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ORIGINAL RESEARCH

Identify the Disaster Nursing Training and Education Needs for Nurses in Taif City, Saudi Arabia

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Introduction: Nursing is considered the healthcare profession with the most members. Emergency nurses constitute the first line of treatment in healthcare facilities when catastrophic events bring disaster victims in need of medical attention. Therefore, these nurses must be well educated and trained efficiently to be able to deal with disastrous situations properly. This study aimed to distinguish the most important elements of education and training for preparing emergency nurses to face disasters in the Kingdom of Saudi Arabia (KSA), specifically, the city of Taif.

Methods: This study employed a tool to measure nurses' most important training and education needs that was created by the authors based on a literature review and was approved by an expert panel in disaster nursing. Questionnaires were distributed to emergency nurses in four hospitals run by the Ministry of Health in Taif city. Survey responses were received from 210 participants, and the data were analyzed using a principal component analysis (PCA). A one-way ANOVA was used to determine the differences between groups according to their experiences.

Results: The following three factors were extracted from the data after redundant items were loaded and excluded: incident management systems (IMSs), disaster triage, and disaster drills. Nurses with less than three years of experience have a significant need to learn about these elements in order to be able to cope with disasters.

Conclusion: Understanding different types of disasters and how to deal with these catastrophic events is crucial. Significant differences existed between ED nurses in their understanding of the basic elements of disaster management based on their level of experience in an ED. Therefore, disaster education must be included in nursing curricula, and more training courses, mock drills, and simulations must be conducted in hospitals for nurses, especially nurses with less experience, so they can learn to manage their responsibilities during disasters.

Keywords: disaster nursing, disaster education, disaster training, disaster preparedness

Introduction

Nursing is considered the largest of the healthcare professions.[1–3] Emergency nurses comprise the first line of care when healthcare institutions face disasters and catastrophic conditions, and these healthcare professionals are integral in limiting the aggravation of such conditions.[3,4] Therefore, they must have the necessary knowledge and ability to take charge during any sudden disaster. Sufficient knowledge and higher skills will increase nurses' confidence when facing disasters,

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reduce potential risks at the time and after the disaster,[5] and enable nurses to protect themselves from risks.[2,6]

The services provided by Florence Nightingale during the Crimean War established the precedent for disaster nursing, while the need for skilled disaster nurses as a profession emerged during the Balkan wars. At the time of World War I, war victims helped disaster nurses gain recognition, and they began to be included in disaster training programs.[7] Content was defined for disaster nursing education and was included in nursing curricula in the United States by the 1970s; late in the 1990s, the need to improve the nursing response to disasters increased. The disaster preparedness education was revised to include disaster nursing in the nursing curricula.[8] After the September 11th attacks, the insufficiency of nursing disaster education was uncovered, and more universities began to include disaster nursing education in their curricula.[2,8] By 2003, the National Student Nurses' Association in the United States recommended that all nursing schools include disaster nursing education and preparedness in their curricula. Around the same time, universities worldwide followed the same recommendation. For example, in 2009, disaster nursing education in Japan was added to approximately 50% of educational platforms. China unilaterally integrated disaster education for nurses into its schools. In the Middle East and Africa, disaster nursing education was still pedestrian at that time.[9] Recently, Taif University in Saudi Arabia established a master's degree educational program specialized in emergency and disaster nursing comprising 47 hours aimed at graduating a class of nurses qualified to deal with all types of potential disasters in Saudi Arabia and abroad.[10]

Disaster nursing is a significant specialty that needs to be considered by nursing schools in order to prepare nurses with adequate knowledge and skills that enable them to deal with disasters and treat the injured correctly.[6,11] Nurses with the necessary knowledge can help to minimize the harmful effects of disasters and provide auspices for their societies.[12] Therefore, they must become highly qualified by enrolling in disaster educational programs and developing their skills by attending practical exercises so that they can control sudden catastrophic situations. Moreover, preparing nurses through multiple educational methods, such as seminars, workshops, courses, or conferences, can improve their preparedness and ability to manage disastrous situations.[13] Nursing skills can be refined by exposing nurses to mock drills and simulation exercises periodically and examining nurses' competencies and ability to apply their knowledge in real situations. The nurses who are on the front line need to know the basic disaster management components, such as chain of command, communications, decontamination, triage, psychological support, and transportation. Understanding the disaster core competencies will enable nurses to work more efficiently during these catastrophic events.[14]

