



Assessment of knowledge regarding occupational health & safety measures among staff nurses at selected Hospital, Bangalore

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ARTICLE INFO

Article history:

Received 11 January 2025

Received in revised form

18 March 2025

Available online 28 April 2025

Keywords:

Nursing Staff

Occupational Health and Safety

Hazards At The Workplace

Occupational Health Occupational

Hazards and Occupational Safety.

ABSTRACT

Healthcare professionals undergo a variety of occupational health disorders during their work in the hospital. Occupational health is essential, and lack of occupational safety can lead to many serious health threats and affect the quality of care/services provided and the productivity of the hospital. The present study aimed to assess the knowledge regarding occupational health and safety among nursing staff in selected hospitals in Bengaluru. The objectives of the study were to assess the knowledge of occupational health and safety among the nursing staff and to find out the association between knowledge and selected socio-demographic variables. A descriptive (non-experimental) study was used for the present study. A structured questionnaire was used to assess the level of knowledge of nursing staff regarding occupational health and safety. Data were collected from 50 nursing staff using a convenient (purposive) sampling technique. The test findings revealed that 20% of the nursing staff had good knowledge, 56% of the nursing staff had average knowledge, and 24% of the nursing staff had poor knowledge of occupational health and safety.

Introduction:

Occupational health is defined as "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 jobs" (WHO/ILO 1950). Occupational health and safety is one of the most important aspects of human concern. Occupational health is a multidisciplinary activity that concerns the health and safety of employees, focusing on preventing and controlling work-related disorders, injuries, impairment, or disease affecting an employee during employment. It aims to adapt the working environment for workers for the promotion and maintenance of the highest degree of physical, mental, and social well-being of workers in all occupations.

The workforce is the backbone of a country's development. A healthy, well-trained, and motivated workforce increases productivity and generates wealth that is necessary for the good health of the community at large. Concha-Barrientos et al. (2004) noted that when people work, they may be

exposed to many hazards due to exposure to chemicals, biological adverse ergonomic conditions, psychosocial factors, and other conditions that may result from safety compromises. Although the emphasis on occupational safety over the last 75 years has saved thousands of lives.

Occupational hazard is defined as any hazard that an individual experience in the work environment and includes hazards that can be chemical, physical, biological, and psychosocial, which is a significant public health issue. The standard guidelines were already launched by ILO, WHO, and the Joint United Nations Programme on HIV/AIDS (UNAIDS) in 2010 to address the gap in the healthcare industry.

Need of the Study:

Worldwide healthcare professionals account for 12% of the working population who are at risk and exposed to occupational hazards in work settings. Each year, work-related injuries and diseases kill an estimated 2.34 million people worldwide (ILO). Annually, an estimated 160 million new cases of work-related diseases occur worldwide.

There are an estimated 60 million healthcare workers (HCWs) throughout the world, and as per the World Health Organization (WHO) report, work-related exposures have resulted in 2.5% of HIV and 40% of hepatitis B and C cases among health service providers. Another study revealed that in the year 2002, accidental sharps injuries resulted in 16,000 hepatitis C cases, 66,000 hepatitis B cases, and 1,000 HIV cases among HCWs worldwide, whereas for the year 2000, unsafe injection practices resulted in 21 million (32%) of hepatitis B virus (HBV) infections, two million (40%) of hepatitis C virus (HCV) infections, and 260,000 (5%) of new HIV infections. As per the annual report 2011–12 of the National AIDS Control Organization (NACO), India has the third largest number of people living with HIV/AIDS. Karnataka is one of the highly prevalent states with a high-risk status of Gulbarga District.

A major study conducted in South India suggests that the physical hazards identified were 21% musculoskeletal disorder, followed by 13% burns and 10% strain due to uncomfortable posture. Chemical hazards identified were 8% dust, 7% chemical inhalation, and 6% sterilization gases. Biological hazards were 12% needle stick injuries, 11% splash, and 5% sharp injuries. Equipment hazards were reported more among nurses. Among psychosocial hazards, shift duty stress was highest (17%). The incident register showed slips/falls (28%), equipment hazards (23%), and needle stick injury (19%) as the most common hazards.

Objectives:

- 1) To assess the knowledge of occupational health and safety among the nursing staff in selected hospitals in Bengaluru.
- 2) To find the association between knowledge regarding occupational health and safety measures and socio-demographic variables.

