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It should give the brief idea of research paper and should not exceed more than 250 words. Abstract with the headings of Background, Time and duration of Study, Study design, Methodology, Results and Conclusion will be appreciated more.

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5-8 keywords related to the work should be written at end of the abstract. Each keyword will be separated by coma.

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All significant material used along with its source should be mentioned. The key methods used should be briefly described, citing references. New methods or significantly modified methods may be illustrated in sufficient detail.

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Appropriate statistical analysis should be done to the original data to verify the reported results. Specify the statistical methods used to analyze the data. Restrict the Tables and Figures only to those where it is needed to explain the argument of the paper and to assess its support. Use graphs as an alternative to Tables with many entries; do not duplicate data in graphs and Tables.

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A short, paragraph summarizing the most important finding (s) of the research is required.

ACKNOWLEDGMENTS

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LAUNCHING A NEW JOURNAL ON HEALTH AND SOCIAL SCIENCES

Dr. Muhammad Asif, Chief Editor

Research scientists are trained to discover the knowledge and then to add their findings to well recognized journals. Moreover, they frequently refer to these journals when they wish to embark on the research projects or simply want to enquire about the current status or limit of the knowledge in particular subject, so that it may be moved to the next stage.

All eminent higher educational institutions in the world have these (journals) and other means and methods of collecting, storing and the dissemination of the knowledge for all others to deliver the benefits to mankind. In science, latest information for improvement in knowledge, news, books etc. is generally reported and spread via journals pertaining to their particular field, area or specialty of interest.

In fact, future of the science rests on the foundation of the knowledge discovered by the earlier generations found in the journals. Research work of every kind can only improve by referring to these repositories of the knowledge i.e. science research journals. A research journal is a relatively simple way for the diffusion of the research findings and to encourage the young scientists by having their research work published.

Research is tough and competitive work. As with any other aspect of life, 'getting started' in exhibiting and publishing research work for the young scientist, professionals, particularly post-graduates and the newly qualified PhDs is extremely difficult which causes irritability and confusion There is little kindness compassion, compromise or relaxation of the rules for the new comers when seeking publication of their work in well-known, famous and important journals in the Pakistan or anywhere else in the world.

To offer a venue for the young scientists and medical professionals, it was decided to launch a health and social science based journal from the platform of the Times Institute Multan.

Director, Assistant Professors, Lecturers, Researchers and other faculty members at that institute have joined themselves as a team to launch the new journal that is the showcase of original researches undertaken in the world-class labs and clinics by the fellow researchers. It aims to promote the students, doctors/physicians, dentists and veterinarians, pharmacists, physical therapist, eastern medicine specialists, Surgeons, medical lab technologists, operation theater technologists, radiography and imaging technologists, orthoticians and prosthetics, public health managers, obstetricians and gynecologists, orthopedicians, medical biotechnologists, biochemists, microbiologists, physiologists, medicine experts, health environmentalists and scientists from all other fields of the health, medical and biological sciences to consider a career in the research, and encourages publication of their work.

Editorial Board: Board development was absolutely very crucial. As an academic journals work; we needed respected individuals who were willing to sit on our board, even if they were only lending their names. It was only a matter of the time before academics realize that journal brand wasn't (or shouldn't be) affiliated to publishers, but rather to the academics who choose to endow a journal with their support. Getting the good and dedicated people who were respected within our discipline(s), scope and we were on the right track.

Peer Reviewers: When the first article started to flood in, we needed the help we could get. These were the people understanding the challenges we were facing. They needed to set the bar high for very first issue, while also appreciated the difficulties of attracting big names to start-up the journal.

Copy Editors (and Proof Readers): In case of doing this job ourselves, it was expected spending about 16 to 32 continuous hours per article, including typesetting. Therefore, we appointed few good people for helping us.
Other Decisions: We needed to make decisions and take actions on some following issues, not all of which can be described here:
Journal name(!), its scope and remit
Policy and copyright stance
Publishing mode
Initial screening

Timing (all our first submissions arrived in the summer vacations when there was nobody available to review it)
Why We Want to Do it: Setting up a journal requires time commitment, determination and passion. It was offering the chance to improve knowledge, to help others and to promote a specific research viewpoint.

Choosing Our Name Wisely: The name of our journal was descriptive, concise and meaningful depicting the scope of our journal.

Building an Excellent Editorial Team: This was another key of our success. We needed enthusiastic and loyal people willing to work for a common cause and to promote it. Our team was a mixture of the experienced and new researchers who created a learning and working environment and listened always the opinions of their editorial board and the advisory team and followed their instructions and advices.

Being Honest: Highlighting the good qualities of this journal and being open to discuss the weaknesses of it for improving them honestly was very challenging to establish this new journal, so we embraced criticism always in a positive manner.
And finally….
Every time when a new journal is launched, we work hard to ensure that it is a well-considered, and balanced solution meeting the needs of the community.

We know well that starting a new journal is much easier than closing it down, so we have made sure by thinking and planning carefully before its start.

Hats off to our assistant editors, publisher and whole team who have tackled well all the challenges straight on; while achieving their faster editorial speed.

ORIGINAL ARTICLE OA-03(02)02(01)

TIMES JOURNAL OF HEALTH & SOCIAL SCIENCES

Demographic Analysis of Fracture Profile of Patients at Accident & Emergency Department of Orthopedic Surgeries and Traumatology (DOST)-Unit-1 Mayo Hospital Lahore

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Abstract: Background: Trauma is a type of body wound, collapse or breakdown due to unexpected physical injury like from collision or disaster. Trauma includes various injuries and accidents; the data was analyzed for the patient's demographic profiles, nature of severity of accidents, types of accidents, way of treatment of various injuries and accidents. This is a non randomized, hospital based, single centered, retrospective study conducted at accident emergency (AE) department, Mayo hospital Lahore. **Materials and Methods:** Data was collected from department of orthopedic surgeries and traumatology king Edward medical university Mayo hospital Lahore. In this study I have analyzed that the data for the patients coming to A & E department with severe injuries occurring during accidents over a period of time one year. Historical study design was used in this project and I was provided with all the demographic data and required information. Data was analyzed by using spss 11.5. **Objectives:** To analyze the demography of fracture profiles of the patients at accident emergency department of orthopedic surgery and traumatology (dost)-unit-1 Mayo hospital Lahore. **Descriptive Analysis:** Descriptive statistical tools, frequency distribution, graphs, mean, standard deviation, chi square and proportion was used to analyze the data. **Results:** 1. the percentage of patients coming to accident and emergency department in month of August was greatest i.e. 10.65% by month of October and December having percentages 9.74% and 9.65% respectively. 2. Out of total 1970 patients 1511 (76.7%) were males and remaining 459 (23.3%) were females with different types of injuries and fractures have come to A & E department over a period of one year. 3. Out of 1970 patients 1608 (81.6%) patients were having close fracture while 337 (17.1%) were having open fracture 4. frequency of bone affected for hummers bone was 185 (9.4%). for femur was 427 (21.7%), for scapula was 26 (1.3%), for ankle was 64 (3.2%), for clavicle was 114 (5.8%), for ulna was 134 (6.8%), for radius was 164 (8.3%), for tibia was 330 (16.8%), for hand was 279 (14.2%), for foot was 126 (6.4%), for pelvic dislocation was 32 (1.6%), for patella was 44 (2.2%), for vertebral dislocation was14 (6.8%), for skull was 1 (0.1%), for metacarpals was 20 (1%), for elbow was 5 (0.3%), for metatarsals was 1 (0.1%) and for cervical was 2 (0.1%). **Conclusions:** From this research I concluded that the proportion of accidents in summer season in months of August and in winter season in months of October and December specially in males was greater than in females and injuries of lower limb involving femur and tibia were more common than fractures of upper limb in patients in year 2008.

Key Words: Demographic analysis, Fracture Profiles, Accidental Emergency.

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INTRODUCTION:

Trauma: Trauma is a type of body wound, collapse or breakdown due to unexpected physical injury like from collision or disaster [1]. After sixty minutes of trauma occurrence, trauma victims may need particular emergency care including surgical procedures and blood transfusions within initial hours of crisis.

Trauma Patient: A victim who has agonized a lethal physical injury with possibility of secondary complications like cardiovascular and respiratory failure eventually leading to death.

Types of Trauma: Major types of trauma are:

Nature Trauma: Earth quakes, substantial fires, floods, tropical storms and volcanic eruptions are archetypal natural catastrophs. The devastating aspects of theses natural catastrophes are physical harm, loss of belongings and horror of death.

Large Scale Transportation Accidents: Devastating transportation collision on large scale includes incidents like airline crashes, ships and train collisions mostly involving numerous victims high mortality rate.

House or Other Domestic Fires: Fire injury is the most

common physical trauma that usually occurs at home leading to highly affecting injuries and burns and is caused by short circuits, gas explosions, heaters and smoking in bed.

Motor Vehicle Accidents: In Pakistan and United States the serious and major cause of trauma incidents presented in emergency department are motor vehicle accidents.

Stranger Physical Assault: To beat, stab, shoot and other violent actions against a person not well known to the attacker with the motive of robbery or the expression of anger is the stranger's assault that causes physical trauma [2].

Physical Trauma: (blunt trauma, penetrating trauma): Any type of physical injury of extreme level according to severity including penetrating and blunt trauam [3].

Bone Fractures: Any type of break or crack in the continuity of the bone is known as bone fracture. Majority of bone fractures occurs due to accidents or collisisns involving high impact forces and stress along with some pathological conditions of musculoskeletal origin like osteoporosis, osteogenesis imperpefecta, bone tumors and cancers etc.

Fractures with larger displacements and angulations are also of concern because it may complicate the condition with difficult reduction and mostly requires surgical procedures which also take more time to heal.

CLASSIFICATION:

Closed Fracture: Fractures in which overlying skin remains unblemished.

Open Fracture: Fractures involving open wounds communicating with the fractured bone, with increased chances of contamination of bone and may require specific antibiotic therapy and debridement because the fracture hematoma is exposed.

Simple Fractures: Fracture along single line that divide the bone into two parts which is a simple one with better prognosis and easy to treat.

Multi—Fragmentary Fracture: Breaking of bone into numerous pieces is known as multi-fragmentary fracture.

Compression Fracture: Fracture due to impact of compressive forces specially involving vertebrae with spinal crumpling in osteoporotic patients [4].

According to planes there is another classification of fractures which includes complete, incomplete, linear, transverse, oblique and spiral. This classification considers the fractures lines making an angle with the bone axis and planes.

OTA Classification: The orthopedic trauma association, an association for orthopedic surgeons devised an elaborate classification system to describe the injury accurately and guide treatment. There are five parts to the code [5].

Location: the part of the bone involved (e.g. shaft of the femur): proximal diaphyseal distal malleolar.

Type: It is important to note whether the fracture is simple or multifragmentary and whether it is closed or open. a=simple, b= wedge fracture, c=complex fracture.

Group: the geometry of the fracture is also described by terms such as transverse, oblique, spiral, or segmental.

Subgroups: other features of the fractures are described in terms of the displacement, angulations, and shortening. a stable fracture is one which is likely to stay in a good position while it heals; an unstable one is likely to shorten, angulated or rotates before healing and lead to poor to form groups [6].

Demography: Demography is a statistical study of all populations. The science which deals with any type of effectual popultaion which is varrying with time. The study size, composition, distribution of population, spatial and regional changes are under influence of factors like nativity, emigration, aging and demise are included in this type of study. Demographic studies are valid to be applied on communities, or to classes characterized by standards like educational status, nationality, religion, and ethnicity.

Formal Demography: Formal demography limits its objects of study to the measurement of populations, processes, while the broader field of social demography population studies also analyzes the relationship between economic, social, cultural and biological processes influencing a population [7].

