incubated anaerobically at 37°C for 24–48 hours in an anaerobic jar using AnaeroGen sachets. *Pseudomonas aeruginosa* and *Bacteroides fragilis* were used as controls for checking the efficacy of the anaerobic jar. GBS was identified using colonial morphology (presence of β -hemolytic colonies on Blood agar and orange pigmented colonies on GBS agar), Gram stain, catalase test and was confirmed by means of latex agglutination tests (Omega's Avipath Strep).

Data Collection Procedure: Data was collected from both mothers and neonates who fulfilled the specific inclusion criteria.

Data Analysis: Data was analyzed using SPSS Version 17

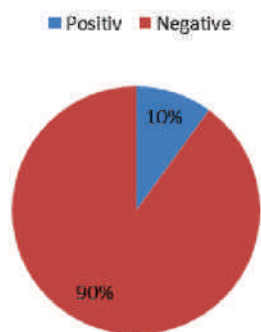
RESULTS

Out of a total of 200 vaginal samples of pregnant women, 20 (10%) specimens were found positive for GBS. All specimens of mothers found to be positive by culture (n=20) were also positive by GBS antigen detection (Table-1, Figure-1). In case of the neonates samples from the abdominal skin, 10 (62.9% of the GBS positive mothers) tested positive, while in the case of the samples from the ear canals of the neonates 5 (20.6% of the GBS positive mothers) were positive (Table-2).

Figure: 1

Figure: 2

Status of GBS in vaginal smples



DISCUSSION

Group B Streptococcus, though known for decades, only emerged as a major perinatal pathogen in the 1970s. It is the leading cause of early onset neonatal infection in North America, Australia, in

Table 1: Status of GBS in vaginal samples of mothers

Category	Frequency	Percentage
Positive	20	10
Negative	180	90
Total	200	100

almost all developed countries, and is an escalating problem in developing countries, as they become more industrialised.²² In spite of the great accomplishments in decreasing the mortality rate; GBS remains the leading cause of infant morbidity and mortality in the United States of America.²³ In the present study the lower vaginal specimens were collected. Rectal samples were refused by majority of the pregnant women. The most advantageous method for GBS screening is collection of a single ordinary culture swab or two separate swabs of the distal vagina (without speculum examination) and anorectum.²⁴ In our study all isolated GBS were β -haemolytic and pigment producing and group B Lancefield positive by serological testing. In Czech Republic in 2001, a study pointed out that both GBS agar and GBS broth are reliable methods, when compared to the recommended method and can be used to screen for GBS colonization in the pregnant women and their neonates.²⁵ We found a GBS carriage rate of 8.5% in the mothers which is considerable. The rate of GBS colonization in pregnant females varies from 5 to 30% with different geographical distribution.⁷ The colonization rate was 53% in the neonates of the colonized mothers, which is reasonably noteworthy. The risk of a neonate to be colonized at birth is directly related to the intensity of

Table 2: Status of GBS in neonates according to site of sample collection (n=200)

GBS positivity in infants	GBS positivity in mothers		Total	(p-value)
	Yes	No		
Abdominal skin	Yes	0	10	101.477* (0.000)
	No	180	189	
Ear Canal	Yes	0	5	32.786* (0.000)
	No	180	195	

*Significant

maternal colonisation.²⁶ The GBS colonization rate might have been higher in the neonates of our study. Typically the neonates are colonized only briefly after rupture of membranes. Thus, their bacterial load is likely to be lower and isolation by culture more difficult.² A study in Peshawar in 1984 reported a GBS carriage rate of 30.9% amongst the pregnant women.²⁷ Another study was carried out in Lahore in 1997 in which two hundred pregnant women in the third trimester were screened. GBS was found in 4.5% of the pregnant women.²⁸ The results of these two studies are quite different from our study. The differences in the vaginal carriage rates of GBS depend on the time of gestation at which specimens were obtained²⁷, particular population and specially on the laboratory methods used to detect GBS.²⁹ Some studies carried out in India, document vaginal colonization rates of GBS between 5%–16%.³⁰ GBS colonization rate among term pregnant women in Saudi Arabia is relatively high (27.6%); and thus constitutes a group of women whose neonates are at great risk of early-onset invasive disease. The carriage rate in this study was quite high as compared to our study, in spite of the fact that Islam medium was used in both studies. The difference might be because of the difference in the timing of collection of the specimens and the geographical difference.²⁷ A study conducted in Iran in 2003 identified a 9.1% GBS carriage rate in recto-vaginal samples of pregnant women, with a 60% transmission rate to their neonates.³⁰ GBS was isolated in 8.7% of the pregnant women in a study in Turkey in which rectal, vaginal and cervical swabs were taken from 114 women.³¹ The results of these studies are very close to our study, in spite of the fact that we screened the pregnant women culturing only the vaginal samples. In view of the fact that maternal GBS colonization at delivery is the most important risk factor for neonatal disease, microbiological techniques must be designed in order to maximize detection rates.²⁷ The prevention of GBS transmission from mother to infant is required before the birth of the neonate.²⁸ So

we should carry out more multi-center studies on GBS colonization in pregnant women and its transmission to their neonates in different parts of our country and if the results are significant then guidelines should be formulated to prevent the transmission of GBS from the mothers to their neonates. Nationwide epidemiological data on neonatal GBS disease should also be collected. Increasing data suggests that treating GBS infected neonates is more expensive than preventing the infection and that properly implemented prevention programs can significantly decrease illness and death resulting from GBS disease.⁵ It has been estimated by the CDC that \$300 million dollars were spent in a year to treat almost 7,500 cases of EOGBSD.²⁹ Attention should be focused on prevention of GBS infection in neonates which can only be possible by identification and treatment of carrier mothers, so that potential lethal consequences can be prevented.

CONCLUSION

- 1) GBS colonization in pregnant women and its transmission to the neonates is present in our population.
- 2) More specific national epidemiological data on the incidence, morbidity, and mortality of neonatal EOGBS infection are required.
- 3) The high isolation frequency of GBS among pregnant women suggests routine antenatal screening at 35 to 37 weeks of gestation in order to provide antibiotic prophylaxis to GBS carrier.
- 4) The high prevalence of GBS colonization in pregnant women demands for screening in women attending an antenatal clinic so that intrapartum antimicrobial prophylaxis can be offered to all women who are colonized with GBS, thus preventing its transfer to the newborn.

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ATTITUDES OF MEDICAL STUDENTS TOWARDS GROUP AND SELF-REGULATED LEARNING AMONG STUDENTS OF VARIOUS PUBLIC SECTOR MEDICAL COLLEGES OF LAHORE

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ABSTRACT

Background and Objectives: In this study we are trying to assess attitudes of Medical Students towards Group and Self-regulated Learning. This study is conducted in 2nd and 4th students of various public sector Medical Colleges of Lahore, Pakistan (KEMU, FJMU, AIMC and SIMS). Data is collected from 300 subjects. Objective of study was to determine attitude and preferences of medical students towards discussion based group studies and individual self-regulated learning strategies.

Material and Methods: This is Cross sectional type of study conducted at various public sector medical colleges of Lahore including “KEMU, FJMU, AIMC and SIMS” during April – June, 2014 (03 months) with sample size of 300 patients. Consecutive non-probability sampling technique was used to recruit the patients.

Data Collection and analysis: 300 subject those fulfilling the inclusion criteria were recruited for study from medical students of various public sector medical colleges of Lahore. After approval from ethical committee and informed consent from subjects detail demographic information collected. All the information entered in a structured questionnaire. Data analyzed in SPSS Version: 17.0. Mean and standard deviation calculated for numerical variables like age, parity and gravidity. Frequency and percentages calculated for nominal variables.

Results: 79.3% respondents (234 out of 300) preferred to learn study contents by Self-learning and 22.1% respondents (66 out of 300) by Group Study.

Conclusions: Self-learning is a preferred learning strategy than group learning among medical students. Then reason found is that Self-learning is more focused, effective and less stressful. Self-learner shows better academic performance than Group-learners.

Keywords: self-regulated learning, group-learning, attitude of medical student

Main objective of medical education is the development of professional skills,^{1,2} in particular the readiness to engage in lifelong learning,^{3,4} and to participate in inter-professional education⁷ which demands an “integration of knowledge, skills and attitudes”,⁸ and generates the ability to collaborate with other health care professionals.⁷ Beneficial teaching methods for these complex skills are “small group work and self-regulated learning, case-based approaches, and constructivist learning environments, like problem-based learning (PBL). In these approaches knowledge and skills are acquired in interactive and co-constructive processes⁹⁻¹⁴ that demand students' motivation to engage in group learning¹⁵, and their ability to self-regulate their learning activities.¹⁴ However, in beginning veterinary students were found to prefer individualistic learning over group work, and teacher-directed learning over self-directed studies.¹³ Due to a lack of experience, they

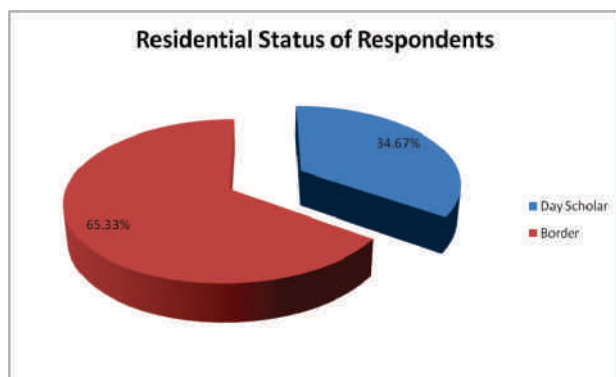
perceived group work and self-directed learning as complicated and overcharging study conditions, or did not understand the relevance for the medical practice.^{11,14} Self-regulation is essential to the learning process⁷. It can help students create better learning habits and strengthen their study skills⁹, apply learning strategies to enhance academic outcomes¹⁰, monitor their performance¹⁵ and evaluate their academic progress¹¹. Teachers thus should be familiar with the factors that influence a learner's ability to self-regulate and the strategies they can use to identify and promote self-regulated learning (SRL) in their classrooms. In addition to self-regulation, motivation can have a pivotal impact on students' academic outcomes¹⁵. Without motivation, Self-Regulated Learning is much more difficult to achieve. This study aims at assessing preferences of medical students towards discussion based group studies and individual, self-regulated learning strategies.

METHODS

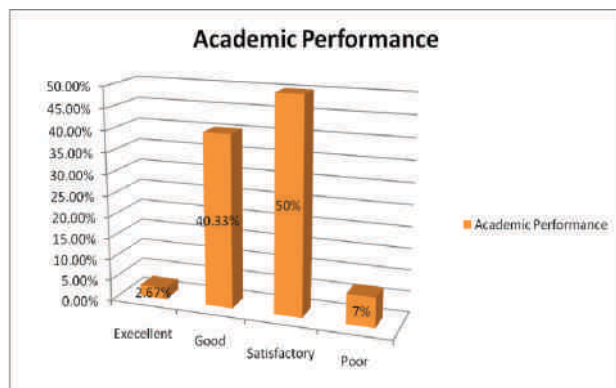
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RESULTS AND MAIN FINDINGS



Graph 1: Residential Status of Respondents



Graph 2 Academic Performance of Respondents

Table 1: Experience with Small Group

Experience with small groups					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	47	15.7	15.7	15.7
	Always	41	13.7	13.7	29.3
	Sometimes	212	70.7	70.7	100.0
	Total	300	100.0	100.0	

Table 2: Experience with Self Study

Experience with self study					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	259	86.3	86.3	86.3
	Sometimes	41	13.7	13.7	100.0
	Total	300	100.0	100.0	

RESULTS:

In our analysis, 55.33% (166 out of 300) respondents were in age group of 21-25 years. 44.67% (134 out of 300) subjects were in 15-20 years. 56% (168 out of 300) Subjects were Female and 44% (132 out of 300) were MALE. 50% (150 out of 300) were from 4th year and 50% (150 out of 300) were from 2nd year. 65.33% (196 out of 300) were Borders and 34.67 (104 out of 300) were day scholars. 70.7 % (212 out of 300) subjects were used to study in groups sometimes; 15.7% (47 out of 300) had never experienced Group Learning; 13.7% (41 out of 300) were always group learners. (Table No.1)

Table 3: A Selflearning Frequencies

Self-learning Frequencies				
		Responses		Percent of Cases
		N	Percent	
\$Selflearning ^a	Learn study contents by	234	21.4%	79.3%
	Effectiveness	167	15.3%	56.6%
	Stressfulness	153	14.0%	51.9%
	Motivation to learn by	136	12.5%	46.1%
	Better memory	126	11.5%	42.7%
	better understanding	167	15.3%	56.6%
	Peer's trend	108	9.9%	36.6%
Total		1091	100.0%	369.8%

a. Dichotomy group tabulated at value 2.

Table 4: B Group Learning Frequencies

Group Learning Frequencies				
		Responses		Percent of Cases
		N	Percent	
Group Learning	Learn study contents by	66	6.5%	22.1%
	Effectiveness	133	13.2%	44.5%
	Stressfulness	147	14.6%	49.2%
	Motivation to learn by	164	16.3%	54.8%
	Better memory	174	17.2%	58.2%
	better understanding	133	13.2%	44.5%
	Peer's trend	192	19.0%	64.2%
Total		1009	100.0%	337.5%

a. Dichotomy group tabulated at value 1.

Table 5A: Group-Learning class Cross tabulation

Group Learning*class Cross tabulation					
		class		Total	
		Second year	Fourth year		
Group Learning	Learn study contents by	Count	36	30	66
		% within class	24.2%	20.0%	
Effectiveness	Effectiveness	Count	70	63	133
		% within class	47.0%	42.0%	
Stressfulness	Stressfulness	Count	72	75	147
		% within class	48.3%	50.0%	
Motivation to learn by	Motivation to learn by	Count	82	82	164
		% within class	55.0%	54.7%	
Better memory	Better memory	Count	91	83	174
		% within class	61.1%	55.3%	
better understanding	better understanding	Count	67	66	133
		% within class	45.0%	44.0%	
Peer's trend	Peer's trend	Count	96	96	192
		% within class	64.4%	64.0%	
Total		Count	149	150	299

Percentages and totals are based on respondents.
a. Dichotomy group tabulated at value 1.