Methodology:

Research Approach:

Quantitative study

Research Design:

A descriptive (non-experimental) design was adopted.

Variables:

Research variables: Knowledge regarding occupational health and safety measures

Demographic variables: In this study it refers to the age, religion, marital status, gender, educational qualification,

years of experience, departments, pattern type, designation, OHS training program, source of information and history of any illness about occupational health and safety measures.

The setting of the study:

Selected hospitals in Bengaluru.

Population:

Refers to nursing staff working in hospitals.

Sample:

Nursing staff working in selected hospitals.

Sample size:

50 nursing staff.

Sampling technique:

A total of 50 nursing staffs were selected by using convenient (purposive) sampling from selected hospitals in Bengaluru.

Inclusion criteria:

The inclusion criteria refer to nursing staff working in selected hospitals in Bengaluru, available during the data collection and willing to participate.

Exclusion criteria:

The exclusion criteria for sampling refer to the nursing staffs who are not available during the study.

Data collection method:

Structured questionnaire.

Description of the tool:

The tool consists of two sections. Section A: Socio-demographic variables, Section B: Structured knowledge questionnaire. Scoring procedure: In this study, the tool consists of 30 questions. The maximum score of the knowledge questionnaire was 30'. The minimum score of the knowledge questionnaire was 0'. For each correct answer, the participants were awarded a score of 1', and for every wrong answer they were awarded a score of 0'. If the response of the item is missed, participants were awarded a score of '0.'. The reliability of the tool was established by the student researcher using Spearman's test (test-retest method) $r=0.8660$. Knowledge level categories were three: namely, good knowledge (21-30 score), average knowledge (11-20 score), and poor knowledge (≤ 10 score).

Data analysis:

Section A

Table no.1 Frequency and percentage distribution of nursing staff according to age, religion, marital status, gender, educational qualification, years of experience, and departments/units, pattern type, designation, OHS training programs, source of information, and history of any illness.

SL. No.	Demographic variables	Category	Frequency	Percent
1	Age	21-25	28	56%
		26-30	11	22%
		31-35	8	16%
		Above 35	3	6%
2	Religion	Hindu	38	76%
		Muslim	3	6%
		Christian	9	18%
3	Marital status	Married	19	38%
		Unmarried	26	52%
		Single	5	10%
4	Gender	Male	13	26%
		Female	37	74%
5	Educational Qualification	GNM	19	38%
		BS.c N	31	62%
6	Years of experience as staff nurse	1-3	28	56%
		4-6	11	22%
		7-9	4	8%
		Above 10	7	14%
7	Departments/Units	Medical	14	28%
		Surgical	8	16%
		Paediatric	4	8%
		ICU	7	14%
		Emergency	8	16%
		OPD	6	12%
		Special ward	1	2%
		Dialysis	2	4%
8	Pattern type	Day shift	20	40%
		Afternoon shift	17	34%
		Night shift	13	26%
9	Designation	Staff nurses	43	86%
		Senior staff nurse	7	14%
10	OHS training programs	Yes	29	58%
		No	21	42%
11	Source of information	Media	14	28%
		Relatives/Friends	3	6%
		Health personnel	21	42%
		All of the above	12	24%
12	History of any illness	Nil	29	58%
		No	21	42%

Table no.1 represents that about the age of nurses, the majority (56%) were in the age group of 21-25 years; based on religion, the majority (76%) were Hindu; based on marital status, the majority (52%) of nurses were unmarried; based on the gender-wise distribution of nurses, the majority (74%) of the nurses are female as compared to (26%) of male, based on educational status of nurses; the majority were BSc Nursing graduates (62%), and with regards to clinical experience, the majority had 1-3 years of experience (56%); based on the area of working, the majority were in the medical unit (28%). based on shift type, the majority (40%) were day shift, and with regards to the designation of nurses, the majority (86%) were holding the designation of staff nurses. According to previous exposure to information, the majority (58%) attended OHS training programs. Based on the source of information, the majority (42%) suggested knowing health personnel, with regards to the history of any illness, the majority (58%) expressed Nil.

Table no.2 Frequency and percentage distribution of knowledge regarding occupational health & safety measures among staff nurses at selected hospitals.

