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The knowledge on hazard identification and risk assessment (HIRA) among nursing personal: A cross-sectional study

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Abstract

Hazard Identification and Risk Assessment (HIRA) is to identifying and assessing the knowledge on hazard associated in workplace, and they are the leading cause of death and mortality. Occupational safety at the workplace improves the health and increases their productivity. In the medical profession, nursing personnel constitute the largest group of healthcare workers, and experience a higher rate of workplace hazards exposure than other health care workers. This study aims to assess the knowledge on hazard identification and risk assessment (HIRA) among nursing personal. The research method was descriptive cross-sectional. The data was collected from both i.e. Nursing Institute and Bombay Hospital Indore. The data was collected from nursing personnel by using questionnaires. The result showed that scoring of knowledge section, 10% of the respondents had poor/no knowledge regarding various aspects of HIRA, 67.5% of respondents had fair knowledge while only (7.5%) had good knowledge and result of data mean score was 9.03, SD 2.88. The implication of the study is to improve the knowledge on hazard identification and risk assessment and reduce the exposure of workplace hazards through the in-service educational training on HIRA.

Keywords: Hazard Identification and risk assessment (HIRA), knowledge, nursing personnel

Introduction

Risk assessment is that the process where you identify hazards, analyze or evaluate the risk associated with the hazards. The ever evolving role of technology in healthcare services now allow hospitals to diagnose faster, with greater accuracy than ever before and increasingly in a manner which is least invasive. It allows hospitals to treat better and help patients recover faster. Most of the processes in high risk clinical areas of a hospital like the operating room, intensive care area etc., involve usage of medical equipment. But faulty medical equipment or use of equipment in a manner other than in which it was intended to may lead to serious disability or death of patient. Few examples are wrong delivery of drug through non calibrated infusion pump, and patient suffering from a burn injury due to loose contact with patient plate while using electrosurgical equipment inside operating room. The NABH accreditation standard Responsibility of Management (ROM 6a) mandates that top management of hospitals should ensure proactive risk management across the organization. As per NABH accreditation standard Facility Management and Safety (FMS 1a), the hazard identification and risk assessment (HIRA) exercise is to be conducted by hospital and it should take all the necessary steps to eliminate or reduce such hazards and associated risks. It is mandatory to monitor adverse events and near misses in the hospital, as per NABH accreditation standard Continuous Quality Improvement (CQI). In terms of Hazard Identification, risk assessment aims to facilitate valid

decision making in taking all necessary measures that will control the exposure to health hazards in any working environment. The aim of this study was to assess the knowledge on hazard identification and risk assessment (HIRA) among nursing personnel (Nursing faculty and Nursing officer). A study by Christina C et al. (2012), to investigated self-reported occupational exposure to antineoplastic drugs, anesthetic gases, antiviral drugs, sterilizing agents (disinfectants), and X-rays and thus the danger of miscarriage in US (8461) nurses. Participants rumored 6707 live births, and 775 (10%) spontaneous abortions (<20 weeks). once adjusting for age, parity, shift work, and hours worked, antineoplastic exposure was related to a 2-fold exaggerated risk of miscarriage, significantly with early miscarriage before the twelfth week, and 3.5-fold exaggerated risk among nulliparous ladies. Exposure to sterilizing agents was related to a 2-fold exaggerated risk currently miscarriage (12-20 weeks).

