

Awareness of Occupational Health Hazards among Staff Nurses

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Abstract: *This descriptive survey was carried out to investigate the level of awareness about occupational health hazards among nurses at tertiary care hospital karad. The study population consisted of nurses, The simple random sampling technique was employed in Selecting 105 respondents. A validated structured questionnaire with reliability was used to collect information. Data collected were analyzed using the SPSS package. The results revealed that 19.0% of the respondents were males, 81.0% were females of which 56.2% were single, 42.9% were married and 1% were widow. Among the respondents 79% were between 20-30 years of age, 6.7% between 31-40 years and 9.5% between 41-50 years while the remaining 4.8% were aged 51 years and above. 69.5% respondents had 0-3 years working experience, 7.6% respondents had 3-5 years, 4.8% respondents had 5-10 years while 18.1% respondents spend 10 years and above in the nursing profession. The results showed that in biological hazards the majority samples 83.8% strongly agreed that nurses should be fully immunized against hepatitis B, which indicates that they are aware about immunization and 22.9% samples disagree that is they are unaware about dermatitis because of using latex gloves. In non-biological hazards the majority of samples that is 67.6% strongly agreed that nurses have stress due to lack of rest which indicates that they are aware about the stress due to lack of rest and 31.4% of samples disagree that they were unaware about personal monitoring bandages and pocket dosimeters. **Conclusion:** Staff nurses continue to face several hazards in their work places. The factors associated with experiencing hazards include not using all necessary protective equipments, working over time, experiencing work related pressures and working in multiple facilities. Interventions should be instituted to mitigate the hazards. Occupational health hazards, many of which are avoidable and preventable while others are inevitable, being parts of the everyday duties. This study showed that there was high degree of awareness regarding occupational health hazards among the staff nurses at tertiary care hospital*

Keywords: Occupational health, Hazards, Awareness, Staff nurses

1. Introduction

Healthcare facilities like other high risk work places are characterized by a high level of exposure to hazardous agents, which significantly endangers the health and life of workers (HCWs). According to the World Health Organization (WHO), Occupational Health is defined as a multidisciplinary activity aimed at: The protection and promotion of the health of workers, by preventing and controlling occupational hazards and accidents and by eliminating the occupational factors and conditions hazardous to health and safety at work. The development and promotion of healthy and safe work, work environments, and work organizations. Enhancement of the physical, mental and social wellbeing of the workers and support for the development and maintenance of their working capacity, as well as professional and social development at work. Enabling workers to conduct socially and economically productive lives and to contribute positively to their sustainable development. [1] Hazards are an inherent property of a substance, agent, source of energy or situation that has the potential of causing undesirable consequences while risk is the probability that damage to 'life, health, and or the environment' may occur from a hazard. In this regard, occupational hazards refer to workplace activities that have the potential to cause/increase the risk of injury or ill health [5]. Personnel in this workforce are responsible for providing quality health care services, even though their work places (hospitals, clinics and laboratories) are increasingly unsafe

[2]. It was reported that healthcare workers (HCWs) encounter different hazards due to their activities [3]. This includes but not limited to sharp related injuries, direct infections, stress, assault from patients and their relatives, allergies, back pain, and other musculoskeletal injuries [4].

Nurses in selected tertiary care hospital are highly satisfied in their job with respect to almost all job reinforcing factor namely Ability utilization, Achievement, Activity, Advancement, Authority, Hospital policy, Co-workers, Creativity, Security, Social service, Social status, Moral value, Recognition, Responsibility, Supervision, Variety, Working condition. [6] Nurses knowledge and practice may be enhanced through progressive broadening of the scope of the patient care role, fostering the nurse quality controller and educator role, and addressing barriers to role enhancement, such as organizational inexperience with inter-professional work and lack of a career structure. [7] Nurses have to face frequent occurrence of stress which could have negative impact on organizational climate in the future. Out of all considered causes of stress, workload and supervisors are two major factors responsible for frequent occurrence of stress among majority of nurses. [8]

