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A CASE STUDY ON THE PREVALENCE OF SHARP INJURY AMONY PARAMEDICAL STAFF

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Abstract:

***Objectives**: To assess the frequency of injuries due to Sharps and needles among the paramedical staff and nurses, and to highlight the factors that are associated with needle stick and Sharp injuries and to develop sense of awareness and to prevent Sharp and needle stick injuries. **MATERIALS AND METHODOLOGY:** 100 nurses and paramedics were enrolled in our study; all of them were interviewed by pre formed questionnaire as per our objectives. **RESULTS:** According to this study, (46%) subjects got injured, out of them males were (53%) and females were (47%);the ratio among the females is 6% higher than males. 48% of the respondents aged 15-25 and the majority of injuries happened to occur in departments where patient load is more due to work load.44% of the cases enrolled were para medical staff and charge nurses working in medical emergency and wards.(46%) of subjects injured more than two times,(38%) were injured once and 8(16%) injured thrice or more in their working hours.95% of the injuries happened to occur at hands and forearms whereas 5% at the other parts of the body.63% of the instruments that caused injury were non infective and 37% were unsterilized.46% of the injuries occurred while giving injections,24% when disposing of the instruments,17% while sampling and 13% while assisting operations.62% of the subjects were not aware of their patients immune status. **CONCLUSION:** From our study ,it is concluded that Female paramedics with less than 25-year age are more vulnerable to needle stick and sharp injuries. Majority of the injuries occurred when using injection syringes while patients' overload.*

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INTRODUCTION:

The sharp injury can b termed as "A cut, incision, stab, or with skin penetration, that reflects characteristics and patterns consistent with the object causing wound" (i.e, IV equipment trocar. scalpel blade, sutures needles and hollow bore needles) [1]. But for ward and preoperative works, sutures needles are the most common equipment causing these injuries. A Paramedic is termed as "A health care provider who has been trained for giving emergency medical treatment and assist medical professionals" [2]. The injuries due to sharps and needle sticks are the most common health care provider issue. These are occupational hazard in medical community and are the potential source of serious infections like hepatitis B and C.

A lot of researches on frequency of sharps injury happened to occur during preparation, 17% during use, 18.6% after using the device, 4.3% while disposing off and 5.7% during washing carrying them to other places [3].

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A case study done in Pakistan reported that 77% of Health care providers had sharp injuries, the highest number of (41.6%), at Patient room / Ward (15.6%) at Emergency Department (9.10%), at Intensive Care unit / Critical Unit (33.80%) [4] & 40.3% injuries occurred while using needle, 7.8% while disassembling equipment, 2.6% while preparing for reuse of reusable instruments, 19.5% while before disposal after use, 1.3% when it is to be put into the disposal container, 5.2% while restraining patient, 2.6% due to the device or needle left on floor or other inappropriate place, 2.6% due to anxiety and pressure of work and 5.2% due to touch or collision with other person [5] . Another study conducted reported an important finding that most of the injuries occurred not while using itself, but rather during their handling between the use and its disposal [6].

It is noted that the frequency of sharp injuries and deadly blood-borne diseases related to it among the health care staff is increasing. This is due to limited or no knowledge and awareness about the safety protocols. As medical community, our main concern is to initiate efforts that could prevent and limit such accidents and its consequences among health professionals. According to World Health Organization (WHO) regional classification about needle stick injury, Pakistan comes in Eastern Mediterranean Region D. Unfortunately our region has the highest rate of sharp and needle stick injuries as compared to the other world [7]. So, in this background, our study is aimed at the carrying out this study to see the latest incidence and prevalence of sharp injuries among paramedical staff as well as their general awareness about this. The focus of our study is to assess the knowledge frequency and attitude among paramedics about sharp and needle injuries. So, proper measures and standard protocol regarding training as well as adopting measures for prevention would be implemented to prevent health hazards any further.

MATERIALS AND METHODS:

Study design: It was a descriptive type of cross sectional study.

Study area: It was carried out in Bahawal Victoria hospital, Bahawalpur.

Study duration: 1.5 months

Study subjects: Paramedical staff of Bahawal Victoria hospital, Bahawalpur

Sample Size: A total of 100 people were enrolled in our study.

