

Original Research Article

Palestinian emergency nurses' knowledge and role perception about disaster management: a need for immediate actions

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ABSTRACT

Background: Preventing, preparing for, responding to, and recovering from disasters have become a priority for everyone. Gaza Strip in Palestine is constantly exposed to wars and disasters. One of the most prominent respondents to disasters in the health care system is emergency nurses. This study aimed to identify the role perception of Palestinian emergency nurses in Gaza Strip during disaster and their level of knowledge about disaster management.

Methods: The analytical descriptive cross-sectional approach was used. The study sample consisted of all nurses working in emergency departments at the governmental hospitals in Gaza Strip. The eligible nurses were 180; only 162 filled the questionnaire with response rate 90% after signing the consent form. Data were analyzed using mean, t test and ANOVA.

Results: The findings indicated that 75.9% of emergency nurses were male. About 53% were 20-29 years old. Most of them hold bachelor degree (73.5%) while only 4.3% had a master degree. The study found that the level of "role perception of nurses during disasters" was 81.5% (e.g., ability to participate in an emergency plan, provide psychosocial support, have high confidence during emergencies, etc.), followed by field of "nurses' knowledge of disasters" with 78.03% (e.g., past experience, updated information, etc.).

Conclusions: Although the Palestinian emergency nurses have an acceptable level of knowledge and role perception during disasters, they still need to raise their level of knowledge, preparedness and skills by integrating clearly defined theoretical and training sessions on disaster management in nursing curricula and through in-service activities for employees.

Keywords: Disaster management, Emergency nurses, Knowledge, Role perception

INTRODUCTION

According to World Health Organization, disaster refers to an event or situation that is of greater magnitude than an emergency; disrupts essential services such as housing, transportation, communications, sanitation, water and health care; and requires the response of people outside the community affected. The term disaster particularly signifies an event that carries unforeseen, serious, and immediate threats to public health. Disaster also is any occurrence that causes damage, economic disruption, loss

of human life and deterioration in health services on a scale sufficient to warrant an extraordinary response from outside the affected community area.^{1,2}

As for the wars, Palestine has been subjected to many wars throughout ancient and modern history, resulting in great human and material losses. Among the most famous wars of the last century were the wars of 1948, 1956, 1967, 1973 and 1982, and the wars on the Gaza Strip in 2008-2009 and 2012, the latest of which was 2014. Palestine also witnessed events of no less impact and

catastrophe such as the first Intifada in 1988, 2000, and the Israeli incursions that did not stop in the years that passed between these wars to the Israeli army's aggression, in addition to the casualties in the return marches on the eastern border of the Gaza Strip.³

Palestinian Ministry of Health is the most affected part as it is the first responder to these disasters. Nurses working at emergency departments in Governmental hospitals are the first recipients to those casualties and play on the front lines of responding to disasters.⁴ So, those nurses must be knowledgeable, well-prepared and aware of their roles in all stages of disaster cycle (mitigation, preparation, response, and recovery) in order to successfully complete the tasks and preserve the lives of citizens. This study aimed to identify the role perception of emergency nurses in governmental hospitals during disaster and their level of knowledge about disaster management.

METHODS

The study was carried out in the surgical emergency departments at governmental hospitals in Gaza Strip-State of Palestine. Gaza Strip is a narrow piece of land (360 km²) located on the eastern coast of the Mediterranean Sea. The estimated population in 2019 was 2 million. Most of them are refugees live in 8 crowded camps in the Gaza Strip.⁵⁻⁷

A descriptive analytical cross-sectional design was used to assess the role perception and knowledge of emergency nurses for disaster management at governmental hospitals in Gaza Strip. The study sample consisted of all nurses working in surgical emergency departments at the governmental hospitals in Gaza Strip. Volunteers in emergency departments were not included in the study. The eligible nurses were 180, only 162 participated with response rate 90%.

A self-administered questionnaire with 5-point Likert scale was used to collect the data. It consists of two parts; the first one includes questions related to personal and demographic characteristic data like age, gender, social status, years of experience, education, workplace, address and nature of the contract of employment.