The World Health Organization (WHO) in 2005 advised all health sectors to improve medical professionals' disaster response knowledge and skills to reduce risks and enhance emergency preparedness and response. It also prioritized the development of combined emergency preparedness plans and prospective planning under the current coordination mechanism, with regular updating of methodologies and planning for training and simulations. The WHO also works with health sectors to develop principles and standards for emergency preparedness and response and to strengthen educational materials using various methods, including holding lectures and conferences, participating in continuing education, offering training courses, and conducting mock drills to transfer knowledge.[15]

The KSA has been exposed to many disasters and pandemics, including floods, mass gathering accidents, and epidemic diseases, such as Middle East Respiratory Syndrome and the stampede at the 2015 Hajj.[16] Such disasters, whether manmade or natural, can generate many victims.[17] Recently, the COVID-19 pandemic in Saudi Arabia affected more cases, which impacted the country's economic capacity and social media (Saudi Press Agency, 2020). The increase in the number of disasters over the past two decades has brought more attention to healthcare responders and disaster preparedness. Nevertheless, a lack of education and training still exists, as does a shortage of health trainers in this area.[3]

The Saudi government focused on improving its ability to face disastrous incidents. The government increased readiness rates from several sectors: the health sector, the military sector, and other government sectors that assist in disaster response.[18] Eight dimensions of the national transformation program to improve disaster preparedness have been identified, which include the following: improve health care, which aims to facilitate access to health services; improve the quality and efficiency of health services; and strengthen measures to protect from health risks, including dealing with epidemics and natural

disasters. The Ministry of Health outlined the following goals aimed to enhance the country's readiness to face health disasters: (a) control infectious diseases through the National Center for Disease Prevention, (b) provide integrated databases to support preventive measures, (c) establish monitoring and response centers and central operation rooms, (d) facilitate coordination between the relevant authorities, (e) control third-party diseases, such as heart disease, diabetes, and cancer, by promoting awareness programs, research, and national disease records.

Current studies related to disaster preparedness in Saudi Arabia focus on (a) evaluating disaster preparedness in general,[3,16,19–21] (2) exploring core competencies,[22] and (3) examining the components of disaster plans.[23] The scope of the studies in Saudi Arabia is very limited and needs to expand, primarily in the area of education and training. Although most of the relevant studies conducted in Saudi Arabia have proven the extent to which emergency nurses are prepared to deal with disaster situations, existing approaches to preparing nursing staff remain insufficient.[3,16,19,20,22] The most significant gap in the education and training offered to ED nurses was the lack of sufficient disaster drills, particularly simulations. Despite studies indicating the insufficiency of these drills, the literature contains no evaluations of the effectiveness of these drills and their impact on nursing practices. Several drills are conducted yearly in each health institution in Saudi Arabia as a protocol of the Central Board Accreditation of Healthcare Institutions,[24] but that is not enough to build nurses' confidence for dealing with real situations. Studies have proven that conducting simulation drills more frequently can help improve staff members' willingness to face disasters. Exposing nurses to drills improved the knowledge and skills of disaster preparedness of participants from a study by Alim, Kawabata, and Nakazawa;[25] it also assured that drills produced the necessary understanding and ability to respond to disaster situations.[26] Research has also proven that engaging in mock drills promoted nurses' recognition of the experiences inherent in the nature of catastrophic events.[3] Recommendations have been made suggesting that nurses engage in disaster response drills to increase their understanding of their role in disaster response and to build competent disaster management skills. Frequent training should be provided to all hospital staff through a set of educational programs and participation in simulation drills.[27]

The current study aimed to measure the impact of education and training on disaster response for emergency department (ED) nurses and to assess the most important disaster competencies—triage, communications, decontamination, and psychological support—and identify any gaps in the nurses' knowledge on these competencies. The results of this study will help to recognize nurses' level of knowledge to inform developers of training and education programs so training can increase nurses' professional knowledge levels, improve nurses' abilities, and strengthen weak points in their performance using the most effective education and training approaches.

Materials and Methods

This study aimed to identify nurses' emergency and disaster training and education needs. The data were collected from responses to a cross-sectional survey of emergency nurses at general hospitals in Saudi Arabia to measure their knowledge related to the most important disaster competencies: triage, communications, decontamination, and psychological support. A quantitative, non-experimental, descriptive research design was employed in this study, which was conducted in four hospitals in Taif city: King Abdul-Aziz Specialist Hospital, King Faisal Medical Complex, Maternity and Children Hospital, and Psychiatric Health Hospital. These hospitals are managed by the Ministry of Health in the KSA.