Table 5B: Self-learning & class Cross tabulation

Self learning*class Cross tabulation					
			class		Total
			Second year	Fourth year	
Self learning	Learn study contents by	Count	114	120	234
		% within class	78.1%	80.5%	
Effectiveness	Effectiveness	Count	80	87	167
		% within class	54.8%	58.4%	
Stressfulness	Stressfulness	Count	78	75	153
		% within class	53.4%	50.3%	
Motivation to learn by	Motivation to learn by	Count	68	68	136
		% within class	46.6%	45.6%	
Better memory	Better memory	Count	59	67	126
		% within class	40.4%	45.0%	
better understanding	better understanding	Count	83	84	167
		% within class	56.8%	56.4%	
Peer's trend	Peer's trend	Count	54	54	108
		% within class	37.0%	36.2%	
Total		Count	146	149	295

Percentages and totals are based on respondents.
a. Dichotomy group tabulated at value 2.

Table 6A: Self-learning & class Cross tabulation

Group Learning*gender Cross tabulation					
			gender		Total
			male	female	
Group Learning	Learn study contents by	Count	31	35	66
		% within gender	23.7%	20.8%	
Effectiveness	Effectiveness	Count	71	62	133
		% within gender	54.2%	36.9%	
Stressfulness	Stressfulness	Count	67	80	147
		% within gender	51.1%	47.6%	
Motivation to learn by	Motivation to learn by	Count	61	103	164
		% within gender	46.6%	61.3%	
Better memory	Better memory	Count	68	106	174
		% within gender	51.9%	63.1%	
better understanding	better understanding	Count	54	79	133
		% within gender	41.2%	47.0%	
Peer's trend	Peer's trend	Count	90	102	192
		% within gender	68.7%	60.7%	
Total		Count	131	168	299

Percentages and totals are based on respondents.
a. Dichotomy group tabulated at value 1.

Table 6B: Self Learning gender- cross tabulation

Self learning*gender Cross tabulation					
			gender		Total
			male	female	
Self - learning	Learn study contents by	Count	101	133	234
		% within gender	78.3%	80.1%	
	Effectiveness	Count	61	106	167
		% within gender	47.3%	63.9%	
	Stressfulness	Count	65	88	153
		% within gender	50.4%	53.0%	
	Motivation to learn by	Count	71	65	136
		% within gender	55.0%	39.2%	
	Better memory	Count	64	62	126
		% within gender	49.6%	37.3%	
	better understanding	Count	78	89	167
		% within gender	60.5%	53.6%	
	Peer's trend	Count	42	66	108
		% within gender	32.6%	39.8%	
Total		Count	129	166	295
Percentages and totals are based on respondents.					
a. Dichotomy group tabulated at value 2.					

Table 7: academic performance & Learning study contents by Crosstabulation

		Learn study contents by		Total
		Group Learning	Self regulated learning	
academic performance	Excellent	1	7	8
	Good	26	95	121
	satisfactory	37	113	150
	poor	2	19	21
Total		66(22%)	234(78%)	300

86.3% (259 out of 300) were always Self-Learners; 13.7% (41 out of 300) were sometimes Self-Learners. {Table No.2} 80% (240 out of 300) never appeared in any supplementary exam and 20% (60 out of 300) were supply Holder. 50% (150 out of 300) showed satisfactory performance, 40.33% (121 out of 300) showed Good academic performance, 7%(21 out of 300) poor and 2.67%(8 out of 300) excellent academic performance.

79.3% (234 out of 300) preferred to learn study

contents by Self-learning and 22.1% (66 out of 300) by Group Study; 56.6%(167 out of 300) considered self-learning(SL) Effective and 44.5%(133 out of 300) group learning(GL); 51.9%(153 out of 300) considered SL and 49.2% (147 out of 300) GL stressful. 46.1% (136 out of 300) and 54.8%(164 out of 300) felt motivated by SL and GL respectively; 42.7% (126 out of 300) and 58.2%(174 out of 300) recalled better by SL and GL respectively. 56.6% (167 out of 300) got better understanding by SL and 44.5% (133 out of 300) by GL; 36.6% (109 out of 300) subject's peers were SL and 64.2%(192 out of 300) GL.

24.3% of the 2nd year students preferred Group learning for their studies and the Rest Self Learning; 20% students of 4th year were inclined to study by group learning while 80% were Self – Learners. (Table No. 4 a & b). 23.3% of the age group 15-20 years were group learners while 76.7% were self-learners; On the other hand 21.1% of the age group 21-25 were group-learner and 78.9% were self-learners. (Table No. 5 a & b). 23.7% of the males and 20.8% of females were group learners whereas 76.3% of males and 79.2% of females preferred self-learning. (Table No. 6 a & b)

DISCUSSION:

The Topic of our study was to find out attitude of medical students of 4th year and 2nd year of AIMC towards discussion based group study and individual self-study and to determine the reasons for such attitudes. 300 students were included in our study including both males and females of different age groups. The results showed that majority (78%) of the students were purely self-learners while only 22% were purely group learner. Among both these groups some students had experienced both group learning and self-learning occasionally. Of the students, whose attitude was group learning, 13.2% adopted this because it was more effective than SL, and 14.6% adopted this because SL was stressful. 16.3% got motivated by GL, 17.2% because it improved their memory, 13.2% because of better understanding. Of the self-learners 15.3% considered it effective, 12.5% got motivated, 11% improved memory and 15.3% had better understanding.

Regarding academic performance 39 % (26 out of 66) group learners had good, 1.5% excellent, 56% satisfactory and only 3% had poor academic performance. On the other hand 40% of the self learner had good, 3% excellent, 48% satisfactory and 8% had poor performance. A Similar research was conducted at Linkoping University, Sweden by Antje Lumma-Sellenthin. The

results showed that 61% of the students were Group-learners and 29% were self-learners. 78% of the group learners were Males and 22% were females. While majority of the self-learners were females (69%). The ones who were group learners, majority adopted this because of better understanding (21.8%) & better memory (15.4%) of the contents. While the rest adopted this because self-learning was stressful (16%).

Similarly of the students who preferred self-learning, majority thought that GL was stressful (35%), while others were self-learners because it improved their memory (23%), They better understood the contents (20%). And the rest because of miscellaneous causes.

So in contrast to the study mentioned above, the majority of the respondents of our research were self-learners, and this was due to deep understanding, better memory and less stress.

CONCLUSION

- Self-learning is a preferred learning strategy than group learning among medical students. Then reason found is that Self-learning is more focused, effective and less stressful.
- Self-learner shows better academic performance than Group-learners.

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BURN OUT SYNDROME IN NURSES IN JHL

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Burnout is a psychological experience of chronic exhaustion and reduced interest usually in the work arena. Burnout is often described as the result of a period of expending too much effort at work while having too little recovery. Burnout can affect workers of any kind including students and healthcare workers. One of the most potent causes of burnout is high-stress work. Burnout syndrome^[1] was identified in the early 1970s in social welfare professionals, most notably healthcare workers^[2]. BOS has been described as an inability to cope with emotional stress at work^[3] or as excessive use of energy and resources leading to feelings of failure and exhaustion^[4]. Clinical symptoms of BOS are nonspecific and include tiredness, headaches, eating problems, insomnia, irritability, emotional instability, and rigidity in relationships with other people. The most well studied and estimated measurement of burnout in the literature is the Maslach Burnout Inventory (MBI). 'Burnout' was first identified by Maslach and Jackson in 1970 and a scale was developed to estimate the various dimensions of burnout. They proposed this indicator as the standard tool for the measurement of burnout. Although emotional exhaustion has been identified as the hallmark of burnout, people who experience all three

symptoms have the greatest degree of burnout,^[5,6]. Wide variations in the prevalence of BOS in healthcare professionals have been reported across specialties, both in doctors^[7] and in nurses^[8]. The determinants of BOS are workplace climate and workload^[9]. Higher levels of severe BOS, however, were found in oncologists^[10], anaesthesiologists^[11], physicians caring for patients with AIDS^[12], and physicians working in emergency departments^[13].

OBJECTIVES

The objectives of this study were:

- To assess the frequency of burnout syndrome among nurses working at Jinnah hospital Lahore.

OPERATIONAL DEFINITION

Burnout syndrome:

Was measured by the Maslach Burnout Inventory is designed to measure three components of burnout syndrome: _ Emotional exhaustion _ Depersonalization _ Personal accomplishment. For both emotional accomplishment and depersonalization, higher mean scores correspond to higher degrees of burnout. In contrast, lower mean scores for personal accomplishment correspond to higher

degrees of burnout. Burnout syndrome (BOS) is characterized by three stigmata: emotional exhaustion, depersonalization, and reduced personal fulfillment.

METHODS

STUDY DESIGN:

Cross-sectional design.

SETTING:

Allama Iqbal Medical College / Jinnah Hospital Lahore.

DURATION OF STUDY:

03 months, May – July 2014.

SAMPLE SIZE:

300 will be included in our study

SAMPLING TECHNIQUE:

Non-probability / Purposive sampling technique

SAMPLE SELECTION:

Inclusion criteria:

- Regular staff working at Jinnah hospital

Exclusion criteria:

- Temporary or recently inducted nurses

DATA COLLECTION PROCEDURE

176 subjects those fulfilling the inclusion criteria will be included in our study. After approval from the ethical committee and informed consent from subjects detail demographic information were

Emotional Exhaustion	Depersonalization	Personal Accomplishment*
Frequency	Frequency	Frequency
High 27 or over	High 14 or over	High* 0–30
Moderate 17–26	Moderate 9–13	Moderate 31–36
Low 0–16	Low 0–8	Low 37 or over

collected and Maslach Burnout Inventory questionnaires translated in Urdu will be given to nurses for evaluation of burnout. All the information was entered in a structured questionnaire. (Attached).

DATA ANALYSIS PROCEDURE:

Data was entered and analyzed in SPSS Ver: 17.0. Frequency and percentages were calculated for burnout inventory for emotional exhaustion, depersonalization, and personal accomplishment.

RESULTS

In my research 176 nurses take part out of which 165 are between the age of (18-37 yr) 93.8% and 11 are between the age of (38-55yr) are 6.3% (table no.2).39% have year of experience is >10 year, 92.61% have year of experience is <10 year (table no.3). In my research, 87.50% nurses are internee 7.39% charge nurses 3.41% are head nurses 1.70% are staff nurses. 21% contain high score in

personal accomplishment 23% score moderate and 55.7% score low in personal accomplishment (table no.4).48.3% shows high emotional exhaustion hence more burn out,27.3% shows low emotional exhaustion (table no.5). 35.8% shows greater depersonalization hence more burnout, 36.9% shows low depersonalization (table no. 6). Then I cross to stab the two variables age of respondent and year of experience with personal accomplishment, emotional exhaustion, and depersonalization.

Age of respondent:

Nurses 18-37 yr of age shows 22.4% high score in personal accomplishment and 52.7% scores low (table no.7).In EE 50.9% scores high and 24.8% scores low (table no.9).38.2% shows high score in depersonalization and 33.3% shows low score (table no. 11). Nurses between 38-55 yr of age shows 0% high score in personal accomplishment and 100% shows low score in personal accomplishment (table no.7),9.1% shows high score in EE and 63.6% shows low score in EE(table no.9),0% shows low score in depersonalization and 90.9% shows high score in depersonalization (table no.11).

Years of experience:

Nurses whose experience is < 10 yrs shows 22.1% high score in personal accomplishment and 53.4% shows low score (table no.8),51.5% shows high score in EE and 25.2% shows low score in EE (table no.10),38.7%shows high score in depersonalization yrs and 32.5% shows low score(table no.12). Nurses whose experience is > 10 yrs 7.7% shows high score in personal accomplishment and 84.6% shows low score(table no.8), 7.7% shows high score in EE and 53.8% shows low score(table no.10),0% shows high score in depersonalization and 92.3% scores low in depersonalization (table no.10).

DISCUSSION

Previous researches:

In the previous research conducted among nurses of EU and ICU in hospitals of Addis, Ababa, and Ethiopia, it was identified that a significant number of nurses have high levels of burnout. According to this research, 18.86% of the nurses have burnout with 25.2%have high levels of emotional exhaustion, 14.3% have a high level of depersonalization and 17% have a low level of personal achievement. In another research conducted among nurses of Spanish origin, 5.15% of total participants have high scores in all three dimensions and fall under burnout category (Risque et al, 2008). while according to another research human service professionals are highly susceptible and affected by burnout syndrome with prevalence

between 2% and 10% (Pisanti et al, 2013).

The level of burnout according to burnout dimensions:

In my research, which was conducted on 176 nurses including internees and staff nurses working in Jinnah Hospital Lahore, 55.7% showed low personal accomplishment, 35.8% show high levels of depersonalization and 48.3% show high levels of emotional exhaustion.

Burnout dimensions related to the age of nurses:

Among the participants those who are between 18-37 years of age 52.7% show low PA, 50.9% show high EE, 38.2% show high DP. While in nurses between 38-55 years, 100% show low PA, 9.1% show high score in EE, 90.9% show high score in DP. This shows that high EE and DP with a low score of PA is more associated with nurses of young age. These above findings are consistent with findings from Maslach et al (2001) and Ayala et al (2013). This high prevalence in young nurses is probably due to their higher expectations of themselves and then works even harder to achieve those while undertaking their professional responsibilities which are always not possible.

Burnout dimensions related to years of experience:

On the other hand, nurses whose experience is <10 years, 53.4% showed low score in PA, 38.7% show high score in DP and 51.5% show high score in EE. While nurses whose experience is >10 years, 7.7% show high score in EE, 84.6% scores low in PA and 0% show high score in EE. This shows that nurses with work experience more than 10 years lower level of EE than their counterparts. This is in concordance with the study by Cameron et al (1994) which indicate that nurses with more years of experience report lower levels of burnout than their counterpart. A recent study by Ayala et al (2013) has similar findings that, there is an inverse relation between EE and work experience.