In spite of the numerous hazards in their unsafe workplaces, healthcare occupational settings continue to be neglected by governments, management and regulators [10]. Occupational health hazards put HCWs at risk of increased morbidity and mortality. Loss of skilled health personnel will adversely

affect healthcare services which are already suboptimal in developing countries. The multiplying effects of occupational injuries and diseases among health workers include economic loss, physical loss and psychological disorders such as stress and depression. These have an overall negative impact on the workers, their families and the nation at large. Identifying awareness relating to occupational hazards among HCWs is essential in formulating occupational health safety policy and system that will improve the productivity and overall wellbeing of HCWs. Occupational safety is the control of hazards in the work place to achieve an acceptable level of risk, while workplace safety generally refers to the process of protecting the health and safety of staff while on the job, irrespective of vocation [11]. Occupational health and safety is an important issue because of high rates of associated morbidity and mortality of exposed workers. An estimated 100,000 people die from occupational illnesses, while about 400,000 new cases of occupational diseases are diagnosed every year [12]. This affects workers in various occupations as a result of their exposure to different types and varying degrees of hazards in the workplace. However, studies indicate that workers in the farming, general contracting, steel, automobile, truck driving and nursing sectors have the highest risk of exposure to high risk occupational hazards [13].

2. Problem Statement

A study to assess the awareness of occupational hazards among the staff nurses at tertiary care hospital.

3. Objectives

- To assess the awareness of occupational hazards among staff nurses.
- To determine the association between occupational health hazards and selected socio-demographic variables.

4. Assumption

Nursing staff may have awareness regarding occupational hazards.

5. Limitation

The study is limited to

- Selected tertiary care hospital
- Only awareness on occupational health hazards will be assessed through structured knowledge questionnaire
- The study focuses only on staff nurses.

6. Research Methodology

Research methodology is the activity of research, how to proceed, how to measure progress. And what constitutes success. Methodology decision paves crucial implication for validity and credibility of the study findings. Methodology of research indicates the general pattern for organizing the procedure for the empirical study together with the method of obtaining valid and reliable data for an investigation [9]

Research Approach

An descriptive (survey) cross sectional study approach was used to assess the awareness of occupational health hazards among staff nurses.

Research Design

Research design used in the study is non- experimental descriptive design, as a group selected is assessed of their knowledge on occupational health hazards.

Setting of the Study

Study was conducted on staff nurses of all departments at tertiary care hospital, Karad.

Population

All staff nurses of tertiary care hospital, Karad.

Sample and Sampling Technique

Simple random sampling technique was used to select samples for the study

Sample Size

105 staff nurses working in tertiary care hospital karad were included in the study.

Inclusion Criteria

- Who were willing to participate in the study and understand English.
- Who were available at the time of study.

Exclusion Criteria

- Who were not willing to participate in the study.

Development of A Tool

Tool was developed by going through internet search, various journals and books.

Tools and Techniques

In the present study the data was collected using the structured knowledge questionnaire.

Data Collection Schedule

Data was collected from 07/ 03/2016 to 12/03/2016 scheduled in for two shifts. To assess the awareness of occupational health hazard among staff nurses, investigator distributed the prepared questionnaire to samples and allotted 15-20 minutes to answer. Collected data were coded, organized, analyzed and interpreted using descriptive and inferential statistics. The data had been analyzed and interpreted in the light of objectives.

7. Findings and Discussion

Table 1: Frequency and percentage distribution of staff nurses according to their demographic variables

S. No	Characteristics	Freq	%
1.	AGE		
	20-30yrs	83	79
	31-40yrs	7	6.7
	41-50yrs	10	9.5
	Above 51yrs	5	4.8
2.	SEX		
	Male	20	19.0
	Female	85	81.0
3.	MARITAL STATUS		
	Married	45	42.9
	Unmarried	59	56.2
	Widow	1	1
4.	EDUCATION		
	ANM	8	7.6
	RGNM	54	51.4
	B.Bsc	40	38.1
	PBB.sc	3	2.9
5.	EXPERIENCE		
	0-3yrs	73	69.5
	3-5yrs	8	7.6
	5-10yrs	5	4.8
	>10yrs	19	18.1

This table reveals that maximum of the staff nurses were in the age group of 20 to 30yrs [79%] while, minimum were above >50years [4.8%]. Majority of the respondents are female [85%] and minimum [19%] are male. Majority of the respondents were RGNM 51.4% and minimum 3 [2.9%] respondents were P.B.BSC. Majority of the respondents had experience 0-3years 73[69.5%] and minimum had 3-5years 8 [7.9%]