The population for this study comprised nurses working in a public hospital ED in Taif, Saudi Arabia. A non-random, purposive sample was used. Inclusion criteria included current employment in an ED with qualifications in health specialties, including diploma or bachelor's degree, and the ability to read and write proficiently in English, the primary language of all hospitals in the KSA. Excluded from participation were non-nursing ED staff, nursing students, and nurses lacking ED experience. The sample size was, at minimum, 200 participants to meet statistics and factor analysis requirements. We distributed the questionnaire to approximately 100 nurses from each hospital; 231 nurses responded, but only 210 had completed the survey, representing a response rate of 52.5%, which was sufficient for the factor analysis. The survey was distributed electronically after contacting the head emergency nurses and nursing educators in each hospital to request their assistance with delivering the survey to their ED nurses via phone and e-mail. There was no consent obtained from the participants as their submitting the electronic survey indicated their agreement to

participate as volunteers in the study and the data was viewed only by the authors of the study after submission. All participants were informed about the purpose of the study and that it was conducted in accordance with the Declaration of Helsinki.The survey was accompanied by a message that contained a surveymonkey.com link and explained the aim of the study and the qualifications of the researchers; this was followed by six questions about participants' demographics and then the research questionnaires. Participants had the right to withdraw before answering questions. The survey results were collected directly from participants into the investigator's account for their confidentiality and all data has been kept and stored in the responsible investigator's laptop and will be maintained for five years.

A quantitative approach was taken in this descriptive study using a cross-sectional design. A survey (questionnaire) was used to achieve the aim of this study. The survey was created by the authors based on disaster core competencies and findings from a review of the literature and were modified by the supervisor, who is a panel expert in disaster nursing. Data were collected in an Excel document and then transferred and analyzed using SPSS (version 24),[28] according to the factor analysis and one-way ANOVA used to find significant variations between groups. From Taif University, Ministry of Health (Directorate of Health Affairs in Taif) with IRB registration number KACST, KSA: HAP-02-T-067 Approval number: 468; Date: 24/12/2020. Consent was obtained for each participant; participants volunteered for the project with no benefits or risks to them.

Results

In this study, 231 ED nurses participated by responding to and returning the questionnaire, representing a response rate of 52.5%. Most respondents were female (> 80%); only 45 were male. Participants were classified into one of four groups according to their age, with approximately 50% in the age group 31–40 years old and 35% in the 20–30 year group. Accordingly, more than 85% of the participants were under the age of 40. Saudis comprised 54% of the participants, and 46% were non-Saudi; 58% were Ministry of Health staff, and 36% were SOB. Ten were interns, and three had temporary contracts. Most participants were nurses with a bachelor's degree (70%); those with a master's degree only accounted for 11%, and the rest held diplomas. In terms of years of experience, 38% of the participants had less than 3 years' experience

working in an ED, 41% had 3–10 years', and the remaining 21% spent more than 10 years in an ED. More details on this analysis are presented in Table 1.

After conducting a literature review, the authors created a questionnaire tool based on disaster principles and core competencies, such as disaster triage, communication, decontamination, and psychological support, to identify the educational needs of emergency nurses in Saudi Arabia. The findings of the PCA with varimax indicated that 10 items had to be removed, as they cross-loaded with other factors. The results further indicated that, of the remaining 20 items, 3 factors needed to be more focused to improve disaster education and training. The first factor was IMS, which is characterized by an incident command system that involves the integration of personnel, equipment, procedures, and communication that interact simultaneously to respond to catastrophic incidents.[30] This factor loaded with 10 items with an eigenvalue of 10.586 and 52.931% variation; the loaded items in this factor