MATERIALS AND METHODS:

Study design: Historical descriptive study design was used.

Study setting: The study was completed at the department of orthopedic surgery and traumatology (dost)-unit-I.

Sampling Technique: Non probability purposive selection

Inclusion Criteria: Already collected data based on Performa filled at accident and emergency department of orthopedic surgeries and traumatology DOST UNIT-I, were taken of year 2008. That performa containing 77 variables regarding the patient's general information, socioechonomic status, mode of accidents, body parts injured, treatment given and the gender specifications etc.

Exclusion Criteria: The patients performas without proper information and other than fracture and trauma injuries were excluded.

Data Analysis: Raw data were entered into Statistical Package for Social Sciences (SPSS) 11.5 and was analyzed using the same software.

All data were presented in frequency table (percentage)

and selective graphs. the quantitative data were presented as mean (+) standard deviation. On parametric chi square (x^2) test for proportion were used to see the most common category of different variables. A "p" values less than 0.05 were considered as significant.

RESULTS

The study was performed on one year data (year 2008) of patients presented at accident emergency department of orthopedic surgery and traumatology (dost)-unit-1 mayo hospital Lahore.

In this study it was observed that out of 1970 patients treated at accident emergency, 1511(76.7%) were male and 459 (23.3) were female and from this we concluded that the frequency of accident injury in males is more than female due to their more exposure to external environment. as males have to go on jobs and other outside activities so risk of their injuries is much more than females.

Out of 1970 patients the frequency of the patients having poor socioeconomic status was 1176 (59.7%), the frequency of patients having middle socioeconomic status was 756 (38.4%) and the frequency of patients belonging to higher socioeconomic status was 38 (1.9%).So in poor socioeconomic status the rate of trauma was greater as compared to middle and high socioeconomic status so it is also an important factor related to accident injuries. most of patients affected by injuries were belonging to working class like students, government employee, labor, manual worker etc.

In all patients, 1683 (85.4%) patients were belonging to urban areas and 287 (14.6%) were belonging to the rural areas so it reveals that the rate of accident injuries is greater in urban areas than in rural areas due to greater traffic capacity in cities than in villages and due to more traffic the road traffic accidents is greatest of all injuries which is about 1025 (52%).

Out of total 1970 patients the frequency of patients having any pre-existing illness regarding CNS was 5 (0.3%), having psychiatric illness was 5 (0.3%), having G.I.T was 3 (0.2%),having respiratory illness was 9 (0.5%), having I.H.D was 15 (0.8%) and the frequency of the patients having no pre-existing illness was 1859 (100%).

Out of total 1970 patients frequency of patients having congenital illness was 1 (0.1%), having RA was 3 (0.2%), having DJD was 1 (0.1%), having osteoporosis was 10 (10%), having trauma 234 (11.9%), having infection was 5 (0.3%), having previous fracture was 1 (0.1%), having any type of surgery was 6 (0.3%) and having no pre-existing local disease was 1708 (86.7%).

It was concluded from whole data that the frequency of patients having RTA/ industrial as an injury type was 1025 (52%), agriculture was 108 (5.5%), fall/ sports was 598 (30.4%), domestic was 125 (6.3%),violence was 32 (1.6%), firearm was 72(3.7%), blast was 3(0.2%), suicidal self inflicted was 7 (0.45%).

The frequency of patients whom were given analgesics as first aid was 745 (37.8%), frequency of those who were given splint aid treatment was 285 (14.5%), for dressing of wounds was 140 (7.1%), for traction was 20 (1%),for i/v fluid was 16 (0.8%), for blood transfusion was 1 (0.1%), for resuscitation was 8 (0.4%), for antibiotics was 132 (31.6%) and those which were not given first aid was 623 (31.6%).

The frequency of patients for whose shock index was less than 1 was 1909 (96.9%), fro equal to 1 was 48 (2.4%), and for those whose pulse rate was not recordable were 10 (0.5%).

It was observed that the frequency of patients for growth place having open fracture was 337 (17.1%), for close fracture was 1608 (81.6%) and those whose information was not given were 25 (1.3%).

It was also concluded that the frequency of the involving right side fracture was 1189 (60.4%), for left side 754 (38.3%) and for having both side involved was 27 (1.4%).

The frequency of the bone affected for humerus bone was 185 (9.4%), for femur was 427 (21.7%), for scapula was 26 (1.3%), for ankle was 64 (3.2%), for clavicle was 114 (5.8%), for ulna was 134 (6.8%), for radius 164 (8.3%), for tibia was 330 (16.8%), for hand was 279 (14.2%), for foot was 126 (6.4%), for pelvic location was 32 (1.6%), for patella was 44 (2.2%), for vertebral location was 14 (0.8%), for skull was 1 (0.1%), for metacarpals was 20 (1%) for elbow was 5 (0.3%), for metatarsals was 1 (0.1%), for cervical was 2 (0.1%).

As a whole rate of patients having upper limb injuries was 919 (46.7%), the rate of head and neck injuries was 17 (1%) and the rate of lower limb injuries was 1034 (52.3%).

The frequency of bone segments affected involving proximal end was 375 (19%), involving shaft was 748 (38%), involving distal end was 365 (18.5%), involving malicious was 31 (1.6%) and involving none was 451 (22.9%).

The frequency of various fracture groups involved in fractures for simple fracture was 1421 (72.1%), FO wedge group was 134 (6.8%), for comminuted was 265 (13.5%), for transverse group was 1 (0.1)% and of those having none was 149 (7.6%).

The frequency of fracture bone end if the bone was fractured for extra articular was 1594 (80.9%), for partial articular was 114 (5.8%), for complete articular was 127 (6.4%) and of those for which it was not applicant was 135 (6.9%).

The frequency of the patients having fracture displacement involving group mild, less than 50% was 1111 (56.4%), for group moderate (50-100) was 480 (24.4%), for group gross more than 100% was 213

(8.4%) and of those for this it was not applicant was 166 (8.4%).

The frequency of patients having no muscle injury was 1801 (91.4%), having no skin injury was 1458 (74%).

The frequency of the patients having no muscle injury was 1801 (19.4%), having circumscribed muscle injury was 99 (5%), having avulsion penetration was 10 (0.5%), having tendon injury (extensor) was 15 (0.8%) and having crush compartment injury was 19 (1%).

This study concluded that the frequency of the patients having no injury was 1901 (96.5%), having isolated NV injury was 31 (1.6%), having local vascular injury was 9 (0.5%), having segmental vascular injury was 7 (0.4%) and having subtotal/amputation was 22 (1.1%).

The frequency of the patients to whom blood was transfused was 81 (4.1%) and to whom blood was not transfused was 1889 (95.9%).

The frequency of patients for which anesthesia was none was 1275 (64.7%), for which local anesthesia was 396 (20.1%), for regional was 69 (3.5%), for general anesthesia was 99 (5%) and for analgesia+ sedation was 20 (1%), spinal was 111 (5.6%).

The frequency of the patients for procedure done in a and e for treatment by w/d was 46 (2.4%), by orif with k-wire fixation was 219 (11.1%), by amputation was 16 0(.8%), by plating was 2 (0.1%), by ex-fix was 66 (3.4%), by back slab was 394 (20%), by polysling was 123 (6.2%), by traction was 193 (9.8%), by nothing was 334 (17%), by pop cast was 147 (7.5%), by tension band wire was 2 (0.1%), by colley's cast was 55 (2.8%), by u- slab was 49 (2.5%), by pin plaster was 3 (0.2%), by AO ext fixator across wrist was 19 (1%), by close reduction hand with pop was 7 (0.4%), by AO ext fixator was 24 (1.2%), by tendon repair was 11 (0.6%), by DCP was 11 (0.6%), by pop cast +skin traction was 52 (2.6%), by w/d+ reduction+ stempinwas 1 (0.1%), by w/d +wound closure was 6 (0.3%), by amputation was 2 (0.1%), by open k nail passed was 14 (0.7%), by removal of fb was 55 (2.8%), by conservative was 21 (1.1%), by ulnar gutter was 6 (0.3%), by stump chosen was 1 (0.1%), by calcaneum pin was 1 (0.1%), by volar slab was 2 (0.1%), by steimen pin 21 (1.1%), by crepe bandage was 27 (1.4%), by cuff and collar sling was 2 (0.1%), by close reduction was 26 (1.3%), disarticulation was 1 (0.1%), by relocation of tm joint was 2 (0.1%).

The frequency of mode of transport of patients to MHL through govt. ambulance was 281 (14.3%), through NGO ambulance was 83 (4.2%), through private ambulance was 219 (11.1%), through pick up was 42 (2.1%), through private car was 193 (9.8%), through taxi was 75 (3.8%), through rickshaw was 297 (15.1%), through motorcycle was 113 (5.7%), through cycle was 7 (0.4%), through walking 5 (0.3%), through rehra was 4 (0.2%) and the other modes was were 650, (33%).

It was observed that the frequency of govt. ambulance as a mode of transportation was less than the sum of other private modes of transport which shows that most of people in Pakistan use their own convenience or other modes in emergency. in Pakistan time diversion while reaching to accident emergency is greater than in foreign countries.

Objective Description by Data Analysis: The study shows that the relationshiop between socioeconomic status and accident information was such that out of total 1970 patients, the accident information of 538 patients haing poor (0-5000) socioeconomic status was given and of 638 patients wsanot given.the accident information of 356 patients having middle (5000-15000) SES was given and of 400 was not given and the accident information of 14 patients having high (Above 15000) SES was given and of 24 patients was not given. The chi square test value for this was 1.667 and p value was 0.434.

This observation shows that out of 1970 patients 868 patients having RTA/Industrial were male and 157 were female, 79 patients having agricultural injury were male and 29 were female, 387 patients having fall/sports injury were male and 21 were female. 71 patients having domestic injury were male and 3 were female. 67 patients having firearm injury were male and 3 patients having blast injury were male and no female was affected, 7 patients having suicidal injury were male and no female was affected. The chi square test value for this was 130.360 and P value was0.000.

It was observed that out of 1970 patients,1909 patients having fresh fractures were observed N, 394 were expected N and 1515 were residual, 8 patients having old fractures was observed N 394 were expected N and -386 were residual, 5 patients having fatigue fracture were observed N, 394 were expected N and -389 were residual, 45 patients having dislocation fracture were observed N 394 were observed N and -394 were residual, 3 patients having traumatic amputation were observed N, 394 were expected N and 391 were residual. The value of chi-square was 7284.83 and p value was 0.000.

DISCUSSION

The results of this study were copmared to the other researchers in foreign countries and in Pakistan. In comparison to a research on the related topic done in 2007 in kemu mayo hospital Lahore and concluded that the frequency of accidents and injuries in Pakistan in males and females is approximately same as males are always more affected. the ratio of close fracture is greater in Pakistan in most of studies. the percentages of femur and tibia fracture was highest followed by fracture of hand, humerus and radius, ulna fractures mostly [8,9].

In a related study foreign country Barcelona, Spain; Antonia Placentia estimated that the incidence of morbidity due to injuries in population over the age of 14 years in Barcelona, Spain. Injury distribution according to sex, age, external causes, place of occurrence of injury and severity was also obtained. A one year survey was

conducted in emergency departments of six main hospitals in Barcelona, based on a multistage sampling. The incidence rate was 74.7 injury cases per 1000 person –year over 14 years of age, higher in males than females. according to this study in Barcelona the overall admissions in one year wsav3.34 cases per 1000 inhabitants, the proportion of hospitalized cases was 45 per 1000 injury cases admitted to emergency rooms higher for males for traffic accidents and in elderly people [9,10].

