



“A STUDY TO ASSESS THE KNOWLEDGE REGARDING NEEDLE STICK INJURY AMONG THE CLASS FOUR WORKERS AT AURANGABAD CITY.”

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Abstract: “A study to assess the knowledge regarding needle stick injury among the class four workers at Aurangabad City”**Objective:**1.To assess the knowledge regarding needle stick injury among the class four workers.2.To associate knowledge score with selected demographic variables.

Research Approach: Descriptive approach **Research Design:** Quasi-experimental research design

Population: Class four workers, Aurangabad. **Sample:** Class four workers **Sample Size:** 80 Class four workers

Setting: The study was conducted in Kamalnayan Bajaj Hospital, Aurangabad. **Sampling Technique:**

Probability Convenience Sampling. **Tool:** Structured Questionnaire will be used for the study. **Findings:** After

the detailed analysis of the samples, assessment of knowledge of class four workers regarding needle stick

injury, majority of the class four workers 1.3% of the class four workers had poor knowledge (score 0.5),

50% of them had average knowledge (score 6-10) and 48.8% of them had good knowledge (score 11-15)

regarding needle stick injury. **Conclusion:**Conclusion of This study adds to our understanding of class four

workers knowledge on needle stick injury. Decisions,

Key Words: Assess, Attendance.

RESEARCH METHODOLOGY

The methodology section outline the plan and method that how the study is conducted. This includes Universe of the study, sample of the study, Data and Sources of Data, study's variables and analytical framework. The details are as follows;

Population and Sample

Population: Class four workers, Aurangabad

Sample: Class four workers

Sample Size: 80 Class four workers

Data and Sources of Data

Setting: The study was conducted in Kamalnayan Bajaj Hospital, Aurangabad.

Theoretical framework

The conceptual framework of Hildegard Peplau was used as the Conceptual framework in the study is based on Bertalanffy General System Model Theory. The Bertalanffy General System has three components like input, Throughput and output. Concepts are defined as complex mental formation of an object, properly or event that is derived from individual perception and Experience. Conceptual framework is interrelated concept or abstractions that are assembled together in same rationale scheme by virtue of their Relevance to a common theme. In the present study, "A Study To Assess the Knowledge Regarding Needle Stick Injury Among Class Four Workers Of Selected Hospitals at Aurangabad city." The researcher has applied general system theory which was given by Ludwig Von Bertalanffy in 1968. According to Bertalanffy a system depends on the quality and quantity of its input, throughput, output, and feedback. Input Consist of information, material or energy that enters the system. After the Input is absorbed by the system, it is processed in a way useful to the System. This is called as throughput. Then out of that output will come. Feedback is the mechanism by which some of the output of a system is returned to the system as input. Feedback enables a system to regulate itself by redirecting the output of a system back into the system as input, thus forming a feedback loop. According to system theory, a system is a group of elements that interact with one another in order to achieve goal. The main concepts are input, process, output and feedback. This system is cyclical in nature and continues to be so long as input process, output and feedback interacting. If there are changes in any part, there will be changes in all the parts. Feedback from within the system or from environment provides information, which helps the system to determine whether it meets its goal. **Input:** Input consist of information, material, or energy that the system. It is the Process by which the system receives energy and information from the Environment. [12] Here it refers to the staff nurses, assessment of knowledge regarding NSI. In this study, the influencing factor recognized an input are demographic Factor which are Age, Gender, education, occupation and experience of needle stick injury. **Throughput:** After the input is absorbed by the system, it is processed in a way Useful to the system this is called as throughput. In this study through standard Questionnaire Needle Stick Injury. **Output:** Output from a system is energy, matter, or information given out by the System as a result of its processes. It refers to the energy, information or Matter that is transferred to the environment as a result of its process. In this Present study, output includes the knowledge regarding NSI among class four workers (Poor, Average and Good). **Feedback:** Feedback is the mechanism by which some of the output of the system is returned to the system as input. Feedback enables a system to regulate itself by redirecting the output of a system back into the system as input, thus forming a feedback loop. This input influences the behavior of the system and its future output.

3.4 Statistical tools and econometric models

IV. RESULTS AND DISCUSSION: Needle stick injuries are a hazard for people who work with hypodermic syringes and other needle equipment. These injuries can occur at any time when people use, disassemble, or dispose of needles. When not disposed of properly, needles can become concealed in linen or garbage and injure other workers who encounter them unexpectedly. As a class four workers, it is essential to have adequate knowledge regarding the needle stick injury, as it can spread so many diseases. The present study is to assess knowledge regarding needle stick injury among class four workers of selected (Kamalnayan Bajaj Hospital) Aurangabad. The findings were discussed under following sections. 1. To assess the knowledge regarding needle stick injury among class four workers. 2. To determine the association between knowledge of class four workers with the selected demographic variables.