The second part contains 24 questions to assess role perception and knowledge of emergency nurses for disaster management. The answers were rated based on 5-points Likert scale (5=strongly agree, 4=agree, 3=uncertain, 2=disagree, 1=strongly disagree). The consent form was obtained from the participants after clarifying the purpose of the study and confirmed the anonymity and confidentiality of information. Ethical approval was obtained from Deanship of Graduate Studies. Moreover, an official approval was obtained from Ministry of Health. Data was collected in the period 15th September 2018 to 10th October 2018.

Statistical analysis

Data analysis was performed using SPSS version 24. Both descriptive and inferential statistics were conducted. Statistical significance was set at p value ≤ 0.05 . Socio-demographic characteristics of the study sample were summarized using descriptive statistics and were presented in frequency tables. Categorical variables were summarized as frequencies and proportions (percentages). Mean values and corresponding standard deviation (SD) values were measured to summarize continuous variables. One-sample and two-sample t-test were used to analyze the items of the study domains (knowledge and role perception) and their relation with some factors.

RESULTS

Table 1: Socio-demographic characteristics of the study sample (n=162).

Characteristic	Frequency	%
Gender	Male	122
	Female	40
Age (yrs)	20-29	86
	30-39	54
	40-49	15
	>50	7
Marital status	Single	55
	Married	107
Educational level	Diploma	36
	Bachelor	119
	Master	7
Years of experience	<1	39
	1-5	98
	>5	25
Place of work	Indonesian Hospital	19
	Beit Hanoun Hospital	14
	Shifa Hospital	44
	Al Aqsa Hospital	17
	Nasser Hospital	28
	European Hospital	21
	Najjar Hospital	19
Address	North of Gaza	32
	Gaza city	36
	Middle Governorate	28
	Khan Younes	29
	Rafah	37

Socio-demographic characteristics of the participants

Table 1 shows that male emergency nurses working at governmental hospitals were 75.9%, while the percentage of females was 24.1%. The highest percentage of participants was 53.1% for nurses aged 20-29 years, while nurses aged 30-39 years were 33.3% nurses over the age of 50 years the last place with 4.3%. The percentage of married participants was 66%, while the percentage of unmarried participants was 34%. The nurses with bachelor degree in nursing were 73.5%, with diploma degree with were 22.2%, and the percentage of nurses with a master's degree was 4.3%. According to years of experience, 60.5% of participants with experience ranging from 1-5 years, the second rank was the nurses who have less than one year of experience with 24.1%, the final rank was the nurses who have years of

experience of more than 5 years with 15.4%. According to the place of work, 27.2% of participants from Al Shifa Hospital in Gaza City, 17.3% from Nasser Hospital in Khan Younis, 8.6% from Beit Hanoun Hospital, 11.7% from Indonesian Hospital, 13% from European Hospital, 11.7% from Al Najjar Hospital. According to participants address, 22.8% live in Rafah, 22.2% live in Gaza city, 19.8% in the North of Gaza, 17.9% in Khan Younes, and 17.3% in Middle Governorate.

Analysis of role perception of nurses during disasters

One sample t-test analysis shows that the weighted mean for the role perception of nurses during disasters was 81.5% and significance level was less than 0.05. This means that nurses at emergency departments have very good perception of their role during disasters.

Table 2: Distribution of participants according to their role perception during disasters.

S. no.	Role of nurses during disasters	Mean	SD	Weight mean	T test	P value	Rank
1	Health care is provided to patients regardless of age and gender	4.54	0.64	90.8	30.6	0.0	1
2	Health care is provided to patients regardless of the type of infection	4.43	0.69	88.6	26.2	0.0	4
3	I have the ability to balance passion and work professionally during a disaster	4.35	0.634	86.9	27.0	0.0	6
4	I have high confidence in my ability to deal with emergencies	4.49	0.57	89.7	33.1	0.0	3
5	I have the ability to communicate well with the health team in the emergency department	4.43	0.59	88.6	30.4	0.0	4
6	I have the ability to communicate well with the injured and their families in an emergency	3.93	0.84	78.6	14.1	0.0	9
7	Communicate with the injured to rehabilitate them after the disaster if necessary	3.21	1.01	64.1	2.6	0.0	13
8	I have knowledge of the role and tasks assigned to me during disasters	4.30	0.68	85.9	24.1	0.0	7
9	I conduct community health education for proper disaster management	3.69	0.88	73.7	9.9	0.0	10
10	Contact with local institutions to develop a plan for disaster response and preparedness	3.38	0.97	67.6	5.0	0.0	12
11	Psychosocial support is provided to the injured and their families during disasters	3.55	1.11	70.9	6.3	0.0	11
12	I understand that the nurse has a leading role in managing disasters as they occur	4.49	0.68	89.8	27.5	0.0	2
13	I have the ability to participate in an emergency plan in my workplace	4.22	0.78	84.4	19.9	0.0	8
The role of nurses during disasters		4.07	0.44	81.5	30.5	0.0	