So according to this study and a study perfoermed in Barcelona the ratio of accidents in males was greater in males than in females and traffic accidents are the major causes of accidents and injuries in most o f the countries. in my study the overall attendance to emergency department of orthopedics in one year (2008)was 1970. The patients which were treated and discharge were 1122 (57%), admitted in orthopedic ward were 774 (39.3%), admitted in ICU were 2 (0.1%), discharge on request were 36 (1.8%), lama were 27 (1.4%), referred in ICU were 2 (0.1%) and referred in other department were 9 (0.5%) [11].

A. oggero (July 2004) presented the study of 1932 accidents that occurred during the transport OD hazardous substances by road and rail from beginning of 20th century to July 2004 was carried out. the results obtained show an increase in frequency of accidents over time. More than half of accidents were releases (78%), followed by fires (28%), explosions (14%) and gas clouds (6%) [12].

According to this study of one year data (2008) the frequencies of various injury types were RTA/ accidents was 1025 (52%), firearm was 72 (3.7%), blast was 3 (0.2%) and suicidal self inflicted was 7 (0.45%).

On comparing with above reference article, it can be observed that the frequency of road traffic accidents is greater as compared to all other types of accidents and injuries in mot of countries.

Payne D.M. et al compares accidents injuries and fatalities occurring during a one year Michigan emergency response study (mers) with figures for the state's general population accidents over three and five years. Find that significantly higher rates of accidents occur in pursuits than in the general population or in police non pursuit experience but that the mers fatal accidents rate was not significantly higher than in the general population. Suggests that this is partly explained by officers having the advantage of defensive driving training and by a Hawthorne effect; also alcohol consumption is a common factor in general accidents. Point out that non fatal injuries were significantly higher than comparable groups. Advocates the establishment of a database built on a mandatory police pursuit reporting system [13].

The situation revealed in my study that the general population especially with lower socioeconomic status was most affected in whole population was compared to pursuit people.

the two most common incidents of the causalities were collision and deviation. 57/3211 (1.8%) victims died either immediately or during transportation to our hospital. from the victims 43 (75.44%) were males and 14 (24.56%) females. the mean age of victims was 54 years (range 18-82 years). the most frequent fatal accidents time were the hours between 14:00-24:00 (28 victims=49.12%). April and July were the most fatal months (8 victims each= 14%). the primary use of abbreviated injury scoring system (A.I.S) on those who reached the hospital alive classified 518 cases (16.13%) as having mild injuries and 2693 cases (83.87%) as having medium and/ or severe injuries. morbidity and mortality among the population of Greece were 33238 and 2139 respectively within the above period. [14]

In this study it was concluded the main cause of injuries in population was the road traffic accidents which were about 1025(52%) that is greater than all others.

Conclusion: Orthopedic injuries in males were more than females. People with age groups (20-30) were seen to be most affected by injuries which have occurred due to accidents. Poor class was seen to be most affected by the accidents. Most of the patients coming to a & e department with injuries were illiterate. Most of the accidents were of accidents at work and domestic types of accidents were also common. Most of patients received no first aid before arriving at mayo hospital Lahore.

The percentage of close fracture was more than open fracture. Fresh fractures were common than the old fractures. The percentage of femur fracture was highest followed by fracture of tibia, hand, hummers and radius, ulna fractures. In most patients the fractures displacement was i.e. less than 50%. Most patients do not have any type of skin injury. Muscle and neurovascular injury was seen only in fewer patients. Blood transfusion procedure was not done in most of the patients. Anesthesia was not given to most of the patients. Most of the patients were given black slab and traction in A & E department but many other treatments such as pop cast, polyslingcolley's DSP plating for radius and ulna were also applied.

Suggestions: This study may help to reduce the contributing factors leading to increased ratio of accidental injuries and trauma and can provide a baseline for further studies on isuues related to different factors of accident and injury departments of Pakistan's various hospital settings ,their facilities mode of transportation and treatments.

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Table 1: Frequency distribution with respect to gender.

Gender	Frequency	Percent (%)
Male	1511	76.7
FemaleS	459	23.3
Total	**1970**	**100**

Table 2: Frequency distribution with respect to socioeconomic status.

Socioeconomic status	Frequency	Percent (%)
Poor	1176	59.7
Middle	756	38.4
High	38	1.9
Total	**1970**	**100**

Table 3: Frequency distribution with respect to Area.

Address	Frequency	Percent (%)
Urban	1683	85.4
Rural	287	14.6
Total	**1970**	**100**

Table 4: Frequency distribution with respect to systemic pre existing illness.

Pre existing illness	Frequency	Percent (%)	Valid percent	Cumulative percent
CNS	5	.3	.3	.3
Psychiatric	5	.3	.3	.3
G.I.T	3	.2	.2	.7
Respiratory	9	.5	.5	1.1
DM	34	1.7	1.7	2.8
Hypertention	40	2.0	2.0	4.9
I.H.D	15	.8	.8	5.6
None	1859	94.4	94.4	100.0
Total	**1970**	**100.0**	**100.0**	

Table 5: Frequency distribution with respect to local preexisting illness.

Pre existing illness	Frequency	Percent (%)	Valid percent	Cumulative percent
Congenital	1	.1	.1	.1
RA	3	.2	.2	.2
DJD	1	.1	.1	.3
Osteoporosis	10	.5	.5	.8
Trauma	234	11.9	11.9	12.6
Infection	5	.3	.3	12.9
Previous Fx	2	.1	.1	13.0
Surgery	6	.3	.3	13.3
None	1708	86.7	86.7	100.0
Total	**1970**	**100.0**	**100.0**	

Table 6: Frequency distribution with respect to types of injuries.

Injury type	Frequency	Percent (%)	Valid percent	Cumulative percent
RTA/ Industrial	1025	52.0	52.0	52.0
Agricultural	108	5.5	5.5	57.5
Fall/sports	598	30.4	30.4	87.9
Domestic	125	6.3	6.3	94.2
Violence	32	1.6	1.6	95.8
Firearm	72	3.7	3.7	99.5
Blast	3	.2	.2	99.6
Suicidal self	7	.4	.4	100.0
Total	**1970**	**100.0**	**100.0**	

Table 7: Frequency distribution with respect to fracture type.

Growth place	Frequency	Percent (%)
Open	337	17.1
Close	1608	81.6
None	25	1.3
Total	**1970**	**100.0**

Table 8: Frequency distribution with respect to type of the bone.

Name of bone	Frequency	Percent (%)	Valid percent	Cumulative percent
Humerus	185	9.4	9.4	9.4
Femur	427	21.7	21.7	31.1
Scapula	26	1.3	1.3	32.4
Ankle	64	3.2	3.2	35.6
Clavicle	114	5.8	5.8	41.4
Ulna	134	6.8	6.8	48.2
Radius	164	8.3	8.3	56.5
Tibia	330	16.8	16.8	73.3
Hand	279	14.2	14.2	87.5
Foot	126	6.4	6.4	93.9
Pelvis	32	1.6	1.6	95.5
Patella	44	2.2	2.2	97.5
Vertebral location	16	.8	.8	98.5
Skull	1	.1	.1	98.6
Metacarpals	20	1.0	1.0	99.6
Elbow	5	.3	.3	99.8
Metatarsals	1	.1	.1	99.9
Cervical	2	.1	.1	100.0
Total	**1970**	**100.0**	**100.0**	

Table 9: Cross tabulation between socioeconomic status (SES) and accident information.

Socioeconomic status	Accident information Yes	Accident information No	Total
Poor (0-5000)	538	638	1176
Middle (5000-15000)	356	400	756
High (above 15000)	14	24	38
	908	1062	1970

Chi- square value= 1.667
P value= 0.434

Table 10: Cross tabulation between gender and injury type.

Injury type	Gender Male	Gender Female	Total
RTA/Industrial	868	157	1025
Agricultural	79	29	108
Fall/Sports	387	211	598
Domestic	71	54	125
Violence	29	3	32
Firearm	67	5	72
Blast	3	0	3
Suicidal self inflicted	7	0	7
Total	**1511**	**459**	**1970**

Chi-Square value = 130.36
P value= 0.00

Table 11: Proportion of different types of fractures as a result of accidental injuries.

Fracture type	Observed N	Expected N	Residual
Fresh fracture	1909	394.0	1515.0
Old fracture	8	394.0	-386.0
Fatigue fracture	5	394.0	-389.0
Dislocation	45	394.0	-349.0
Traumatic amputation	3	394.0	-391.0
Total	**1970**		

Chi-square value= 7284.83
P value= 0.000

ORIGINAL ARTICLE OA-06(04)05(03)

TIMES JOURNAL OF HEALTH & SOCIAL SCIENCES

Incidence of Hepatitis "B" in Patients Undergoing Operative Procedures at DHQ Hospital Faisalabad

Asia Parveen, Sadia Javed and Shazia Anwer Bukhari

Abstract: Incidence of hepatitis B was determined in patients undergoing operative procedures in surgical wards of DHQ Hospital Faisalabad from 26 April to 28 July, 2010. All the patients undergoing operative procedures were screened for hepatitis B. In present study a total of 620 preoperative patients were screened for hepatitis B among them 13 (2.09%) were positive for hepatitis B. The incidence of hepatitis B was 38.5% in females and 61.5% in males respectively. The results were compared with previous study conducted in other areas of Pakistan. As comparisons, the result was somewhat similar with conducted study but also shown some variation on the other hand. Precautions were also suggested to protect the patients, patient family members and medical personnel or?who are at high risk. Present study suggested that all patients must be routinely screened for hepatitis B before going to surgery. Due to high incidence of hepatitis B in this study, it is suggested that all patients who are admitted for any surgery must be screened for hepatitis B. Those patients who found positive for hepatitis B by using simple assay like rapid chromatography immunoassay must be confirmed by ELISA technique. At the same time there must be ways to aware the people about hepatitis B. Such hepatitis patients must be operated in separate operation theaters in order to protect other patients who are at high risk.

Key Words: Hepatitis B, incidence, Surgery.

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INTRODUCTION

Viral hepatitis is global problem and this malady has affected the most part of this globe. The word hepatitis "means inflammation of liver" in which liver is badly affected and unable to function properly [1]. Viral hepatitis can be transmitted enterically, by direct contact with infected people's feces or consumption of fecal contaminated food, or water may result in ample amount of virus entering through oral route to cause infection and parenterally by transfusion of infectious blood and body fluids [2].Hepatitis B is an infectious disease caused by hepatitis B virus (HBV).

HBV infects human liver that can leads to inflammation called hepatitis, initially recognized as "serum hepatitis" [3]. Hepatitis B infection, although recognized nearly 40 years ago with the identification of Australia antigen, remains a global health problem [4]. Hepatitis B virus is a DNA virus of unique class when observed under transmission scanning electron microscope it appears as double-shelled virus like spherical particle 42nm in diameter. These particles circulate in large quantities in the blood of infected patients. The acute HBV infection is associated with inflammation of liver with generalized symptoms including nausea, loss of appetite, vomiting, mild fever, body aches, itchy skin that can ultimately progress toward jaundice. The symptoms can lasts for few weeks to months and mostly infected individuals recovers in few weeks. The infected patients can develop chronic hepatitis that continues to more than 6 months. The immune system among these patients is incapable to eradicate the viruses and leads to liver scarring (cirrhosis) that end up with liver failure and/or liver cancer [5].

The availability of HBV vaccine provides protection among non-infected individuals therefore can limit the infection, transmission and hepato-cellular carcinoma. Other preventive measures to avoid transmission include avoidance of unprotected sex, re-use of contaminated needles and syringes and blood transfusions. The infants should be vaccinated as per vaccination schedule whereas the health care professional clinical medical laboratory and blood bank staff dealing with blood and blood products must strictly follow the standard guidelines to minimize the risk of accidental needle injury. The routine screening procedures for blood and blood products before transfusion is helpful to reduce the potential risk of HBV transmission [6]. The chronic infected patients with persistent increased serum alanine aminotransferase (ALT) levels and HBV DNA levels should be treated [7,8]. The available drugs are unable to clear the infection however, decrease or halt the viral replication can therefore can minimize liver damage. The babies born to HBV infected mothers may be treated with antibodies to the hepatitis B virus (HBIg) [9].