Knowledge scores of participants on needle stick injury

1. The knowledge scores of class four workers on regarding needle stick injury, majority of the class four workers 1.3% of the class four workers had poor knowledge (score 0-5), 50% of them had average knowledge (score 6-10) and 48.8% of them had good knowledge (score 11-15) regarding needle stick injury. This study is supported by the study, carried out in one hospitals of Aurangabad. Total of 100 class four workers providers in which 80 were class four workers participated in the study. The most frequency source of injury occurred while collecting disposable syringe. None of the class four workers provider had adequate knowledge regarding immediate measures following in needle stick injury. **2. To determine the association between knowledge of class four workers with the selected demographic variables.** **Distribution of demographic characteristics of class four workers.** **Based on the age:** 37.5% of the class four workers had age 20-30 years, 46.3% of them had age 31-40 years and 16.3% of them had age 41-50 years. **Based on the sex:** 57.5% of them were females and 42.5% of them were males. **Based on the occupation:** All of them were from housekeeping. **Based on the Educational qualification:** 3.8% of them were illiterates, 12.5% of them had primary education, 46.3% of them had secondary education, 31.3% of them had higher secondary education and 6.3% of them had graduation. **Based on the experience:** 45% of them never had experience of needle stick injury, 36.3% of them had one time and 18.8% of them had 2-4 times needle stick injury.

Results of Descriptive Statics of Study Variables

Section I

Distribution of participants according to their demographic variables.

Based on the age: 37.5% of class four workers had age 20-30 years, 46.3% of them had age 31-40 years and 16.3% of them had age 41-50 years

Based on the gender: 57.5% of them were females and 42.5 % of them were males.

Based on the education: 3.8% of them where illiterates, 12.5% of them had primary education, 46.3% of them had secondary education, 31.3% of them had higher secondary education and 6.3% of them had graduation.

Based on the occupation: All of them were from housekeeping.

Based on the experience of needle stick injury: 45% of them never had experience of needle stick injury, 36.3% of them had one time and 18.8% of them had 2 to 4 time needle stick injury.

Section II (Knowledge score)

Knowledge level of the participants regarding the needle stick injury

1.3% of the class four workers had poor knowledge (score 0-5), 50% of them had average knowledge (score 6-10) and 48.8% of them had good knowledge (score 11-15) regarding needle stick injury.

Section III

Association of knowledge score of participants with selected demographic variables.

➤ The chi-square value shows that there is no significance association between age, gender, education, occupation and experience of needle stick injury with socio demographic variable. ($P < 0.05$)

➤ The experience, qualification and previous classes show the significant association with level of knowledge

Figures and Tables

This chapter deals with analysis and interpretation of the data collected for this study. Analysis and interpretation were done based on objective of the study. The data was analysed and is presented in the following section.

Section I: Distribution of the samples according to the demographic variables.

Section II: To assess the knowledge regarding needle stick injury among class 4 workers

SECTION I

DISTRIBUTION OF SUBJECTS WITH REGARD TO THEIR DEMOGRAPHIC VARIABLES

This section deals with distribution of subjects according to their demographic variables. A convenience sample of 80 Class four workers were drawn from the study population, who were selected from selected hospital, the data was obtained to describe the Class four workers characteristics including, age, gender, education, occupation and experience of needle stick injury.

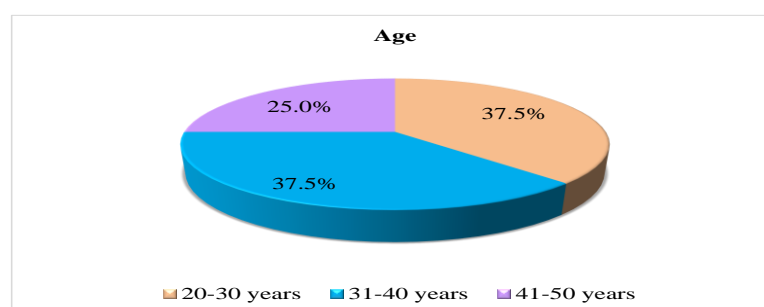
Demographic data analysis

Table I: Distribution of class four workers according to their demographic variables