Materials and Methods: This study was a cross-sectional descriptive study that was conducted to assess the Hazard Identification and Risk Assessment (HIRA) from the nursing personnel. Study population included all the nursing personnel (Nursing faculty and Nursing officer) working in healthcare Institution and Hospitals at Bombay Hospital Indore. The sample was consisted 40 nursing personnel and the convenient sampling (non-probability) method was utilized to gather information from chosen population. Inclusion criteria in this study for nursing personnel was

having at least one year of work experience in the current institution or ward, and having at least a bachelor's degree in nursing and the nursing personnel who was not willing to participate included in exclusion criteria. Data collection tool was a questionnaire designed by the researcher, the first part of the questionnaire was related to demographic information such as age, educational qualification, area of working, job experience, type of job and having a training course in the field of HIRA. The second part contained 20 items about the knowledge based questions on hazard identification and risk assessment that they responded to them by open ended. The questionnaire was used after confirming the validity and reliability. Face and content validity of the questionnaire was determined by ten educators, nurse educators and Statistics advisor. After

collecting the opinions of these individuals small changes were given to the questionnaire. To verify reliability of questionnaire Split half coefficient was used that the $r=0.86$ respectively and validity of the questionnaire was approved, at the end for describing the data, descriptive statistics (frequency, mean and standard deviation). This study conducted after the adoption of the proposal in approving by the Ethics Committee of the Bombay Hospital Indore. A significance level of 0.05 was adopted.

Findings: Based on the results, response rate was 100% of nursing personnel. All the nursing personnel had been completed degrees in nursing. Other demographic data have been presented in Table 1.

Table 1: Frequency and percentage distribution of demographic information

S.No.	Demographic Variables	Frequency	Percentage
1.	Age (in years)		
	a. 21- 25 years	12	30%
	b. 26-30 years	18	45%
	c. 31-35 years	5	12.5%
	d. >36 years	5	12.5%
2.	Educational Qualification		
	a. B.Sc. (N)	15	37.5%
	b. M.Sc. (N)	22	55%
	c. PhD (N)	3	7.5%
3.	Area of Working		
	a. Nursing Institute	22	55%
	b. Hospital	18	45%
4.	Job Experience		
	a. 1-3 years	15	37.5%
	b. 4-6 years	12	30%
	c. 7-9 years	8	20%
	d. >10 years	5	12.5%
5.	Type of Job		
	a. Permanent	32	80%
	b. Contract	8	20%
6.	Having a training course on HIRA-		
	a. Have	2	5%
	b. Don't have	38	95%

Knowledge scores of nursing personnel on hazard identification and risk assessment (HIRA)

Table 2: The criteria measures of the knowledge score of the nursing personnel.

Level of Knowledge	Knowledge Score	Frequency	Percentage	Mean	Standard Deviation
No knowledge	1-7	10	25%	9.03	2.88
Fair knowledge	8-14	27	67.5%		
Good Knowledge	>15	3	7.5%		

Shows the respondents claiming to have Knowledge on hazard identification and risk assessment (n=40). According to overall scoring of knowledge section, 10% of the respondents had poor/no knowledge regarding various aspects of HIRA, 67.5% of respondents had fair knowledge while only (7.5%) had good knowledge and result of data mean score was 9.03, SD 2.88.

Discussion

The aim of the study to assess the Knowledge on hazard identification and risk assessment (HIRA) among Nursing Personal. After the study it had been observed that the

scoring of the data categorized in three i.e. no knowledge, fair knowledge and good knowledge. Data was collected from nursing personnel by using questionnaires and the result showed that most of respondents had lies on 67.5% fair knowledge category. There should be training and educational meetings for the nursing and healthcare personnel to enhance the knowledge and improves workplace safety, develop policies on all aspects related to hazard identification and risk assessment (HIRA).

Conclusion

The research study concluded that nursing personnel have

fair knowledge on hazard identification and risk assessment (HIRA), but have some lack of knowledge, which leads their life to threatening conditions. There are some other issues also which contribute to the exposure of nursing personnel to workplace occupational hazards like unavailability of proper equipments. There is no proper hospital policy regarding the reporting of exposed cases and also no proper immunization to all healthcare members against contagious diseases. There are no any institutional level drills or training sessions for the safety of nursing personnel/ healthcare team at work place on workplace safety. The objective of the study is to identifying and assessing the hazard associated during the construction of the project and thereby controlling the risk and avoids the incident in workplace.

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