

“A Study to Assess the Knowledge and Self Reported Practices Regarding Occupational Health Hazards among the Class-D Workers at Selected Hospitals of Sangli Miraj Kupwad Corporation Area in a View to Develop Self-Instructional Module.”

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**ABSTRACT-**

A study to assess the knowledge and self reported practices regarding occupational health hazards among the class-d workers at selected hospitals of sanglimirajkupwad corporation area in a view to develop self instructional module.

**Objectives:**

- To assess the knowledge regarding occupational health hazards.
- To assess the self-reported practices regarding occupational health hazards.
- To Co-relate knowledge with self-reported practices regarding occupational health hazards.
- To develop self-instructional module.

### **Material and methods:**

A non-experimental descriptive study was conducted to assess the knowledge and self reported practices regarding occupational health hazards among the class d workers working at selected hospitals of sanglimirajkupwad corporation area (Maharashtra). Total 110 samples were selected by simple random sampling method. A structured knowledge questionnaire of 30 items and 1 checklist was administered to collect the data. r value of both the tools was greater than 0.7 and tool was considered as reliable. The conceptual framework based on Nola J Pender.

### **Result:**

It was found that in knowledge scores, 51(46.36%) of class-d workers were having poor knowledge, 36(32.73%) were having average knowledge and 23(20.91%) had good knowledge regarding occupational health hazards. Also results related to knowledge regarding types of occupational hazards were found majority of class d workers i.e. 57.27% were having poor knowledge regarding chemical and radiation hazards. Therefore it is important to develop self instructional module on this these two aspects.

Results regarding self reported practices were found majority of the class d workers were not following the practices i.e. 83.64% of class d workers have not taken hepatitis B vaccine. 87.27% of class d workers are not following proper preventive measures to the exposure of radiation and not using lead jackets before entering radiology room. 78.18% of the class d workers are not following right techniques during lifting heavy objects. 67.27% of the class d workers are not wearing safety shoes while carrying biomedical waste. 53.64% of the class d workers are not informing about needle stick injury to infection control nurse. 61.82% of class d workers are not reporting immediately after every exposure to blood and body fluid. 85.45% of class d workers are not avoiding recapping of the needles and 87.27% of class d workers are not doing their regular health checkups. Which shows that practices among class d workers are inadequate. The correlation of knowledge with practice score was significant. (p value= 0.00)

### **Conclusion**

The study found that significant amount of class d workers were lacking the knowledge about various occupational hazards and also their practices were inadequate. Therefore they need more effective health education campaign which will help to improve the knowledge as well as practices of class d workers. The study concludes that as knowledge increases the practices also increases.

**KEYWORDS-**Assess, knowledge, self-reported, practices, occupational hazards, class-d workers.

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## **INTRODUCTION-**

Today in 21<sup>st</sup> century every human being works to fulfill his basic needs. Fulfilling basic needs plays a vital role in relation to survival of life. Each individual works in different areas depending on their gender, culture, education, interest, geographical territory to which they belong. Today due to advanced technologies in various areas of industries, electronics etc, and polluted working environment, occupational hazards to human beings has increased in respective working areas.

Occupational health, in its relationship with employment and the working environment, is concerned with health. Occupational health means not just health security, but also health promotion, medical treatment, a broad variety of preventive, curative, rehabilitative programs, a term that encompasses everything that can be applied to promote workers' health and job ability.<sup>[1]</sup>

Hazards are an intrinsic property of a material, agent, energy source or circumstance that has the potential to cause adverse consequences when the danger is likely to be hazardous to life, health, and or the environment. In this respect, occupational hazards apply to behaviors in the workplace that have the potential to cause or increase the risk of injury or ill health. Occupational safety is the management of risks in the workplace to maintain an appropriate degree of risk, whereas safety in the workplace usually applies to the process of ensuring the health and safety of workers while at work, regardless of their occupation.<sup>[3]</sup>

Because of high rates of associated morbidity and mortality of exposed workers, occupational health and safety is a significant topic. An estimated 100,000 people die from occupational diseases, while every year about 400,000 new occupational disease cases are diagnosed.<sup>[4]</sup>