Demographic variable	Freq	%
Age		
20-30 years	3	37.5%
31-40 years	3	37.5%
41-50 years	2	25.0%
Gender		
Female	4	50.0%
Male	4	50.0%
Education		
Illiterate	0	0.0%
Primary	0	0.0%
Secondary	6	75.0%
Higher secondary	2	25.0%
Graduation	0	0.0%
Occupation		
Housekeeping	8	100.0%
Experience of needle stick injury		
Never	6	75.0%
One time	2	25.0%
2-4 times	0	0.0%

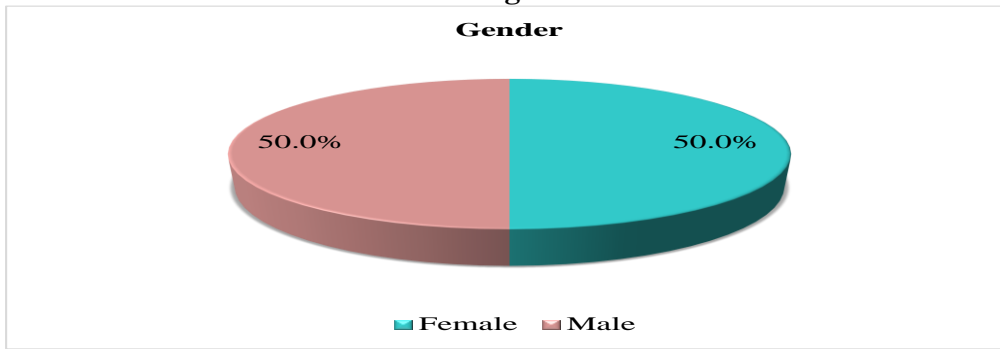
- 37.5% of the class 4 workers had age 20-30 years, 37.5% of them had age 31-40 years and 25% of them had age 41-50 years.
- 50% of them were females and 50% of them were males.
- 75% of them had secondary education and 25% of them had higher secondary education.
- All of them were from housekeeping.
- 75% of them never had experience of needle stick injury and 25% of them had one time experience of needle stick injury.

Fig II Distribution of class four workers according to their Age



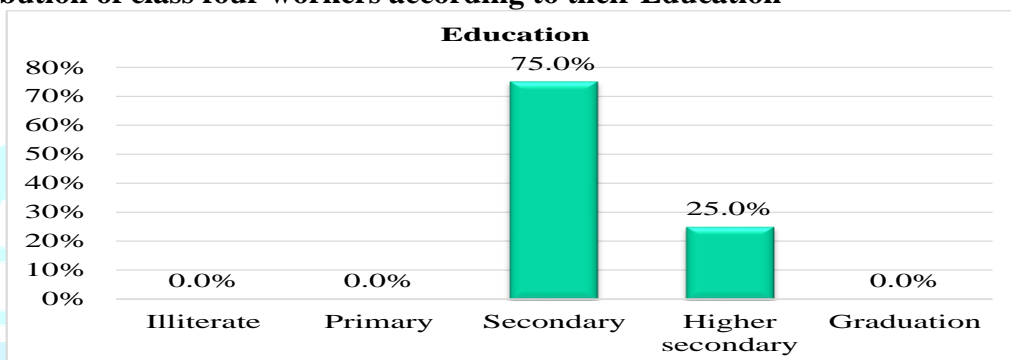
- 37.5% of the class 4 workers had age 20-30 years, 37.5% of them had age 31-40 years and 25% of them had age 41-50 years.