According to the results, the highest two paragraphs are paragraph number (1) "Health care is provided to patients regardless of age and gender". with weighted mean 90.8% and significance less than 0.05, followed by paragraph number (12) "I understand that the nurse has a leading role in managing disasters as they occur". with weighted mean 89.8% and significance less than 0.05.

While the lowest two paragraphs are paragraph number (7) "Communicate with the injured to rehabilitate them

after the disaster if necessary". with weighted mean 64.1% and significance less than 0.05, followed by paragraph number (10) "Contact with local institutions to develop a plan for disaster response and preparedness". with weighted mean 67.6% and significance less than 0.05 (Table 2).

By using one sample t test, the results indicated that the weighted mean for topic of the field of the nurses' knowledge of disasters was 78.03% and the significance

level was less than 0.05. This means that nurses at emergency departments have fairly good knowledge about disasters and their management in Gaza strip.

According to the results, the highest two paragraphs are paragraph number (3) “The initial knowledge about the nature of the disaster increases my ability to deal with it.” with weighted mean 89.2% and significance less than 0.05, followed by paragraph number (1) “I have the necessary knowledge about disasters and their

management.” with weighted mean 82.3% and significance less than 0.05. While the lowest two paragraphs are paragraph number (10) “I can easily get research and information about disasters.” with weighted mean 71.9% and significance less than 0.05, followed by paragraph number (8) “Already participated in disaster management courses, conferences and activities.” With weighted mean 72.02% and significance less than 0.05 (Table 3).

Table 3: Distribution of participants according to their knowledge about disaster management.

S. no.	Nurses' knowledge of disasters	Mean	SD	Weight mean	T test	P value	Rank
1	I have the necessary knowledge about disasters and their management	4.12	0.74	82.3	19.1	0.0	2
2	I am constantly directed towards knowledge of disasters through past experience by the hospital management	3.77	0.98	75.4	10.0	0.0	7
3	The initial knowledge about the nature of the disaster increases my ability to deal with it	4.46	0.59	89.2	31.4	0.0	1
4	I take care of the educational tools (articles, courses, programs) about disasters and their management	3.99	0.78	79.7	15.9	0.0	5
5	I have previous experience in dealing with disaster victims in my workplace or elsewhere	4.10	0.84	81.9	16.5	0.0	3
6	During my undergraduate studies I have received enough information on disasters and their management	3.69	0.96	73.8	9.1	0.0	8
7	I am familiar with the terminology related to disasters and their management	3.83	0.86	76.5	12.2	0.0	6
8	Already participated in disaster management courses, conferences and activities	3.60	1.19	72.1	6.4	0.0	10
9	I have previous experience in drafting a contingency plan that fits disaster management situations in my workplace	3.67	1.06	73.3	7.9	0.0	9
10	I can easily get research and information about disasters	3.60	0.96	71.9	7.9	0.0	11
11	I have knowledge of the potential disasters in my society (wars, floods, fires, mass poisoning, etc.)	4.09	0.81	81.8	17.0	0.0	4
Nurses' knowledge of disasters		3.90	0.59	78.0	19.3	0.0	

DISCUSSION

The analysis of role perception of nurses during disasters indicated that the item (health care is provided to patients regardless of age and gender) comes at the first place. This is consistent with the nature of the nursing profession, so that the nurse should not discriminate between the injured people both in terms of age and gender, especially in times of disaster, and nurses must provide health care regardless of age and gender, this is what emergency nurses in governmental hospitals in the Gaza Strip understand. Paragraph number 12 (I understand that the nurse has a leading role in managing disasters as they occur), emergency nurses are aware of the leadership role that a nurse can play during disaster management, the nurse can be the leader of the emergency and disaster management team, and can participate in the development of policies and plans for dealing with disasters, and this result is a good indicator

of the extent to which emergency nurses understand their role in disaster management.