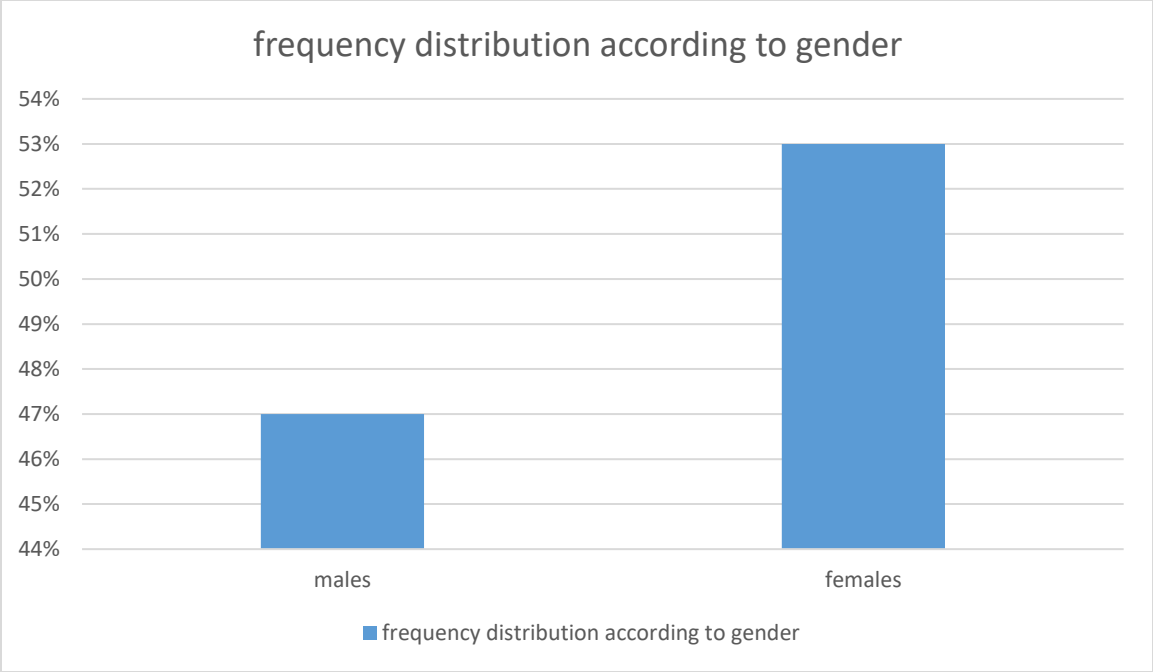
Data Collection: Data collection was done by preformed questionnaire.

Sample Technique: Non probability convenience sampling technique was used.

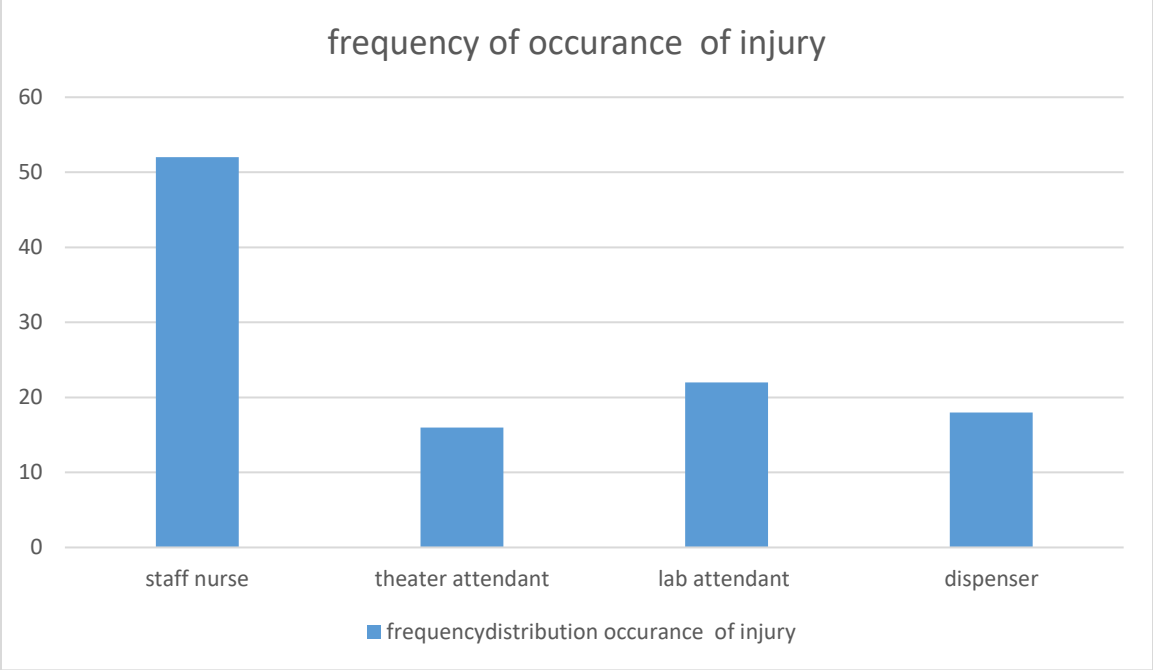
Data Analysis: Data was analyzed through SPSS21.0 and for frequency tables and bar charts were made.

