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Original Article

Assessment of Knowledge, Attitude and Practices Related to Occupational Hazards among Nurses of Tertiary care Hospitals of Rawalpindi

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ABSTRACT

Occupational hazards associated with health are present in every occupation, and they are the leading cause of death. In the medical profession, Nurses constitute the largest group of healthcare workers, and experience a higher rate of workplace hazards exposure than other health care workers. **Objective:** To assess the knowledge, attitude and practices of occupational hazards among nurses in tertiary care hospitals of Rawalpindi. **Methods:** A sample of 422 nurses having clinical experience of more than one year were recruited through multistage sampling. A modified, validated and pretested questionnaire was administered. Data were coded into SPSS version-23. Mean ± SD were calculated for (numerical) variables. Frequency and percentage were calculated for categorical variable. For the association, p-value ≤0.05 was considered significant. **Results:** The results showed respondents with a mean age of 37.63±6.73.Most had high knowledge 370(87.7%)about hazards in Hospitals, with positive attitude 311(73.70%), Only 218(51.7%) comply safety practice whilst those that did not follow 204(48.3 %) generally associate as deficient of essential safety equipment 222(52.6. %). There was no association between knowledge, attitude, and practices. **Conclusions:** Satisfactory knowledge, positive attitude and poor practices of nurses are key impediments to nurses. Improve the practices and reduce the exposure of occupational hazards.

INTRODUCTION

Around the world, 12% of the working population is comprised of the healthcare workers [1]. Occupation related injuries put a major strain on organization by expanding cost through therapeutic working cost, loss of working days and decreased capacity to confer facilities by the workers [2]. Nurses confront a wide variety of work environment risks disclosure than other healthcare professionals due to the job nature involving round the clock contacts and care of patients [3]. Occupational hazard refers to work place activities that have prospective to origin/magnify the risk of injury or ill health [4]. (Occupational Health and Safety PolicyandGuidelines2015). A work related health hazard could be a hazardous phenomenon, substance, human actions or condition

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which will origin as loss of life, damage or other health hazard impacts at the workplace. A healthcare facility is a place for giving and receiving care. Globally, healthcare facilities employ over 59 million of workers who encountered complex range of health and safety hazards every day. As per the recommendation of the NIOSH recommends that dangers and in hospitals are categorized as biological, chemical, physical, ergonomic as well as psychosocial without mentioning definite occupations, and reported that out of them, 24 are biological, 25 are chemical, 29 are psychical, 4 are ergonomic, and 10 are psychosocial [5]. Among all the mentioned physical hazards, wellbeing of healthcare providers can be seriously affected by vibration, ionizing, noise, and non-ionizing radiation, heat as well as other unhealthy microclimatic situations. As per the reports of WHO, every year almost 3 million health care workers get exposed to blood-borne viruses, globally 9 million, 2 million and 3 million were contributed to Hepatitis C virus, Hepatitis B virus and Human Immuno-deficiency virus respectively and out of this around 90% happened in the progressing countries [6]. It is estimated that 0.6 to 0.8 million needle-stick injuries occur every year in overall healthcare settings. Injections (21 %), suturing (17%), and drawing of blood (16%) are the origin of exposure [7]. Health care workers are amongst those most affected by musculoskeletal disorders, in particularly occupational back and neck pain from lifting or prolonged static postures [8]. Other than this, it is stated that chemical materials are the other highlighted hazardous sources to the Nurses. Sterility products and disinfectants such as ethylene oxide and glutaraldehyde, hazardous drugs that are used during latex exposure and chemotherapy, are among other occupational hazards for Nurse 3 burnout and workload burden can result from inadequate nurse-to-patient ratios or obligatory overtime during periods of short-staffing [9]. Working situations have a sturdy influence on workers' health. A non-supportive working conditions can cause a great harm if not controlled, and can direct to occupational health hazards [10].

METHODS

This descriptive cross-sectional study was conducted in tertiary care hospitals of District Rawalpindi after taking ethical approval from institutional review board of Armed Forces Post Graduate Medical Institute April 2020 to September 2020.The sample size calculated was 422.Multistage probability sampling was adopted. Data were gathered from nurses based on their Knowledge, Attitude and Practices on occupational Hazards through a modified, validated, pre-tested questionnaire [11].Inclusion criteria Include head nurses, staff nurses, permanent staff with minimum 1 year experience, Exclusion criteria include nursing superintendent, nursing instructors, and who did not give informed consent. The questionnaire has been pre tested and validated in a pilot study. Cronbach alpha(a) was used to measure internal consistency reliability using SPSS software version-23. The questionnaire had questions on attitude, knowledge, and practices of subjects. Negative responses were coded '0' while positive responses were coded as '1' while for knowledge as well as practices questions prior to analysis. To assess the attitude 5-point Likert scale was utilized, "strongly disagree", "disagree", "undecided", "agree", and "strongly agree "and assigned 1, 2, 3, 4, and 5 scores respectively. Moreover, the range for attained knowledge score is 8(5–8). Consequently, a score greater than or equal to 5 was high and the score below 5 was considered as low. Likewise, a score of 10(6–10) and 78(74–80) was used to commute scores of practices and attitude respectively. For variables knowledge, attitude and practices, overall scores were aggregated as well as label into high/ low and good/ low (knowledge & practices); whereas attitude was specified as negative and positive respectively. Data were statistically analyzed using Statistical Package for Social Sciences (SPSS version23.0). Frequency distributions and percentages were used for descriptive analysis. Findings of the study were presented by tables using charts, frequency distribution, and graphs. Chi- square (χ 2) was performed to determine the association of knowledge attitude and practices. Statistical significance was assumed for p-values< or = 0.05.