Table 1 Demographic Data

Group	Subgroup	Frequency	Percent
Gender	Male	45	19.5
	Female	186	80.5
	Total	231	100.0
Age	20–30	80	34.6
	31–40	126	54.5
	41–50	20	8.7
	Above 50	5	2.2
	Total	231	100.0
Nationality	Saudi	124	53.7
	Non-Saudi	107	46.3
	Total	231	100.0
Level of education	2 years diploma	3	1.3
	3 years diploma	41	17.7
	Bachelor	161	69.7
	Master degree	26	11.3
	Total	231	100.0
Years of experience in ED	Less than 3 years	87	37.7
	3–5 years	33	14.3
	5–7 years	27	11.7
	7–10 years	35	15.2
	More than 10 years	49	21.2
	Total	231	100.0
Work status	MOH staff (Ministry of Health)	134	58.0
	SOP staff (Self Operating Program)	84	36.4
	Intern	10	4.3
	Temporary Contract	3	1.3
	Total	231	100.0

ranged from 0.857 to 0.618. The descriptive findings for this factor were $M = 3.04$ and $SD = 1.15$, with a Cronbach's alpha value of 0.94. The second factor was triage, which loaded with seven items with a 2.040 eigenvalue and 10.199% variation; the loaded items ranged from 0.786 to 0.607, with $M = 3.70$ and $SD = 1.06$ and a Cronbach's alpha value of 0.79. The third factor was drills, which contained three items, with a 1.071 eigenvalue and 5.355% variation; the loaded items in this factor ranged from 0.731 to 0.617, with $M = 3.18$ and $SD = 1.17$ and a Cronbach's alpha value of 0.9. The total cumulative percentage for the three factors was 68.485%, as explained in Table 2.

A one-way ANOVA conducted to uncover any existing differences between the three factors revealed significant differences between the groups. In IMS, the difference between nurses with fewer than 3 years' experience and those with more than 10 years' experience related to IMS reflected an average of 0.006 in their IMS education needs. In triage, significant differences were found between the

group who had fewer than 3 years' experience with all other groups at an average of 0.035 for the 3–5 years' experience group, 0.001 for the 5–7 years' experience group, and 0.000 for both 7–10 and more than 10 years' experience groups; thus, the nurses' lack of knowledge on triage appeared to be due to their lack of experience. The significant difference related to drills existed between the group with fewer than 3 years' experience and both those with 7–10 and with more than 10 years' experience, with an average of 0.029 for the 7–10 years' experience group and 0.000 for the more than 10 years' experience group. This indicates their lack of knowledge in drills was due to their low level of experience, as shown in Table 3.

Discussion

It is crucial to equip emergency nurses with the most essential knowledge on disaster management. Healthcare institutions and nursing schools are both responsible for providing nurses with the significant information and skills that will prepare them to face disaster situations efficiently.

Table 2 Principle Component Analysis PCA Findings

Items	Factors			Descriptive	
	1	2	3	M	SD
Have you received training on psychological triage in disasters?	0.857			2.91	1.41
Have you received training on psychosocial needs in disaster?	0.850			2.99	1.42
Did you receive education on the process of requesting psychological support in disasters?	0.821			3.05	1.42
Do you know the disaster psychological first aid for patients and healthcare providers?	0.792			3.19	1.34
Did you train on defining the symptoms of acute stress disorder in disaster?	0.782			3.07	1.39
Have you received training on effective interacting with media?	0.732			2.55	1.40
Did you receive training on decontamination during a radiological incident?	0.689			2.92	1.43
Have you been trained in alternative communication methods in disaster?	0.655			3.18	1.39
Have you received training on triage patients according to their ability to decontaminate?	0.649			3.54	1.36
Did you participate in educational classes related to disasters outside the workplace?	0.618			3.05	1.49
Do you know about the STAT (immediate) pack chart system for patients who require immediate treatment?		0.786		3.80	1.34
Do you know when how to perform SALT (Sort-Assess-Lifesaving interventions-Treatment/transport) assessment?		0.768		3.46	1.37
Are you able to differentiate between daily triage and disaster triage?		0.719		4.11	1.16
Do you understand the process of disaster triage?		0.692		3.94	1.16
Did you receive training or mock drills on START (Simple triage and rapid treatment) assessment?		0.681		3.37	1.41
Have you received training about disaster triage at work?		0.661		3.61	1.43
Have you ever participated in a disaster triage drill in your hospital?		0.607		3.61	1.48
Have you participated in training and simulations/drills in telemedical care in a disaster?			0.731	3.07	1.44
Is your hospital performing disaster triage training frequently?			0.694	3.40	1.34
Did you attend drills that assess the effectiveness of communications protocols or notification procedures in disaster situations?			0.617	3.09	1.41
Eigenvalue	10.586	2.040	1.071	–	–
Variations %	52.931	10.199	5.355	–	–

Abbreviations: M, mean; SD, standard deviation.