WHO (2002) classifies the dangers in health care facilities into physical, environmental, mechanical, ergonomic, chemical, and psychosocial ones. Previous reports have shown that workplace accidents and diseases among health care employees are among the highest in any sector, although they can be decreased or eliminated. Blood-borne diseases [Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV)], back and neck pain, burn-out stress, allergic reactions to latex products, chemical spills, radiation exposure, patient attack, among others, are the primary dangers to health care workers.<sup>[5]</sup>

Chemical exposures can occur from sterilants, disinfectants, cleaning compounds, hazardous drugs, mercury, and anesthetic gases. Viruses and bacteria causing hepatitis B and C, HIV, and tuberculosis, as well as latex allergy, are biological hazards. Physical risks include ionizing and non-ionizing radiation and patient lifting and treating ergonomic accidents, lifting heavy machinery and static posture. Finally, stressors in psychological and labor

organizations include shift work, burnout, and the threat of violence in the workplace. Control and minimization of occupational hazards for health care personnel (HCP) in hospitals is a unique challenge because the health and well-being of hospital patients must also be considered.<sup>[6]</sup>

There are more than two million work-related deaths in the world every year, according to ILO (2004).<sup>[7]</sup> Negligence and carelessness of health care personnel, lack of adequate protective aids and supplies, insufficient number of staff, heavy workload, failure to observe basic safety and hygiene are the factors that lead to occupational diseases and accidents in health care facilities.<sup>[5]</sup>

The 2006 World Health Report on Human Capital Working Together for Health identified a global shortage of health staff that had reached a crisis level in 57 countries and called for health workers to be funded and covered. In many countries, hazardous working conditions lead to the attrition of health workers due to work-related illness and injury and the subsequent fear of occupational infection, including HIV and tuberculosis, among health workers. In 2006, the world health report 2006 Working Together for health workforce crisis in 57 countries, most of them in Africa and Asia.<sup>[8]</sup>

An independent survey reported that in India, among the sanitation workers, 2.5 million face occupational hazards in their work, at least 1370 deaths per year have occurred during sanitation work and as many as 2% of workers have been estimated to die during course of their work because of lack of protective equipment's and lack of safety measures.<sup>[10]</sup> It is the responsibility of every government and employer to provide a safe working atmosphere for its employees, and this also applies to staff in the healthcare sector (Cooper 2000). Some health and social care employees have been plagued with disease, often caused by workplace hazards and hazards, some have physical hazards at work, many experiences musculoskeletal pain, although others are subject to disease, psychological disruption, and even aggression, etc. (Marciano et al. 2002).<sup>[11]</sup>

“Occupational Health is the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations by preventing departures from health, controlling risks and the adaptation of work to people, and people to their job” (ILO/WHO 1950). However, no sort of training is provided to cleaners and new hires are often given little more than a routine introduction to the cleaning process.<sup>[19]</sup>

## **MATERIALS AND METHODS-**

The study undertaken quantitative non experimental descriptive design which was carried out over a four week period between January to February 2021. 110 samples were selected by simple random sampling technique from the population of class d workers working in hospitals of sanglimirajkupwad corporation area. The inclusion criteria for selection of

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samples were class-d workers age more than 18 years and class d workers who can read and write English Hindi and Marathi whereas exclusion criteria consisted of class-d workers not willing to participate in study.

The study was approved by institutional ethics committee. The prior permission from concerned authority was taken. Informed written consent from each participant was taken. Confidentiality was maintained by giving codes to data collection tool. The following tools were adopted to assess the knowledge and self reported regarding occupational health hazards.

The tool consists three sections:

**Section I:** It consisted the socio-demographic data like gender, age, marital status, education, monthly family income and daily hours of sleep.

**Section II:** A knowledge questionnaire regarding occupational hazards. Each correct answer was given 1 mark and incorrect answer was given 0 marks. Total score was 30. The marks were distributed as (0-10) knowledge score was considered as having poor knowledge score, (11-20) was considered as having average knowledge, and score between (21-30) was considered as having good knowledge score.

**Section III:** Self-reported practices. The purpose of the SRP was to assess the practices regarding occupational health hazards. Each correct practice was given 1 mark and incorrect practices were given 0 mark. Total question related to practices were 15. Practices scoring was divided into Yes and No. If the subject says Yes for the particular practices 1 mark is given and if the sample says No, means the sample is not following the practices 0 mark is given.