RESULTS

A Total of422 female nurses were included in this study. The respondents mean age came out to be 37.63 ± 6.73 as listed in table 1.

Table 1: Mean Age of respondents

Female	Mean Age ± SD
422	37.63 ± 6.73

Knowledge regarding occupational hazards is shown in table 2. As in table 2 among total respondents 418(99.1%) stated that they have awareness about Occupational Hazards 290(68.7%) respondents correctly identified occupational hazards in Hospitals and 294 (69.7%) has knowledge about occupational infection while 319(75.6%) and 270 (64%) identified source of infection and activity associated with NSI respectively. 100 (100%) respondents agreed that hand washing is most effective practice for prevention and spread of infection. 346 (82.1%) respondents have knowledge about biological hazards and 345(81.7) has awareness about chemical hazards. Only 253 (60%) has Knowledge regarding ergonomical hazards and

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305 (72.4%) has knowledge about physical hazards respective52 (12.30%) respondent had low knowledge score (1-4) of occupational hazards While 370 (87.70%) had high Knowledge score (5-8).

Table 2: Knowledge on Occupational Hazards

Variables	Knowledge Level (Correct Response) n (%)	Knowledge Level (Incorrect Response) n (%)
Knowledge about Occupational Hazards	418(99.1)	4(0.9)
Knowledge about Occupational Hazards in Hospital	290(68.7)	132(31.3)
Knowledge about Occupational infection	294(69.7)	128(30.3)
Knowledge about Source of infection	319(75.6)	103(24.4)
Knowledge about activity NSIs most likely occur	270(64)	152(36)
Knowledge of Standard Precautions	213(50.5)	209(49.5)
Knowledge of Hand washing	100(100)	-
Knowledge about Occupational Hazards Categories	-	-
Biological hazards	346(82.1)	76(17.9)
Chemical hazards	345(81.7)	77(18.3)
Ergonomical hazards	253(60)	169(40)
Mechanical hazards	269(63.8)	153(36.2)
Physical hazards	305(72.4)	117(27.6)

Overall practices of respondents are given in Table 3.

Table 3: Over All Practices of Respondents

Practices	N (%)
Use No Safety Practices	204(48.3)
Use Safety Practices	218(51.7)

Association of knowledge and safety practices is depicted in Table 4.

Table4: Association of Knowledge and safety practices

Practices	Knowledge		p value
	Low	High	
Low	2 (50)	202 (48.3)	1.00
High	2 (50)	216 (51.7)	

No association was found between the safety practices and knowledge on occupational hazards by the respondents as p =1.00. Reasons behind not utilizing safety practices are shown in figure 1.

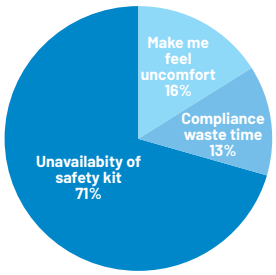

Figure 1: Reasons of not using Safety Practices

Table 5 shows association of knowledge and practice with attitude. There was no association between attitude, knowledge p = 0.577 and practices p = 0.58.

Table 5: Association of Knowledge and practice with Attitude

Demographic Variables	Knowledge		p value	Practices		p value
	Low	High		Low	High	
Attitude						
Negative Attitude	-	111(26.6)	0.577	51 (25)	60(27.5)	0.581
Positive Attitude	4(100)	307(73.4)		153 (75)	158(72.5)	

DISCUSSION

In this research, subjects were Nurses (females) mostly married, the average age of subjects was 37.63 ± 6.73 years; lower than 44 years reported in consonance with previous study findings [12]. Most of the respondents were well informed about the types of hazards and insecure situations except ergonomic hazards that is not a well-recognized hazard within the health care units and this was also discovered in a study conducted in Namibia where almost 38% of the subjects were well aware of the ergonomic hazards [13]. Majority of the nurses were aware of the fact that recapping of the used needles is an unsafe practice that leads them to underlined occupational risks. All respondents were aware that proper hand washing after every clinical procedure is vital for the prevention of cross infection. Proven from our study, respondents were well informed of renowned variety of occupational hazards post-exposure prophylaxis, in agreement with finding [14]. The commute results showed that most respondents 311(73.7%) had optimistic approach towards prevention of occupational hazard and safety practices. The following research said, there respondents' approach was optimistic towards hand sanitization. It is observed that health care workers tried their best to give good care to patients while paying little attention to their own health, especially in critical situation [15]. Only 202(48.3%) adhered to precautionary measures prescribed in the quality operating procedures (SOPs) and work aids. Similar with the research conducted [16], where half of study participant always comply with safety precautions. There were other reasons for non-adherence with safety practices, 56(13%) [17] respondents stated uncomfortable linked with use of PPEs as befits with earlier study findings [18]. According to present study, lack of safety kits, time compliance and associated discomfort, were similar factors. Most of respondents were well informed of inoculation against Tetanus, Hepatitis B virus and post-exposure prophylaxis and knew the risk of exposing to occupational hazards, in terms with findings [19]. Our results were contrary to research made in USA where majority of the nurses were aware of risk factors of needle stick injuries but in our case less than 1/3rd was aware of

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needle injuries attributed to lack of awareness programs and knowledge [20].

CONCLUSIONS

The study findings revealed that overall nurses had good knowledge and positive attitude regarding occupational hazards but unsatisfactory practices were contributing to occupational injuries. The study results highlighted the need for institutional level drills and training sessions for enhancing workplace safety.

Authors Contribution

Conceptualization: MFH
Methodology: DYS, FD, RB, IK, NB, JK, SAR
Formal analysis: SAR, NB, SZ, AJ
Writing-review and editing: DYS, JK, SZ, RB

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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