The value of study:

In the view of previous researches and my research, it is seen that incidence of burnout syndrome has been increasing day by day. Accordingly, in view of previous results, my results are in concordance with the previous studies conducted on this topic. Though the results are higher than previous ones but there are certain reasons behind that, the most important being that Pakistan is a developing country while those where previous studies were done were developed countries. The workload here is much more than developed countries due to improper health facilities. The amount of staff is much less as compared to the

demand of work. The staff here is not provided with facilities to facilitate their work. They are not provided with facilities for their own selves. Due to all these factors, the incidence and prevalence of burnout syndrome is more in Pakistan.

Limitations of study:

The sample size is relatively small as this is the first burnout inventory among study group in that particular area. Due to which not more detailed analysis was done. This study is limited to only one workplace i.e. JHL, Lahore, therefore, no relation can be established among burnout and different health care vicinities. The other limitation is that study is a cross-sectional study and can only reflect experiences of nurses at the time of assessment and therefore a causal relationship cannot be established between burnout and its predictors.

CONCLUSION:

This study presents a strong evidence that a significant proportion of nurses experience mental and physiological disturbances due to the stress from their jobs. An average of 22.57% of the nurses participated in the study reported experience of high levels of burnout with 48.3% high levels of EE, 35.8% high levels of DP and 55.7% low levels of PA. There is a statistically strong association of burnout dimensions with Nurses characteristics including perceptions about their health status, quality of life and satisfaction with job, gender, age and educational levels with burn out. Similarly, job-related characteristics such as employment sector and working job title are also statistically associated with burnout dimensions.

RESULTS AND MAIN FINDINGS:

Graph no.1

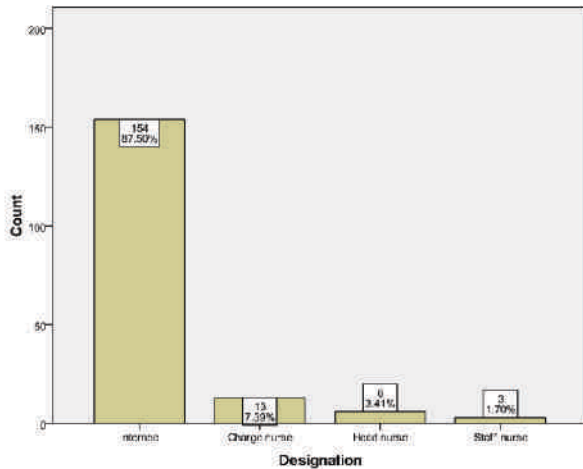


Table 4: Personal Accomplishment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High (Score 0 - 31)	37	21.0	21.0	21.0
	Moderate (Score 32-38)	41	23.3	23.3	44.3
	Low (Score > 39)	98	55.7	55.7	100.0
	Total	176	100.0	100.0	

Graph no.2

High scores indicate greater personal accomplishment (and hence less burnout).

High scores indicate greater emotional exhaustion (and hence more burnout).

High scores indicate greater depersonalization

Table 1: Age of Respondents

N	Valid	176
	Missing	0
Mean		22.5739
Median		21.0000
Mode		20.00
Std. Deviation		6.79876
Minimum		18.00
Maximum		55.00

Table 2: Age of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 37 years	165	93.8	93.8	93.8
	38 - 55 years	11	6.3	6.3	100.0
	Total	176	100.0	100.0	

Table 3: Years of Experience

N	Valid	176
	Missing	0
Mean		4.1420
Median		3.0000
Mode		2.00
Std. Deviation		6.04434
Minimum		1.00
Maximum		36.00

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A STUDY OF OUTCOMES OF CONVENTIONAL OPEN HERNIA REPAIR WITH SELF-FIXATION MESH VERSUS TOTAL EXTRA PERITONEAL (TEP) SUTURE-FREE MESH REPAIR.

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Hernia is a protrusion of a viscous or a part of a viscous through an opening in one wall of its contained cavity".¹ Inguinal hernia is the most common form of hernias involving the abdominal wall.² The two commonly employed techniques for inguinal hernia repair(IHR) are open and laparoscopic. Open hernia repair using the Lichenstein repair is the most commonly used technique over a long period of time. Laparoscopic IHR was started in early 1990s, however use of self-fixation mesh in laparoscopic hernia repair is relatively recent in practice.³ Comparison of open and Laparoscopic IHR shows of open repair has the advantage of being done in the local anesthesia whereas laparoscopic surgery has the advantage of less pain after surgery. Although open mesh based tension free repair remains the gold standard, laparoscopic repair in the hands of a trained surgeon produces excellent results.⁴ In comparison between open repair and

laparoscopic repair, EK Lund et al, found that 5 years after operation, 1.9% of patients with laparoscopic repair continues to report moderate pain compared with 3.5% of those with open repair.⁵ A number of studies have shown laparoscopic repair of inguinal hernias to have advantages over conventional open repair. These include reduced post-operation pain, earlier return to work, less recurrence rates.^{4,6} Nevertheless, patient preference and the surgeon's expertise are the key factors that determine the choice of a particular repair.

OBJECTIVE

The objective of this study was to compare the outcomes of using self-fixation mesh for open hernia repair versus TEP suture free mesh repair in terms of patients with post-operative pain one month after surgery and recurrence rate of hernia.

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METHODS

This study was conducted in Sharif Medical & Dental College from November 2015 to January 2017. A pre-determined sample of hundred cases were included in the study. The patients were admitted for hernia repair through surgical outdoor. Those who fulfill the inclusion criteria were operated upon via one of the two techniques. On the basis of the method used for repair, two equal groups of patients were constituted. Group A comprised of patients in whom open hernia repair was done. In group B, TEP suture-free repair was the method of choice. Inclusion criteria for both groups of patients were those who were 15 to 60 years of age, belonging to both genders, with no comorbid conditions or obesity. Elective surgery was performed after taking the informed consent from all patients. The two groups underwent inguinal hernia repair by the same team of surgeons.⁷ We used fibrin self-adhesive hernia mesh for open inguinal hernia repair. It was placed between inguinal ligament and conjoint tendon and no fixation was done as the mesh is self-adhesive. The TEP was performed extra peritoneal and polypropylene 3D mesh was used with no fixing or suturing. The outcomes were recorded in a predesigned form. Data was analyzed, tabulated and statistical analysis was done using SPSS version 24 IBM. Descriptive statistics such as frequencies and percentages were calculated. Chi-square test of significance for quantitative variables was applied to detect whether or not there was any statistically significant difference between the two groups with regards to the post-surgical complications namely pain and hernia recurrence.

RESULTS

Out of the 100 patients, 10 were females while 90 were males. Male to female ratio was 1:9. 80 males had indirect hernia while 10 had direct hernia. In females, direct hernia were 2 and indirect were 8. 50 patients underwent self-fixation open mesh repair while in 50 patients suture less fixation TEP repair was done. 07 females consented for open repair and 03 for TEP. Among males 43 consented for open and 47 consented for TEP hernia repair. The highest number of patients presented between 30-40 years (n=70), followed by 15-30 years (n=20) and 45-60 years (n=10). Patients with post-operative pain one month after surgery were significantly more in group A (21/50) (42%) than in group B (01/50) (02%). Eight out of fifty (08/50) (16%) patients in group A had recurrence of symptoms within two months whereas 01/50 (02%) patients in group B reported the same.

There is a highly statistically significant difference in group A and group B regarding the incidence of post-operative pain and therefore the need for medication.

In group A, the incidence of patients with post-operative pain one month after surgery is significantly high than in group B (p<0.001).

There is a statistically significant difference between group A and group B as regard to post-surgical hernia recurrence. The incidence of post-surgical recurrent hernia in group A is significantly high than in group B (p<0.05).

DISCUSSION

TEP approach is a safe and effective method of inguinal hernia repair. Laparoscopic IHR was associated with early discharge from hospital, quicker return to work and significantly fewer post-operative complications than open IHR.^{6,7} Our study

Table 1: Gender Distribution

Males	Females	Total
90	10	100

Table 2: Type of Hernia:

Type	Males	Females	Total
Indirect	80	02	82
Direct	10	08	18
Total	90	10	100

Table 3: Frequency of Post-Surgical complications in two surgical methods of Hernia repair.

Post-surgical complications	Group A	Group B	Total
Post-operative Pain	21	01	22
Hernia recurrence	08	01	09
Total	29	02	31

Table 4: Cross tabulation between the surgical methods used and incidence of post-operative pain.

Groups	PAIN YES	PAIN NO	Row total
A Open Hernia Repair	21(a)	29 (b)	50 (e)
B TEP Hernia Repair	01(c)	49(d)	50(f)
Column total	22(g)	78(h)	100(N)

$\chi^2 = 23.3$
 $df = 1$
 $p < 0.001$

showed that our patients with TEP had no post-

operative pain (measured on a pain scale) one month after surgery and only one recurrence was there whereas in open IHR, the number of patients with pain one month post-operatively and hernia recurrence was significantly high.

Self-adhesive mesh for prosthetic reinforce-

Table 5: Cross tabulation between the surgical methods used and the incidence of post-operative recurrent hernia.

Groups	Recurrence YES	Recurrence NO	Row total
A Open Hernia Repair	01 (a)	49 (b)	50 (c)
B TEP Hernia Repair	08 (c)	42 (d)	50 (f)
Column total	09 (g)	91 (h)	100 (N)

$\chi^2 = 5.9$
df=1
p<0.05

ment following IHR is atraumatic and associated with infrequent post-operative complications or pain. Also, self-gripping mesh for IHR is a good and safe option, easy to handle and associated with a low incidence of post-operative pain (<3%).⁸ In one similar study, fibrin sealant for mesh fixation in Lichtenstein repair of medium sized inguinal hernias is well tolerated and reduces the rate of pain/numbness and groin discomfort by 45%.^{9,10} Clinical evidence published to date supports the use of Tissucol as an option for mesh fixation in open and lap/ endoscopic IHR.^{8,9,10} It is also viewed that glue mesh fixation is comparable to suture mesh fixation in terms of post-operative pain, chronic groin pain and length of hospital stay.^{8,9,10} Contrary to our study results, in various other studies, it was revealed that glue fixation was not associated with an increased risk of hernia recurrence.^{8,9,10} Also that elective Lichtenstein repair for inguinal hernia using glue mesh fixation compared to sutures is faster, less painful with comparable hernia recurrence rates. Though this may be true when we talk of open Lichtenstein repair compared between self fixation and suturing but not as of TEP which is far superior in terms of less post op pain and recurrence rates.^{11,12} Even between TAPP/ TEP, it has been revealed in 8 month randomized studies that TAPP is associated with high rates of port site hernias and vascular injuries.¹³ In a similar comparison of TEP/open Lichtenstein repair, it has been documented that TEP has an advantage over Lichtenstein as respect to

chronic post-operative pain.⁸ Laparoscopic hernia repair TEP seems to be the favored approach for most types of inguinal hernia. It has also been seen that laparoscopic surgery was associated with less long term numbness and probably less pain in groin.⁸ In our study, it was clearly defined that TEP suture free repair was far superior to open self-fixation Lichtenstein repair in terms of post-operative pain and negligible recurrence rate.

CONCLUSION

It is submitted that though open self-fixation mesh repair is easy to perform than TEP mesh repair but it has a higher incidence of recurrent hernia and patients with post-operative pain after one month of surgery.

RECOMMENDATION

It is therefore recommended that if the surgeon is trained in the technique he/she should go for laparoscopic IHR using TEP.

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ATTITUDE OF MEDICAL STUDENTS ABOUT SMOKING

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ABSTRACT

Background: Tobacco consumption is associated with considerable negative impact on health. Health professionals, including future doctors, should have a leading role in combating smoking in the community.

Objective: The purpose of the study was to investigate the smoking habits of medical students of Allama Iqbal Medical College, Lahore, important factors associated, their beliefs and attitudes with regard to smoking.

Material and Methods:

Study Design: Cross-Sectional

Study Setting and duration: The study was conducted at Allama Iqbal Medical College, Lahore in June 2014.

Inclusion criteria: All medical students of Allama Iqbal Medical College, Lahore (1st year-5th year) during the time period June-July 2014.

Data Collection and analysis: Data was collected using self-administered anonymous questionnaires. The data was analyzed using SPSS version 17.

Results: Of the 244 participants the age on average was 21.7 years of which 65.6% were males and 34.4% were females of which an overwhelming majority 67.6% had never smoked a cigarette. While 15.2% had smoked for six months or more.

Conclusions: Despite good knowledge about the hazards of tobacco consumption, about 5.3% of the medical students in this study continue to smoke daily. The main reported reasons peer pressure among pre-medical college students should be addressed urgently by policy-makers

Key words: risk awareness , medical students, smoking

Cigarette smoking is a serious health risk. Apart from the primary psychoactive compound nicotine, which makes smoking addictive, cigarette smoke contains over 7000 chemicals, 69 of which are known to cause cancer.^[1] WHO estimates tobacco caused 5.4 million deaths in 2004.^[2] About 1/2 of cigarette smokers die of tobacco related diseases^[3] and lose an average 14 years of life.

