

Nurses Perceptions of Occupational Hazards and Safety Practices in Medical City Hospitals

Noor Najm Abadi¹, Wissam Jabbar Qassim²

¹Academic Nurse, Community Health Nursing/ Baghdad Health Directorate, Iraq. ²PhD, Community Health Nursing Department/ College of Nursing University of Baghdad, Iraq.

Abstract

Health and safety in the workplace are critical components in healthcare institutions. Unsafe working conditions are among the causes of poor quality of care and occupational burnout among health care providers. This study aimed to assess nurses perceptions towards occupational health and safety practices and its associated factors. A descriptive cross-sectional study conducted in Medical City Hospitals during the period from November 1st 2022 to March 1st 2023. By a simple random sample consisting of (275) nurses is selected through the probability sampling method. Data were collected using the self-reporting method and analyzed by applying descriptive and inferential statistical analysis. The results indicated that the average age of the respondents was 23.57 years, female nurses (66.9%), working in surgical wards (40.7%), nursing diploma graduates (50.2%), more than 10 years experience and (32.4%) attended more than two courses. The results showed that (74.5%) of the nurses were high perceptions. There are statistically significant differences in the nurses' perception according workplace, educational level, and years of experience ($p = 0.05$). Indeed, more years of experience, training in occupational dangers and safety procedures for nursing staff, ongoing education, and the use of young energy will aid in the development of perceptions of nurses. Hospitals should post specific instructions on the walls in various places where all nurses can see them with a focus on the fundamental rules of work in occupational health and safety practices in order to improve their perceptions of the guidelines based on occupational health and safety practices.

Key-wards: Nurses, Perceptions, Occupational Hazards, Safety Practices.

INTRODUCTION

Although it requires a lot of dedication, the nursing profession deals with the patients' health and, more significantly, their quality of life. In the process of performing their jobs, nurses are exposed to a variety of occupational risks, and they continue to report high rates of illness and injury at work [2]. The nurse's duties and working environment place them in the path of several occupational health dangers, which can cause serious health issues. In the healthcare sector, biological, physical, chemical, and psychosocial hazards are considered to be common occupational health hazards [3]. According to the World Health Organization, 40% of all diseases globally are caused by occupational exposure. There are hundreds of non-fatal workplace accidents per year, which are thought to affect 374 million workers [4]. Over two million individuals per year are thought to pass away from occupational diseases and injuries worldwide [3].

In their line of work, nurses are exposed to physical risks such needle stick injuries that increase the chance of infection [5]. According to reports, healthcare workers who don't follow common safety precautions like hand washing, wearing gloves, and utilizing personal protective equipment are mostly to responsible for the rise in occupational health risks in developing countries. This risky behavior raises the

possibility of accidents and the spread of illnesses to HCWs [6]. Because they are less trained, inexperienced, and aware of protective measures than senior nurses, nurses are also more likely to face occupational hazards and injuries during their clinical training activities. Adherence to conventional precautions, which are intended to lower the risk of developing an occupational infection in healthcare settings, can decrease exposure to infectious materials [7]. Using information on health risks, workplace health, and safety for health professions, thus, aimed to assess nurses perceptions towards occupational hazards and safety practices in Medical City Hospitals/ Iraq.

METHODS

Between November 1st, 2022, and March 1st, 2023, a descriptive cross-sectional research design technique was used to interview members of the study population with the sole aim of defining the phenomenon under consideration in terms of its nature and degree of existence.

The study was carried out in Medical City Hospitals/ Baghdad Province. The study sample is distributed through five hospitals. A total of 275 nurses is selected according to probability sampling approach (simple random sample). These sample is distributed into five hospitals according Medical City Health Directorate include (Burns Hospital, Gastrointestinal Hospital,

Martyr Ghazi Hariri Hospital, Child Protection Hospital, Oncology Hospital and Baghdad Teaching Hospital).

This questionnaire consists of two part include the followings.