Globally, there were around 350 million HBV infected persons as reported in a study in 2004. The region wise prevalence varies with more than 10% in Asia and less than 0.5% in the United States and Northern Europe [10].

The prevalence of HBV infection varies between 2–7%in Russia, Eastern Europeand Japan. South East Asia, China and Africa have the highest prevalence rates and HBV transmission during childbirth or during childhood is foremost common [11].

The diagnosis of HBV infection includes the symptoms, physical findings and blood tests for anti-viral antibodies, liver enzymes and viral DNA [12]. These teats not only helps in diagnosis but also the prognosis during the treatment [5]. Bilirubin level also increases in hepatitis patients from normal value (less than 1.2 mg/dL) [13].

The most important indicator of HBV infection is the presence of HBsAg in plasma or serum of infected individuals. HBsAg are routinely detected using Enzyme Immuno Assay (EIA) and was first described by Engvall, Perlmann and van Weemen and Schuurs [14]. The EIA based on antigen antibody reactions and formation of color due to enzyme substrate interaction [15]. HBeAg is another marker that can be used to diagnose and monitor the HBV infection.

Various studies have reported the prevalence of hepatitis B and C as 2.5% and 4.9% respectively in different areas of Pakistan. The prevalence of HBV infection is higher in Balochistan province (4.3%) while hepatitis C is more common in Punjab (6.7%) and Sindh (5.0%). Certain districts in Punjab and Sindh have a very high prevalence ranging between from 6% - 13% [5].

MATERIALS AND METHODS:

Patients, who were admitted for elective surgery in surgical wards of District Head Quarter (DHQ) Hospital Faisalabad, were screened for hepatitis B. A total of 620 patients were screened for hepatitis B (age ranging from 1 – 80). Among 620 patients, 354 patients were male and 266 were female.

Blood sample was drawn from anticubital vein of the patients; the blood was placed in sample tubes and allowed to clot. The sera was separated from cells, stored and tested within 72 hours using standard procedures in biochemistry lab of DHQ Hospital, Faisalabad. Rapid chromatographic immunoassay was used to detect the presence of HBsAg in serum or plasma specimen. The patients who were positive for hepatitis B were confirmed by enzyme linked immunosorbent assay (ELISA). The incidence of hepatitis B was determined by using statistical tools.

RESULTS:

In this study 620 patients, who were undergoing operative procedure were studied for hepatitis B (Table 1).

HBsAg was positive in 13/620 (2.09%) patients. The incidence of hepatitis B was 38.5% (5/13) in female and 61.5 (8/13) in males which are also shown in Table 2.

During the study it was felt that, most of the patients were not aware about their disease of hepatitis B, they did know, when they were suggested by doctors to conduct test of hepatitis before going to surgical procedure.

Only about 15% patients were aware and 85% were not aware which is also represented by Figure 1.In this study age was also considered, hepatitis B was highly prevalent in the age group ranging between 11- 20. The prevalence of HBV in other age groups is shown in Table 3. By this study, it is found that mostly young people are affecting by hepatitis B. Use of contaminated syringes and unsterilized surgical instruments were the major cause of hepatitis B transmission. The incidence of hepatitis B was found high in males than in females according to my finding, which can be seen by graphical representation as shown in Figure 2.

DISCUSSION:

The incidence of hepatitis B in this study is 2.09% in patients presenting for surgery. The incidence is high in males 8(61.5%) than in females 5(38.5%). Hepatitis B is highly prevalent in age ranging between 11-20 years. By this study it is concluded that mostly young people are affected by hepatitis B and use of contaminated syringes and unsterilized surgical instruments are the major cause of hepatitis B transmission. The result of this study has compared with previous study conducted in other regions of Pakistan. The prevalence of hepatitis B was found as 2.02% in a study carried out among inpatients admitted in the Department of Orthopedics, Ayub Teaching Hospital Abbottabad, Pakistan In another study carried out in Department of Ophthalmology PMC Nawabshah the frequency of hepatitis B was 2.18% with higher rates among male as compared to females. In another study from Rawalpindi, Pakistan, the prevalence of Hepatitis B was found as 2.8%. These results are comparable with this conducted study. However, according to study carried at Jacobabad Sindh, the incidence of hepatitis B in surgical patients was 9.33%. The incidence of hepatitis B was 6.5% among admitted patients in a tertiary care hospital at Karachi, Pakistan. The reason may be high population of Karachi and Sindh [16,17].

The use of contaminated surgical instruments, reuse of contaminated syringes infected blood products were the risk factors reported in this study. They concluded that incidence of HBsAg in hospitalized surgical patients is very high. They suggested that all the patients admitted for surgery must be screened routinely to avoid the spread of hepatitis. As comparisons, the results are somewhat similar with conducted study but also show some variation on the other hand [18,19].

CONCLUSION:

Due to high incidence of hepatitis B in this study, it is suggested that all patients who are admitted for any surgery must be screened for hepatitis B. Those patients who found positive for hepatitis B by using simple assay like rapid chromatography immunoassay must be confirmed by ELISA technique. At the same time there

must be ways to aware the people about hepatitis B. Such hepatitis patients must be operated in separate operation theaters in order to protect other patients who are at high risk.

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Table 1: Total patients investigated

No. of patients	620
Age group	01-80 years
Mean age	40 years
Male	354
Female	266

Table 2: HBV positive cases

Total No. of Patients investigated	620
HBV Positive	13(2.09%)
Male	8 (61.5%)
Female	5(38.5%)

Table 3: Age wise frequency of HBV

Age (years)	HBV Positive
1-10	Nil
11-20	6
21-30	4
31-40	3
41-50	Nil
51-60	Nil
61-Above	Nil
Total	**13**

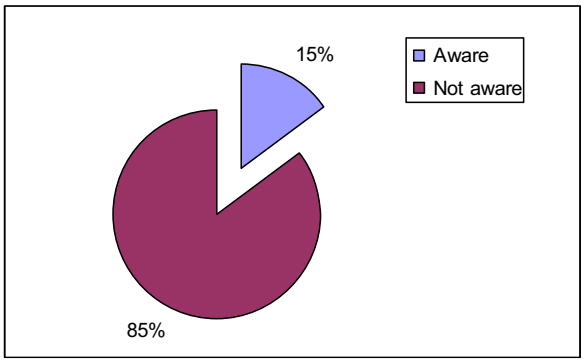

Figure 1: Aware and unaware patient ratios

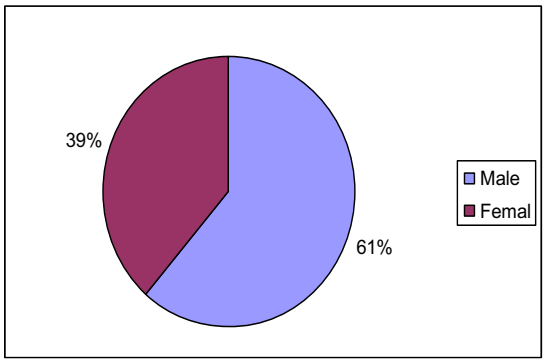

Figure 2: Incidence of hepatitis B in male and female patients

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TIMES JOURNAL OF HEALTH & SOCIAL SCIENCES

Incidence of Hepatitis C in Different Age Groups and Socio Economic Status in Relation to Dietary Habits; A Hospital Based Study

Anam Manzoor, Asma Lodhi, Muhammad Adnan Sarwar*, Jawwad Hussain, Nighat Bhatty and Shazia Zahra

Abstract: Hepatitis C is an infectious disease which is caused by hepatitis C virus (HCV) infection. It causes the irritation or swelling of liver. The primary methods of its transmission include intravenous drugs use, blood transfusion and unsafe medical procedures. Hepatitis C disturbs the intake of food and its processing in the body which causes the deficiency of micro and macro nutrients. The purpose of this study was nutritional support of the patient, to determine the incidence of hepatitis C in different age and sexes, to assess the burden of disease in target population, and to determine the effect of dietary habits and life style on hepatitis C. Allied hospital Faisalabad was visited for one and a half month. 128 respondents were collected during this time period, and the data from them was collected by the help of already prepared questionnaire and it was processed by SPSS computer program. Chi-square test was applied to find the association. The salient findings of the study were: there were more males (53.9%) than females (46.1%) affected with hepatitis C. Most of the respondents (42.02%) were of the age between 31 to 40 years. Majority of them (80.5%) were married. Majority of the respondents (65.6%) belongs to the low socio economic status, (25.05) were illiterate and (53.1%) belongs to rural area. There was a significant association between egg and meat eating habits and the respondent socioeconomic status. There was non-significant association between socioeconomic status of respondents and their wheat, rice, fruits, vegetables, yogurt, milk and salad eating habits.

Key Words: Incidence, Hepatitis C, Socio-economic Status, Dietary Habits, Hospitals Based Study.

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INTRODUCTION:

Hepatitis C is an infectious disease which is caused by hepatitis C virus (HCV) infection which causes irritation and swelling of liver. This virus is from the family Flaviviridae and it is RNA virus of plus strands [1]. According to a survey 200 million people worldwide are suffering from HCV, which is almost 3.3% of the total population of world [2]. It was noted that 50% to 80% of people are suffering from chronic hepatic disease which is caused by HVC. It was projected that 308,000 individuals suffering from liver cancer due to HCV and 785,000 individuals from cirrhosis are dying annually. 170 million people in Pakistan, which is an under developed country, have very poor nutritional status and low literacy rate. In 174 countries Pakistan was ranked 134th by human development index of United Nations. It was estimated that 10 million people in Pakistan are suffering from HCV [3]. 15% of total cases of hepatitis are suffering from acute symptoms [4]. Progress to chronic infection is in 80% of cases. Due to Hepatitis C 27% people develops cirrhosis and 25% develops hepatocellular carcinoma [5]. In developed underdeveloped countries; HCV is transferred through blood transmission and medical treatments. There is1.8% chance of getting infected with hepatitis C in individual who suffered from needle stick injury from the person who was HVC positive. Hepatitis C can be transferred through sexual activities [4]. Whereas, due to tattooing risk of hepatitis C virus is increased about two to three folds. HCV can be transferred through self-care equipment such as shaving items, tooth brushes, manicuring and Pedi curing items, which can be polluted with the blood. Pakistan is as under developed country in which shaving equipment and scissors are used repeatedly from one person to another without cleaning them. This is because mostly the barbers are not educated and they did not know that viral infections can be transmitted through these items [6]. Risk of hepatitis C transmission from the diseased mother to the baby less than 10%. As the malfunctioning liver grows up it shoes possible complications in infected individuals ans it also shows significant role of diet in the consequences of disease which cannot be over ruled [7]. The liver considerably effects nutritional status through role in the digestion, absorption and storage of vitamins, minerals , proteins, carbohydrates and fats. Hepatitis C disturbs the

intake of food and its processing in the body which causes the deficiency of macro nutrients. Role of poor nutrition in increasing liver failure due to the activity of viruses and increase in HCV is not known. Liver is primary organ which play important role in the metabolism of nutrients and damage to the liver significantly affects the dietary intake and total health status of body [8]. Aim of the study is nutritional support of the patient, check role of nutrition in hepatitis C controlling and encourages optimum state of health, inhibit or cure malnutrition or insufficiencies in certain nutrients and hypothetically delay the development of the disease. Normally, individuals suffering from hepatitis C do not require any specific nutritional modifications. If someone is diabetic or develops chronic hepatic disease or any other chronic disease such as celiac disease, it may require specific nutritional restrictions. Proteins, carbohydrates, fats, vitamins and minerals modifications can be designated in these conditions. Malnutrition study in HCV patients is still a problem and assessment of the nutritional status has been rarely performed. Malnutrition occurs generally in these patients so nutritional support is compulsory. When most of the liver cells have been damaged hepatic failure noticeable and the body become unable to sustain dietary balance, consume diet appropriately, synthesize blood proteins and decontaminate harmful materials. At the beginning of HCV infection nutritional deficiencies may not be significantly apparent. To encourage good health and better nutritional status, quality of life should be promoted as easy as possible.