Fig III: Distribution of class four workers according to their Gender



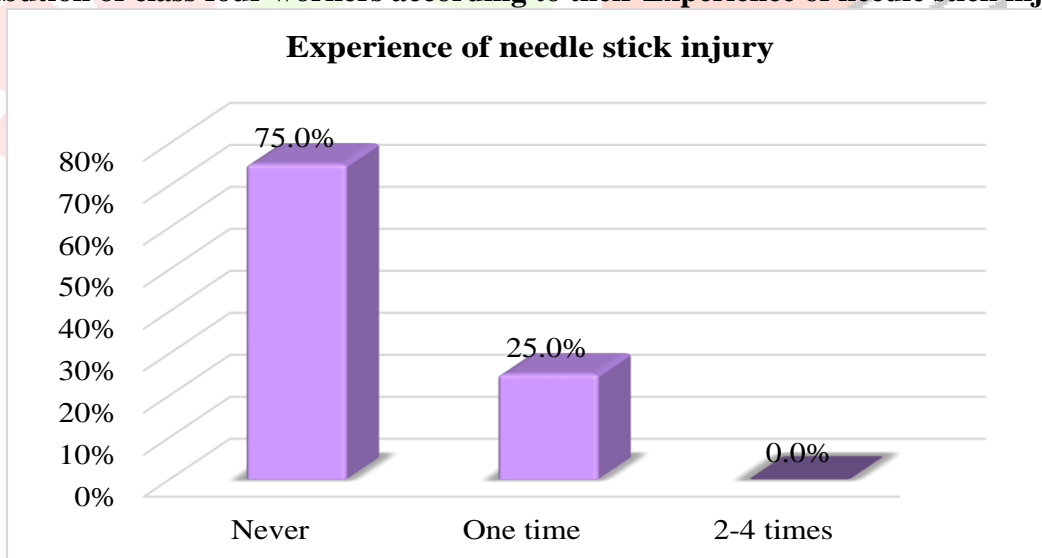
- 50% of them were females and 50% of them were males.

Fig IV: Distribution of class four workers according to their Education



- 75% of them had secondary education and 25% of them had higher secondary education.

Fig V: Distribution of class four workers according to their Experience of needle stick injury.



- 75% of them never had experience of needle stick injury and 25% of them had one time experience of needle stick injury.

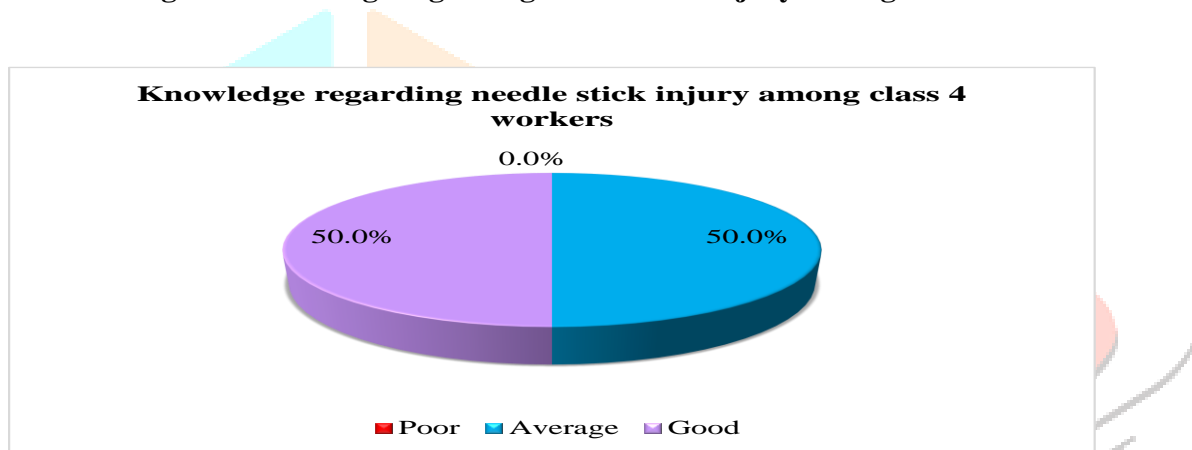
SECTION II

Table II: To assess the knowledge regarding needle stick injury among class 4 workers

Knowledge	Frequency	Percentage (%)
Poor	0	0.0%
Average	4	50.0%
Good	4	50.0%

50% of the class 4 workers had average knowledge (Score 6-10) and 50% of them had good knowledge (Score 11-15) regarding needle stick injury.

Fig VI: Knowledge regarding needle stick injury among class four workers.



50% of the class 4 workers had average knowledge and 50% of them had good knowledge regarding needle stick injury and 0% of them were having poor knowledge.

Table III: Knowledge item analysis

Knowledge item	Correct responses	
	Freq	%
What is needle stick injury?	8	100.0%
What are the symptoms of needle stick injury?	7	87.5%
Which disease is transmitted by needle stick injury?	4	50.0%
Where do maximum needle stick injury occur?	8	100.0%
Which group of hospital gets the maximum needle stick injury?	5	62.5%
Factors influenced for needle stick injury?	8	100.0%
What should do immediately after needle stick injury?	8	100.0%
How long wash hands after needle stick injury?	2	25.0%
In your hospital, any authority available for management of needle stick injury?	6	75.0%
What is window period of HIV after needle stick injury?	1	12.5%
What test should be done after needle stick injury?	7	87.5%
In which coloured dustbin needle should be thrown?	8	100.0%
How do you treat needle stick injury?	2	25.0%
How to discard the waste material in hospital?	8	100.0%
What precaution should you take to prevent injury from needle stick?	4	50.0%

The table above gives the frequency and percentage of correct responses for each knowledge item.