Table 3 ANOVA, Post Hoc Tests, Multiple Comparisons

Tukey HSD Dependent Variable	(I) How Many Years of Experience in ED	(J) How Many Years of Experience in ED	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Incident Management and Support Systems	Less than 3 years	3–5 years	−0.20835	0.23665	0.904	−0.8595	0.4428
		5–7 years	−0.31772	0.25535	0.725	−1.0203	0.3848
		7–10 years	−0.26058	0.22932	0.787	−0.8915	0.3704
		More than 10 years	−0.73328*	0.21093	0.006	−1.3136	−0.1529
Triage	Less than 3 years	3–5 years	−0.59002*	0.20485	0.035	−1.1536	−0.0264
		5–7 years	−0.89394*	0.22103	0.001	−1.5021	−0.2858
		7–10 years	−0.86081*	0.19850	0.001	−1.4070	−0.3147
		More than 10 years	−1.02226*	0.18258	0.001	−1.5246	−0.5199
Drills	Less than 3 years	3–5 years	−0.31118	0.23642	0.681	−0.9617	0.3393
		5–7 years	−0.49708	0.25509	0.295	−1.1989	0.2048
		7–10 years	−0.67547*	0.22909	0.029	−1.3058	−0.0451
		More than 10 years	−0.96859*	0.21072	0.001	−1.5484	−0.3888

Note: Mean difference values with * are significant as the P value is less than 0.05.

For instance, nursing curricula should contain a disaster nursing course to equip graduated nurses with a basic understanding of disaster principles, which also qualifies them to work as volunteers in disaster situations to help save victims' lives. Moreover, conducting regular drills and training courses in healthcare institutions will provide nursing staff with confidence from possessing sufficient awareness of disaster management practices and procedures, which leads to proper domination during such incidents.[29]

Emergency nurses are the first line of in-hospital care. They must be well prepared and equipped with sufficient intrinsic information to effectively deal with catastrophic events. Hospital administrators must ensure nurses on staff in the ED are able to face and control sudden emergency situations. Based on the PCA, the need for more education and training on IMS, disaster triage, and drills is significant. The IMS was established in the United States in 2003 to facilitate flexible coordination between governmental and non-governmental sectors.[31] The IMS consists of five components: pre-preparedness, communication/information management, resource management, command, and ongoing management.[32] The IMS is shaped by basic concepts that define disaster management and response tasks and unify these emergency functions; its most important functions are leadership and coordination, planning and information, health operations and expertise, logistical support, and financing.[33]

The study findings highlighted emergency nurses' significant need for knowledge on some components of the IMS. One of those components was communication, as communication training for nurses was found to be insufficient. For instance, loose planning and internal communication failures often occur within healthcare institutions or between these institutions and other facilities during disasters. To prevent such situations, every hospital must develop alternative communication methods and provide nursing leaders and staff with adequate information on these alternatives and their uses to prepare them to operate efficiently during a disaster. Furthermore, all ED nurses must understand the proper chain of command and with whom to communicate and how to enforce effective communication, especially during disastrous events.[31] In Saudi Arabia the incident command system is responsible for providing healthcare institutions with incident and victim information. Therefore, emergency nursing leaders, nursing directors, and hospital administrators must be well informed on disaster codes and terms used to facilitate effective readiness in receiving the victims and must ensure that all nurses understand the disaster plan content and know where to find related information.[34]

The nurses also showed low levels of knowledge on procedures for working with victims contaminated with various hazardous materials. Contamination may be caused by chemical, radiational, or biological agents, the effects of which can carry over through victims to non-

affected persons. Due to the significant peril that hazardous materials pose to potential victims, including healthcare providers, hospital administrations must ensure that all emergency staff are adequately trained on proper decontamination procedures for different hazards that can affect victims.[35] For their own protection, emergency nurses should have access to the appropriate personal protective equipment and be informed on the possible causes and suitable decontamination process for each polluting agent.[36] A comprehensive understanding of different types of protective equipment and their uses can enable healthcare providers to properly protect themselves and minimize their safety risks.[37]

