

EDUCATION AND TRAINING NEEDS OF NURSES RELATED TO DISASTER PREPARATION AT TWO TERTIARY CARE HOSPITALS IN LAHORE

Shaier Khan, Deputy Director Academic Nursing, Saida Waheed FHM College of Nursing, Shadman, Lahore.

Samina Kausar, Assoc. Professor, University of Health Sciences Lahore.

Meshal Margrate, Principal, Akhtar Saeed College of Nursing

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ABSTRACT

Background: Extensive disasters around the globe are posing threats to human health and life. The World Health Organization has called for detailed disaster plans in every country in order to be prepared for disasters that may arise. Nurses are the highest number of healthcare providers; they have the responsibility to be the first line of response in the event disaster. Enhancing nurses' professional capability and competency through training and education will ensure the provision of adequate healthcare services in disasters. **Objective:** to explore nurses' education and training needs in preparation for disasters. **Study Design:** A descriptive survey design was used to conduct this study. **Study Setting:** Shalamar Hospital & Sheikh Zayed Hospital Lahore. **Methodology:** A sample of 200 nurses were selected from different units of two local teaching hospitals of Lahore City by using the method of non-probability convenient sampling. Data was collected by a self administered questionnaire and was analyzed by SPSS version 20. A p-value of ≤ 0.05 was considered statistically significant. **Results:** According to the study findings, majority (91%) of nurses acknowledged that they were inadequately prepared for disasters but were aware of the need for disaster preparation. Disaster Training and education of nurses related to disaster was considered extremely important by 73% of nurses. Disaster specific courses were highlighted by 69% and disaster drills by 44% of the subjects as the useful tools for disaster Preparation. **Conclusion:** The study findings revealed that nurses in two tertiary care hospitals in Lahore are inadequately prepared for disasters but are aware of the need for disaster preparation. Nurses in Pakistan, should be equipped with proper knowledge and skills in order to respond efficiently during disasters.

Correspondence Address

Shaier Khan,
Shaier Khan, Deputy Director
Academic Nursing, Saida
Waheed FHM College of
Nursing, Shadman, Lahore.
shaier_13@yahoo.com

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INTRODUCTION

Disasters are unforeseen events that destroy lives and affect people, ruins possessions and disturb environment.¹ The World Health Organization described disaster as "an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community".² Disasters are unforeseen events that cause great damage, destruction and human suffering. Disasters lead to devastating impact in terms of human and material losses. The quality of life, livelihoods and economic development are adversely affected by disasters.

Though often caused by nature, disasters can have human origins too. Disasters can strike anytime and anywhere any person and any nation can be affected.³ Asia is the regions believed to be most frequently hit by natural disasters and more than 90% of disaster victims of the world belong to this region.⁴ Pakistan is most vulnerable to disaster due to its climate and environmental features.

According to record, Pakistan experienced 138 events of natural disaster from 1980 to 2010 in which 87,053 people died and 58,098,719 are affected.⁵ The earthquake of October 8, 2005 in

Pakistan resulted in more than 80,000 dead and millions of injured and homeless victims.⁶ The terrorists' attack of 11th September 2001, on the World Trade Centre, proved to be one of the most devastating man-made disasters. Pakistan also has been a victim of violence by sectarian motives. According to Pakistan Institute of Peace Studies (PIPS) security report, in 2010 a total of 2,113 terrorist attacks were reported from across the country that killed 2,913 people and another 5,824 were injured.⁷ It is very difficult to prevent a disaster and almost impossible in the case of a natural disaster. However, proper disaster preparation and effective and timely response minimizes its destructive effects.

