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Original Research Article

A Study on Knowledge Regarding the Handling of Sharps among Health Care Personnel in a Selected Hospital, Mangaluru

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ABSTRACT

Background of the study: A sharp comprises syringes, needles, lancets, broken glass and any other materials that can pierce the skin. After usage it gets contaminated with microorganisms as well it can penetrate the skin which makes this waste as very dangerous in health care. Various infections are spread due to no proper handling of sharps. [1] The aims of the study are to assess the knowledge regarding the handling of sharps among health care personnel and to find the association of health care personnel's knowledge regarding the handling of sharps with selected baseline variables.
Methodology: The study was conducted among 75 health care personnel at Father Muller Medical College Hospital, Mangalore. The sample was selected using quota sampling technique and data was collected using Knowledge questionnaire on handling of sharps. The data was analyzed using descriptive and inferential statistics.
Results: The findings of the study show that majority 78.66% had very good knowledge, 14.66% had excellent knowledge and 6.66% had average knowledge regarding handling of sharps. There was no significant association of health care personnel's knowledge regarding handling of sharps with selected baseline variables.
Conclusion: The findings of the study reveal that majority of the samples had very good knowledge on handling of sharps and there was no significant association of health care personnel's knowledge regarding handling of sharps with the selected baseline variables.

Key words: Knowledge; Handing of Sharps; health care personnel; Mangaluru.

INTRODUCTION

In health care settings, sharps are the devices which can pierce the skin and exposes health care workers to various blood borne infectious agents such as hepatitis B virus, hepatitis C virus and human immunodeficiency virus. [2]

Sharps are classified into hollow bore sharps and Non-hollow bore sharps. Hollow bore sharps includes disposable needles/syringes, steel-winged (butterfly) needles, intravenous catheter stylets, multi-sample blood collection needles, arterial blood collection syringe needles, aspiration needles and Injector pen needles. Non-hollow Bore sharps includes glass vials, dental probes, scalpel blades, suture needles, retractors, skin or bone hooks, sharp electrosurgical tips. [2]

WHO reports in the World Health Report 2002, that of the 35 million health-care workers, 2 million experience percutaneous exposure to infectious diseases each year. It further notes that 37.6% of Hepatitis B, 39% of Hepatitis C and 4.4% of

HIV/AIDS in Health-Care Workers around the world are due to needle stick injuries. [3]

Health care personnel are persons who have special education and training on health care and who are directly involved in provision of health care services. Health care personnel includes Physicians, nurses, nursing assistants, therapists, technicians, emergency medical service personnel, dental personnel, pharmacists, laboratory personnel, autopsy personnel, students, trainees, and contractual staff not employed with health-care facility will fall under HCP category. [4]

Health care personnel are the backbone of health care setting. The protection from sharps injuries is completely depending on them and to do this they must have adequate knowledge on handing of sharps. Hence this study was aimed at to assess the knowledge of health care personnel on handing of sharps.

MATERIALS AND METHODS

- **Research approach:** Quantitative research approach.
- **Research Design:** A non experimental descriptive survey design
- **Variables under study**
  Extraneous Variable: Age, sex, occupation, year of experience, educational qualification and Source of knowledge.
  Key Variable: Knowledge regarding the handling of sharps among health care personnel.
- **Setting:** Father Muller Medical College Hospital, Mangalore.
- **Sample and sample size:** Doctors, nurses and allied health professionals of FMMCH who met the inclusion criteria and sample size is 75.
- **Sampling Technique:** Quota Sampling
- **Data collection instruments:**
  The tool used to collect data consisted of,
  Tool 1: Baseline proforma
  Tool 2: Knowledge questionnaire regarding handling of sharps.
- **Data collection process:**

A formal written permission was obtained from the Administrator of Father Muller Medical College Hospital, Mangalore. Data was collected from17/03/2017 till 25/03/2017. Prior to the data collection the investigators familiarized themselves with the subject and explained to them the purpose of the study. Investigators requested the participant full cooperation and assured them confidentiality of their response. An informed consent was obtained from the subjects and checklist was distributed for 30-40minutes. Subjects were very cooperative. After 40 minutes the tool was collected back.

- **Plan for data analysis:**

Data was analyzed based on objectives and hypothesis:

Section I: Baseline variables containing sample characteristics was analyzed in terms of Frequency and percentage.

Section II: Distribution of sample according to the level of knowledge on handling sharps was analyzed in terms of frequency, percentage, mean, mean percentage and standard deviation.

Section III: The association between knowledge score and demographic variables was calculated using Chi-square method.

RESULTS

The data collected has been organized and presented under the following sections.

Section I: Description of baseline characteristics of health care personnel.

Section II: Knowledge of health care personnel on handling of sharps.

Section III: Association of knowledge of health care personnel on handling of sharps with related baseline variables.