Section I

Description of samples (class 4 workers) based on their personal characteristics

Table 1: Description of samples (class 4 workers) based on their personal characteristics in terms of frequency and percentage

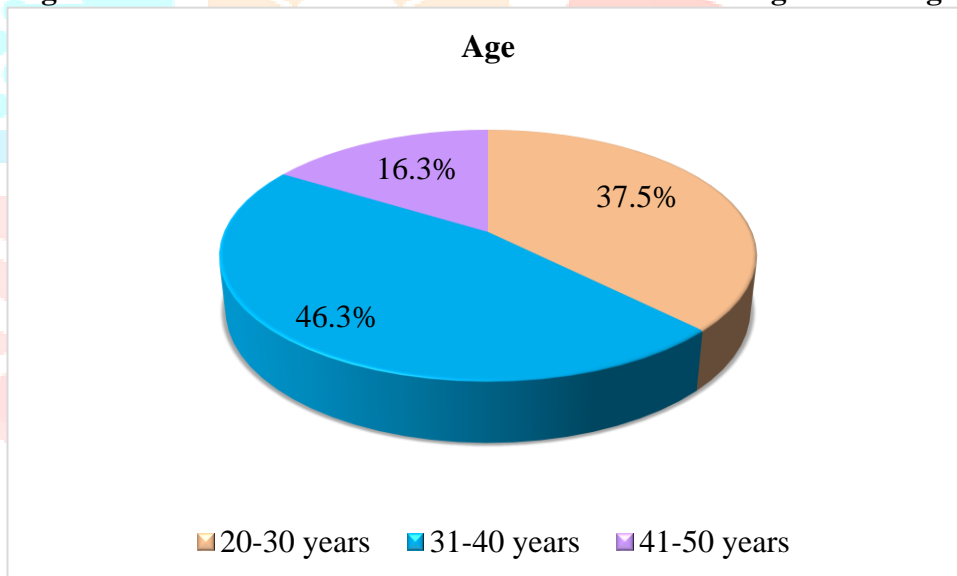
N=80

Demographic variable	Freq	%
Age		
20-30 years	30	37.5%
31-40 years	37	46.3%
41-50 years	13	16.3%
Gender		
Female	46	57.5%
Male	34	42.5%
Education		

Illiterate	3	3.8%
Primary	10	12.5%
Secondary	37	46.3%
Higher secondary	25	31.3%
Graduation	5	6.3%
Occupation		
Housekeeping	80	100.0%
Experience of needle stick injury		
Never	36	45.0%
One time	29	36.3%
2-4 times	15	18.8%

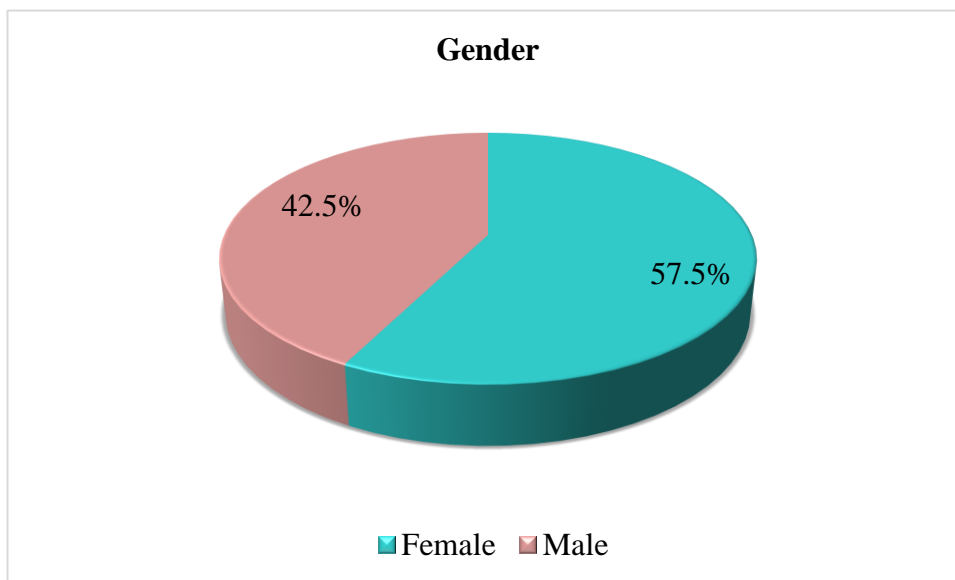
- 37.5% of the class 4 workers had age 20-30 years, 46.3% of them had age 31-40 years and 16.3% of them had age 41-50 years.
- 57.5% of them were females and 42.5% of them were males.
- 3.8% of them were illiterates, 12.5% of them had primary education, 46.3% of them had secondary education, 31.3% of them had higher secondary education and 6.3% of them had graduation.
- All of them were from housekeeping.
- 45% of them never had experience of needle stick injury, 36.3% of them had one time and 18.8% of them had 2-4 times needle stick injury.