Part I: This section composed of socio-demographic information which include: nurses age, gender, workplace, education level, years of experience and number of training courses related to occupational hazards).

Part II: A total of 22-items measured on 3-level which are (1× Disagree, 2 × Neutral and 3 × Agree). Accordingly, points can be taken range from 22-66. The higher average defined as high perceptions.

The researcher distributed study questionnaire to the participants (Nurses), explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The self-report techniques was used on individual bases, and each report (10-15) minutes after taking the important steps that must be included in the study design.

All of the analyses that follow were performed using SPSS 20.0 program. The variables were classified using numbers and percentages (No. and%), while the continuous variables were described using the mean

and standard deviation. (mean and SD). Spearman's statistic is used to correlate the variables under examination. A two-tailed p.05 was used to indicate statistical significance.

RESULTS

Findings in table (1) show average age of the participants is 23.57, with the biggest percentages (50.2%) recorded in the 20- to 29-year-old age group. In terms of gender, nurses who were female predominated (66.9%). The majority of participants (40.7%) worked in surgical wards. In terms of education, 50.2% of the sample under study had a nursing diploma. Findings relating to years of experience showed that nurses had >10 years. 32.4 percent of those who took training courses took more than two.

The results in table (2) demonstrated that (74.5%) of nurses expressed high level of perceptions.

The analysis of variance showed that there were statistically significant differences in perceptions between nurses with respect to workplace (p= .000), education level (p= .004) and years of experience (p= .006) (table 3).

Table 1
Socio-Demographic Characteristics

Variables	Classification	No.	%
Age /years	20-29 years old	138	50.2
	30-39 years old	72	26.2
	40-49 years old	44	16.0
	≥50 years old	21	7.6
	32.57 ± 9.629		
Gender	Male	91	33.1
	Female	184	66.9
Workplace	Midwifery units	38	13.8
	Medical wards	56	20.4
	Surgical wards	112	40.7
	ED and CCU	69	25.1
Education Level	School nursing	76	27.6
	Diploma nursing	138	50.2
	B.Sc nursing	55	20.0
	Master's and above	6	2.2
Years of Experience	<1 year	12	4.4
	1-5 years	92	33.5
	6-10 years	69	25.1
	>10 years	102	37.1
Training Courses	No	75	27.3
	1 Course	76	27.6
	2 Courses	35	12.7

	> 2 Courses	89	32.4
--	-------------	----	------

Table 2
Overall Nurses perceptions Occupational Hazards and Safety Practices

Variables	Rating	No.	%	M (±SD)
Perceptions	Low (M=22-36.66)	31	11.3	54.07 ± 13.077
	Moderate (M=36.67-51.33)	39	14.2	
	High (M=51.34-66)	205	74.5	

Table 3
Statistical Differences in Nurses Knowledge with regard their Socio-Demographic Variables

Perceptions	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	Sig.
Age	Between Groups	1.998	3	.666	1.903	.129
	Within Groups	94.814	271	.350		
	Total	96.812	274			
Gender	Between Groups	.559	1	.559	1.586	.209
	Within Groups	96.253	273	.353		
	Total	96.812	274			
Workplace	Between Groups	34.749	3	11.583	50.577	.000
	Within Groups	62.064	271	.229		
	Total	96.812	274			
Education level	Between Groups	4.681	3	1.560	4.590	.004
	Within Groups	92.131	271	.340		
	Total	96.812	274			
Experience	Between Groups	4.365	3	1.455	4.265	.006
	Within Groups	92.448	271	.341		
	Total	96.812	274			
Training courses	Between Groups	.467	3	.156	.438	.726
	Within Groups	96.345	271	.356		
	Total	96.812	274			

DISCUSSION

Workplace health and safety are crucial components in healthcare organizations. Unsafe working conditions are one of the causes of subpar care and professional burnout among healthcare workers. As front-line healthcare providers, nurses may face a number of challenges, such as the risk of infection, a lack of protective gear, and a lack of essential medications.