## RESULTS-

### I. Sociodemographic information

**Table 1: frequency and percentage distribution of demographic variables**

n=110

Sr. No.	Variables	Groups	Frequency	Percentage %
1	Gender	Male	54	49.09
		Female	56	50.91
2	Age in years	18-29	8	7.27
		30-39	39	35.45
		40-49	56	50.91
		50 & above	7	6.36
3	Marital status	Married	106	96.36

		Unmarried	4	3.64
4	Education	No Formal Education	7	6.36
		Primary	71	64.55
		Secondary	26	23.64
		Graduate	6	5.45
5	Monthly family income in rupees	5000 – 10000	44	40.00
		10001 – 15000	16	14.55
		15001 – 20000	50	45.45
6	Daily hours of sleep	< 8 hrs	81	73.64
		≥ 8 Hrs	29	26.36

Data presented in table 1 are identified to be 49.09% of them were male workers and 50.91% were female workers. Majority of the class d workers i.e. 50.91% were between age group of 40-49 years. 96.36% of them were married and 3.64% were unmarried. 64.55% were educated up to primary, 23.64% educated up to secondary. 45.45% had income in the 15001-20000 per month. 73.64% of the workers answered, they get less than 8 hours of sleep.

## II. Table no.2 a) Frequency and percentage distribution of level of knowledge

n=110

Level of knowledge	Frequency	Percentage%
Poor (0-10)	51	46.36
Average (11-20)	36	32.73
Good (21-30)	23	20.91

Data presented in table 2 are identified to be 46.36% of class-d workers were having poor knowledge, 32.73% were having average knowledge and 20.91% had good knowledge regarding occupational health hazards.

## Table no.3 b) Frequency and percentage distribution of knowledge related to type of hazards

n=110

Types of Hazards	Poor		Average		Good	
	Frequency	Percentage %	Frequency	Percentage %	Frequency	Percentage %
Biological	9	8.18	77	70.00	24	21.82
Physical	38	34.55	59	53.64	13	11.82
Chemical	63	57.27	29	26.36	18	16.36
Radiation	63	57.27	22	20.00	25	22.73
Psychosocial	54	49.09	8	7.27	48	43.64

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Data presented in table 3 are identified to be 57.27% were having poor knowledge regarding chemical and radiation hazards. Therefore it is important to develop self instructional module on these two aspects.

**III. Table no.4 Frequency and percentage distribution of practice score-**

Sr. No	Self reported practices	Yes		No	
		Freq	%	Freq	%
1.	Wearing mask in hospital premises.	110	100.00	0	0.00
2.	Practicing hand washing techniques.	86	78.18	24	21.82
3.	Wearing gloves before use of any chemical.	95	86.36	15	13.64
4.	Sanitizing hands as per the need.	104	94.55	6	5.45
5.	Received hepatitis B vaccine.	18	16.36	92	83.64
6.	Practicing preventive measures to exposure for radiation	14	12.73	96	87.27
7.	Using lead jackets before entering radiology room	14	12.73	96	87.27
8.	Following the right techniques during lifting heavy objects	24	21.82	86	78.18
9.	Practicing segregation of hospital waste	104	94.55	6	5.45
10.	Wearing safety shoes while carrying biomedical waste	36	32.73	74	67.27
11.	Informing about needle stick injury to ICN	51	46.36	59	53.64
12.	Reporting immediately after every exposure to blood and body fluid	42	38.18	68	61.82
13.	Do you avoid recapping of the needles	16	14.55	94	85.45
14.	Doing your regular health checkups	14	12.73	96	87.27
15.	Using spill kit to clean-up spilled blood or chemical products	57	51.82	53	48.18

Data presented in table 4, 83.64% of class d workers have not taken hepatitis B vaccine. 87.27% of class d workers are not following proper preventive measures to the exposure of radiation and not using lead jackets before entering radiology room. 78.18% of the class d workers are not following right techniques during lifting heavy objects. 67.27% of the class d workers are not wearing safety shoes while carrying biomedical waste. 53.64% of the class d workers are not informing about needle stick injury to infection control nurse. 61.82% of class d workers are not reporting immediately after every exposure to blood and body fluid. 85.45% of class d workers are not avoiding recapping of the needles and 87.27 of class d workers are not doing their regular health checkups. Which shows that practices among class d workers are inadequate.