Objectives: Objectives of present study are

- To determine the incidence of hepatitis C in different age and sexes.
- To assess the burden of disease in target population status.
- To determine the effect of dietary habits and life style on hepatitis c

MATERIALS AND METHODS:

Place of Study: The study was conducted in the Faisalabad District. To accomplish set objectives of the study Allied Hospital Faisalabad was between 10th of May to 24th of June 2015. Allied Hospital is tertiary care hospital at Faisalabad district level.

Sample Size: Allied hospital was visited for one and a half month and the data of patients suffering from hepatitis C was collected during this time period to see the incidence of this disease. A total of 128 patients were included and inclusion was dependent upon their positive reports for HCV as kept by them.

DATA COLLECTION TOOLS:

Pre-testing: Pre-testing helps to detect the mistakes in questionnaire. It was done on 5 respondents and after pre-testing some questions were added, rephrased and modified.

Questionnaires: Relevant data was collected with the help of already prepared questionnaire that was served upon the patients included in this study.

Statistical Analysis: After completing the data collection, data was analyzed by SPSS-17 computer program.

RESULTS:

Data revealed that respondents of young age from 31-40 were majorly affected (Table 1). Data showed that most of the respondents were from low socio-economic status and this socio income group was more affected due to lack of awareness about the disease. (Table 2)

Chi-square value shows that there was a non-significant association between socio economic status of respondents and their wheat eating habits and they follow the instructions of their physician (Table 3). Chi-square value shows that there is a non-significant association between socio-economic status of respondents and their rice eating habits. Patients from every socio income group eat rice and follow the instruction of physician (Table 4).

Chi-square value shows that there is a non-significant association between socio-economic status of respondents and their milk drinking habits. That means respondents follow the instruction of their physician. Patients from every socio-economic group drink milk almost on daily basis (Table 5).

Chi-square value shows that there is a significant association meaning that respondents show violence against the instructions of their physicians because most of the patients belong to low income group and they were not able to bur eggs. Chi-square value shows that there is a highly significant association between socio-economic status of respondents and their meat eating habits that means respondents show violence against the instructions of their physicians.

Meat is very expensive and low income group cannot afford it (Table 7).

Chi-square shows that there is a non-significant association between socio-economic status of respondents and their fruits eating habits that means respondents follow the instructions of physicians and eat fruits (Table 8). Chi-square value shows that there is a non significant association between socio-economic status of respondents and their vegetable eating habits (Table 9).

DISCUSSION:

The prevalence level of Hepatitis C in Pakistan is too much high. The causative factor, Hepatitis C Virus, is usually spread through blood transfusion. It has been considered that safe transfusion of blood can limitize the spread of HCV. It is also understood that there are about 15% of the patients which go into spontaneous resolution

of the disease and get recovery through their self immune system. Different age groups respond different to the infectious agents while socioeconomic status is also responsible for indirect immune response to the disease causative agents. Usually low socioeconomic status populations show that there are two types of problems which aggravate the disease spread in that population. Unbalanced and low dietary habits are responsible for low immune response which is usually effective in 15% patients. The 2nd aspect is the lack of information about the disease, its spread and even its effect on the healthy liver. The fatal consequences of HCV infection are still not known in the low socioeconomic status that is the major cause of negligence ultimately easy spread of disease causing agent [9].

Pakistan health departments as well as the research centers has been working on the disease cure and treatment through different ways including conventional and alternative treatment ways. Despite of all the treatment efforts, the importance of prevention is still there [9,10].

Gender wise study on males was carried out in Rawalpindi hospital that was indicating the ratio of male gender HCV infections to female gender HCV infections [10]. The study of different risk factors for the HCV infection was done in Rawalpindi hospitals that was an indicative of HCV risk factors [11]. Another study was carried out in Karachi hospitals on serotyping of HCV in children [12]. Factors affecting sero prevalence of HCV in blood donors was also studied in north west Pakistan [13].

Present study showed different relationships with socioeconomic status of population with HCV. The results of this study show that the parameters used in the study are easily accessible and should be considered in the further studies. However, the socioeconomic status of the patients is currently being investigated. Therefore, it is suggested that further survey of the said relationship should be done.

CONCLUSION:

There was a significant association between egg and meat eating habits and the respondent socioeconomic status. There was non-significant association between socioeconomic status of respondents and their wheat, rice, fruits, vegetables, yogurt, milk and salad eating habits.

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Table 1: Distribution of hepatitis-C in human subjects of different age groups

Age	Frequency	Percent (%)
10-20	6	4.7%
21-30	37	28.9%
31-40	54	42.2%
41-50	27	21.1%
51 to above	4	3.1%
Total	**128**	

Table 2: Percentage Distribution of respondents according to their socio-economic status

Socio- economic status	Frequency	Percent (%)
Low	84	65.6
Middle	38	29.7
High	6	4.7
Total	**128**	**100.0**

Table 3: Association between socio-economic status of respondents and their wheat eating habits

Wheat eating habits	Socio- economic status			
	Low	Middle	High	Total
Wheat daily count% within wheat	83 66.4%	36 28.8%	6 4.8%	125 100.0%
Alternate count% within wheat	0 0%	2 100.0%	0 0%	2 100.0%
Monthly count% within wheat	1 100.0%	0 0%	0 0%	1 100.0%
Total count% within wheat	84 65.6%	38 29.7%	6 4.7%	128 100.0%

Chi square = 5.309df = 4

Signification = 0.2

Table 4: Association between socio-economic status of respondents and their rice eating habits

Rice eating habits	Socio- economic status			
	Low	Middle	High	Total
Rice daily count% within rice	2 40.0%	3 60.0%	0 0%	5 100.0%
Alternate count% within rice	7 38.9%	9 50.0%	2 11.1%	18 100.0%
Weekly count% within rice	42 68.9%	16 26.2%	4 25.0%	61 100.0%
Monthly count% within rice	11 68.8%	4 25.0%	1 6.3%	16 100.0%
Never count% within rice	22 78.6%	6 21.4%	0 0%	28 100.0%
Total count% within rice	84 65.6%	38 29.7%	6 4.7%	128 100.%

Chi square = 11.575 df=8

Signification= 0.17

Table 5: Association between socio-economic status of respondents and their milk Drinking habits

Milk drinking habits	Socio- economic status			
	Low	Middle	High	Total
Milk daily count% within milk	62 62.0%	32 32.0%	6 6.0%	100 100.0%
Alternate count% within milk	7 77.8%	2 22.2%	0 0%	9 100.0%
Weekly count% within milk	1 50.0%	1 50.0%	0 0%	2 100.0%
Never count% within milk	14 82.4%	3 17.6%	0 0%	17 100.0%
Total count% within milk	84 65.6%	38 29.7%	6 4.7%	128 100.0%

Chi square = 4.339 df = 6

Signification = 0.6631

Table 6: Association between socio-economic status of respondents and their egg eating habits

Egg eating habits	Socio- economic status			
	Low	Middle	High	Total
Egg daily count% within egg	4 36.4%	6 54.5%	1 9.1%	11 100.0%
Alternate count% within egg	0 0%	6 85.7%	1 14.3%	7 100.0%
Weekly count% within egg	8 53.3%	6 40.0%	1 6.7%	15 100.0%
Daily count% within egg	9 81.8%	2 18.2%	0 0%	11 100.0%
Never count% within egg	63 75.0%	18 21.4%	3 3.6%	84 100.0%
Total count% within egg	84 65.6%	38 29.7%	6 4.7%	128 100.0%

Chi square = 23.283 df=8

Signification=0. 003

Table 7: Association between socio-economic status of respondents and their meat eating habits

Meat eating habits	Socio- economic status			
	Low	Middle	High	Total
Meat daily count% within meat	1 12.5%	3 37.5%	4 50.0%	8 100.0%
Alternate count% within meat	9 37.5%	13 54.2%	2 8.3%	24 100.0%
Weekly count% within meat	28 71.8 5	11 28.2%	0 0%	39 100.0%
Monthly count% within meat	12 66.7%	6 33.3%	0 0%	18 100.0%
Never count% within meat	34 87.2%	5 12.8%	0 0%	39 100.0%
Total count% within meat	84 65.6%	38 29.7%	6 4.7%	128 100.0%

Chi square = 58.401 df=8

Signification=0. 00

Table 8: Association between socio-economic status of respondents and their fruit eating habits

Fruit eating habits		Socio- economic status			
		Low	Middle	High	Total
Meat	daily count% within meat	38 55.1%	25 36.2%	6 8.7%	69 100.0%
Alternate	count% within meat	20 90.9%	2 901%	0 0%	22 100.0%
Weekly	count% within meat	15 71.8 5	6 28.6%	0 0%	21 100.0%
Monthly	count% within meat	4 66.7%	2 33.3%	0 0%	06 100.0%
Never	count% within meat	7 70.0%	3 30.0%	0 0%	10 100.0%
Total count% within meat		84 65.6%	38 29.7%	6 4.7%	128 100.0%

Chi square = 12.757 df = 8

Signification=0. 120

Table 9: Association between socio-economic status of respondents and their vegetable eating habits

Vegetable eating habits		Socio- economic status			
		Low	Middle	High	Total
Meat	Daily count% within Meat	46 55.1%	19 36.2%	4 8.7%	69 100.0%
Alternate	count% within meat	30 62.5%	16 33.3%	2 4.2%	48 100.0%
Weekly	count% within meat	2 66.7%	1 33.3%	0 0%	3 100.0%
Monthly	count% within meat	1 100.0 %	0 0%	0 0%	1 100.0%
Never	count% within meat	5 71.4%	2 28.6%	0 0%	7 100.0%
Total count% within meat		84 65.6%	38 29.7%	6 4.7%	128 100.0%

Chi square = 1.660 df = 84

Signification = 0. .990

ORIGINAL ARTICLE

TIMES JOURNAL OF HEALTH & SOCIAL SCIENCES

Frequency of Major Types of Manifest Strabismus among Patients of Age Group 1 to 25 Years Presented to Benazir Bhutto Hospital Rawalpindi

Muhammad Asif[1]*, Um-e-Habiba[1], Muhammad Waqas Khan[2], Ayesha Babar[3], Aneeb-ur-Rehman[3]

Abstract: Aim: To find out the occurrence of different types of manifest strabismus in patients among the age group of (1-25 years) attending ophthalmology out-patient department at Benazir Bhutto Hospital Rawalpindi. **Study Design:** This was a cross-sectional study conducted within the time period of four months (Sep 2015 to Dec 2015). **Methods:** By using Consecutive sampling technique a total of 150 strabismus patients were examined. Detailed evaluation of strabismus was carried out which included Visual Acuity measurement with Snellen chart and Lea symbols or assessed qualitatively through light fixation and follow; and by performing Cover tests and Krimsky test. All the tests were carried out with and without glasses, and at near and distance both. Cycloplegic refraction was done on children, by dilating them with 1% cyclopentolate eyedrops. Data was recorded on a performa. **Results:** Overall occurrence of manifest strabismus was found to be 3.9%, with much greater frequency of Comitant type. 48.48% had ET out of which 51.56% was Accommodative ET, followed by 42.19% Constant ET & 6.25% Infantile ET. 51.51% had XT out of which 69.12% was Constant XT followed by 30.88% Intermittent XT. No pure vertical deviations were seen but 11.33% patients had co-existing vertical deviations with horizontal deviations. **Conclusion:** Comitant strabismus is more occurring than incomitant, with ET and XT having almost same proportion. Mostly occurring types are Accommodative ET, Constant ET, Constant XT and Intermittent XT. Amblyopia and refractive errors are often associated with it.