The age group between 20 and 29 years old had the largest record of age (50.2%) in the current study, with a mean age of 23.57. The majority of the participants in this study, which was carried out in Baghdad City, were between the ages of 25 and 29 [8]. Additionally, with the majority of individuals between the ages of 20 and 29 [9], our results are equivalent to those from Basra. In pediatric teaching hospitals, this age group made up the majority of the staff [10]. This age group because taking care of patients requires a lot of

physical exertion and older nurses struggle to handle patients [11]. When compared to male nurses (33.1%), it was found that female nurses predominated (66.9%). These results are consistent with those from Diyala Province [12], where it was found that because of the gender imbalance in the nursing profession, institutions graduated more female nurses than male nurses. The majority of participants (40.7%) worked in surgical wards. Most of them came from those wards since they had more nurses than the other wards, and this was also decided by drawing lots because those wards had the most nurses. The majority of the participants (35.4%) who were selected by lottery and were from the esoteric and surgical wards are identical to those from Nasiriyah city hospitals [13]. In terms of education, 50.2% of the sample under study had a nursing diploma. According to the same statistics, one-third of the respondents have received their diplomas from the

hospitals in Al-Nasiriyah [14]. Due to the huge number of colleges that award diploma degrees, it was thought that the majority of staff nurses in health organizations held this degree. Findings relating to years of experience showed that nurses had >10 years. 32.4 percent of those who took training courses took more than two. Due to the continuing education unit's lack of an effective role, training session participation has decreased. These results are consistent with those from hospitals in Baghdad City and Baquba City, where the majority of participants had 10 years of training and experience [15][16].

Results showed that (74.5%) of nurses had a positive attitude toward workplace dangers and safety precautions, as shown by higher average ratings of 54.07 (SD=13.077). The results of earlier research by Orji et al. [17], Manyele et al. [18], and Enwere and Diwe [19] were in agreement with this. The three most common occupational exposures among the respondents were needle stick injuries, direct contact with patients' bodily fluids, and patient assault, while the potential consequences of occupational hazards included the risk of infection (for example, from a needle stick injury), musculoskeletal issues (for example, low back pain), and stress-related illnesses brought on by the demanding work demands as a result of insufficient staffing. The aforementioned results were consistent with earlier findings that indicated occupational hazards were to blame for respondents' positive impressions of psychological suffering, burnout, absenteeism, employee desire to quit, decreased patient satisfaction, and diagnosis and treatment errors [20].

According to the analysis of variance, there were statistically significant differences in how nurses perceived their workplaces (F=50.577; p=.000). According to these results, which are in line with those of earlier studies, the workplace and work environment play a significant role in safety procedures and hazards. As frontline health service providers, nurses may encounter a variety of difficulties depending on the workplace, including the risk of infection, a lack of

CONCLUSIONS

Indeed, more years of experience, training in occupational dangers and safety procedures for nursing staff, ongoing education, the availability of health resources, and the use of young energy will aid in the development of perceptions of nurses. Hospitals should

REFERENCES

1. Chiou ST, Chiang JH, Huang N, Wu CH, Chien LY. Health issues among nurses in Taiwanese

protective supplies, and a shortage of necessary medications [21][22]. Therefore, rather than having only female nurses in these wards, male nurses should also be present for workplace-based occupational health and safety procedures, particularly in midwifery units. It is strongly advised that laws be passed emphasizing the use of occupational safety procedures in these wards.

The education level has a substantial impact on nurses' perceptions of occupational risks and safety procedures (F=4.590; p=.004). This is in line with earlier research that endorsed the advantages of nurses' educational attainment, and other systematic reviews had shown the beneficial effects of participants' educational attainment on workplace health and safety behaviors [23][24]. Additionally, results from Pakistan show that education and experience have an impact on one's degree of understanding, attitude, and perception of occupational dangers. Nurses need to be educated about safety precautions and risk management for occupational hazards in some educational sessions [25]. So, to solve this problem related to the different educational levels, educational sessions must be held continuously in hospitals, especially for nurses who have a diploma or less.