Table 2: Sharp Related Injury Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Description	Strongly Agree		Agree		Disagree	
	F	%	F	%	F	%
Needles should never be re shielded or recapped	61	58.1	34	32.4	10	9.5
Receiving training about precaution of needle stick injury is essential	63	60.0	38	36.2	4	3.8
Syringes or needles should be safely disposed of directly into sharps container for disposal	54	51.4	48	45.7	3	2.9
Nurses should be aware of quality policy regarding safety	64	61.0	39	37.1	2	1.9
Nurses have to be fully immunized against hepatitis B	88	83.8	17	16.2	0	0
Nurses should have taken medical insurance during probation period	69	65.7	35	33.3	1	1.0

Majority of samples i.e. 58.1% strongly agreed that needles should never be re shielded or recapped, 32.4% agreed whereas still 9.5% samples disagreed. This shows the need for further emphasis on policy regarding re shielding of

needles. While majority of samples i.e. 60% strongly agreed that receiving training about precaution of needle stick injury is essential and 3.8% of samples disagreed. This shows the need for further emphasis on policy regarding training about precaution of needle stick injury. Majority of samples i.e. 51.4% strongly agreed that needles should be safely disposed directly into sharp container and 2.9% only disagreed. This shows that the samples disagreeing this question needs to emphasis on disposal of sharps. the majority of samples ie 61% strongly agreed that nurses should be aware of quality policy regarding safety and 1.9% disagreed for this .maximum number of samples 83.8%strongly agreed that nurses have to be fully immunized against hepatitis B. This shows that the most of samples are aware about the immunization. Majority of samples that is 69% strongly agreed that nurses should have taken medical insurance during probation period and 1% disagree for this statement.

Table 3: Infectious Diseases and Infection

Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Description	Strongly Agree		Agree		Disagree	
	F	%	F	%	F	%
Nurses suffer from dermatitis because of using latex gloves	24	22.9	57	54.3	24	22.9

The above table showed that 22.9% of samples strongly agree that nurses suffer from dermatitis because of using latex gloves and same 22.9% of them disagree about the above statement

Table 4: Air Borne Diseases

Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Description	Strongly Agree		Agree		Disagree	
	F	%	F	%	F	%
Many medical diseases are acquired by nurses from patient	47	44.8	49	46.7	9	8.6

The above table shows that majority of samples that is 44.8% strongly agreed and 46.7% agreed that many medical diseases are acquired by nurses from patient, whereas 8.6% samples disagreed to above statement.

Table 5: Non-biological hazards

Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Psychological	Strongly Agree		Agree		Disagree	
	F	%	F	%	F	%
Nurses have stress due to lack of rest	71	67.6	33	31.4	1	1.0

The above shows that majority of samples that is 67.6% strongly agreed that nurses have stress due to lack of rest ,this means that 67.6% nurses are aware about that nurses have stress due to lack of rest and only 1% of nurses are unaware.

Table 6: Non-Biological Hazards

Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Physical	Strongly Agree		Agree		Disagree	
	Freq	%	Freq	%	Freq	%
Patient handling task like twisting , bending, lifting heavy objects is challenging for body	65	61.9	38	36.2	2	1.9
Prolonged time in an upright posture may cause chronic circulatory disorder	53	50.5	47	44.	5	4.8

The above table shows that 61.9% of sample strongly and are aware that patient handling task that twisting bending lifting heavy object is challenging and only 1.9% disagree that is they are unaware. While that 50.5% of samples strongly agreed and are aware that prolonged time in an upright posture may cause chronic circulatory disorder and 4.8% disagree and are unaware.

Table 7: Non-Biological Hazards

Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Environmental	Strongly Agree		Agree		Disagree	
	Freq	%	Freq	%	Freq	%
Nurses are exposed to violence –primarily from patients, relatives and visitors	45	42.9	53	50.5	7	6.7
Nurses should read manual on radiological safety	44	41.9	7	6.7	2	1.9
Nurses who are pregnant must not be assigned to radiotherapy dept.	64	61	39	37.1	2	1.9
Adequate distance should be maintained from radiation source	47	44.8	55	52.4	3	2.9
Wearing lead aprons by nurses during prolonged procedures can help to reduce exposure by 15%	39	37.1	65	61.9	1	1.0
Usage of personal monitoring bandages and pockets dosimeter is necessary	19	18.1	53	50.5	33	31.4
Guideline to reduce exposure to ionizing radiation should be followed in hospital premises	40	38.1	62	59.0	3	2.9