Paragraph number 7 (Communicate with the injured to rehabilitate them after the disaster if necessary) was ranked last in the degree of approval of the sample of the study. This is because emergency departments are not the appropriate place for rehabilitation in Gaza strip. The patient himself goes to rehabilitation centers to meet what is necessary for rehabilitation after the disaster, both physically and psychologically. However, it is important to communicate with the injured clients to rehabilitate them after the disaster. Rehabilitation is the fourth step after the response in the disaster management cycle, so it is necessary to increase attention to it.

The results of this study are not congruent with many previous studies regarding the awareness of emergency nurses of their role during disasters, including the study of Khalaileh et al, that showed that 90.7% of emergency

nurses wanted to learn more about RNs role in disasters, including knowledge and skills.⁸ Our study is also not consistent with the Seroney study, which showed that only 40% of nurses understand their role during a disaster.⁹ Finally, the study results are not consistent with the results of Jennings-Sanders et al that indicated a lack of perception that all nurses could play a significant role in disaster situations.¹⁰

This might be explained as the conditions in the Gaza Strip differ from those of the countries in which these studies were conducted. Our study targeted nurses working in emergency departments not nurses working at cold departments in hospitals, therefore, Palestinian emergency nurses built their knowledge and experiences based on the confrontation and repeated exposure to the recurrent wars and disasters in the Gaza Strip by Israeli military occupation. These inevitable events are major reasons to raise the level of the role perception and knowledge of nurses during disasters.

The analysis of the field of the nurses' knowledge of disasters showed that paragraph number 3 (The initial knowledge about the nature of the disaster increases my ability to deal with it.) was ranked first and paragraph number 1 (I have the necessary knowledge about disasters and their management) ranked second. This means that emergency nurses working at the governmental hospitals in the Gaza Strip have good knowledge about the nature of the disasters that affect the Gaza Strip and how to deal with them. This is because the Gaza Strip has been exposed to many disasters, including the last three wars launched by the Israeli army, which resulted in large numbers of injured and dead, as a result, emergency nurses have acquired a fairly good knowledge and awareness of these man-made disasters and how to deal with them.

Paragraphs number 8 (already participated in disaster management courses, conferences and activities) and number 10 (I can easily get research and information about disasters) were ranked as last. It might be related to the bad economic situation experienced by the health care system especially the hospitals, which lead to lack of continuing education activities like conferences and workshops. Moreover, the siege imposed on the Gaza Strip since 2006 plays an important role in reducing the participation of emergency nurses in the Gaza Strip in the scientific conferences and courses held outside the Gaza Strip. Lack of internet and recurrent electricity cut make the situation worse and worse.

The results of this study regarding the nurses' knowledge of disasters are not consistent with many previous studies.¹¹⁻¹⁵ For example, Ebrahim recognized a gap in nurses' knowledge, skills and preparedness for disaster.¹¹ Naser and Saleem founded that the overall knowledge status of Yemeni health professionals was insufficient with regards to emergency and disaster preparedness. Of all respondents, 32.0% had good knowledge of disaster

management.¹² Finally, Hammad et al, founded that South Australian emergency nurses have a low level of disaster knowledge.¹³

CONCLUSION

Although the level of role perception and knowledge of emergency nurses for disasters management at the governmental hospitals in Gaza Strip was acceptable, nurses still need to improve their knowledge and skills through attending workshops, conferences and seminars dealing with the issue of disasters. Moreover, nursing colleges need to integrate clearly defined theoretical and training curricula on disaster preparedness and emergency in nursing curricula to deal with recurrent wars and disasters in Gaza Strip.

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