According to the analysis of variance, there were statistically significant differences in perception amongst nurses according to their years of experience (F=4.265; p=.006). This conclusion is reinforced by other research that found that nurses' attitudes toward and perceptions of work dangers are positively influenced by experience [26, 27]. The results of this study show a favorable correlation between experience levels and nurses' attitudes toward and perceptions of occupational dangers. The average level of knowledge among the respondents in our study is due to the unfavorable effects of the nurses' differing attitudes and perspectives based on their various years of experience. In line with more recent studies, this highlighted how nurses' limited experience levels result in low perceptions of work dangers [28].

post specific instructions on the walls in various places where all nurses can see them with a focus on the fundamental rules of work in occupational health and safety practices in order to improve their perceptions of the guidelines based on occupational health and safety practices[1].

hospitals: National survey. International journal of nursing studies. 2013 Oct 1;50(10):1377-84.
2. Merchaoui I, Bouzgarrou L, Mnasri A, Mghanem M, Akrou M, Malchaire J, Chaari N. Influence of

- shift work on the physical work capacity of Tunisian nurses: a cross-sectional study in two university hospitals. *Pan African Medical Journal*. 2017;26(1):1-0.
3. Denge T, Rakhudu M. Perceptions of nurses on occupational health hazards and safety practices in Ditsobotla public hospitals in North West province. *CURATIONIS Journal of the Democratic Nursing Organisation of South Africa*. 2022 Jul 15;45(1):2220.
 4. Nenonen N, Saarela KL, Takala J, Kheng LG, Yong E, Ling LS, Manickam K, Hämäläinen P. Global estimates of occupational accidents and work-related illnesses 2014.
 5. Anttila T, Härmä M, Oinas T. Research and Practice of Occupational Health and Safety in the “New Normal”. *Industrial Health*. 2021;59(5).
 6. Owie HO, Apanga PA. Prevailing occupational health hazards among health workers in developing countries. *Journal of AIDS and Clinical research*. 2016;7(8):596.
 7. Eljedi A. Prevalence and response to occupational hazards among nursing students in Gaza Strip, Palestine: The role of personal protective equipment and safety regulations. *Public Health Res*. 2015;5(1):32-8.
 8. Hussein ZA. Evaluation of Nurses’ Practices toward Caring of Children with Febrile Convulsion. *Iraqi National Journal of Nursing Specialties*. 2022;35(2).
 9. Kadhim NS, Shawq AH. Evaluation of Nurses Practices toward Chemical Poisoning in Children. *Iraqi National Journal of Nursing Specialties*. 2022;35(2).
 10. Jassm A, Aziz A. Effectiveness of Health Educational Program on Nurses' Knowledge toward Children Pneumonia in Al-Amara City Hospitals. *Iraqi National Journal of Nursing Specialties*. 2020 Sep 27;33(1):44-52.
 11. Hussein Z. Nurses' Job Satisfaction in Respiratory Isolation Units of Coronavirus Disease. *Iraqi National Journal of Nursing Specialties*. 2022 Dec 6;35(1):11-9.
 12. Mohammed TR. Evaluation of Nurses' Attitudes towards Patients’ End of life in Diyala Governorate. *Iraqi National Journal of Nursing Specialties*. 2022 Dec 6;35(1):11-18.
 13. Sabbar DK, Kassim WJ. Workplace Related Violence among Nurses Staff in Nasiriyah Teaching Hospitals. *Mosul Journal of Nursing*. 2022 Aug 21;10(3):97-103.
 14. Waheed NH, Abdulwahhab MM. Nurses’ Knowledge and Practices concerning Physiotherapy Protocol at Intensive Care Units in AL-Nasiriyah City. *Iraqi National Journal of Nursing Specialties*. 2022;35(1).
 15. Hussein WA, Abbas IM. Assessment of Nurse-Midwife's Knowledge and Performance Regarding Immediate Newborn Care in Delivery Rooms at Maternity Hospitals in Baghdad City. *Iraqi National Journal of Nursing Specialties*. 2021;34(2):99-113.
 16. Tuoma N. Evaluation of Quality of Nursing Care Services Provided to Children under Five Years Based on Integrated Management of Child Health at Primary Health Care Centers in Baquba City. *Iraqi National Journal of Nursing Specialties*. 2021 Jun 27;34(1):1-0.
 17. Orji EO, Fasubaa OB, Onwudiegwu U, Dare FO, Ogunniyi SO. Occupational health hazards among health care workers in an obstetrics and gynaecology unit of a Nigerian teaching hospital. *Journal of obstetrics and gynaecology*. 2002 Jan 1;22(1):75-8.
 18. Manyele SV, Ngonyani HA, Eliakimu E. The status of occupational safety among health service providers in hospitals in Tanzania. *Tanzania journal of health research*. 2008 Sep 24;10(3):159-65.
 19. Enwere OO, Diwe KC. Knowledge, perception and practice of injection safety and healthcare waste management among teaching hospital staff in south east Nigeria: an intervention study. *Pan African Medical Journal*. 2014;17(1).
 20. NIOSH C. Exposure to Stress: Occupational Hazards in Hospitals. Department of Health and Human Services centers for Disease Control and Prevention National Institute. DHHS (NIOSH) Publication. 2008;136.
 21. Hall LH, Johnson J, Watt I, Tsipa A, O’Connor DB. Healthcare staff wellbeing, burnout, and patient safety: a systematic review. *PloS one*. 2016 Jul 8;11(7):e0159015.
 22. Russo G, Xu L, McIsaac M, Matsika-Claquin MD, Dhillon I, McPake B, Campbell J. Health workers’ strikes in low-income countries: the available evidence. *Bulletin of the World Health Organization*. 2019 Jul 7;97(7):460.
 23. Sharma B, Nowrouzi-Kia B, Mollayeva T, Kontos P, Grigorovich A, Liss G, Gibson B, Mantis S, Lewko J, Colantonio A. Work-related traumatic brain injury: a brief report on workers perspective on job and health and safety training, supervision, and injury preventability. *Work*. 2019 Jan 1;62(2):319-25.
 24. Qaraman AF, Elbayoumi M, Kakemam E, Albelbeisi AH. Knowledge, Attitudes, and Practice towards Occupational Health and Safety among