RESULTS:

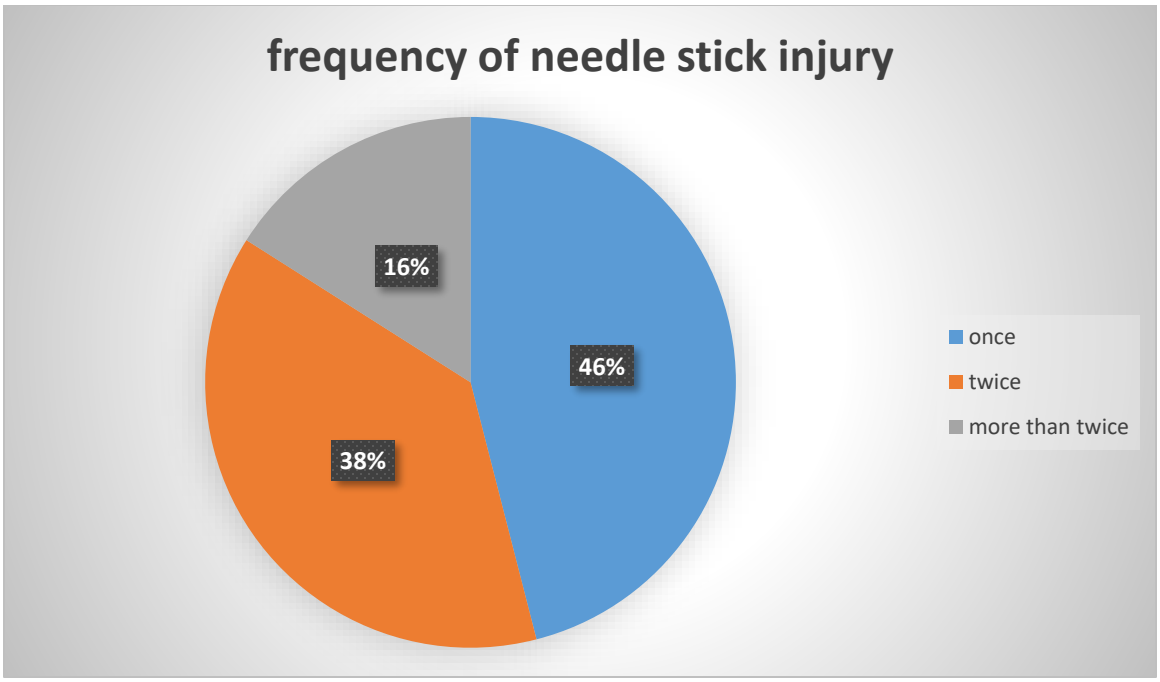
100 completed questionnaires were taken and statistically analyzed for the study. Although 123 individuals were offered to participate in our study,23 of them did not respond well, due to their duties or other issues. Informed consent was taken from these individuals and data regarding study is taken.



It is noted that the frequency of needle stick injury is more among females as compared to males.



According to our study,staff nurses are most prone to get needle stick.



46% of cases were injured once in their life time.

frequency of injury at different sites of body

Body parts	Frequency	Percentage
Arms and forearms	95%	95%
Other body parts	5%	5%
total	100%	100%

DISCUSSION:

The frequency of injuries due to sharps and needle sticks was assessed among the paramedical staff of Bahawal Victoria hospital,Bahawalpur using a pre-formed questionnaire. Our study showed that incidence of injuries among subjects between 15-25 years of age (48%) whereas it is (32%) in the next age group 26-35 years. This finding of our study contradicts with the findings of International journal of health reporting 8.7% and 75.9% in same age groups respectively[14].The variation in the injury frequency on the basis of gender is also seen i-e 47% males got injury in correspondence to 53% females[chart1].This finding is in line with the previous studies done in pakistan[9].

Among all of the paramedical staff, nurses were recorded to be the most commonly affected. In this study 52% of cases were staff nurses [chart 2]. Moreover, most of the cases were injured once (46%), and the results are comparable to results of previous researches. Regarding the cause, most of the paramedics term anxiety as a major cause of the injury [8].Similar findings were observed in our study

About the site of injury, both hands and forearm were most commonly involved [4]. In this study, 95% of cases got injury on hands and forearm and only 5% got injury on other site.Furthermore, In contrast to the results of previous studies, most of the instruments causing injury were sterilized i-e 63% .which was 35.10% in last years [10]. During this study, it is found that most of the injuries were during injection administration, followed by disposing off of the things then followed by during assisting operations. This finding are comparable with the results from previous researches done locally in Pakistan and internationally [4,5]. When asked about the screening status of patient, majority of the subjects were unaware of patients screening status against infections like hepatitis B,C and HIV. However, as far as their own immunization status was taken into account, 60% of the subjects were immunized.

Our studies reported that 42% of the study population do not do anything and let wound bleed following the

injury by the sharp object.28% of them, wash the wound with antiseptic solution, 14% wash the wound with plain water and 16% of them apply pressure on the site pricked. An international study has been done on this topic shows 14.8% of study cases let the wound bleed, 10.5% of them wash the wound with antiseptic solution and 8.6% of them wash the wound with plain water, rest of the figures involved insignificant combinations of findings [8].

CONCLUSION:

From the results of our study,it is concluded that health care professionals are also facing occupational hazards and these mishaps may lead to deadly infections. It is need of the hour to educate the health care providers about proper techniques for prevention and device proper counselling setup about sharp and needle stick injury,so that proper measure may be taken in case any incident happens.

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