Fig no. VIII Distribution of class four workers according to their Age.



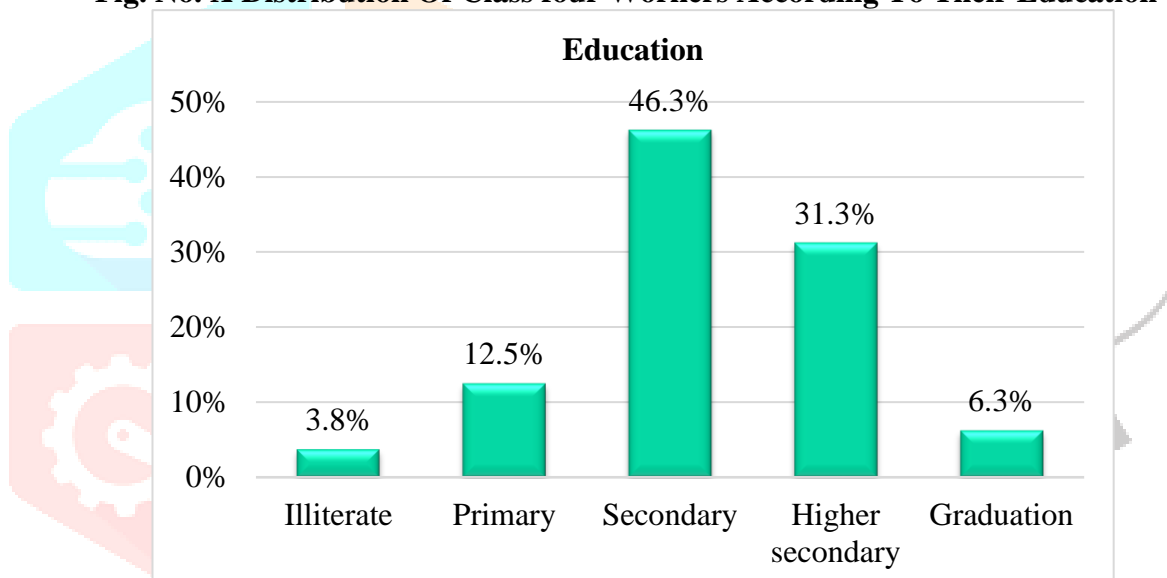
37.5% of the class 4 workers had age 20-30 years, 46.3% of them had age 31-40 years and 16.3% of them had age 41-50 years.

Fig no. IX Distribution of class four workers according to their Gender.



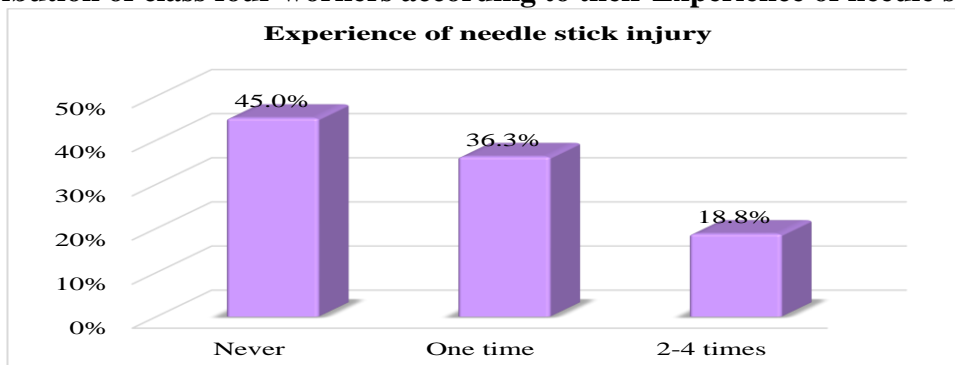
57.5% of them were females and 42.5% of them were males.