The above table shows that 42.9% strongly agree and 50.5% of majority agreed that nurses are exposed to violence primarily from patient, relatives and visitors whereas 6.7% disagreed about the above description. While 41.9% strongly agree and majority 56.2% agrees that nurses should read manual on radiological safety where as 1.9% disagrees or unaware about above description. The majority of samples that is 61% strongly agreed that nurses who are pregnant must not be assigned to radiotherapy department, 37.1% agreed where as 1.9% still disagree or unaware . On

the other hand majority 44.8% of samples strongly agreed and majority 52.4% of staff nurses agreed and 2.9% disagreed. This shows that the need for further emphasize on adequate distance should be maintained from radiation source. 37.1% strongly agree and majority 61.9% agreed that wearing lead aprons by nurses can help to reduce radiation exposure were as 1% of samples disagree for this description. This shows that they are aware about personal protection. The majority 50.5% agree and 18.1% strongly agreed that Usage of personal monitoring bandages and pockets dosimeter is necessary where as 31.4% unaware about pocket dosimeter. This shows that need for further emphasize on this description. And 38.1% strongly agreed and majority 59% agreed that guideline reduce to ionizing radiation should be followed in hospital premises, still 2.9% disagreed about the above description.

Table 8: Non-Biological Hazards

Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Chemical	Strongly Agree		Agree		Disagree	
	Freq	%	Freq	%	Freq	%
Usage of glove mask, aprons is necessary for handling antineoplastic drugs and chemicals	58	55.2	47	44.8	22	21

From the above table majority of sample that 52.2% strongly agree that Usage of glove mask, aprons is necessary for handling antineoplastic drugs and chemicals,48.8% only agreed where as 21% unaware this shows that there is need of awareness to staff nurses regarding this description

Table 9: Non-Biological Hazards

Frequency and percentage distribution of questionnaire according to response given by the staff nurses

Burn	Strongly Agree		Agree		Disagree	
	Freq	%	Freq	%	Freq	%
Nurses are prone to have burn injuries while handling hot sterile equipment's.	49	46.7	33	31.4	1	1.0

From the above table majority of sample that 46.7% strongly agreed that Nurses are prone to have burn injuries while handling hot sterile equipment's,31.4% agreed only 1% still disagreed.

8. Discussion

The study was carried out to examine the awareness of nurses on the factors that predispose them to occupational hazards in their chosen profession. It was confirmed that nursing professionals are exposed to occupational hazards as over 95% of the respondents attested to this. This finding corroborates the findings of earlier researchers who posited that nurses and other health personnel are prone to occupational hazards Among the factors suggested as being responsible for these hazards include negligence or carelessness on the part of the nurses, prolonged standing by the nurses while on duty, failure to observe simple safety rules, lifting of patients and other

heavy equipments, excessive workload and lack of protective devices. The study also revealed the various kinds of hazards as observed by the nurses, some of which are back injury, infection from patients, assault by patients, neck and back pain, workplace violence, exposure to radiation and muscular disorder. These findings are in line with results of other studies which all reported these hazards as being common with the nursing profession. In this study, respondents as a result of their various experiences were able to suggest ways of preventing or minimizing the rate at which nurses are exposed to occupational hazards in the discharge of their duties, some of which are the proper use of protective aids, strict adherence to simple safety rules and guidelines, avoiding the lifting of heavy equipments and prolonged standing. The study showed that majority sample 83.8% strongly agreed that nurses should have fully immunized against hepatitis B, which says that they are aware about immunization and 22.9% samples disagree that is they are unaware about dermatitis because of using latex gloves. The study shows that majority of samples that is 67.6% strongly agreed that nurses have stress due to lack of rest which says that they are aware about the stress due to lack of rest and 31.4% of samples disagree that is they were unaware about personal monitoring bandages and pocket dosimeters was necessary.

9. Conclusion

Staff nurses continue to face several hazards in their work places. The factors associated with experiencing hazards include not using all necessary protective equipments, working over time, experiencing work related pressures and working in multiple facilities. Interventions should be institute to mitigate the hazards. Occupational health hazards, many of which are avoidable and preventable while others are inevitable, being parts of the everyday duties. This study showed that there was high degree of awareness regarding occupational health hazards among the staff nurses at tertiary care hospital.

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