Section I: Description of Baseline Characteristics

- The data shows that majority were belongs to age group of 20-30 years (86.7%) and females (82.7%).
- The majority had prior information on sharps and source of knowledge on sharps was through formal training (94.7%).

- Occupation of health care personnel:

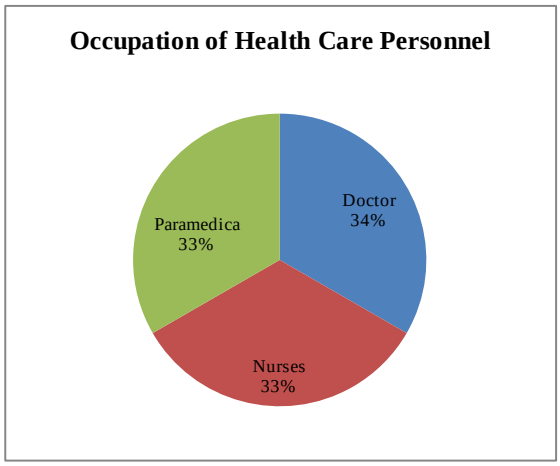

Figure 1: Pie diagram showing the distribution of participants according to their occupation

The data presented in Table 4 and Figure 5 shows that 33.33% of the participants were doctors; 33.33% were nurses and 33.33% were paramedics.

- Half of the participants (52%) were undergraduates.
- Majority (76%) had less than 5 years of experience.

Section II A: Knowledge regarding handling sharps among health care personnel

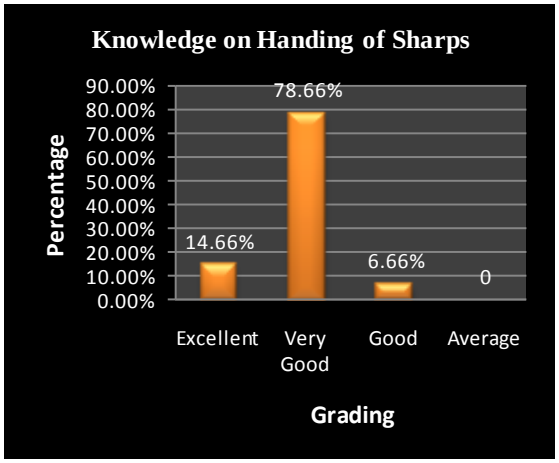

Figure 2: Bar diagram showing the distribution of samples according to their knowledge level.

Figure 2 shows that out of 75 participants 78.66% (59) had very good knowledge; 14.66% (11) excellent knowledge and 6.66% (5) have average knowledge on handling of sharps.

Section IIB: Overall mean, standard deviation and mean percentage of knowledge regarding handling of sharps among health care personnel.

Table 1: Mean, Standard Deviation and mean percentage of knowledge regarding handling of sharps among health care personnel. N=75

Knowledge	Mean ± SD	Mean %
Health care personnel	15.73 ± 2.042	71.5 %

Maximum score=22

Table 1 show that the total mean percentage of the knowledge of health personnel regarding handling of sharps was 71.5%.So the majority of the sample had very good knowledge on handling of sharps.

Section II C: Domain wise distribution of knowledge score of subjects on handling of sharps

Table 2: Mean Standard Deviation and mean percentage of knowledge questionnaire according to the domain N=75

Level of knowledge	Max Score	Mean + SD	Mean %
Concept	3	2.58+ 1	11.75%
Disposal	6	3.78+ 0.51	17.2%
Hazards & Prevention	7	4.50+0.53	20.48%
Management	6	4.85+0.40	22.05%

Section III: Association between various knowledge regarding handling of sharps and selected variables.

The data shows the association between knowledge and selected baseline variables of the health care personal was tested using chi square test. The result shows that there is no significant association between knowledge and selected demographic variables of the health care personal. Hence null hypothesis is accepted and research hypothesis is rejected.

DISCUSSION

The present study revealed that 78.66% of the samples had very good knowledge, 14.66% had excellent knowledge and 6.66% had average knowledge.

A similar study which was conducted on knowledge, awareness and attitude of needle stick and sharp injuries among allied medical science students of a tertiary care centre in Tamilnadu revealed that knowledge awareness and attitude

towards needle stick and sharp injuries and its management as well as prevention were sub optimal, which is contradictory to our study. [5] A study on knowledge and awareness of standard precautions among health care workers at Nizam's Institute of Medical Science, Hyderabad. They observed that 53.3% of respondents were very knowledgeable and 46.7% were somewhat knowledgeable. [6]

CONCLUSION

Safe handling sharps are an integral part of every health care personnel and are an important aspect of holistic health care. The reporting facility for NSIs and SIs needs to be made mandatory and the health professionals must be encouraged to report any incidence of NSIs within the hospital.

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