Interpretation	Frequency	Percent
Good	10	20
Average	28	56
Poor	12	24

Table no.2 shows that the majority (56%) of staff nurses were having average knowledge in Occupational Health and Safety Measures.

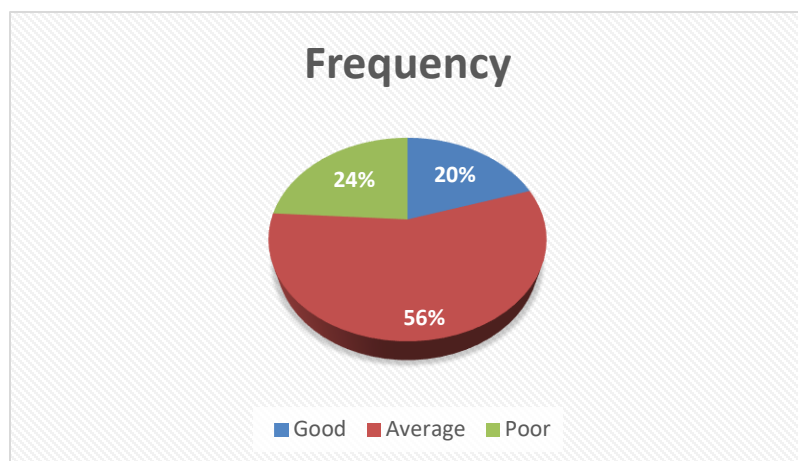


Table no.3 mean, median, mode, and standard deviation of knowledge regarding occupational health & safety measures among staff nurses at selected hospitals

Parameters	Value
Mean	15.64
Median	15.5
Mode	10
Standard deviation	5.784

Table no.3 indicates the overall mean score (15.64), median score (15.50), mode (10), and SD score (5.784) of knowledge regarding occupational health & safety measures among staff nurses.

Table No.4 Association between knowledge regarding occupational health & safety measures and selected demographic variables among staff nurses.

SL no.	Demographical variables	Level of knowledge			P Value	Level of significance(0.05)
		Good	Average	Poor		
1	Age				0.033 df=1	*S
	21-25	10	13	5		
	26-30	0	7	4		
	31-35	0	6	2		
	Above 35	0	2	1		
2	Years of experience				0.024 df=1	*S
	1-3	10	13	5		
	4-6	0	8	3		
	7-9	0	1	2		
	Above 10	0	5	3		

Table no.4 A Chi-square analysis was conducted to examine the relationship between knowledge regarding occupational health and safety measures and certain demographic characteristics among staff nurses working in hospitals. A significant association was found in the area of age ($\chi^2=52.137a$, $P = > .033$) and years of experience ($\chi^2=42.110a$, $P = > .024$). Hence, the research hypothesis stated as H1: Age and years of experience are statistically associated with knowledge regarding occupational health and safety measures.

Results and Discussion:

In this study, results showed that out of 50 nursing staff, the majority represented that 56% of the nursing staff had average knowledge, 24% of the nursing staff had poor knowledge, and 20% of the nursing staff had good knowledge on occupational health and safety.

The result showed that there is a significant association between knowledge and selected socio-demographic variables (age and years of experience) among staff nurses in selected hospitals. Hence, stated research hypotheses were accepted about these variables.

Similarly, Shakhawan Azad Ahmed et.al reported that there was a significant and highly significant association between years of experience and their overall knowledge of occupational health and safety measures, respectively.

In contrast, Odonkor S. T. et.al reported that almost all the respondents (95.9%) have very high knowledge regarding occupational health and safety.

Conclusion:

The present study found that out of 50 nursing staff, the majority represented that 56% of the nursing staff had average knowledge, 24% of the nursing staff had poor knowledge, and 20% of the nursing staff had good knowledge of occupational health and safety. The study also found that there is a significant difference in knowledge among the staff nurses according to their age and years of experience. The study concluded that there is no significant difference among the group of staff nurses in other socio-demographic variables.

As a nurse, It is important to educate the staff nurses regarding occupational health and safety measures. Nurse

educators should prepare effective future nurses, which can be done through the active participation of staff nurses in educating regarding major occupational hazards, i.e., biological, ergonomic, chemical, and physical hazards. A nurse can also act as a counselor in promoting occupational health and safety measures.

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