Fig. No. X Distribution Of Class four Workers According To Their Education



3.8% of them were illiterates, 12.5% of them had primary education, 46.3% of them had secondary education, 31.3% of them had higher secondary education and 6.3% of them had graduation.

Fig no. XI Distribution of class four workers according to their Experience of needle stick injury.



45% of them never had experience of needle stick injury, 36.3% of them had one time and 18.8% of them had 2-4 times needle stick injury.

Section II

Analysis of data related to the knowledge regarding needle stick injury among class 4 workers

Table 2: Knowledge regarding needle stick injury among class 4 workers

N=80

Knowledge	Freq	%
Poor	1	1.3%
Average	40	50.0%
Good	39	48.8%

1.3% of the class 4 workers had poor knowledge (Score 0-5), 50% of them had average knowledge (Score 6-10) and 48.8% of them had good knowledge (Score 11-15) regarding needle stick injury.

Fig no: XII Distribution of class four workers according to their Knowledge.

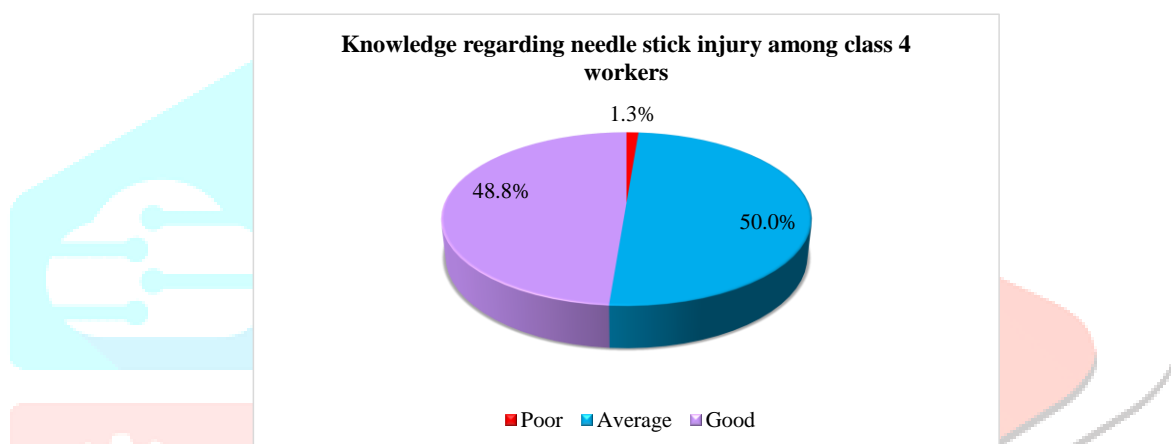
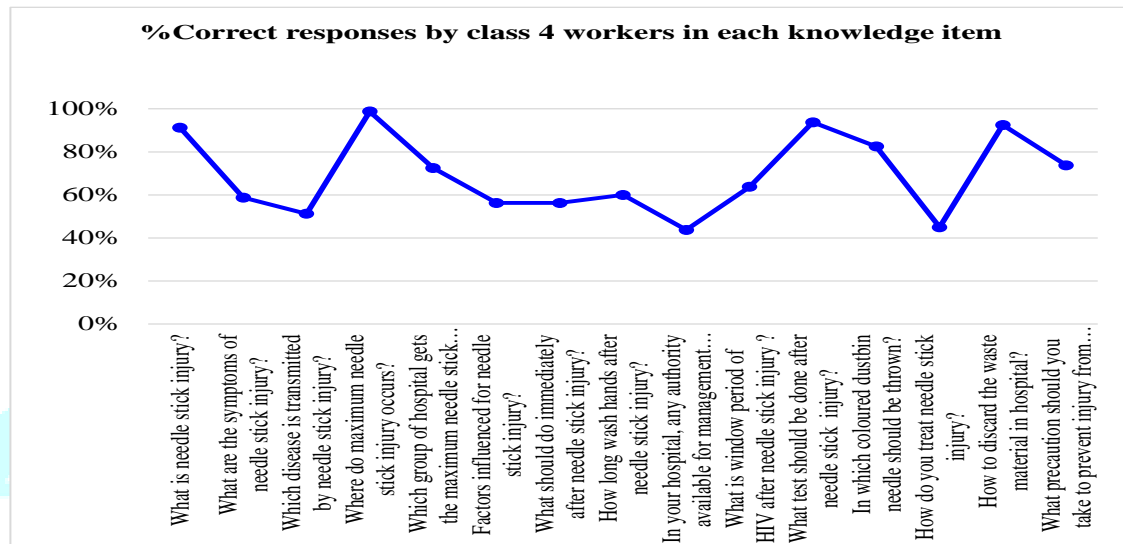