As per the third objective of study it is necessary to correlate knowledge with practices

**Table no.5 Correlation of knowledge with practices scores regarding Occupational health hazards.**

n=110

	Mean	Standard deviation	r value	p value
Knowledge	13.99	5.41	0.90	0.00
Practice	7.13	2.19		

The above findings show that, there is significant positive correlation between knowledge and practice scores. This suggests that if knowledge increases, the practices also increases.

### **DISCUSSION AND CONCLUSION-**

The purpose of the study was to assess the knowledge and self-reported practices regarding occupational health hazards among the class d workers of selected hospitals of sanglimirajkupwad corporation area (Maharashtra).

A hazard is potential source of harm or adverse health effect on a person or a person. Hospital cleaner are subjected to various occupational health hazards that also affect professional health care workers. Problems such as poor posture, mechanical load on joints, long working hours, prolonged standings they often time expose to various hazards like accidental exposure to the blood and body fluids of the patient. Studies on hospitals cleaning staffs are scarce. Hospital class d workers requires teaching and training. However class d workers are not provided with any forms of trainings and new recruits are often provided with nothing more than a routine introduction to cleaning process.

The current study showed that majority of the class d workers were female i.e. 50.91% were 40.09% were male workers. As female class d workers are not comfortable while interacting with male supervisors therefore they get more prone to have occupational health hazards. The present study revealed that majority of the class d workers 50.91% were between the age group of 40-49 years. As the age advances the physical activity decreases and get prone to occupational health hazards.

The results of present study showed that majority of class d workers were married and their educational level was primary level. Educational level affects the behavior and beliefs of class d workers to accept the new teaching and modifying their practices in prevention of occupational hazards.

As sleep is important aspect of our daily life. The present study showed that majority of class d workers i.e.73.64% get less than 8 hours of sleep which is very harmful for the health of class d workers and also it leads to get much more prone of experiencing occupational health hazards.



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The study revealed that 46.36% of class-d workers were having poor knowledge, 32.73% were having average knowledge and 20.91% had good knowledge regarding occupational health hazards. But on these results it is difficult to interpret related to which hazards the knowledge of class d workers are lacking. The study showed that majority of class d workers i.e.57.27% are having poor knowledge regarding chemical and radiation hazards. Therefore there is need to develop SIM on these two aspects.

The results of study showed that majority of the class d workers were not following the practices i.e. 83.64% of class d workers have not taken hepatitis B vaccine. 87.27% of class d workers are not following proper preventive measures to the exposure of radiation and not using lead jackets before entering radiology room. 78.18% of the class d workers are not following right techniques during lifting heavy objects. 67.27% of the class d workers are not wearing safety shoes while carrying biomedical waste. 53.64% of the class d workers are not informing about needle stick injury to infection control nurse. 61.82% of class d workers are not reporting immediately after every exposure to blood and body fluid. 85.45% of class d workers are not avoiding recapping of the needles and 87.27 of class d workers are not doing their regular health checkup. Due to not following of above practices the class d workers get more prone to biological, physical, radiation and psychosocial hazards.

In above findings related to knowledge and practices regarding occupational hazards showed that the knowledge regarding chemical hazard is poor but they are following the practices related to chemical hazards.

The results of this study shows that the knowledge of class d workers is poor therefore the practices are also poor. Therefore it is necessary to develop SIM on prevention of occupational health hazards and the correct practices which helps the class d worker to overcome over the occupational health hazards. The study shows that as the knowledge increases the practices also increases.

Based on the findings of the study, the following conclusions were drawn:

The study revealed that significant amount of class d workers were lacking the knowledge about various occupational hazards and also their practices were inadequate. Therefore they need more effective health education campaign which will help to improve the knowledge as well as practices of class d workers. Planning of health education campaigns should be based on previous knowledge and also related to which particular hazards their knowledge is poor.

The present study concludes that, as knowledge increases, the practices also increases

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