Key Words: Strabismus, Comitant, Incomitant, Esotropia, Exotropia, Amblyopia.

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INTRODUCTION

Strabismus, also called squint, tropia and heterotropia, is a common ocular disorder having a 1% to 4% of prevalence [1,2]. There are two types of strabismus: concomitant and incomitant. Concomitant strabismus is a condition in which the ocular angle of deviation remains constant in each direction of gaze. It includes the most common types of strabismus, including exotropia, esotropia, hypetropia, monofixation syndrome and microstrabismus. In the incomitant strabismus, which is also called as complex or paralytic strabismus, the misalignment of eyes or the angle of deviation differs with each direction of gaze. It accounts for approximately 5% of strabismus cases and comprise of different forms of Duane retraction syndrome (DRS), congenital fibrosis of the extraocular muscles (CFEOM) and horizontal gaze palsy [3]. Horizontal comitent type is the most common form of strabismus [4-8]. Strabismus can be defined as a manifest deviation of the primary lines of sight of 1 prism diopter (PD) or more. In strabismus, when the patient tries to fixate an object, one eye is either constantly or intermittently not aligned toward the same point as the other eye. Therefore, the image of the targeted object does not form on the fovea of the deviated eye. The inward convergent misalignment of one eye is called Esotropia. An outward divergent misalignment is called Exotropia. An upward misalignment is called Hypertropia. A downward misalignment is called Hypotropia. Whereas, a wheel-like misalignment that is top inward is called Incyclotorsion, while a wheel-like misalignment that is top outward is called Excyclotorsion [9].

This study was conducted to find out the occurrence of different types of manifest strabismus in patients among the age group of (1-25 years) attending ophthalmology out-patient department at Benazir Bhutto hospital Rawalpindi.

MATERIALS AND METHODS

It was a Descriptive Cross-Sectional study which started on 1st September 2015 and continued till 31st December 2015. Patients were referred to the orthoptist clinic from OPD after proper slit-lamp examination to rule-out any anterior or posterior segment pathology. After taking history of the patients, their VA was recorded for each eye separately. It was assessed verbally by the Snellen chart in adults and by the Lea Symbols in children. Visual Acuity was categorized as normal (6/6-6/9), decreased (6/12-6/18), severely decreased (6/24-6/60), <6/60 or wandering eye movements, HM and CF. Cover test was performed to differentiate heterotropia from well compensated heterophoria. Bruckner reflex and Hirschberg reflex was observed by Direct ophthalmoscope for the qualitative assessment of the degree of deviation. For quantitative measurement prisms were used while performing Krimsky and PCT. For infants and when cover tests were not possible due to poor fixation, evaluation was relied upon qualitative

assessment. All these tests were performed at near (40cm) and distance (6m) and without and with glasses (in patients having previous prescription). Children tested at single fixation distance, and who had no strabismus diagnosed with that test were deemed as nonstrabismic [10]. EOM motility was assessed in 9 positions of gaze to see whether there is normal or abnormal pattern. Presence or absence of diplopia; and stereopsis, by using Titmus Fly test was evaluated wherever possible. Automated refraction through autorefractor, cycloplegic refraction in children or accommodative patients by instilling 1% cyclopentolate eye drops, 3 times, by 10 minutes interval and then performing streak retinoscopy; and by performing subjective refraction in adults, refractive error of the patients was evaluated. Any available previous prescription was determined by the Lensmeter. Final refraction was considered as full cycloplegic refraction in accommodative (hyperopic) esotropes and in myopic exotropes. Refractive status of the patients was categorized as Astigmatic, Simple Hypermetropic, Simple Myopic and Emmetropic including physiological hypermetropes and those who had no need of any prescription. Management plan included advising glasses or planning surgery after performing Post Operative Diplopia Test as per required under the supervision of the supervisor.

Data was entered and analyzed using Microsoft Excel 2007. The continuous variable was analyzed as Mean ± SD and Median, and categorical variable as Frequency.

RESULTS

The results presented in Tables 1, Table 2 and Table 3 shows that the Mean age ± SD of the patients was 10.5 ± 1.369. The Median age was found to be 9 years. Occurrence of strabismus was greater in females 80(53.33%) than in males 70(46.67%). The highest frequency of the patients was in the age group of 1-5 years i.e. 31.33%, followed by 6-10 years age group i.e. 24%. 74% of the patients were children (1-15 years). Remaining 26% were adults.

Refractive errors were found in 84(56%) patients. Most prevalent type of refractive error was astigmatism (35.33%), followed by simple hypermetropia (16%) and simple myopia (4.67%). Other 66(44%) were either emmetropic or having physiological hyperopia, not needing any correction.

Overall occurrence of manifest strabismus was found to be 3.9%, with much greater frequency of Comitant type. The occurrence of Incomitant strabismus was found in 18(12%) patients among which 8(44.44%) had Duane Type 1 syndrome, 5(27.78%) had VI (abducens) nerve Palsy, 2(11.11%) had MED & 3(16.57%) was having Brown syndrome.

The occurrence of Comitant strabismus was found in 132(88%) patients with 64(48.48%) having Esotropia, out of which 33(51.56%) had Accommodative ET, followed by 27(42.19%) with Constant ET & 4(6.25%) having Infantile ET.

Among all the 68(51.51%) comitant Exotropes, 47(69.12%) had Constant XT followed by Intermittent XT in 21(30.88%) patients.

There, no pure Vertical deviations were observed but 17(11.33%) had some degree of vertical deviations co-existing with horizontal deviations.

Overall Amblyopia was observed in 63(42%) strabismic patients with Unilateral Amblyopia in 40(63.49%) & Bilateral Amblyopia in 23(36.51%) patients. Prevalence of amblyopia in ET was higher (74%) than its prevalence in XT (26%).

DISCUSSION:

Strabismus is a common pediatric condition with functional and cosmetic consequences. It is a common cause of amblyopia [11], because most deviations occur in the period of visual immaturity (period of plasticity), so if left untreated, these deviations can lead to development of irreversible amblyopia and postural modifications. Strabismus also results in confusion or diplopia in adults, because of the brain's inability to suppress one image. It leads to loss of binocularity and depth perception (stereopsis). Several reports signify that adults having strabismus are less likely to get jobs compared to those individuals who have normal ocular alignment, which demonstrates that ocular deviations can have noteworthy social impact [12].

Prevalence of strabismus has been estimated through school & clinic based studies [13]. However disparity in disease classifications and study designs could explain some of the variation [14]. The ratio between esotropia and exotropia in Caucasians is 60:40, while, in Asians, this ratio is 33:67. This variation is probably due to anatomical variations between these two races [15]. After conducting a number of community-based studies, the prevalence of esotropia has been accounted to be five times more than exotropia in Ireland and twice in Australia [16,17]. With respect to gender, women comprise 60 to 70 percent of patients with exotropia [18]. In Pakistan, children less than the age of 15 years account for 45% of the whole population [19]. An estimated prevalence of ocular misalignments in Pakistan is 5.4% [19], in US 4% [20], 2.1% among African-American and 3.3% in White children [13]. The difference in this study can probably be attributed to the different age group considered, sampling technique used, specified inclusion & exclusion criteria & the racial differences between Asian & American population.

In this study the overall occurrence of manifest strabismus among 3846 patients attending orthoptics department was found to be 3.9%. In another hospital based descriptive cross sectional study conducted by Durrani YK on 4884 patients visiting eye department Lady Reading Hospital Peshawar, prevalence of comitant esotropia was found as 2.15% [21]. Occurrence

of strabismus was greater in males (54%) than in females (46%). The highest frequency of the patients was in the age group of 7-10 years i.e. 31%, followed by 3-6 years age group i.e. 27%. 78% of the patients were children (3-14 years). Remaining 22% were adults. These results indicate that comitant strabismus is an anomaly of childhood.

A study conducted on incidence of Strabismic Amblyopia in Department of Ophthalmology, Fatima Jinnah Medical College and Sir Ganga Ram Hospital, Lahore finds that the prevalence of amblyopia in ET is higher than in XT [22]. This study also indicates that Amblyopia with ET (74%) is more prevalent than XT (26%) & Unilateral was more frequent than Bilateral Amblyopia.

A major limitation of this study is that it was a hospital-based study which can be biased due to patients of only a specific region. Other limitations include small sample size and short duration of study.

Recommendations: On the basis of results of present study it is recommended that

- The study should be conducted in other hospitals & with relatively large sample size & longer study duration so that the exact prevalence can be estimated.
- There should be organization of awareness programs for the community and general population regarding squint and its treatment potential at all health care levels.

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Table 1: Frequency of Incomitant strabismus.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Duane type 1	8	5.33	44.44	44.44
	6th nerve palsy	5	3.33	27.78	72.22
	Brown syndrome	3	2	16.67	88.89
	MED	2	1.33	11.11	100.0
	Total	18	12	100.0	
Missing	Comitant	132	88		
Total		**150**	**100.0**		

Table 2: Frequency of Comitant ET.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Infantile ET	4	2.67	6.25	6.25
	Constant ET	27	18	42.19	48.44
	Accommodative ET	33	22	51.56	100.0
	Total	64	42.67	100.0	
Missing	Missing	86	57.33		
Total		**150**	**100.0**		

Table 3: Frequency of Comitant XT.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Intermittent XT	21	14	30.88	30.88
	Constant XT	47	31.33	69.12	100.0
	Total	68	45.33	100.0	
Missing	Missing	82	54.67		
Total		**150**	**100.0**		

ORIGINAL ARTICLE

TIMES JOURNAL OF HEALTH & SOCIAL SCIENCES

Comparison of postoperative pain in laparoscopic cholecystectomy with and without instillation of bupivacaine in the gall bladder bed

ABSTRACT: Laparoscopic surgery is a modern surgical technique in which operations in the abdomen are performed through small incisions. Cholecystectomy is the surgical removal of the gallbladder. Laparoscopic cholecystectomy is the most common laparoscopic procedure performed. The most common problem after laparoscopic cholecystectomy is the postoperative pain. One of the good procedures is to instill a local anaesthetic agent at the area from where gall bladder is removed. Inj. Bupivacaine 0.5 % is a long-acting local anaesthetic. It is effective in reducing postoperative pain after Laparoscopic Cholecystectomy.

OBJECTIVE: To compare the mean postoperative pain in laparoscopic cholecystectomy with and without instillation of 0.5% bupivacaine in the gall bladder bed.

OUTCOME MEASURE: The outcome was measured as pain post operatively at 0, 2, 4 and 6 hours by VAS. And the number of hours after which patients requested for analgesia.

MATERIAL AND METHODS:

SETTING: Department of surgery, Benazir Bhutto Hospital Rawalpindi.

DURATION: 6 months

STUDY DESIGN: Randomized Controlled Trail.

METHODS: 120 patients undergoing Laparoscopic Cholecystectomy were included in study. Patients were divided into two groups A & B. Group A (Experimental group) was given 10 ml 0.5% bupivacaine at gall bladder bed and under right hemidiaphragm at the end of surgery through laproscope port and **Group B (Control group)** was given 10 ml normal saline intraperitoneally at the same location**. Patients were included through non probability sampling technique.**

RESULTS: 100 patients (83.3%) were female and 20 patients (16.7%) were male. The demographic data including age, gender, and the average duration of surgery was not significantly different ($p>0.05$) in Bupivacaine and Saline group. A significant difference was observed between the pain scores of Bupivacaine and Saline groups after 0 hours, 2 hours and 4 hours of surgery ($p<0.05$). However no significant difference was observed between two groups after 6 hours of surgery ($p>0.05$).There was also a significant difference in the number of hours after which patients requested for analgesia ($p<0.05$). The patients of Bupivacaine group requested late for analgesia as compared to the patients of Saline group.