Smoking is directly responsible for approximately 90% of lung cancer deaths and approximately 80-90% of COPD deaths.^[4] Smoking harms nearly every organ in the body, and it also causes coronary heart disease, stroke and a host of other cancers and diseases.^[5] Second hand smoke or "passive smoking" is also injurious to bystanders.^[6]

In recent times measures such as prohibiting smoking in public places and transports, graphic health hazard warnings on cigarette packs, increased taxes, prohibition of advertisement of tobacco products in media etc and a general awareness of the risks posed by smoking has lead to a steady decline in prevalence of smoking in developed countries.^[7] In contrast, tobacco usage in Pakistan is rising. Out of a total population of 78 million in Pakistan in 1995, 36% males and 9% females aged 15 years or older were smokers.^[8]

Despite being substantially more educated than

the average Pakistani and well acquainted with its harmful effects smoking is widespread among medical students, a trend seen throughout the world.^[9] Data on smoking habits of medical students is of particular interest because as future doctors have an important role to play in the fight against tobacco. As individuals they can help educate the population, as community members they can support anti-smoking policies and at a societal level, they can influence national and global tobacco control efforts.^[10] Physicians occupy a key position in this regard, as they are uniquely placed to lead smoking cessation programs in the community.^[11] Patients expect information, help and guidance from their primary care physician on a number of health-related matters.^[12] Physicians also play an important role in helping patients to stop smoking.^[13] As future doctors who will witness the continued burden of smoking-related diseases among their patients, medical students represent a primary target for tobacco-prevention programs. The potential success of these strategies may be suboptimal however, if the true dangers of smoking are not adequately recognized. As medical students progress through medical school for example, their knowledge of smoking-related diseases naturally increases.^[14] Nevertheless, substance use remains fairly common in this group^[15]

and a superior knowledge of smoking-related risks does not always correlate with a lower rate of smoking among senior medical students.^[14]

Medical students are more prone to smoking due to the relatively higher stress of medical education leading to. Studies find that depressed college students are more likely to smoke and have a more difficult time quitting than non-depressed college students. 31.9% of college smokers attribute their smoking behavior as a means to alleviate their depression.^[16]

Other than a means of relieving anxiety smoking is viewed, by some students, as a way to socialize and take study breaks.^[17] An interesting group associated with this are the so called "social smokers". Many college students define "social smokers" as those who use tobacco in more social activities and find it essential for socializing, rather than using tobacco on a regular basis, dictated by nicotine dependence.^[18] Social smokers don't believe that they are addicted to smoking, or worried about the social acceptability of their smoking habits. A worrying trend is the correlation between smoking cigarettes and sheesha smoking.^[19]

Sample Size:

244 students

Sampling Technique:

- Stratified Random Sampling

Sample Selection:

Inclusion criteria:

- Students doing MBBS (1st year to 5th year) from Allama Iqbal Medical College, Lahore.

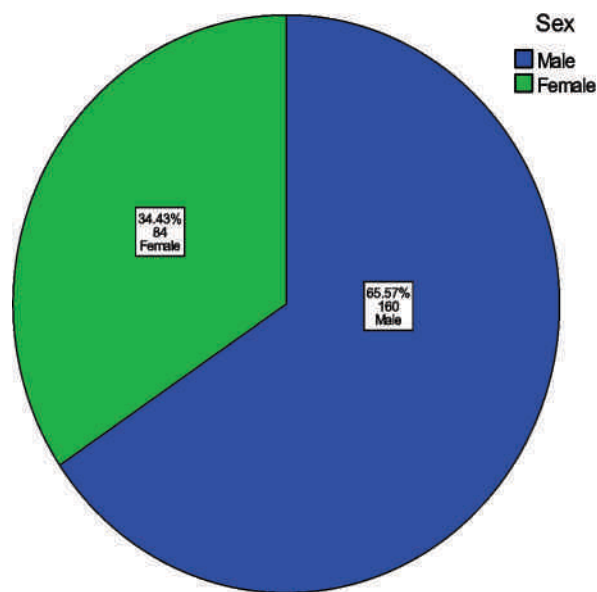
DATA COLLECTION PROCEDURE:

A self-administered anonymous questionnaire (Addendum 1) was made using the WHO questionnaire as a foundation. The questionnaire contained questions regarding demography, smoking status, factors associated with the initiation of smoking, beliefs about smoking and role of smoking in doctor-patient relationship.

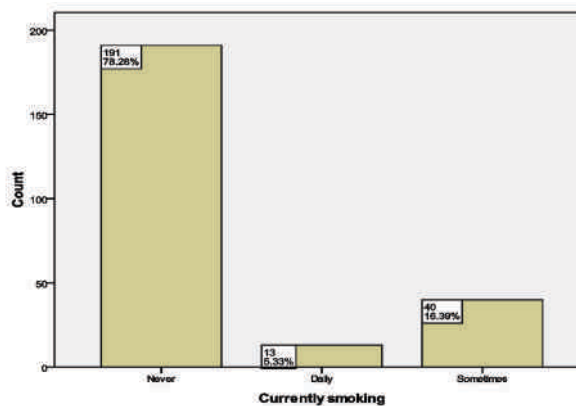
DATA ANALYSIS PROCEDURE:

Demographic and smoking status data were summarized using descriptive statistics. Categorical variables were reported using frequencies, while continuous data were analyzed using means and standard deviation. All group comparisons for categorical variables were conducted using Chi-square analysis where two-sided P-values < 0.05 were considered statistically significant.

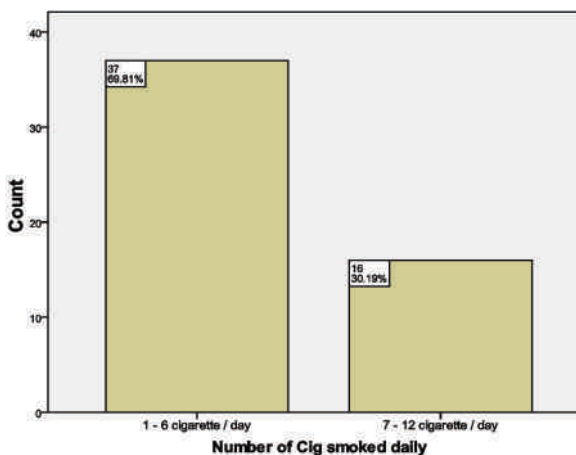
RESULTS



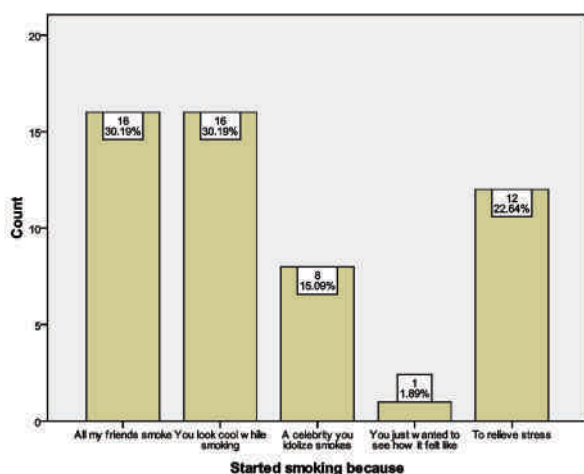
Graph 1: Sex of respondents



Graph 2 : Smoking status



Graph 3 : No. of cigarettes smoked daily



Graph 4: Reason for starting smoking

RESULTS:

Of the 244 participants the age on average was 21.7 years of which 65.6% were males and 34.4% were females of which an overwhelming majority 67.6% had never smoked a cigarette. While 15.2% had smoked for six months or more.

Regarding current smoking status 5.33% of the respondents were classified as regular smokers per WHO criteria (more than 1 cigarette a day) and 16.4% as occasional smokers (less than 1 cigarette a day). Of females only 1.2% was classified as smokers while among males 7.5% were regular smokers and 25% were occasional smokers. Among regular smokers 69.8% smoked 1-6 cigarettes per day where as 30.2% smoked 7-12 cigarettes per day. A similar percentage of smokers started smoking at each of the three education levels under consideration. Friends smoking habit emerged as a main factor in starting of smoking as 30.2% stated that they started smoking because their friends smoke and/or encouraged them to smoke. A similar percentage started smoking to look 'cool' and 22.6% to relieve stress. 2% of the smokers stated that their parents also smoked while 8% had siblings who also smoked.

DISCUSSION:

Health professionals, including future doctors, have a leading role in combating smoking in the community. Thus, it is of great importance to determine their views and attitude toward this problem. The aim of this study was to evaluate the smoking habits, knowledge about smoking and attitudes toward smoking cessation of the medical students of Allama Iqbal Medical College. Our investigation found several important results which are worth to discuss. It presents unique data about this key population for future health promotion in

this country. Our results were consistent with a similar study based in Syria^[21] in the sense that the gender-related pattern in tobacco use was evident, with men more likely to smoke cigarettes as well as water-pipes/sheeshah with 98.8% of the females saying that they have never smoked a cigarette.

Of the respondents an overwhelming majority 78.3% had never smoked even one cigarette while only 5.3% admitted to smoking cigarettes daily. Among these students 69.8% smoked between 1-6 cigarettes daily. Generally, cigarette smoking proportions among our medical students (5.3%) were lower than those reported among medical students of neighboring countries; 29% in Saudi Arabia^[22], 18.5% in Iran^[23] and 14.4% in Pakistani medical students^[25] as per a previous study.

Various cross-sectional investigations have suggested that there is an alarming worldwide trend for smoking rates to increase during students' time at medical schools^[25-27] but our study showed that the students started smoking in school, in college (Fsc.) and in medical college in nearly equal percentages.

The study found that peer pressure and stress were the leading causes of smoking initiation, with 83.1% smokers relating to these two as the main reason. When asked in detail about how the peer pressure encouraged them to smoke the students came up with answers such as that they believed or rather were made to believe that they looked more attractive and felt awkward when everybody in their group was smoking. This was contradictory of how most of the respondents thought about smokers where 46.3% of them listed that male smokers actually looked less attractive while 56.6% thought that female smokers looked less attractive. A high percentage of people also thought that smoking had no effect on the attractiveness of a person.

The residential status of the students seemed to have little impact on smoking behavior with daily smokers' percentages ranging from 4.5% of day scholars to 5.8% of boarders. The proportion of health profession students in AIMC, Lahore that reported they were exposed to Second hand smoke (passive smoking) in public places for the last week was significantly high, ranging from 25.4% who had experienced passive smoking within the last 3 days to 23.4% who said that they had experienced it within the past week. These results were similar to a study conducted in Greece on Tobacco use and exposure to second hand smoke which suggested that 28-50% of the health care professionals were exposed to passive smoking.

Our results are based on a survey in a major medical school in Lahore and are not necessarily representative either of the of the student population of the entire country. The smoking status of subjects

was assessed only by means of self-report, potentially rendering our results less reliable. However, compared with similar studies in university settings, the sample was larger and randomly selected; hence selection bias is unlikely to have occurred. Furthermore, as a cross-sectional survey no causal inference is possible in this study. In our study Occasional smokers were treated as smokers, but they may feature differences as other studies have shown. This study may not be necessarily representative of young adults since a socioeconomic gradient between university students and the general population is anticipated, and higher tobacco use in less privileged and less educated groups has been reported.

CONCLUSION:

Despite good knowledge about the hazards of tobacco consumption, about 5.3% of the medical students in this study continue to smoke daily. The main reported reasons peer pressure among pre-medical college students should be addressed urgently by policy-makers. The students should be instructed in the proper method of counseling a smoker to quit smoking and taught the various modalities available. Also of concern is the increase in water-pipe smoking, hazards of which should also be included in the curriculum and the lack of implementation of present laws, such as the sale of cigarettes near schools etc.

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EFFECT OF DENGUE FEVER ON LIVER ENZYMES PRECIPITATED BY DRUG

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Post Graduate Students

ABSTRACT

Background: Dengue fever has recently emerged as one of the most common acute viral illness in countries of the tropical region. It mostly manifests its effect by targeting primary cells of monocytes and macrophages. Virus has also some effects on hepatocytes. In this case report we are reporting a patient who was diagnosed to have dengue fever developed derangement of liver enzymes which was precipitated by drugs. It emphasizes the justified use of drugs in case of dengue fever.

OBJECTIVE: To see effects of simple medications used in treatment of dengue fever.

Study design: A case report

Duration: A month (from the date of admission to date of follow-up)

Setting of study: A charity setup hospital.

KEYWORDS: dengue, liver, transaminases, hepatocytes.

The incidence of dengue fever has increased dramatically around the world in recent decades^[1]. The actual numbers of dengue cases are underreported and many cases are misclassified. One recent estimate indicates 390 million dengue infections per year (95% credible interval 284–528 million), of which 96 million (67–136 million) manifest clinically (with any severity of disease)^[2]. It has also been reported that the prevalence of dengue, estimates 3.9 billion people, in 128 countries, at risk of infection with dengue viruses^[3].

Dengue spreads by the bite of mosquito *Aedes*, acute febrile illness of viral etiology. Virus belongs to Flaviviridae family. It has spectrum of presentation from simple dengue fever (DF) to more severe forms Dengue Hemorrhagic fever (DHF) and Dengue Shock Syndrome (DSS)^[4]. Symptoms of dengue range from high grade fever, severe headache, retro-orbital pain, severe joint and muscular pain, fatigue, nausea and vomiting. Skin rash, bleeding from nose, mouth or other orifices like symptom come under the complicated dengue fever^[5].

In lab investigations complete blood count shows thrombocytopenia and leucopenia. Involvement of liver is a common manifestation of dengue fever. It ranges from mild derangement of liver enzymes to tender hepatomegaly and fulminant liver failure^[6].

Currently no specific antiviral treatment is available for dengue fever; only supportive treatment consisting of rehydration with fluids and antipyretics such as paracetamol is recommended.

Other non-steroidal anti-inflammatory drugs are contraindicated as these can cause bleeding.⁷

CASE PRESENTATION:

A 21 year Pakistani female (health care worker) presented in a charity setup outdoor of a teaching hospital with history of high grade fever 38.8°C intermittent fever, associated with rigors and chills, myalgias, vomiting and mild retro-orbital pain. There was no complain of bleeding from any site, bruises or petechiae. Vomiting episodes were 2-3 per day, preceded by nausea, copious in amount, containing food particles. There was no hematemesis or malena.

Examination was insignificant except for pallor and high grade fever 38.8 C with tachycardia of 100 to 110 beats per minute. She was started on supportive treatment with intravenous fluids and anti pyretic, ARTEMETHER/LUMEFANTINE was also started as she was from an endemic area of malaria.

Initial investigations showed low platelet count (122 x 10⁹ /l) and total WBC count (4.5 x 10³/l) with normal Differential leukocyte count, Hemoglobin level 11.7 g/dl, AST level 52 U/L ALT level 39 U/L. Her other routine investigations were normal with malarial ICT negative, hepatitis B virus surface antigen negative and anti-Hepatitis C virus antibody negative, Rheumatoid arthritis factor negative, Chest X-ray, urine complete examination was normal.