Table 3: Knowledge item analysis:

N=80

Knowledge item	Correct responses	
	Freq	%
What is needle stick injury?	73	91.3%
What are the symptoms of needle stick injury?	47	58.8%
Which disease is transmitted by needle stick injury?	41	51.3%
Where do maximum needle stick injury occur?	79	98.8%
Which group of hospital gets the maximum needle stick injury?	58	72.5%
Factors influenced for needle stick injury?	45	56.3%
What should do immediately after needle stick injury?	45	56.3%
How long wash hands after needle stick injury?	48	60.0%
In your hospital, any authority available for management of needle stick injury?	35	43.8%
What is window period of HIV after needle stick injury?	51	63.8%
What test should be done after needle stick injury?	75	93.8%
In which coloured dustbin needle should be thrown?	66	82.5%
How do you treat needle stick injury?	36	45.0%
How to discard the waste material in hospital?	74	92.5%
What precaution should you take to prevent injury from needle stick?	59	73.8%

91.3% of them knew the meaning of needle stick injury. 58.8% of them knew the symptoms of needle stick injury. 51.3% of them knew which disease is transmitted by needle stick injury. 98.8% of them knew where maximum needle stick injury occurs. 72.5% of them knew which group of hospital gets the maximum needle stick injury. 56.3% of them knew factors influenced for needle stick injury. 56.3% of them knew what should do immediately after needle stick injury. 60% of them knew how long wash hands after needle stick injury. 43.8% of them knew authority available for management of needle stick injury in their hospital. 63.8% of them knew the window period of HIV after needle stick injury. 93.8% of them knew what test should be done after needle stick injury. 82.5% of them knew in which coloured dustbin needle should be thrown. 45% of them knew how to treat needle stick injury. 92.5% of them knew how to discard the waste material in hospital. 73.8% of them knew what precaution to take to prevent injury from needle stick.



Section III

Analysis of data related to the association of knowledge among class 4 workers regarding needle stick injury with selected demographic variables

Table 4: Fisher's exact test for the association of knowledge among class 4 workers regarding needle stick injury with selected demographic variables

N=80

Demographic variable		Knowledge			p-value
		Poor	Average	Good	
Age	20-30 years	1	16	13	0.111
	31-40 years	0	21	16	
	41-50 years	0	3	10	
Gender	Female	0	20	26	0.138
	Male	1	20	13	
Education	Illiterate	0	1	2	0.956
	Primary	0	4	6	
	Secondary	1	19	17	
	Higher secondary	0	13	12	
	Graduation	0	3	2	
Experience of needle stick injury	Never	1	17	18	1.000
	One time	0	15	14	
	2-4 times	0	8	7	

Since all the p-values are small (less than 0.05), none of the demographic variables was found to have significant association knowledge among class 4 workers regarding needle stick injury.

I. ACKNOWLEDGMENT

“Knowledge is power? No. Knowledge on its own is nothing, but the application of useful knowledge, now that is powerful.”-Rod Liano

At the beginning we express our deep gratitude and praise and thank almighty God whose abundant grace and blessings have given us strength and courage to complete this study. This effort in our academic endeavour would not have been reality but for the constructive and purposeful support, and encouragement rendered by a number of people, who help us in special recognition through this acknowledgement. We are immensely grateful to the institutional ethical committee, for giving us an opportunity to undertake this study. We express our sincere thanks to our respected mam Dr. Supriya Chinchpure, principal, Kamalnayan Bajaj Nursing College, Aurangabad for her constant support, guidance, valuable suggestions and advice in subject matter which helped a lot in completing this study successfully. We wish to express our profound sense of gratitude and heartfelt thanks to Ms. Pradnya Waghmare, Assistant Professor of community health Nursing, Kamalnayan Bajaj Nursing College, Aurangabad, for her valuable support encouragement and guidance throughout this study. We wish to express our profound sense of gratitude and heartfelt thanks to Mr. Vikrant Kulthe, class co-ordinator and Mr. Yogesh Kale, Assistant Professor for their constant support and encouragement and guidance throughout this study. A special thanks to Mr. Akash Ghumare, Clinical instructor, Kamalnayan Bajaj Nursing College for his available support in number of ways, especially towards the completions of this dissertation. We gratefully acknowledge that their contribution was instrumental in developing the dissertation.

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