CONCLUSION: Intraperitoneal instillation of Bupivacaine results in good pain relief after laparoscopic cholecystectomy.

KEYWORDS: Laparoscopy, Cholecystectomy, Bupivacaine

INTRODUCTION:

Gall bladder diseases are known to the mankind for over 2000 years.() The prevalence of gallstones is highest in people of northern European descent, and in Hispanic populations and Native American populations.() However the prevalence of gallstones is lower in Asians and African Americans. In developed countries, about 10% of adults and 20% of people > 65 years have gallstones, but 80% are asymptomatic.[3]

A Swedish epidemiologic study found that the incidence of gallstones was 1.39 per 100 person-years.[4] In an Italian study, 20% of women had stones, and 14% of men had stones. In a Danish study, gallstone prevalence in persons aged 30 years was 1.8% for men and 4.8% for women; gallstone prevalence in persons aged 60 years was 12.9% for men and 22.4% for women.[5]

Methods: This was a descriptive study which was carried out for a period of one year from January 2017 to December 2017 in surgical unit of Benazir Bhutto Shaheed Hospital Abbottabad on patients who had cholecystectomy secondary to symptomatic gall stone disease diagnosed on the basis of history and ultrasonography. Gallstones were then analysed for bilirubin, cholesterol, calcium and phosphate. The data was analysed by using SPSS Version 16.00.

Results: In our research study 88% of patients were

females while 11.8% were males, the mean age being 35.81±8.12 year. The frequencies of different types of gall stones were: mixed type of stones 80.0% and cholesterol stones 20.0.()

Women are more likely to develop cholesterol gallstones than men, especially during their reproductive years, when the incidence of gallstones in women is 2-3 times that in men. The difference appears to be attributable mainly to estrogen, which increases biliary cholesterol secretion.(). Among individuals undergoing cholecystectomy for symptomatic cholelithiasis (gallstones), 8-15% of patients younger than 60 years have common bile duct stones, compared with 15-60% of patients older than 60 years of age.()

Gallstones are the pieces of solid material that form in the gallbladder. These stones develop as a result of formation of hard particles by cholesterol and pigments in the bile.() Gallstones are usually treated with surgery to take out the gallbladder. The traditional operation is called an open cholecystectomy. A newer procedure, called laparoscopic cholecystectomy, is less invasive, has fewer complications, and is used more often.() During this procedure, instruments, a light, and a camera are passed through several small incisions in the abdomen. The surgeon views the inside of the body by looking at a video monitor. This procedure is used in approximately 80% of gallbladder removals. Many laparoscopic cholecystectomies are performed on an outpatient basis, which means that the patient can go home the same day. Normal physical activity can usually be resumed in about a week.()

The intraoperative and postoperative relief of pain forms an important part of good anesthetic technique. The sensation and incidence of postoperative pain varies with the individual patient, but is largely governed by the site and nature of operation. There are various modalities available for postoperative pain relief. These range from parenteral analgesia, epidural analgesia and peripheral nerve blocks.[9]

Reduction in surgical trauma in the laparoscopic results in a reduction of postoperative pain, lessened requirements for opioids and earlier return to normal activity.[9] Bupivacaine is prescribed for local or regional anesthesia (loss of sensation) or analgesia (decreased pain) for surgical, dental, diagnostic, and obstetrical procedures.[10] Injection Bupivacaine 0.5 % is a long-acting local anaesthetic. It blocks initiation and transmission of nerve impulses at the site of application by stabilizing the neuronal membrane. The compound is ultimately metabolized in the liver.

Depending upon the site of injection and the concentration used, anaesthesia usually lasts 2-4 hours.[11] The reduction of pain also improves the pulmonary function of the patient.[12] The half-life of Bupivacaine in adults is 2.7 hours. The onset of action with Bupivacaine is rapid and anesthesia is long lasting. The duration of anesthesia is significantly longer with Bupivacaine than with any other commonly used local anesthetic. It has also been noted that there is a period of analgesia that persists after the return of sensation, during which time the need for strong analgesics is reduced.[13]

In Pakistan no study was found on this topic but one study compared the effect of intraperitoneal use of bupivacaine and ladocaine and results showed that there is no significant difference between two drugs for managing pain after laparoscopic cholecystectomy.[11] In most of the literature the intervention with 20ml of 0.5% bupivacaine was used but no study was found on the use of 10ml of 0.5. The available literature locally related to the topic is very less. The topic has been selected for the study because the pain following laparoscopic cholecystectomy is the commonest causes of distress in patients.[14] This study aimed to compare the mean postoperative pain in laparoscopic cholecystectomy with and without instillation of 0.5% bupivacaine in the gall bladder bed. The study will help to manage postoperative pain in cholecystectomy efficiently.

METHODS AND MATERIALS:

Study Design, Study Setting and Duration:

It was a Randomized Controlled Trial (RCT) conducted at Benazir Bhutto Hospital Rawalpindi, during a period of 8 months (1st August 2015 to 31st March 2016).

Sampling Technique and Sample Size:

Non-probability sampling technique was used to collect the data. Sample size was calculated by WHO calculator:

Level of significance = 0.05; Power of test = 80%; Population mean = 2.9[15]; Test value of mean = 4.6[15]; Pooled standard SD = 2.3; Sample size = 60 in each group

Sample Selection:

Inclusion Criteria:

Patient in ASA Grade I and Patients who were aged between 30 to 60 years of both gender undergoing laproscopic cholecystectomy.

Exclusion Criteria

Patients with chronic pain syndrome; Allergy to protocol drug; Patients in whom conversion to open cholecystectomy was done for any reason; Patients with previous history of any chemotherapy or radiotherapy, any history of repeated infection, previous abdominal surgery; Patients with other hepatobiliary diseases like hepatitis, choledocholithiasis, along with cholelithiasis; H/o Bleeding diathesis; H/o Diabetes mellitus; H/o Acute cholecystitis.

Data Collection Procedure:

Before starting the data collection procedure, first of all permission was taken from the concerned authorities and ethical committee. Informed consent was taken from all patients by giving them the written informed consent form and they were asked to sign it.

Hospital registration numbers of all patients included in the study was recorded. The demographic data including the name, age, gender and the area of residence of all patients was taken. The education status of all patients was also recorded. History of any previous chemotherapy, radiotherapy and repeated infections was taken. Patients were examined for tenderness and raised temperature. Blood sugar level (Random) and other baseline investigation like full blood count, blood urea/sugar and hepatitis B & C screening was done in addition to pre-anesthesia workup. Appropriate intravenous antibiotic prophylaxis was given to all patients. Patients were divided randomly into two groups Group A and Group B by lottery method.

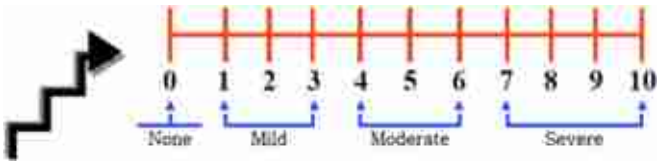
- **Group (A) – Experimental or Bupivacaine group:**

  The patients of group **A** received 10 ml 0.5% bupivacaine at gall bladder bed and under right hemidiaphragm at the end of surgery through laproscope port.

- **Group (B) – Placebo or Saline group (Control):**

  Patients of group **B** received 10 ml normal saline intraperitoneally at the same location.

Both groups were given routine analgesics postoperatively. The NPRS (Numeric Pain Rating Scale) for pain was used and the data was recorded and analyzed after 0, 2,4 and 6 hours of surgery. NPRS (Numeric Pain Rating Scale) with the range of 0 to 10 is a type of pain scale that was used. Patients were asked to choose a number from 0 to 10 that best reflects level of pain.



The time after which patients requested for analgesia was also recorded and analyzed. Vital signs like heart rate, blood pressure, respiratory rate, temperature, and oxygen saturation were also continuously monitored on hourly basis for 24 hours postoperatively. All the information was recorded by researcher on a specially designed questionnaire.

Data Analysis:

All the data was analyzed using SPSS version 18.0. For qualitative variable the gender, frequency and percentage were calculated. For quantitative variable age, pain score, mean and SD were calculated. An independent samples t-test was used to compare the demographic variables including age and gender of Bupivacaine and Saline group. Independent samples t-test was also used to compare the average duration of surgery between the two groups. The continuous variables of Pain scores after 0, 2, 4 and 6 hours, and the time of request for analgesia was tested for normality by using Kolmogorov-Smirnov test, which showed that the data was non parametric. For comparing the mean scores of non parametric variables, Mann Whitney U test was used which was intended to compare the mean pain scores after 0, 2, 4, 6 hours, and the mean time of request for analgesia between the two groups. The P-value <0.05 was considered as showing statistically significant results.

RESULTS:

A total number of 120 patients were included in this study, as 60 (50%) in Bupivacaine group and 60 (50%) in saline group. The mean age ± SD of patients was 39.17 ± 8.26. The minimum age of patients was 26 and maximum age was 56 years. There were 100 (83.3%) female patients [51 (51%) in Bupivacaine group; 49 (49%) in Saline group], while the male patients were 20 (16.7%) [9 (45%) in Bupivacaine group; 11 (55%) in Saline group].

Comparison of Demographic Data:

The demographic profile i.e., age and gender between the Bupivacaine and Saline group was compared by using **Independent Samples t-test**, which revealed that the two groups are more or less similar and statistically no significant difference was observed between Bupivacaine and Saline group (Table 1).

Table : Demographic Data

Parameters	Bupivacaine Group (Mean ± SD)	Saline Group (Mean ± SD)	p-value	Remarks
Age	38.63 ± 8.024	39.39 ± 8.540	0.644	Insignificant
Gender	51:9	49:11	0.628	Insignificant

Duration of Surgery:

The mean duration of surgery in minutes and standard deviation in Bupivacaine group was 61.24 ± 10.742 (95% C.I: 58.59–64.14). The mean duration of surgery and standard deviation in Saline group was 60.74 ± 11.179 (95% C.I: 58.03–63.80). The minimum duration of surgery was 45 minutes and maximum duration was one hour and 20 minutes.

An **Independent Samples t-test** revealed that there was no significant difference between the bupivacaine and saline groups in terms of duration of surgery (Table 2).

Table : Duration of Surgery

Parameters	Mean ± SD	95% C.I		t-value (df)	p-value
		Lower Bound	Upper Bound		
Bupivacaine Group	61.24±10.742	58.59	64.14	0.225 (118)	0.822
Saline Group	60.74±11.179	58.03	63.80		

Pain Scores:

The pain scores of Bupivacaine and Saline group right after the surgery, after 2, 4 and 6 hours are shown in the following Table 3.