Day 1 she showed 2 spikes of fever, without any other symptom. Platelet count was decreasing.

Day 2 Same spike of fever noted with active

complains of nausea. Systemic review was insignificant. She was continuously under observation for bleeding due to falling trend of platelets.

Day 3 was unremarkable regarding her clinical picture, except nausea. Platelet count was same.

Day 4 she showed mild itching as well as nausea. There was no obvious jaundice. No spikes of fever noted.

Day 5 there was no vomiting but she was nauseated, anxious with moderate itching. Gastroenterologist was taken on board and her investigations were reviewed. There was up going trend in LFTS as shown in TABLE 2.

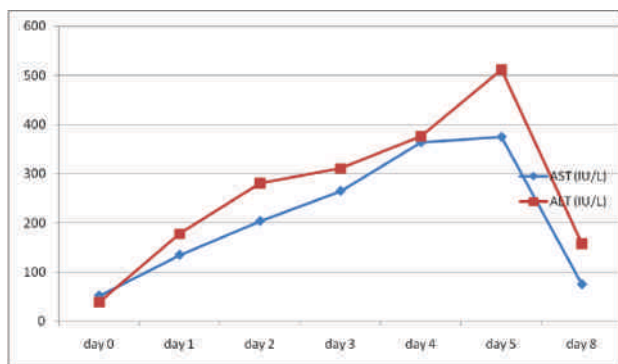


Figure 1: showing up-going trend in Liver enzymes

Her antipyretic (paracetamol) was stopped. Anti-hepatitis A antibody was found to be negative.

ARTEMETHER/LUMEFENTINE was stopped after 3 days of admission. In the light of deranging LFTS she was started on Urodeoxycholic acid and liver tonics by gastroenterologist.

On day 8 her labs were repeated which showed the following result, Hb 11.3 g/dl, Platelet count 265×10^9 , TLC 8×10^3 , with LFTs Bilirubin total 0.7, ALT 150, AST 75, Alkaline phosphatase 160 and Gamma GT 60. She was discharged from hospital on

Table 1: Showing variation in platelet count with days

Parameter	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Hemoglobin (g/dl)	11.7	10.0	9.7	10.2	10.6	10.3
MCV	73	71	71	72	72	72
MCH	24	24	25	24	24	24
MCHC	33	34	34	33	34	34
PCV	35	28	28	31	31	31
Platelet count ($10^9/l$)	122	117	117	117	144	131
WBC ($10^3/l$)	4.5	3.7	4.2	4.4	4.8	4.1

the same day.

She was feeling completely fine by day 9, with further observation on her LFTS. After 5 days her labs investigations were repeated normal TLC and all other parameters.

Table 2: Showing variation in Liver function tests with days

Parameter	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 8
Bilirubin Total	0.8	0.6	0.5	0.6	0.7	1.4	0.7
ALT	39	135	204	265	364	375	158
AST	52	178	261	311	376	512	75
Alkaline Phosphatase	138	130	159	168	177	185	160
Gamma GT	16	28	65	70	85	97	68

Patient was also contacted after 2 weeks of discharge. She had no complaints at that time.

DISCUSSIONS:

As seen from the case above young female presented with symptoms of dengue fever with normal liver enzymes while her complete blood count showed all the changes observed in a dengue patient. It was decided to treat her symptomatically while monitoring her platelet count. Patient was getting stable with treatment except nausea while her laboratory results showed derangement of LFTs.

As Table 2 shows the up-going trends in LFTS from ALT 39 IU/L, AST 52 IU/L on day 0 to ALT 375 IU/L, AST 512 IU/L on day 5. It shows on going liver damage from dengue infection as dengue affects hepatocytes, precipitated by drug use, mainly paracetamol in this case.

Previous studies from the world have shown various forms of involvement of liver by dengue virus. There is possible association between increased transaminase levels with increasing disease severity of dengue. In one study AST level increased from 93.3 IU/L to 174IU/L and ALT from 39 IU/L to 88.6 IU/L^[8].

Another study showed abnormal hepatic enzymes in dengue infection the range varies from 36.4%-96% both in children and adults. Observed elevated ALT in 69.4% of DF, 84.6% of DHF and 92% of DSS, and raised AST in 88% of DF, 100% of DHF and 96% of DSS group^[9].

Study held on effects of dengue on liver reported that approximately 90% of the patients in that study had abnormal AST levels, while abnormal levels of ALT were found in 80%^[10].

A study held in Brazil showed derangement in liver enzymes in patient previously having normal aminotransferases level. There was 30 fold increases

in liver enzyme levels^[11].

In the above case patient had normal AST and ALT levels initially but as the disease progressed, deterioration of liver enzymes occurred, almost 10 fold increase in liver enzymes during 1st week of disease. It was caused by dengue infection but superadded by the use of paracetamol.

Involvement of liver in dengue infection is still poorly understood. Potential insults including direct effects of the virus or host immune response on liver cells, circulatory compromise and/or hypoxia caused by hypotension or localized vascular leakage inside the liver capsule, hepatotoxic effects of drugs such as acetaminophen or traditional herbal remedies can precipitate more damage

CONCLUSION:

This emphasizes the importance of having a multi-disciplinary approach. Dengue fever can manifest itself from asymptomatic elevated transaminase levels to acute hepatic failure. This variability is a big challenge to the clinicians. Management is supportive and the outcome is usually good. Care must be taken regarding the diagnosis and use of drugs which may worsen liver damage.

CONSENT: Patient was informed about the writing purpose of this report and a written consent was taken while her identity was kept secret.

COMPETING INTERESTS: The authors declare no competition interests.

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COMPLICATIONS OF LAPAROSCOPIC CHOLECYSTECTOMY FOR SYMPTOMATIC GALL STONE DISEASE

Liaqat Ali Deokah, Fakhar-uz-Zaman, Saad Ullah Malik

ABSTRACT

Back ground: The gall stone disease is the most common surgical problem and is being managed by an elective procedure. To minimize the complications of Laparoscopic cholecystectomy, a Laparoscopic Surgeon needs a lot of training, Experience and moreover the supervision of senior Laparoscopic Surgeons.

Objective of Study: This study was conducted to assess the complications of Laparoscopic Cholecystectomy for symptomatic gall stone disease.

Place: Surgical Department of Avicenna Medical College / Hospital Lahore.

Duration: This study was conducted from January 2015 To March 2017.

Patients and methods: 100 patients with Symptomatic gall stone disease were included in this study. 90 patients were Female and 10 were Male. The age ranged from 19 years to 63 years with mean age 47 years. The patients were assessed pre-operatively and post-Operatively followed at 01wk, 2wks, 4thwks, and 8thwks for complications.

Results: There was no mortality in our study. The overall incidence of complications was 12%.

Conclusion: Laparoscopic cholecystectomy becomes safe with training, Experience and super vision of the Laparoscopic Surgeon.

Keywords: laparoscopic cholecystectomy, complications.

Laparoscopic cholecystectomy is most frequent procedure performed in General Surgery. It is considered gold standard approach to the management of gall stone disease. But still carries risk of some operative incidents and post-operative complications most frequent than open cholecystectomy. Laparoscopic cholecystectomy was first performed in 1989 in Pakistan. The operation usually requires General Anesthesia. It is commonest operation performed Laparoscopically.

The important complications following Laparoscopic Cholecystectomy included Bleeding, Bile duct injuries, retained stone in common Bile duct and Bowel injuries. These complications are mainly related to the experience of Surgeon in Laparoscopic Surgery.

The patients having previous upper Abdominal Laparoscopic Cholecystectomy reduces hospitalization and promotes earlier recovery and return to normal activity. Several studies have been done to evaluate the complications related to Laparoscopic cholecystectomy.

The aim of this study was to determine the complications of Laparoscopic cholecystectomy.

PATIENTS AND METHODS

This study was conducted in the department of general surgery Avicenna Medical College / Hospital Lahore from January 2015 To March 2017. 100 patients were included in this study. 90 were Female and 10 were Male. All 100 patients under-

went Elective Laparoscopic Cholecystectomy for symptomatic gall stone disease.

All patients were discharged on next day except 3, patients who were converted to open Surgery, Dilated common Bile duct, Jaundice, Hepatitis B and C patients Immuno Suppressed patients, Bleeding disorders patients were excluded from this study. The patients were admitted one day before surgery for pre-operative work up.

Blood complete picture, Blood Sugar level, Liver Function Tests (LFT), Renal Function Test (RFT), Blood for Anti HCV and Hbs AG, US Abdomen were done before the Surgery. ECG and X-Ray chest were done in patients having age above 40 years. The Anesthetist also done the pre-Anesthesia assessment. Informed consents were taken. Counseling about the procedure, complications and Conversion to the open cholecystectomy were done.

Standard 4-port approach was used In majority of cases. Nasogastric tube was passed to empty the stomach. The Cystic duct and artery were identified at Calots' triangle and clamped separately. Dissection of gall Bladder was performed by using diathermy, and removed through Umbilical port. Drain was placed in selected cases when irrigation and suction were required for bleeding and Bile leakage from gall Bladder perforation.

Drain was kept for 24 hours of procedure in most of cases. Any complication during operation

and post-operatively was recorded. Most of the patients were discharged next day.

Follow up examination was performed at 01WK, 2Wks, 4th Wks and 8th Wks. In follow up, Blood CP, LFT, RFT and US Abdomen (if required) were done.

RESULTS

100 Patients were included in this study Female were 90 and male were 10. The Raton was 9.1 (table-1). The age ranged from 21 year to 60 years. The mean age was 47 years. The peak incidence seen in 4th and 5th decade of life (table-2).

cholecystectomy. There was no mortality in this study. 3 patients were converted to open cholecystectomy because there was uncontrollable Bleeding from the cystic Artery. 4, patients developed wound infection of port site which was managed by antiseptic dressings. Umbilical stitch sinus was seen in 2, patients who were managed with opening up the wound, removing the stich and appropriate antibiotic (table-3). In 3, patients there was leakage of Bile per operatively which sucked up and peritoneal cavity was washed with saline (table-4). The overall incidence of complications was 12%. However there was no major complication like Bile duct injury, Bile duct stricture or any visceral injury.

DISCUSSION

Laparoscopic Cholecystectomy was introduced in 1987 in Pakistan. Open Cholecystectomy has been reduced. Laparoscopic Cholecystectomy is gold standard for the management of Symptomatic gall Bladder stone disease due to less pain, minimal Surgical trauma, short post-operative Hospital stay and early return to home. During the initial phase of this procedure, the rate of complications of Laparoscopic cholecystectomy was much high due to limited experience of surgeon and limitation of Technology.

Common complications are iatrogenic visceral injuries including common Bile duct injuries, Bleeding, conversion to open cholecystectomy and infection of port site.

In this study of 100 patients who underwent Laparoscopic Cholecystectomy, the major complications were seen in 6, patients. We converted 3, patients to open cholecystectomy because of uncontrolled Bleeding from the cystic Artery. We had leakage of Bile from the gall Bladder as result of diathermy hook penetration. In 3, patients while dissecting gall Bladder from its bed. This was managed by applying a clip to the puncture site and

sucking up the Bile followed by irrigation of the area.

Bile duct injury is the most feared complication related to Laparoscopic Cholecystectomy. In our study, we had no bile duct injury however it is utmost

Table 1: Sex distribution (n=100).

Sex	No. of patients	Percentage
Female	90	90%
Male	10	10%

Table 2: Age distribution (n=100).

Age	No. of patients	Percentage
21-40	16	16%
41-50	60	60%
51-60	24	24%

Table 3: Postoperative complications (n=100).

Complications	Patients	Percentage
Wound Infection	4	4%
Conversion to open Cholecystectomy	3	3%
Missed Stone	0	0%
Port Site Hernia	0	0%
Incisional Hernia	0	0%
Pleural Effusion with Pneumonia	0	0%
Bile Duct Injury & Jaundice	0	0%
Bile Collection & Jaundice	0	0%
Sinus Formation	2	2%
Shoulder Tip Pain	0	0%
Persistent Wound Pain	0	0%

Table 4: Per operative complications (n=100).

Complications	Patients	Percentage
Trocar Induced Vessel injury	0	0%
Spilled Stone	0	0%
Bile Duct Injury	0	0%
Common Hepatic Duct Injury	0	0%
Gall Bladder Perforation	3	3%
CBD Clipping	0	0%
Dislodgement of clips	0	0%

importance that Bile duct injuries should be recognized at the time of surgery and repaired accordingly.

Various studies showed that surgeon who performed procedure without additional training have more complications compared with Surgeon who sought additional training.

Moreover in case of difficulties during the Laparoscopic Cholecystectomy procedure, decision for conversion to open cholecystectomy should be taken early to reduce the complications of Laparoscopic Cholecystectomy.

CONCLUSION

Laparoscopic Cholecystectomy is a preferred choice of management in patients with symptomatic gall Bladder stone disease.

Conversion of Laparoscopic Cholecystectomy to open Cholecystectomy, inter-operative Bleeding, common Bile duct and visceral injuries are major complications. Complications rate is high during early phase of learning of Laparoscopic Surgeon. This can be reduced by proper training of Laparoscopic surgeon by experienced Laparoscopic Surgeons.

Sound Surgical Judgment and training skill of the operating Laparoscopic Surgeon greatly influence the incidence of complications of the Laparoscopic Cholecystectomy.

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EXPERIENCE OF MULTI DRUG RESISTANT TB (MDR-TB) AT PMDT SITE IN TERTIARY CARE TEACHING HOSPITAL (AIMC/JHL)

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ABSTRACT

Multidrug-resistant tuberculosis (MDR-TB) is defined as TB caused by organisms that are resistant to Isoniazid and Rifampicin (two first-line anti-TB drugs)¹. Drug-resistant TB (DR TB) is spread the same way that drug-susceptible TB is spread. TB is spread through the air from one person to another. The TB bacteria are put into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks, or sings. People nearby may breathe in these bacteria and become infected.² There are two ways that people get drug resistant TB. Firstly, people get acquired drug resistant TB when their TB treatment is inadequate. This can be for a number of reasons, including the fact that patients fail to keep to proper TB treatment regimes, the wrong TB drugs are prescribed, or sub standard TB drugs are used for treatment. Secondly, transmitted or primary drug resistant TB, results from the direct transmission of drug resistant TB from one person to another.³ Globally, an estimated 3.3% of new TB cases and 20% of previously treated cases have MDR-TB, a level that has changed little in recent years⁴. Pakistan currently ranks fifth amongst countries with highest burden of Tuberculosis alongside the fourth highest burden of Drug Resistant TB globally⁵. WHO, in collaboration with National Tuberculosis program started the MDR-TB Project in Pakistan in 2009. Currently there are 30 PMDT Sites in Pakistan, of which 12 are in Punjab. PMDT Site Jinnah Hospital Lahore started functioning in August 2013.