- Nursing Students in Gaza Strip, Palestine. Ethiopian Journal of Health Sciences. 2022 Sep 20;32(5):1007-18.
25. Manzoor S, ul Haq N, Zakar MZ. Knowledge, Attitudes and Perceptions of Nurses Regarding Occupational Health Hazards in Tertiary Care Hospitals of Pakistan. Journal of Farkhanda Institute of Nursing And Public Health (JFINPH). 2022 Dec 12;2(2):29-34.
26. Awan A, Afzal M, Majeed I, Waqas A, Gilani SA. Assessment of knowledge, attitude and practices regarding occupational hazards among Nurses at Nawaz Sharif Social Security Hospital Lahore Pakistan. Saudi J. Med. Pharm. Sci. 2017;3(6):622-30.
27. Mahmood GA, Hashim GA. Knowledge, attitude and practice of occupational hazard among nursing staff at teaching hospitals in Kerbala City, South-Central Iraq. Exec Ed. 2018 Aug;9(8):1147.
28. Denge T. Perceptions of nurses on occupational hazards and safety practices in Ditsobotla public hospitals of North West Province (Doctoral dissertation, North-West University (South-Africa)) 2021.
29. Hattab WA, Kadhim AJ, Abdulwahhab MM. Impact of Years' Experience upon Nurses' Knowledge and Practice concerning Infection Control at Critical Care Units in Baghdad City. Indian Journal of Forensic Medicine & Toxicology. 2021;15(1):2564-8.