Table : Pain Scores after 0, 2, 4 and 6 hours in Bupivacaine and Saline group

Pain Scores on NPRS	Group	Pain Score after 0 Hours	Pain Score after 2 Hours	Pain Score after 4 Hours	Pain Score after 6 Hours
		N (%)	N (%)	N (%)	N (%)
2	**Bupivacaine Group**	4 (100%)	0 (0%)	0 (0%)	0 (0%)
	Saline Group	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total	4 (100%)	0 (0%)	0 (0%)	0 (0%)
3	**Bupivacaine Group**	25 (86.2%)	7 (70%)	2 (100%)	0 (0%)
	Saline Group	4 (13.8%)	3 (30%)	0 (0%)	0 (0%)
	Total	29 (100%)	10 (100%)	2 (100%)	0 (0%)
4	**Bupivacaine Group**	26 (54.2%)	34 (89.5%)	22 (78.6%)	9 (81.8%)
	Saline Group	22 (45.8%)	4 (10.5)	6 (21.4%)	2 (18.2%)
	Total	48 (100%)	38 (100%)	28 (100%)	11 (100%)
5	**Bupivacaine Group**	5 (19.2%)	17 (37.8%)	32 (60.4%)	26 (52%)
	Saline Group	21 (80.8%)	28 (62.2%)	21 (39.6%)	24 (48%)
	Total	26 (100%)	45 (100%)	53 (100%)	50 (100%)
6	**Bupivacaine Group**	0 (0%)	2 (7.4%)	4 (11.4%)	19 (40.4%)
	Saline Group	12 (100%)	25 (92.6%)	31 (88.6%)	28 (59.6%)
	Total	12 (100%)	27 (100%)	35 (100%)	47 (100%)
7	**Bupivacaine Group**	0 (0%)	0 (0%)	0 (0%)	5 (45.5%)
	Saline Group	1 (100%)	0 (0%)	2 (100%)	6 (54.5%)
	Total	1 (100%)	0 (0%)	2 (100%)	11 (100%)
8	**Bupivacaine Group**	0 (0%)	0 (0%)	0 (0%)	1 (100%)
	Saline Group	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total	0 (0%)	0 (0%)	0 (0%)	1 (100%)

Request for Analgesia:

The frequency of hours after which patients of Bupivacaine and Saline group requested for analgesia are shown in the following table 4.

Table : Number of hours after which patients of Bupivacaine and Saline group requested for analgesia

Patient requested for Analgesia after Hours		N	%
0	Bupivacaine Group	5	45.5
	Saline Group	6	54.5
	Total	11	100.0
1	Bupivacaine Group	4	36.4
	Saline Group	7	63.6
	Total	11	100.0
2	Bupivacaine Group	12	50.0
	Saline Group	12	50.0
	Total	24	100.0
3	Bupivacaine Group	12	35.3
	Saline Group	22	64.7
	Total	34	100.0
4	Bupivacaine Group	14	60.9
	Saline Group	9	39.1
	Total	23	100.0
5	Bupivacaine Group	9	75.0
	Saline Group	3	25.0
	Total	12	100.0
6	Bupivacaine Group	3	75.0
	Saline Group	1	25.0
	Total	4	100.0
7	Bupivacaine Group	1	100.0
	Saline Group	0	0.00
	Total	1	100.0

Hypothesis Testing:

A non-parametric **Mann Whitney U test** was conducted to compare the two groups, i-e Bupivacaine and Saline groups in terms of pain scores after 0, 2, 4 and 6 hours, and the number of hours after which patients requested for analgesia.

The **Mann Whitney U test** revealed that there was a significant difference between Bupivacaine group (Median=4, n=60) and Saline group (Median=5, n=60) in pain scores after 0 hours, U=622.50, Z=-6.476,

p=0.00, with a large effect size r=0.6 according to Cohen's criteria 1988.

After 2 hours of surgery, there was a significant difference between Bupivacaine group (Median=4, n=60) and Saline group (Median=5, n=60), U=632.50, Z=-6.446, p=0.00, with a large effect size r=0.6.

After 4 hours of surgery, there was a significant difference between Bupivacaine group (Median=5, n=60) and Saline group (Median=6, n=60), U=764.00, Z=-5.808, p=0.00, with a large effect size r=0.5.

However, no significant difference was observed after 6 hours between Bupivacaine group (Median=5, n=60) and Saline group (Median=6, n=60), U=1478.00, Z=-1.816, p=0.069.

There was also a statistically significant difference between the Bupivacaine group (Median=3, n=60) and Saline group (Median=3, n=60) in terms of number of hours after which patients requested for analgesia, U=1410, Z=-2.090, p=0.037 with a small effect size r=0.2.

Table : Mann-Whitney test to compare the pain scores after 0, 2, 4 and 6 hours and patients requested for analgesia in Bupivacaine and Saline group

		Median Pain Scores	Mann Whitney U	Z value	p-value	Effect size (r)
Pain Scores after 0 hours	**Bupivacaine Group**	4	622.50	-6.476	0.000	0.6
	Saline Group	5				
Pain scores after 2 hours	**Bupivacaine Group**	4	632.50	-6.446	0.000	0.6
	Saline Group	5				
Pain scores after 4 hours	**Bupivacaine Group**	5	764.00	-5.808	0.000	0.5
	Saline Group	6				
Pain scores after 6 hours	**Bupivacaine Group**	5	1478.0	-1.816	0.069	0.16
	Saline Group	6				
Patient requested for Analgesia after Hours	**Bupivacaine Group**	3	1410.0	-2.090	0.037	0.2
	Saline Group	3				

DISCUSSION:

Gallstones are hard particles that develop in the gallbladder. The gallbladder is a small, pear-shaped organ located in the upper right abdomen—the area between the chest and hips—below the liver. Gallstones can range in size from a grain of sand to a golf ball. The gallbladder can develop a single large gallstone, hundreds of tiny stones, or both small and large stones.[16]

The most common operation of the biliary tract performed these days is cholecystectomy, which is the second most common operation.[17] Cholecystectomy effectively prevents future biliary colic but is less effective for preventing atypical symptoms such as dyspepsia.[3] Laparoscopic cholecystectomy is considered the gold standard treatment for benign gallbladder disease. It is characterized by a short hospital stay and an early return to regular activity.[18]

The pain in the conventional cholecystectomy is a parietal pain. In laparoscopic cholecystectomy, pain is derived from multiple situations: incision pain (somatic), deep intra-abdominal pain (visceral), and shoulder pain (visceral pain due to phrenic nerve irritation).[19] In 17% to 41% of the patients, pain is the main cause for staying overnight in the hospital the day of surgery.[20] It is the primary reason why the patients have a longer convalescence.[21]

Laparoscopic cholecystectomy has improved surgical outcome in terms of reduced pain and convalescence compared to conventional cholecystectomy.[22] It offers several advantages such as a reduction in stress response, postoperative pain, postoperative wound infection rate, intraoperative bleeding, impairment of respiratory function and pulmonary complications, short recovery time, and cosmetic appearance.[23]

It is important to consider that the pain is a manifestation that varies from one person to another, depending largely on the pain threshold of each person and how each perceives pain, so today the subjective tools are being used to measure the level of pain. VAS is based on the results of each patient's verbal comments. This study indicates that it is feasible to perform this type of

procedure to have better control of postoperative pain in ambulatory laparoscopic surgery.

With the possibility that a similar beneficial effect might be achieved in laparoscopic cholecystectomy a number of studies were carried out with variable results.[24]

Narchi P et al observed that 0.5% bupivacaine (80 ml) was effective in reducing postoperative pain after day case diagnostic laparoscopy.[25] In contrast Walling GLC et al (1998) could not demonstrate any effect on postoperative analgesia of bupivacaine 2ml/kg dissolved in 300 ml of isotonic saline administered intraperitoneally after laparoscopic cholecystectomy.[26] The effective analgesia observed by Narchi P et al, could be attributed to the larger doses of local anesthetic used by these workers. Larger doses are however not without the risk of toxicity.[26]

In this study, the demographic data including age, gender, and the average duration of surgery was not significantly different ($p > 0.05$) in Bupivacaine and Saline group.

A significant difference was observed between the pain scores of Bupivacaine and Saline groups after 0 hours, 2 hours and 4 hours of surgery ($p < 0.05$). However no significant difference was observed between two groups after 6 hours of surgery ($p > 0.05$). The patients of Bupivacaine group suffered less pain after 0, 2 and 4 hours as compared to Saline group patients because they were administered with 10 ml 0.5% bupivacaine at gall bladder bed under right hemidiaphragm at the end of surgery through laproscope port. However after 6 hours the effect of Bupivacaine diminished and the pain scores of both groups became similar and insignificant.

There was also a significant difference in the number of hours after which patients requested for analgesia ($p < 0.05$). The patients of Bupivacaine group requested late for analgesia as compared to the patients of Saline group.

In a study conducted by Castillo-Garza G et al, a significant difference occurred in the average pain levels at 6 hours postoperatively between the control and experimental groups. But no significant difference occurred between the 2 groups during the other time intervals. The patients that needed analgesics asked for their first dose at 4 hours postoperative time. The average analgesic requirement was lower in the bupivacaine group, but this did not reach the level of statistical significance.[27]

Alexander et al conducted a study to determine the effect of injection of a long-acting local anesthetic bupivacaine, in relation to the port sites at the level of the parietal peritoneum, in reducing postoperative pain following laparoscopic cholecystectomy. Two scores for pain, with the patient at rest, and on movement, were assessed 6 and 18 hours after surgery using a visual analogue pain scale. Median pain score was significantly higher in patients who received standard technique (***n*** = 40) than in those given peritoneal injection (***n*** = 40) at both 6 (rest = 3.0 ***versus*** 1.0, movement = 5.0 ***versus*** 2.9) and 18 h (rest =1.9 ***versus***0, movement = 3.2 ***versus*** 1.2). Both opiate and oral analgesic requirements were reduced in patients administered peritoneal injection, although this was not statistically significant. The addition of periportal injection of bupivacaine at the level of the parietal peritoneum, performed under direct vision, reduced pain after laparoscopic cholecystectomy.[28]

A prospective randomized trial conducted by Shibhar P et al, revealed that the VAS score for abdominal pain in study group was significantly less as compared to control group after 6 hours ($P < 0.040$), 12 hours ($P < 0.002$) and 24 hours ($P < 0.001$). At 48th hour the VAS score was not significant ($P > 0.05$). The VAS score for shoulder tip pain for study group as compared to control group was significant at 6th hour ($P < 0.012$), whereas it was not significant at 12th hours, 24th hours, and 48th hours ($P > 0.05$). At 6th hour 6.66% patients in study group and 63.33% patients in control group were given analgesic injections. P value (< 0.0001) calculated was significant between study group and control group. After 12 hours 10% patients in study group and 33.33% patients in control group were given analgesic injections. P value (0.0575) calculated was insignificant between study group and control group. After 24 hours 6.66% of patients were given analgesic injections in both groups. After 48 hours none of the patients from neither group were given analgesic injections.[29]

A placebo-controlled double-blind randomized trial conducted by Louizos et al, revealed that the combination of preincisional local infiltration and intraperitoneal instillation of Levobupivacaine 0.25% shows an advantage for postoperative analgesia after laparoscopic cholecystectomy.[30]

In one study where experimental group compared with patient who did not receive local anesthetics, patients given bupivacaine experienced a 36% pain reduction in less than 2 hours post operatively, a 28% pain reduction 6 hours postoperatively. a 20% pain reduction 10 hours postoperatively and a 4% reduction in next morning. So it was observed that bupivacaine reduce pain significantly during first 6 hours after laproscopic cholecystectomy.[15]

In the study of Bhardwaj N et al, the VAS was significantly higher in saline group compared to bupivacaine group at 1st, 4th and 8th postoperative hour ($P<0.001$; $P<0.05$). Although the VRS was higher in saline group compared to bupivacaine group at 1st, 4th and 8th postoperative hour the difference was statistically significant only at 1st and 4th postoperativehour ($P<0.05$). Shoulder pain was not present in any of the patients in both the groups. The total number of patients requiringanalgesics was higher for saline group than bupivacaine group ($P<0.05$).[31]

CONCLUSION:

The intraperitoneal instillation of bupivacaine in

gallbladder bed causes good post operative pain relief in laparoscopic cholecystectomy, but its effect was limited to less than 6 hours. The technique is easy to use and is safe because no hemodynamic instability or any other adverse effects were observed in any patient of Bupivacaine group.

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