Key Words: MDR-TB –Multi Drug Resistant Tuberculosis, XDR-TB-Extensively Drug Resistant Tuberculosis, PMDT-Programmatic Management of Drug Resistant Tuberculosis, DOTS-Directly Observed Treatment Short Course, NTP-National TB Program, PTP-Provincial TB Program, NGO-Non Government organizations, ASD-Association for Social development, ACD-Association for community development, IHK-Indus hospital Karachi

In November 2012, MOU was signed between National & Provincial TB Control Programs, AIMC/Jinnah Hospital Lahore and Association for Social Development for the establishment of PMDT (Programmatic Management of Drug Resistant TB) Site at Jinnah Hospital Lahore. Hiring of staff was done in March 2013. A total of 8 staff members were hired which included DR-TB Physician, Pharmacist, Psychologist, Treatment Coordinator, DOTS Facilitator for Case Management, DOTS Facilitator for Social Support, Laboratory attendant and Data Assistant. Six days training for treatment site doctors and three days training for treatment site paramedics were done from 19 to 24 August 2013.

Patients were referred from Jinnah Hospital Lahore TB DOTS Unit, Pulmonology department JHL, other departments (including medicine, surgery, and pediatrics), allocated districts (Lahore, Sheikhpura, Okara, Sahiwal) and other PMDT Sites. Diagnosis was done by Gene Xpert and Drug Susceptibility Testing. Gene Xpert machine is installed at AIMC Pathology Laboratory. All patients who had been previously treated for TB and contacts of MDR patients, along with other risk

groups, were tested through Gene Xpert. The Xpert MTB/RIF is a cartridge based nucleic acid amplification test, automated diagnostic test that can identify Mycobacterium tuberculosis (MTB) DNA and resistance to Rifampicin (RIF) by nucleic acid amplification test (NAAT)⁶. Samples for DST were sent to National Reference Laboratory Islamabad. Management was done according to National Guidelines for Programmatic Management of Drug Resistant TB. Patients were treated on ambulatory basis. Treatment supporters observed daily DOT.

Monthly follow up was done. Monthly sputum samples were sent to AIMC Pathology Lab for smear microscopy and to Institute of Public Health Lahore for Culture. The remaining tests were done from AIMC Lab and Jinnah Hospital OPD Laboratory. Audiometry was done at PMDT Site.

Duration of treatment is at least 20 months for MDR-TB and 24 months for XDR-TB. Second line drugs were used for treatment free of charge. The source of these drugs was Green Light Committee. In addition, patients were given travel allowance and Food Baskets monthly from Utility Stores.

Generally, side effects are more serious in

second-line treatment compared to first-line treatment. Some of the most common side effects of treatment for drug-resistant TB include hearing loss, depression or psychosis, and kidney impairment.⁷

For detection, assessment and management of these side effects strict pharmacovigilance was practiced. If a patient required admission, he was admitted in the DR-TB Bay of Pulmonology Department JHL.

RESULTS:

The first DR-TB patient was enrolled on 28 August 2013. Out of total 257 patients, 137 patients are males and 115 are females. Five patients are below 15 years of age. (Figure 1)

Overall 244 patients have pulmonary disease and 5 have extra pulmonary disease. (Figure 2)

There are 03 patients with Mono Resistance TB, 173 patients with MDR-TB, 10 patients with XDR-TB. In remaining 73 patients, DST is still awaited but they have Rifampicin resistance detected through Gene Xpert.(Figure 3)

Total patients registered till 12-06-2016 are 257. Out of these, 46 have been declared cured, 02 have been declared Treatment Complete, 41 have died, 12 have been declared Lost to follow up (default), 5 have been declared Treatment Failed and 10 patients have been transferred out to other PMDT Sites. The remaining patients are still under treatment.(Figure 4)

Globally the treatment success rate is 48%. India and China have success rate 50%.Myanmar has success rate of 71% while Pakistan has treatment success rate of 70%.⁸

The treatment success rate of PMDT Site Jinnah Hospital Lahore is 68% for 2013 cohort. The figures are encouraging and will improve in the next cohort data.

Following issues were faced:

1. Treatment adherence
 - a. Prolonged duration of treatment
 - b. Number of tablets (12-18)
 - c. Injections therapy for prolonged period (at least 8 months)
 - d. Side effects of SLDs including ototoxicity and GI effects.
2. Missed follow ups due to far flung areas.
3. Sample leakage and contamination during transportation (through courier).

This program in Pakistan is running successfully at 30 PMDT Sites with collaboration of NTP, PTP, NGOs (ASD, ACD, and IHK). Overall outcome is encouraging but still there is a large number of patients in community with MDR-TB

who need to be diagnosed and treated. Awareness about MDR-TB among doctors, paramedics and other healthcare workers is most important factor to achieve the goals set by WHO. We recommend all the suspected patients should be referred to nearest PMDT Site for free and appropriate diagnosis and treatment.

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- 2 <http://www.cdc.gov/tb/topic/drtb/>
- 3 <http://www.tbfacts.org/drug-resistant-tb/>
- 4&5 WHO/Global Tuberculosis Report 2015
- 6 https://en.wikipedia.org/wiki/GeneXpert_MTB/RIF
- 7 <http://www.tballiance.org/why-new-tb-drugs/>

Figure 1
Breakup as per Gender and age

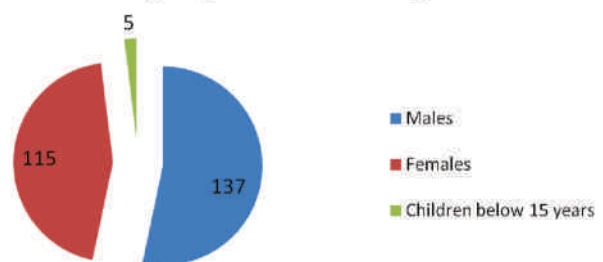


Figure 2
Breakup according to site of Disease

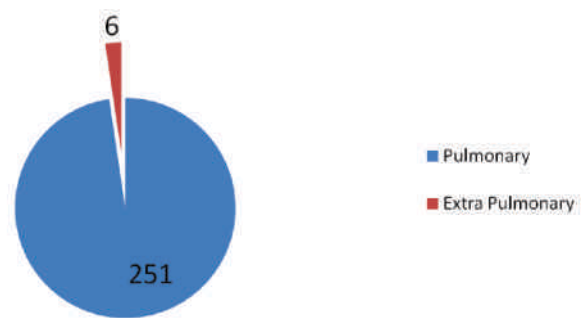


Figure 3
Breakup according to type of Resistance

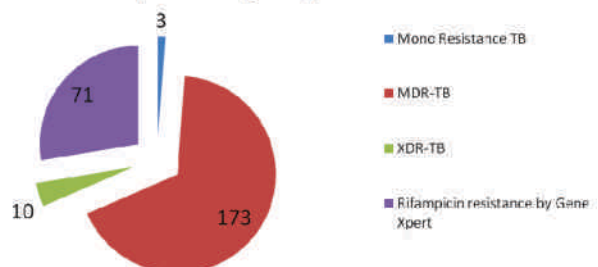
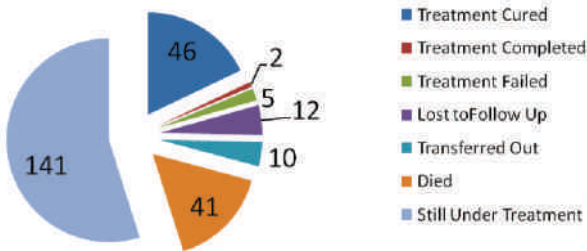


Figure 4
Outcomes



8 inadequate-treatment
http://www.who.int/tb/publications/global_report/gtbr14_supplement_web_v3.pdf

MANAGEMENT OF CHRONIC ANAL FISSURE WITH LATERAL INTERNAL SPHINCTEROTOMY

Liaqat Ali Deokah, Fakhar-uz-Zaman, Neelama Asghar

ABSTRACT

Objective: To evaluate the efficacy of lateral Internal Sphincterotomy for the treatment of chronic Anal Fissure

Design: This study is prospective,

Place: Department of General Surgery of Avicenna Medical College / Teaching Hospital Lahore.

Period: From December 2010 To January 2017.

Patients and Methods: This study included 331 patients (250 males and 81 were Female). The site of Fissure-in-Ano was posterior midline in 299 patients. Anterior midline Fissure was in 32 patients.

Results: All the patients after having the lateral Internal Sphincterotomy were discharged after 48 hours with regular follow up. Three (3) patients were readmitted on the 3rd postoperative day because of bleeding per Rectum. Healing of Fissure-in-Ano occurred in almost all the patients. 7 patients had transient anal incontinence which disappeared after 14 weeks of surgical procedure.

Conclusion: Lateral internal Sphincterotomy is superior and effective surgical procedure for the treatment of chronic Anal Fissure.

Key words: chronic anal fissure, lateral internal sphincterotomy.

Chronic Anal Fissure is a common surgical problem characterized by pain on defecation and Rectal bleeding. Chronic Anal Fissure is an elongated ulcer in the long axis of lower Anal Canal. Fissures are often precipitated by an episode of constipation. Most commonly Anal Fissure occurs in mid line posteriorly.

The main stay of surgical treatment of chronic Anal Fissure is Lateral Internal Sphincterotomy. With this procedure maximum relief of symptoms is achieved and Recurrence rate is very much low. Lateral internal Sphincterotomy has replaced other methods of treatment of chronic Anal Fissure. Lateral Internal Sphincterotomy alleviates the sphincter Hypertonia and improves Blood flow to unhealed area and in doing so aids the healing of Anal Fissure.

The present five years study of 331 patients was aimed to assess results and complications of lateral Internal Sphincterotomy.

PATIENTS AND METHOD

This study was done at surgical Department of Avicenna Medical College / Teaching Hospital Lahore. It was done from December 2010 to January 2017. The study included 331 patients. 250 patients were male and 81 patients were Female. Fissure was chronic and site of Fissure was posterior midline in 299 patients. Anterior midline Fissure was in 32 Patients.

The diagnosis of Anal Fissure was made in the

presence of

- a. Visible Anal Fissure and
- b. Painful defecation with or without Rectal bleeding on defecation.

Chronicity was determined by a history longer than 3 months, and the presence of sentinel pile at the base of the ulcer on examination.

Surgical treatment of the all the patients of chronic Anal Fissure was done by lateral Internal Sphincterotomy under General / Spinal Anesthesia and the patients in the lithotomy position, a small incision is given at the muco cutaneous junction and Internal sphincter is felt by finger.

Dissection is carried out both medially and laterally. Lower 1/3rd to half of the sphincter is incised with Surgical Blade. A dimple is felt at the site of Sphincterotomy. Excision of sentinel pile was also done.

During the postoperative period Hospital stay and follow up visits, relief of pain, time of healing of ulcer and complications like incontinence were recorded and assessed.

RESULTS

Out of 331 patients 250 were male and 81 patients were Female. The site of Fissure was posterior midline in 299 patients, anterior midline in 32 patients.

These patients were treated by lateral Internal Sphincterotomy. All these patients were discharged after 48 hours with regular follow up, 1, 2, 4, 8, 20

weeks.

3 patients were re-admitted on the 3rd postoperative day due to Bleeding per Rectum. Almost all the patients had complete relief of pain after this surgical procedure. 5, Female patients had some pain for 3 weeks. In 326 patients Healing of Fissure occurred in 10 weeks. 5 patients had healing problems of Fissure, but latter on Fissure also healed in these patients. 7 patients had minor Anal incontinence which was transient and disappeared in the 14th weeks.

DISCUSSION

Anal Fissure is an elongated ulcer in the long axis of lower Anal Canal. Anal Fissure can be Acute or Chronic. It can be specific or non-specific. The Anal Fissure is slightly more common in the Female. It is usually present in the young age group. It results in morbidity and constant agony. Most of the time, the Anal Fissure is present in the midline posteriorly, occasionally it is present midline anteriorly. Chronic Anal Fissure is a tear with inflamed and indurated margins and is present over a long period. Chronic Anal Fissure is usually associated with sentinel tag and Hypertrophic Anal papilla.

Conservative treatment has very little role to heal the Chronic Anal Fissure. Exact cause of Fissure is not known. Why it is more common posteriorly?, it is possible Rectum and Anal Canal are un-supported posteriorly.

When the patient strains during defecation, a tear appears in the midline posteriorly. Constipation is always a pre-disposing factor in the causation of Anal Fissure. Tight Anal sphincter and Anal stenosis

following Haemorrhoidectomy or after any procedure on the Anal Canal also cause the formation of Fissure-in-Ano. Anal Fissure can be secondary to trauma, ulcerative Colitis, Crohns' disease, Tuberculosis, Syphilis and leukemia. Anal Fissure usually presents severe and agonizing pain during and after defecation. The pain is so severe that the patients try to stop defecation and get constipated. The thought of pain also depresses the urge to defecate and patient gets constipated more and more. The reflex spasm of the Anal sphincter and constipation make Anal Fissure even more painful. Other symptoms are bleeding per Rectum and Anal discharge/irritability. History is very suggestive of the disease. Clinical examination is confirmatory of the diagnosis. Inspection of the perineum should be performed first. The Fissure is clearly visible. The sentinel pile may also be present guarding the Fissure. Digital Rectal Examination should never be performed without proper Anesthesia. Once the Anal Fissure is treated surgically, the tissue should be sent for histological examination to find out the cause of Fissure. Acute Anal Fissures are mostly treated conservatively. Chronic Anal Fissure has poor response to the Conservative treatment. The most common surgical procedures performed for Chronic Anal Fissure are Lord's Procedure, Fissurectomy, Doral Sphincterotomy, Lateral Internal Sphincterotomy and Anoplasty. Lateral internal Sphincterotomy is the most common surgical procedure which is performed for Chronic Anal Fissure. The procedure is to divide the lower 1/3 to half of the internal sphincter, thus reducing the internal sphincter spasm and increases the Anodermal blood flow. The Anal Fissure may also be excised and sent for histo pathology to detect the cause of Fissure. Its results are effective. Some degree of Anal incontinence is associated with this procedure which is usually transient. By this procedure maximum symptoms of Chronic Anal Fissure were relieved and had excellent healing of Fissure. Post-operative complications were minor and were present in very few patients.