Disasters often have psychological effects on victims and healthcare providers. The resulting fear, loss of family members, pain, increased workload, and many other impacts lead to critical stress disorders.[38] Therefore, nurses must be prepared so they are able to provide psychological support during disasters. In severe unexpected situations, ED nurses may have to be away from home and family for several days, which leads to tension and distress. Therefore, it is important to prepare them in advance and advise them to seek the counsel of a psychotherapist if they have any unusual feelings.[39,40] It is also important that they be aware of their colleagues' reactions to disasters, especially those who are unexperienced, and be able to recognize and report warning signs of psychological distress.[41] ED nurses must also be educated on how to apply psychological first aid and who to contact in the event staff or victims experience sudden distress.[42,43]

Disaster triage is different than routine triage in emergency departments. During catastrophic events, patient flow to emergency departments normally increases, and victims' injuries may be more critical than those the ED staff normally treat. In the study, ED nurses demonstrated statistically significant low levels of knowledge regarding different types of triage. The nurses with little experience were unable to differentiate between daily triage and disaster triage, and they did not know the various disaster triage models. For instance, the triage method used in Saudi Arabia is START, which stands for simple triage and rapid treatment, which was developed in Newport Beach, California, for adult victims, while Jump START follows a similar outline but is used for pediatric victims. SALT refers to the sort-assess lifesaving interventions, treatment, and/or transport process of triage assessment. Moreover, STAT is the immediate pack chart system for patients who require immediate treatment.[44,45] Emergency

nurses need to be fully knowledgeable on all disaster triage methods. They also need to be familiar with the color codes of triage tags that are provided to victims in the incident field.[31] Furthermore, emergency nurses must know their hospital's disaster triage policy and be able to perform properly, with sufficient knowledge of all the assistive units, such as the operation room, radiology department, laboratory, pharmacy, and intensive care units. Therefore, ED nurses in Saudi Arabia must have sufficient knowledge in disaster triage policies and procedures.

Although some emergency nurses in Saudi Arabia have knowledge about the core competencies for disaster response, others do not have sufficient information in this area. This study revealed that nurses with more years of experience had more significant levels of knowledge in disaster management compared to those with limited experience working in an ED. Nurses with a modicum of experience in ED services are advised to attend more training courses and workshops to enhance their level of knowledge and skills in disaster response and management. Similarly, the study of Baker (2019) uncovered the same result on the relationship between level of knowledge and years of experience.[21] In addition, hospitals and healthcare institutions need to conduct more regular mock drills to make sure that all nurses, especially in EDs, are able to effectively treat the different types of victims that result from various disastrous events.[3,46–48] The findings of Bin Shalhoub (2017) pointed to an insufficiency in the drills and training provided by hospitals to prepare staff in disaster response procedures. The drills that were held in the hospital focused on evacuation procedures rather than procedures for responding to a major incident and were generally conducted twice yearly, which is not sufficient to ensure that all staff have the chance to participate.[49] This study also found that the number of drills conducted in the hospitals for nurses with less ED experience was significantly deficient. Simulation training is another one of the most effective methods to prepare nurses for real events.[41,48,50–54] Therefore, simulation labs must be created in different areas to train nurses periodically in different disaster scenarios. Moreover, it is recommended that all healthcare facilities administer pre- and posttests for nurses for early detection of the weaknesses in their disaster response knowledge levels so suitable education methods can be employed to address those weaknesses.[21] On the other hand, as most of the volunteers in disaster situations are newly graduated nurses or undergrads, it is

essential for nursing schools in Saudi Arabia to include disaster education in their curricula. Additionally, it is crucial to prepare trainers and instructors, so they are capable of effectively instructing and training other nurses.[50–52] The quality of disaster nursing in Saudi Arabia remains inadequate; thus, the topic needs increased scholarly attention. Specifically, more research is needed in this field in Saudi Arabia to cover all aspects of disaster knowledge including pandemic crisis response.[54]

Limitation

The observation that assessing a workplace as prepared is associated with one's perception of being prepared is both logical and problematic in an environment.

Conclusion

Understanding different types of disasters and the ability to deal with catastrophic events is crucial. Therefore, this study focused on identifying emergency nurses' disaster response education and training needs. The study found significantly low levels of knowledge in disaster management for nurses with less experience in ED compared to the levels of those who had spent long periods working in EDs in understanding the IMS and its components, the differences between daily and disaster triage, and the different styles of disaster triage. This is due to insufficient disaster drills and training in their hospitals and misrepresenting disaster education in nursing curricula. Therefore, increased focus must be placed on nursing training and education in disaster management and hospital must offer more drills focusing on disaster response to improve nurses' knowledge and competencies in dealing with disaster situations.

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Disclosure

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