The frequently happening unpredictable situations can be handled only by effective disaster preparation and response. This plan of disaster preparation needs the support of many professionals including nurses.⁸ Nurses are often referred to as the "first receivers" in the event of a disaster.⁹ Nurses, being the largest group among health care professionals, play vital roles during disasters, serving as first responders, triage officers, first aid providers, coordinators of care and services, providers of information and psychological support, and implementation of infection control procedures.¹⁰ However, evidences show that nurses are not trained properly to work efficiently in disasters.¹¹

All nurses must have sufficient knowledge and skills in caring for patients in disasters.¹² Proper disaster training and educational programs must be set in place in order to address the existing knowledge deficits of nurses related to disaster preparation thus ensuring the provision of adequate healthcare services in disasters. Nurses need to attend emergency training and education for basic life support (BLS), advanced cardiac life support (ACLS), basic trauma life support (BTLS)¹². These training sessions are essential parts of preparation - skills for nursing during the event of a disaster. considered to be the most often hit by natural disasters, accounting for

90.13% of worldwide disaster victims. Preparation is the key to survival in the event of a disaster. Lack of adequate disaster preparation will make nurses feel defenseless when facing such unpredictable disaster events.¹³ Evidences suggest that nurses are faced with learning deficiencies related to disaster preparation.¹⁴ The education and training of nurses on disaster are still under-developed in Asian countries.¹⁰ Studies already conducted on this topic in Pakistan have described either knowledge of nurses only or preparation of doctors or hospital as a whole. This is the first ever study in Pakistani context exploring nurses' perceived level of disaster Preparation and their education and training needs for disaster preparation.

Assessing nurses' disaster preparation and their education and training needs would help nursing educators and administrators to design adequate education and training strategies for the disaster preparation of nurses. There should also be an emphasis on evaluating the level of current disaster preparation and skills of nurses in order to guide plans for effective future educational programs.¹⁵ So, it is essential to validate current findings and highlight the needs of nurses who respond to disasters and other health emergencies.¹⁶

PURPOSE OF THE STUDY

The purpose of this study was to assess the registered nurses' perceived disaster preparation and their education and training needs regarding disaster preparation and to use the study findings to suggest recommendations for improving and standardizing disaster nursing education and training in Pakistan.

OBJECTIVES OF THE STUDY

- To explore nurses' perceived level of disaster preparation.
- To assess nurses' education and training needs in preparation for disasters.

STUDY DESIGN

The research design used in this study is a descriptive cross-sectional research design.

PARTICIPANTS

A sample of 200 nurses was selected utilizing non-probability convenience sampling technique. The study participants were selected from two teaching hospitals of Lahore, including Sheikh Zayed Hospital and Shalamar Hospital. The nurses included in the sample were working in different units like medical, surgical, critical care, emergency, operation theatre, obstetrics-gynecology and others.

SELECTION AND DEVELOPMENT OF THE TOOL

The tool used for the present study is a self-administered structured questionnaire that comprised of questions that solicited data on demographics, scaled response questions using a Likert scale and tick box questions.

VALIDITY AND RELIABILITY OF THE TOOL

The study instrument was reviewed and validated by experts in emergency care, intensive care, nursing education, public health and statistician. The questionnaire was piloted amongst a group ($n = 20$) of senior nurses. This process ensured that the questions in the questionnaire were clear and concise. Minor amendments were made to the tool after expert review to further clarify questions. Mostly these were grammatical errors that were corrected. Reliability of the tool was computed using Cronbach's α . The results of the pilot study showed an internal consistency of 0.724 which showed that the tool was reliable for data collection.

DATA ANALYSIS

Descriptive statistics were used for data analysis, using Statistical Package for Social Sciences (SPSS) for storage and analysis. Data were analyzed using descriptive statistics by computing frequencies, mean and standard deviation and has been presented in the form of tables, bar diagrams and pie diagrams.

RESULTS

Demographic Data

Out of the total 200 nurses, 174 (87%) were females and 26 (13%) were male nurses. The age-range of participants was from 20-60 years. Among the total respondents, 110 (55%) had diploma in General Nursing (RNs), 21 (10.5%) had bachelor's degree with Post-RN BScN and 69 (34.5%) had bachelor's degree with Four Years BScN. Majority of them that is, 165 (82.5%) had 1-5 years of experience, 18 (9%) had 6-10 years, 8 (4%) had 11-15 years and 9 (4.5%) had more than 15 years of experience. Bedside nurses comprised the bulk of the sample i.e. 171 (85.5%), 25 (12.5%) were head nurses and only 4 (2%) were nursing supervisors.