CONCLUSION

Lateral Internal Sphincterotomy represents an excellent procedure for the treatment of Chronic Anal Fissure. Lateral Internal Sphincterotomy is predominately superior procedure for the treatment of Chronic Anal Fissure with less Complications. It leads to excellent healing of Fissure.

It is concluded by this study that lateral Internal Sphincterotomy is safe and superior and reliable surgical treatment of Chronic Anal Fissure.

Table 1: Sex Distribution (n=331).

Sex	No. of patients	%age
Female	81	25%
Male	250	75%

Table 2: Site of Chronic Anal Fissure

Site	No. of patients	%age
Posterior Midline	299	90%
Anterior Midline	32	10%

Table 3: Complications of Lateral Internal Sphincterotomy

Site	No. of patients	%age
Bleeding per Rectum	3	0.91%
Pain at the Site of Operation	5	1.51%
Anal Incontinence (Transient)	7	2.1%

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MANAGEMENT OF PILONIDAL SINUS—COMPARISON OF SURGICAL PROCEDURES

Liaqat Ali Deokah, Fakhar-uz-Zaman, Muhammad Ahmad

ABSTRACT

Objective: To study the pilonidal sinus disease and compare the results of wide excision and leaving the wound open and wide excision with primary closure.

Design. Prospective study.

Place. Surgical Department of District Headquarter Mian Munshi Teaching Hospital Lahore.

Duration: From December 2009 to November 2014.

Patients and Methods: 36 patients of pilonidal sinus disease were included in this study. Two groups were made. Group A had wide excision with primary closure and group B underwent wide excision and leaving the wound open.

Results: Group A patients have less Hospital stay early return to job, less cost of treatment and low post-operative complications with higher patient's satisfaction. Conclusion: wide excision with primary closure is much more superior procedure for the treatment of pilonidal sinus as compared to heading by second degree. Key words: Pilonidal sinus. Excision and primary closure, Excision Lay open procedure.

Pilonidal sinus is a condition which occurs in the Natal cleft of young males especially drivers and is characterized by multiple sub cutaneous sinuses, Abscess cavities containing hair. The disease is also called jeep driver disease. It is blind ended tracklined by granulation tissue usually containing hair.

Pilonidal sinus is commonly situated in the skin of natal cleft, a short distance behind the Anus. Exact cause is not clear. A Pilonidal sinus fistula is extremely uncommon and a rare complication of pilonidal sinus. Pilonidal sinus may also present as a tiny pit in the Natal cleft. Obesity, Hairy skin, sedentary job, Family history are risk factors for the disease.

The patients may present with the symptoms of acute episode or with chronic discharging sinus. Methylene blue injection and MRI scan are day of operation before the surgery.

greatly helpful to determine the extent of the disease.

Variable modalities of treatment of this disease are present but usual adopted procedures are excision with primary closure and wide excision and leaving the wound open.

Recurrence rate of the disease is very much high.

PATIENTS AND METHODS

This study was conducted in surgical unit of District Headquarters Mian Munshi Teaching Hospital Lahore. DHQ Main Munshi Hospital is a tertiary care Hospital affiliated with King Edward University Lahore. The study included 36 patients of

pilonidal sinus. The study was carried out from December 2009 to November 2014. All patients were admitted through surgical outpatient department.

The patients of pilonidal sinus disease were diagnosed on History and complete clinical examination.⁶ patients having recurrent pilonidal sinus disease were not included in the study. All patients were given I/V antibiotics and had sharing of area of operation on the

The patients were divided into two groups. In each group procedures were performed under general Anaesthesia in jack-knife posture. Sacrococcygeal region was painted with pyodine solution / Spirit before draping. Methylene Blue was injected into the sinuses. An elliptical incision was made around the sinuses. Excision of tracks with tufts of hair and debris was done. Haemostasis secured. The wound was washed with normal saline. For the further surgical management of the pilonidal disease, two different procedures were adopted.

Group –A After excision of the pilonidal sinus by an elliptical incision in 18 patients, the wound was closed in layers with keeping a drain in wound of every patient. Injection Novidate 500 mg i/v bid, injection flagyl 400 mg i/v 08 hourly and injection Tramol 30 mg i/v bid were given. In majority of patients, the drains from the wounds were removed on the 3rd post-operative day. The patients were discharge on the 5th post-operative day. They were advised for follow up in outdoor department. On 14th post-operative day stitches were removed.

Group-B In this group of 18 patients the wounds

were left open after the wide excision of pilonidal sinus. The wounds were packed with pyodine soaked gauze and pressure dressing was applied to the wound of each patient. The patients were discharged on 10th post-operative day. They all were advised to have daily dressing in surgical minor OT.

Both groups were assessed /analyzed in view of recovery duration, complications, return to job, hospital stay. The Recurrence rate was also recorded in the both groups separately.

RESULTS

This study included 36 Patients of pilonidal sinus disease which were admitted in the surgical ward of DHQ Main Munshi Teaching Hospital Lahore. 6 patients of Recurrent pilonidal sinus disease were not included in this study. All patients were male (table-1). Most of the patients were drivers. The age group was 15-30 years. Majority patients were fatty and hairy. The site of the pilonidal sinus disease was sacrococcygeal region (table-2).

The major complications noted in both groups were wound infection, pain at the site of operation and Recurrence (table-3). The relative rate of complications was higher in group-B patients as compared to group-A patients.

This study showed less hospital stay, less cost of treatment, early return to job / duty in group-A patients Moreover the treatment satisfaction was very much high in group-A patients.

DISCUSSION

Pilonidal sinus disease is a condition which occurs in the natal cleft of young males and is characterized by multiple sub cutaneous sinuses and Abscess cavities containing hair.

It is a blind track lined with granulation tissue commonly containing hair. Pilonidal sinus originates from the Latin word “Pillu's”forhair, Nidu's for nest, sinus for connection to the skin-meaning, host of hair connected to skin. It is also called jeep seat disease. It is generally regarded as a acquired disease although it may be congenital.

The most common site is in the post Natal region. Pilonidal sinus may be found in the axilla, the groin, the inter digital webs and on the feet and occipit.

Very rarely, the pilonidal sinus may communicate with the Anal canal forming a pilonidal Fistula-in-Ano. The cause is un-clear.

Usual sufferers are young adults or even teenage. It is rare in children and people over 40 years of age. It is more common in Fatty and Hairy men than women.

Due to vibration and Friction the Hair shed and accumulate in the gluteal cleft and enter in the openings of sweat glands. They act as a foreign body causing an inflammatory reaction.

This prolonged Inflammation leads to pilonidal disease, Over a time Chronic Abscess is formed and

Table 1: Sex Distribution (n=36)

Sex	No. of patients	Percentage
Female	0	0%
Male	36	36%

Table 2: Type, site and duration of presentation.

Type	N	%age	Site		
			SCR	IDC	UB
Acute Pilonidal disease	06	17%	06	00	00
Chronic Pilonidal disease	30	83%	30	00	00
Total	36	100%	36(100%)	0(0%)	0(0%)

N=No. Of patients, SCR = Sacrococcygeal region, IDC =Interdigital clefts, UB = Umbilicus

Table 3: Comparison of postoperative complications

Complications	Group-A (n=20)	Group-B (n=20)
Wound infection / disruption	03 (15%)	8 (40%)
Persistent pain / itching	03(20%)	7 (35)
Recurrence	01(15%)	2 (10%)
Patient satisfaction	16 (90%)	9 (45%)

N for total number of patients in a group.

when this Abscess is drained by any measure, it leads to formation of sinus

Pilonidal sinus disease presents in three forms a, Acute Abscess, b, Chronic discharging sinus, c unhealed midline wound.

Symptoms usually are swelling in the natal cleft, painful natal cleft, redness of the skin of natal cleft and fever in acute episode. These symptoms become less in between the episodes of infection but never disappear completely without treatment.

MRI scan is extremely useful investigation in the management of pilonidal sinus. The patients with minor symptoms are managed by simple cleaning the tract and removal of all hair with regular shaving of the area. Strict hygiene, appropriate antibiotics and adequate analgesics

Pilonidal sinus after removal of its etiological are given regularly. Shaving is also advised to the patients. In case of Acute abscess then it should be drained with thorough curettage of granulation tissue and hair under antibiotic cover.

Chronic pilonidal disease is treated by wide excision with primary closure.

If the wound is large after excision, then it can be left open to allow healing by secondary intention.

Midline incision is avoided by kaydate's techniques and Bascom techniques to avoid poor healing.

CONCLUSION

Wide Excision with primary closure for pilonidal sinus disease is a highly superior procedure than wide Excision and healing by second degree.

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RELUCTANCE OF DOCTORS TO WORK IN VILLAGES

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ABSTRACT

Background: Reluctance of doctors to work in villages is the unwillingness for staying and serving the people in rural areas with health facilities. This psycho-social problem hits 90% of our villages thus depriving most of our population in rural areas of basic medical and health facilities.

Aim: To determine the association between various psycho-social factors and reluctance of doctors for working in villages.

Design: Population based Case-control study.

Place & Duration: Urban Lahore and surrounding rural areas from May 2010-June 2010.

Methods: Selection of 50 cases and 50 controls was made on laid down criteria from male and female doctors living in Lahore urban and surrounding rural areas through convenient sampling after taking due consent, interviews were conducted through a pretested questionnaire formatted by a 9 member team of group 7, 4th year MBBS students of King Edward Medical University, Lahore headed by Miss Arsala Rashid under direct supervision of Department of Community Medicine, KEMU. Data was collected, compiled and analyzed through SPSS version 13.

Results: Reluctance of doctors to work in villages was found more in females (62%), in the age group 21-25 years (44%). In bivariate analysis, reluctance of doctors to work in villages was found significantly associated with cut off from modern life, lack of schooling, lack of recreational places, lack of electricity and lack of communication. However, after multivariate analysis and controlling all other listed risk factors reluctance of doctors to work in villages was found more related with broken families, depression financial stress, type A personality, away from relatives, lack of recreational places, lack of sui gas, no exposure to rural life, cut off from modern life.

Conclusion: Reluctance of doctors to work in villages was found significantly associated with cut off from modern life, no exposure to rural life, lack of recreational places, type A personality and lack of sui gas.

Keywords: Reluctance, rural, doctors, psychological factors, urban, community.

Reluctance of doctors for working in villages refers to the hesitation in going to the rural areas and serving the people living there. This problem hits almost every village of the country. Consequently, the people living in such areas lack in all basic life facilities especially the health facilities. If this problem is not checked the difference of health care facilities between the developed and under developed areas would be greatly enhanced and people of the rural areas would remain underprivileged in medical facilities.

In the previous studies the causes were: depression¹, dusty environment², emotional stress³, financial stress⁴, joint family system⁵, lack of incentives⁶, peer pressure⁷, poor sanitation⁸, sedentary life style⁹, sense of insecurity¹⁰, away from relatives¹¹, criminal environment¹², family problems¹³, lack of electri-

city¹⁴, lack of recreational places¹⁵, lack of schooling¹⁶, lack of shopping malls¹⁷, lack of sui gas¹⁸, quackery¹⁹, lack of communication²⁰, loneliness²¹, located away from residential areas²², no chance of private practice²³, no exposure to rural life²⁴, spouse job²⁵, cut off from modern life style²⁶ were found associated with the reluctance for working in villages.

Reluctance of doctors for working in villages is emerging as a major health issue in urban communities. Little work has been done on the association of various psycho-social factors with reluctance of doctors for working in villages in our societies and in different cultural environment. So, there is dire need to conduct this study to identify various psycho-social factors associated with reluctance of doctors for working in villages to find out the distribution of

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the demographic factors associated with it in the community in various human strata, to compare the results with the already conducted studies, to make suggestions to solve the problem of reluctance of doctors for working in villages and to render community aware of the prevention for the reluctance of doctors for working in villages in order to improve the health status of the community.

SUBJECTS & METHODS

A case-control study was conducted to identify various psycho-social factors associated with reluctance of doctors for working in villages from May 2010 to July 2010. Study population was divided into two groups. Case group included doctors who were reluctant to work in villages. The control group comprised of doctors who were not reluctant to or were working work in villages. A sample size of 100 individuals i.e. 50 cases and 50 controls was taken.

All eligible cases were included in the study, while a systematic random sampling approach was used to recruit study controls from all eligible controls

RESULTS

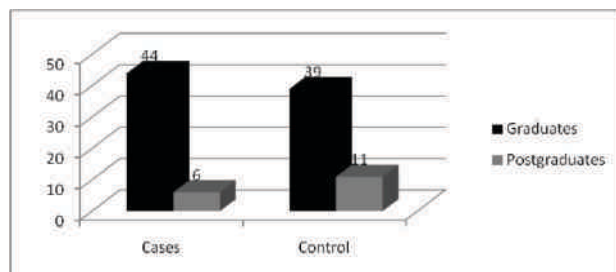
In bivariate analysis the psychosocial factors which were found significantly associated with reluctance of doctors to work in villages was found more in females (62%), in the age group 21-25 years (44%), graduates (88%), married (52%) and in individuals having income of Rs 21000-40000 (46%).