Nurses working in the medical unit were 65 (32.5%), 38 (19%) in the surgical unit, 30 (15%) were in the emergency unit, 33 (16.5%) in the intensive care unit and 34 (17%) were working in other units like obstetrics, gynecology, neurology, oncology, psychiatric, pediatric unit etc. Among the total respondents, 121 (60.5%) attributed media (radio, television & newspapers) as their source of information about disaster preparation, 51 (25.5%) as books, 9 (4.5%) journals and 19 (9.5%) attributed other sources of information such as friends, colleagues etc.

A large percentage of the respondents i.e. 138 (69%) had never participated in any disaster response while 62 (31%) of them had experienced disaster previously. Among the total respondents, 176 (88%) of them did not have any previous disaster training courses whereas only 24 (12%) informed that they had conducted disaster-training courses.

Nurses' Perceived level of Disaster Preparation

Majority of the respondents (51%) acknowledged that they were in-adequately prepared for disasters, 40% believed that they were somewhat prepared. Only 8% perceived that were full prepared for disasters (Fig: 1).

Respondents' perceptions of their Preparation for disasters

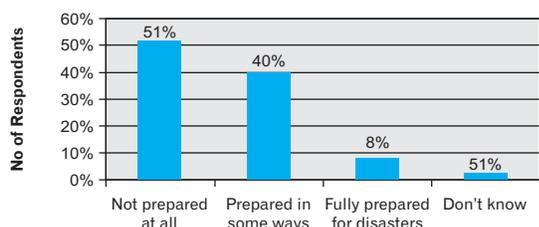


Figure: 1 Distribution of respondents according to their perceived level of disasters preparation

Importance of Disaster Preparation Education & Training Perceived by Nurses

Using a Likert-type scale, participants were asked to rate the importance of disaster training and education for nurses. Among the total respondents, 146 (73%) stated that disaster training and education was extremely important for nurses, 52 (26%) said it was important and only 2 (1%) participants informed that disaster training and education was somewhat important (Fig: 2).

Perceived importance of disaster training and education

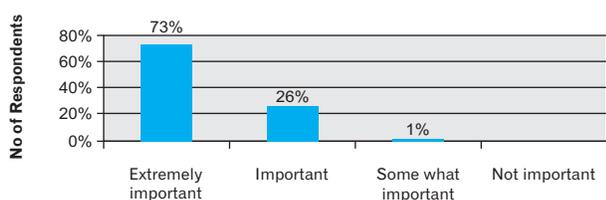


Figure: 2 Distribution of respondents according to their perception about the importance of disaster training and education

Disaster Education and Training Needs

With regard to specific materials and activities related to disaster preparation, 88 (44%) of the participants considered that courses in disaster management were necessary, 48 (24%) believed that disaster drills and exercises were important, 24 (12%) mentioned that protocols for disasters were necessary to prepare nurses for disasters (Fig: 3).

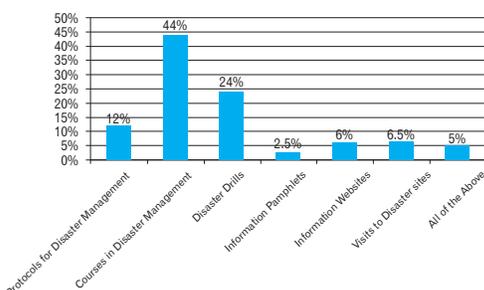


Figure: 3 Respondents' Preferred disaster preparation Activities or Materials

In response to question about the specific type of educational courses useful for disaster preparation, majority (69%) of the respondents agreed that all the disaster specific courses mentioned in the options should be taken by nurses in order to be prepared for disasters. However, there were some specifications as well. First Aid was preferred by 17(8.5%) nurses, Basic Life Support by 15(7.5%), Field Triage by 13(6.5%), Advance Trauma Care Nursing by 12(6%), Post-traumatic psychological care by 5(2.5%). (Table: 1).