Reluctance of doctors to work in villages was found significantly associated with cut off from modern life (OR: 30.412, CI : 8.242-112.217), lack of schooling (OR: 3.768, CI: 1.647-8.620), lack of recreational places (OR: 16.000, CI: 5.382- 47.567), lack of electricity (OR: 6.655, CI: 2.516-17.600), lack of communication (OR: 4.333, CI: 1.784-10.528), broken families (OR: 0.226, CI: .059-0.869), depression (OR: 0.164, CI: 0.044-0.615), financial stress (OR: 0.0240, CI: 0.101-0.574), sedentary lifestyle (OR: 1.761, CI: 0.796-3.893), type A personality (OR: 2.571, CI: 1.122-5.895), lack of shopping malls (OR: 3.768, CI: 1.647-8.620), lack of sui gas (OR: 6.303, CI: 2.604-15.255), loneliness (OR: 3.167, CI: 1.398-7.174), located away from residential areas (OR: 3.807, CI: 1.657-8.747), no exposure to rural life (OR: 10.630, CI: 4.146-27.252), Whereas dusty environment, emotional stress, introvert personality, joint family system, lack of exercise, lack of incentives, lethargy, peer pressure, poor sanitation, sense of insecurity, away

from relatives, criminal environment, family problems, quackery, no chance of private practice, spouse job were not found significantly associated with the reluctance of doctors to work in villages .

Multivariate logistic regression model was used to control for possible confounding effect. It was observed that there were some changes between the crude odds ratios and the adjusted odds ratios. It was observed that after controlling all the factors studied, the strongest statistically significant association was exhibited by broken families (OR .108, 95% CI=.022-.523), depression (OR .150, 95% CI=.037-.614), financial stress (OR .231, 95% CI=.092-0.597), Type A personality (OR 5.213, 95% CI=1.402-19.375), away from relatives (OR .607, 95% CI=.211-1.749), lack of recreational places (OR 11.160, 95% CI=2.966-41.982), lack of sui gas (OR 4.353, 95% CI=1.155-16.412), no exposure to rural life (OR 11.966, 95% CI=4.436-32.280), cut off from modern life (OR 26.081, 95% CI=6.973-97.544). Other not significantly associated factors include dusty environment, emotional stress, introvert personality, joint family system, lack of exercise, lack of incentives, lethargy, peer pressure, poor sanitation, sedentary lifestyle, sense of insecurity, criminal environment, family problems, lack of electricity, lack of schooling, lack of shopping malls, quackery, lack of communication, loneliness, located away from residential areas, No chance of private practice and spouse job.

Table: Education distribution



Age distribution

DISCUSSION

The determinants of reluctance of doctors to work in villages are complex and can differ from country to county or even from one community to another. Many psycho-social factors determine the reluctance of doctors to work in villages. Our result showed the risk of reluctance of doctors for working in villages increased with depression¹, financial stress⁴, away from relatives¹¹, lack of recreational places¹⁵, lack of sui gas¹⁸, no exposure to rural life²⁴, cut off from modern life²⁶ which is consistent with current body of knowledge.

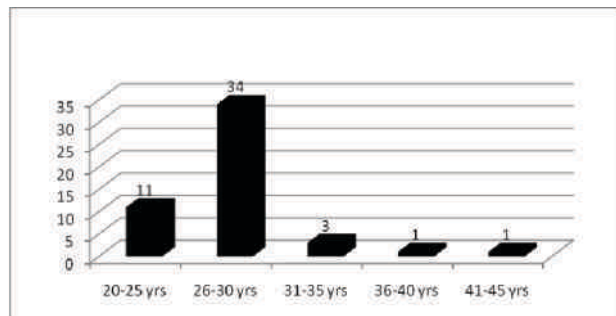
Many studies showed the relation of dusty environment², emotional stress³, joint family system⁵, lack of incentives⁶, peer pressure⁷, poor sanitation⁸, sedentary lifestyle⁹, sense of insecurity¹⁰, criminal environment¹², family problems¹³, lack of electricity¹⁴, lack of schooling¹⁶, lack of shopping malls¹⁷, quackery¹⁹, lack of communication²⁰, loneliness²¹, located away from residential areas²², no chance of private practice²³, spouse job²⁵ with reluctance of doctors for working in villages. Our research shows no such relation. The variables broken families and type A personality were studied for the first time.

The factors not found associated with reluctance of doctors to work in villages are introvert personality, lack of exercise and lethargy.

CONCLUSION

Reluctance of Doctors to Work in Villages was found more in females(62%),in the age group 21-25 years(44%),graduates(88%), married(52%) and in individuals having income of Rs 21000-40000 (46%).

The determinants of reluctance of doctors to work in villages identified are broken families,



depression, financial stress, type A personality, away from relatives, lack of recreational places, lack of sui gas, no exposure to rural life and cut off from modern life. Other not significantly associated factors include dusty environment, emotional stress, introvert personality, joint family system, lack of exercise, lack of incentives, lethargy, peer pressure, poor sanitation, sedentary lifestyle, sense of in security, criminal environment, family problems, lack of electricity, lack of schooling, lack of shopping malls, quackery, lack of communication, loneliness, located away from residential areas, no chance of private practice and spouse job.

LIMITATION OF THE STUDY

As the exposure and outcome were assessed almost simultaneously in this study, temporal association between reluctance of doctors to work in villages and factors studied could not be adequately

established; which can be remedied by conducting a cohort study in a similar population.

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FACTORS LEADING TO INFERTILITY AND ROLE OF PAP SMEAR AND HIGH VAGINAL SWAB

Anum Arooj, Nosheen Bano, Kiran Bukhsh, Shaheen Kausar, Naila Nawaz

ABSTRACT

Objective: The objective of this study was to determine the frequency of factors leading to infertility and the role of Pap smear and high vaginal swab screening tools.

Study design: Cross Sectional Study.

Subjects & Methodology: This cross sectional study was conducted in Allama Iqbal Memorial Hospital/KMSMC from August 2016 to December 2016. Seventy infertile women with both secondary and primary infertility were included in this study. Patients with history of pelvic surgery, hormonal imbalance and BMI >40 Kg/m² were excluded. All women went through Pap smear, ultrasonography and high vaginal swab screening to evaluate the factors of infertility. Pap smear was done with endocervical brush with Papanicolaou stain procedure. Bethesda guidelines were used to evaluate them for categorizations. Bacterial presence was defined as presence of individual squamous cells and layer of coccobacilli on the margins of cell membranes. Vaginal swabs were taken and cultured on 5% blood agar. After 24 to 48 hours of incubation the plates were evaluated for positive culture of organisms. Ultrasonography was done to evaluate the ovarian status.

Results: Age range in this study was from 21 to 45 years and 64.3% of the patients were from 31-40 years age group. Majority of patients belonged to 5-9 years duration of marriage. 57.1% women belonged to secondary infertility while women with primary infertility were 42.9%. Bilateral normal ovaries were 60%, unilateral ovarian cysts 12.9%, bilateral ovarian cyst 11.4%, fibroid uterus 11.4, adenomyosis 2.9% and hydrosalpinx was seen in 1.4% women on ultrasonography. Pap smear showed normal findings in 75.7%, inflammation in 21.4% and Candida buds were seen in 2.9% women. High vaginal swab findings showed 62.9% negative culture and 37.1% positive culture.

Conclusion: We conclude that the infertility due to existence of infection, inflammation and other abnormalities should be evaluated with Pap smear and high vaginal swab screening tools to rule out any underlying cause.

Key words: infertility, pap smear, high vaginal swab, factors

Conception is based on many different processes and biological phases. The key of this aspect is the production of healthy ovum and sperms from both partner reproductive organs. Health professionals should go into evaluations of both partners if there is no conception after one year of unprotected sexual intercourse. Pakistan is among the developing countries where childlessness is one of the major issue of reproductive health and considered as a social problem.¹ Infertility of couples lead them to psychosocial problems among their families which some time results in serious consequences.²

Although Pap smear test is considered the most reliable test for detection of malignancy and pre malignancy which involves the evaluation of cervix cells,³ but it also can be used for other co morbid condition of infertility like infections and inflammations.⁴

Pelvic inflammatory disease due to bacterial vaginosis is one of the main cause of tubal factor infertility, so it should be in routine evaluation programme of infertility.⁵

Infectious vaginitis can lead to serious outcomes if it do not treated timely, that's why early screening of this condition can prevent the serious consequences like infertility. So it's highly recommended to evaluate all possible factors of infertility with available screening tools like Pap smear and high vaginal swab to diagnose and treat timely any co morbid condition resulting in infertility.⁶ A dearth of studies regarding the risk factors of infertility is in Pakistan. Moreover there are many cases of unsafe handling of birth by untrained professional is the main reason of infection,⁷ resulting in PID, tubal blockage and infertility in our general population.

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In this study we examined women with infertility in terms of existence of infection, inflammation and other abnormalities with pap smear and high vaginal swab screening tools. This study was aimed to determine role of pap smear and high vaginal swab findings in infertile women.

SUBJECTS AND METHODS

This cross sectional study was conducted in Allama Iqbal Memorial Teaching Hospital/KMSMC from August 2016 to December 2016. 70 infertile women with both secondary and primary infertility were included in this study. Patients with history of pelvic surgery, hormonal dysfunction and BMI > 40 Kg/m² were excluded. All women went through Pap smear, ultrasonography and High swab vaginal screening to evaluate the factors of infertility. Pap smear was done with endocervical brush with Papanicolaou stain procedure. Bethesda guidelines were used to evaluate them for categorizations. Presence of bacteria was defined as presence of individual squamous cells and layer of coccobacilli on the margins of cell membranes. Vaginal swabs were taken and cultured on 5% blood agar. After 24 to 48 hours of incubation the plates were evaluated for positive culture of *G. vaginalis*. Ultrasonography was done to evaluate the ovaries status. Data was statistically analyzed with IBM-SPSS-V-22 software. Frequency and percentage was calculated for qualitative variables like age groups, type of infertility and factors of infertility. Role of cervical smear and high vaginal swab was determined.

RESULTS

Age range in this study was from 21 to 45 years and majority of the patients were from 31-40 years age group as shown in Table-I.

Table 1: Frequency and Percentage of Age
n=70

Age (Years)	Frequency	%age
21-30	20	28.6%
31-40	45	64.3%
>40	5	7.1%

Majority of patients were belong to 5-9 years duration of marriage as shown in Table-II.

57.1% women belonged to secondary infertility while women with primary infertility were 42.9% as shown in Table-III.

Bilateral normal ovaries were 60%, unilateral

Table 2: Frequency and Percentage of marriage duration. n=70

Marriage Duration (Years)	Frequency	%age
0-4	21	30.0
5-9	31	44.3
10-14	8	11.4
≥15	10	14.3

ovarian cysts 12.9%, bilateral ovarian cyst 11.4%, Fibroid uterus 11.4, Adenomyosis 2.9% and Hydrosalpinx was seen in 1.4% women on ultrasonography as shown in Table-IV.

Pap Smear Findings showed normal findings in 75.7% and inflammation in 24.3% women as shown in Table-V.

High vaginal swab findings showed 62.9%

Table 3: Frequency and Percentage of subfertility type. n=70

Type of Subfertility	Frequency	%age
Primary	30	42.9%
Secondary	40	57.1%

negative culture and 37.1% positive culture as shown in Table-VI.

DISCUSSION

In our study we carried out Ultrasonography, hysterosalpingogram, Pap smear and High vaginal swabs in infertile patients to determine the causative factors for infertility and the role of Pap smear and High vaginal swabs. In our study multiple causative factors were identified for infertility including unilateral ovarian cyst 12.9%, Bilateral ovarian cyst 11.4%, Fibroid uterus 11.4 % adenomyosis 11.4% and hydrosalpinx was observed on hysterosalpingogram in 1% of the patients. Positive culture of HVS were 37.1% which is almost similar to a study done in Iran which showed 28.5%.⁸ A study in India showed positive culture by 19%.⁹

In United States its prevalence is 10-20%.¹⁰ In Africa 38% women showed positive culture.¹¹

That Indian study has also showed that prevalence of Bacterial vaginosis was more in Non Muslim women than Muslims.⁹

Our study showed the presence of Candida was 2.9% which was associated with inflammation. So when Pap smear reveal inflammation it should be managed and treated for candidiasis in infertile women.

Few studies also co relate candidiasis and

Table 4: Appearance of ovaries on ultrasonography
n=70

Appearance of ovaries	Frequency	%age
Bilateral normal ovaries	42	60%
Unilateral ovarian cysts	9	12.9%
Bilateral ovarian cyst	8	11.4%
Fibroid uterus	8	11.4%
Adenomyosis	2	2.9%
Hydrosalpinx	1	1.4%

inflammation with infection of cervical smears.¹²⁻¹⁵

But few studies also found that presence of inflammation is not associated with candidiasis or

Table 5: Pap Smear Findings
n=70

Pap Smear Findings	Frequency	%age
Normal	53	75.7%
Inflammatory	17	24.3%

presence of infection.¹³

It is also showed in another study that inflammation was not due to infection in infertile

Table 6: High vaginal swab findings
n=70

High vaginal swab findings	Frequency	%age
Negative culture	44	62.9%
Positive culture	26	37.1%

women.¹²

A study has showed that the major cause of infertility in Pakistani women are due to genital tract infections.¹⁶ High vaginal Swab and Pap smear are a way to rule out genital tract infections. A study showed that 47% of women with inflammatory changes on cervical smear testing had a microbiologically proven infection¹⁷ Our study also demenstrates the positive role of High Vaginal Swab and Pap smear to rule out infections.

Moreover during postpartum and menstruation they use unhygienic cloths for absorbing blood and these cloths are again reused after general washing. Sometime these cloths washed and dried indoor because in their culture menstruation is a shameful act.¹⁸ This unhygienic practice evolve the infection which make the way through vagina to uterus and to fallopian tube which results development of adhesions and finally ends up in infertility.

CONCLUSION

We conclude that there are multiple causative factors leading to infertility including anatomical causes and due to existence of infection. Inflammation and other abnormalities should be evaluated with pap smear and high vaginal swab screening tools to rule out any under lying cause.

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