Table 1: Participants' specified disaster Preparation courses

Specified disaster Preparation courses	Frequency (n)	Percentage (%)
First aid	17	8.5
Basic life support	15	7.5
Field triage	13	6.5
Advanced trauma care nursing	12	6
Post-traumatic psychological care	5	2.5
All of the above	138	69

DISCUSSION

Disaster Preparation is increasingly important to nursing practice.⁹ Existing literature has shown that nurses remain inadequately prepared to respond to disasters and are uncertain of their roles during these events.¹³ The findings of the current study indicate that majority (91%) of nurses considered them as insufficiently prepared for disaster handling. This inadequate disaster preparation of the respondents is likely associated with the lack of educational opportunities (88%) and previous disaster experience (69%) indicated by the demographic data of the participants in the current study. However, majority (73%) of them were aware of the need for disaster training and education of nurses. The study participants highlighted that disaster preparation courses and disaster drills are extremely important for nurses to prepare them for disaster situations. The respondents emphasized on introducing courses in disaster management (44%), regular disaster drills and exercises were specified by some of them (24%), and others (12%) were in favor of establishing disaster management protocols. disaster specific

courses such as first aid, basic life support, field triage, advanced trauma care nursing and post-traumatic psychological care, were considered as beneficial forms of disaster education and training by majority (69%) of the respondents.

These results are similar to the findings of earlier surveys that have reported low levels of perceived preparation for disasters and disaster education and training of nurses have been recommended in this regard¹⁵. Around 65% of nurses in present study considered their state of disaster preparation as weak. The findings of our study were consistent with that of previous study on disaster preparation of nurses in Philippine, showing similar results⁴.

They concluded that majority of nurses (80%) were not adequately prepared for disasters. More than half of the respondents (57.7%) were not aware of existing protocols of disaster management in the workplace. Courses taken in such areas as first aid (46.4%), field triage (25.29%), and basic cardiac life support (33.53%) were cited as useful for disasters preparation. The findings of the current study are also in accordance with a study conducted in South Australia which explored earlier that emergency nurses in South Australia rated themselves to have low level of disaster preparation and had limited disaster awareness.¹³ It was recommended that standardized disaster nursing education should be made more available in order to enhance nurses' preparation in a disaster response.

The current study findings about lack of disaster preparation among nurses reflect there is a lack of proper training and edifying programs in Pakistan. Recommendations in recent literature call for appropriate disaster education and training of nurses. Nursing curricula for different nursing programs have no sufficient content of disaster preparation. This study demonstrates that nurses in Pakistan have not been adequately prepared for disasters and therefore, emphasizes

that hospital, government organizations and main stream health bodies should address disaster preparation for nurses.

Recommendations

The findings of this study recommend that adequate disaster preparation and management content should be incorporated in nursing curricula in Pakistan specifically in community health nursing curriculum. Disaster nursing should be introduced in nursing syllabi in different nursing programs.

Continuing education and training programs for working nurses should include topics on disaster preparation. Specialty in disaster nursing education and training should be introduced in nursing curricula in Pakistan that should include disaster preparation courses highlighted by participants in this study. Nursing faculty should acquire effective teaching strategies relating to disaster nursing. Faculty training is also necessary in this regard. The Higher Education Commission (HEC) in Pakistan will have to take initiatives in allocating sufficient budget in order to provide the resources required for this challenging task. The hospital administrators should support the development of disaster protocols and should organize regular disaster drills. The health care providers should join hands with different NGOs for this purpose. Future research studies should be conducted to examine the effectiveness of different educational programs so that more effective training strategies can be developed for nurses.

Limitations of the study

The results of this study may not necessarily be representative of the population of nurses in Pakistan because the sample of nurses was selected from two hospitals only in Lahore. However, similar findings have been shown by previous research studies with regard to nurses' preparation for disasters and their training & education needs. In this way the findings of this study give important clue about the perceived

disaster preparation and training needs of nurses in Pakistan.

CONCLUSION

On the basis of results revealed by the current study, it is concluded that nurses in Pakistan are inadequately prepared for disasters. However, nurses were aware of their education and training needs in this regard. The study findings highlight the need for proper disaster education and training of nurses in Pakistan.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Shaier Khan	Primary Author of the study, involved in all the steps of the study from proposal development	
2	Samina Kausar	Tool development, peer review, referencing	
3	Meshal Margrate	Data collection, peer review	