

Nurses' Perception about factors leading to Emergency Departments Overcrowding in Governmental Hospitals of Gaza Strip

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Abstract

Emergency department (ED) crowding has been described in health emergency literature as a concern for more than 20 years, and it has become a modern international health delivery problem.

Objective

The overall aim of this study is to assess nurses' perception about factors that may lead to ED overcrowding at governmental hospitals in Gaza Strip.

Methods

A quantitative cross-sectional descriptive design was used. The population of the study consisted of all nurses of both sexes with different qualifications working in emergency departments at governmental hospitals in the Gaza Strip/Palestine. A self-administered questionnaire was distributed to 145 nurses which was developed by the researchers, out of which (82.85%) responded, data was analyzed by using the statistical package of social science version 23 using descriptive statistics, means, standard deviation one sample t-test, and independent t-test. The validity of the questionnaire was tested and the total instrument reliability test (Cronbach's Alpha) gave a score of 0.902 and it is considered a high score.

Results

The results of the study showed that the highest percentage of participants was 60.7% for nurses aged less than 30 years and the majority of nurses who work in the ED are males (75.2%), and the nurses had bachelor (77.2%), associate degree comes in the second place with (18.6%) while (4.1%) had mastered. Also, most of them have experience years ranging from 1-5 years (55.2%). In addition, the results revealed that the most important factor that may lead to ED overcrowding according to nurses' perceptions was presence of a lot of

patient escorts in the ED" with weighted mean 91.6%, followed by the item "presence of some patients for non-urgent reasons" with weighted mean 86.6%. While the lowest item was "Delay in radiology results" with a weighted mean of 65.2% followed by the item "Lack of administrators in emergency department" with a weighted mean of 66.1%.

Conclusion

The study concluded that, from nurses' perspectives, governmental hospitals in the Gaza Strip suffer from ED overcrowding, because of the shortage of healthcare providers with an increased flow of non-urgent cases with many escorts with the same patient. This increases the workload on the ED nurses, increases patient wait times and decreases patient satisfaction about the care provided in the ED. So, the study recommended to recruit more healthcare providers to work in emergency departments that may solve this problem.

Keywords: Nurses' perception, Emergency Departments, Overcrowding

Introduction

Emergency departments (EDs) are the most challenging ward with respect to patient delay [1]. Nurses who work in emergency departments in hospitals are often the first point of contact for patients after they enter the hospital setting. In this highly pressured role, nurses see patients suffering from a variety of different conditions, often in a critical or highly anxious state [2]. Crowding in the ED is defined as having more patients than treatment rooms or more patients than staff should ideally care for, and overcrowding was defined as dangerously crowded, with an extreme volume of patients in ED treatment areas which forces the ED to operate beyond its capacity [3]. Emergency department (ED) crowding has been described in health emergency literature as a concern for more than 20 years, and it has become a modern international health delivery problem [4].

Overcrowding in emergency centers is a worldwide concern and represents an international crisis that may affect access to health care and the quality of services. Although the triggers of overcrowding in emergency centers are complex, multi-factorial and beyond the control of the emergency center, the key reason is that emergency centers are normally too small and understaffed for the population they serve. Understanding the triggers and consequences of overcrowding in an emergency center is essential to providing the effective leadership that is required to address them. Some authors associate overcrowding in emergency centers with poor outcomes of care and a greater likelihood of the absence of care, especially where there are more patients than resources [5]. So, this study was done to assess nurses' perception about factors may lead to ED overcrowding at governmental hospitals in Gaza Strip.

Materials and Methods

Research design

A descriptive-analytical cross-sectional study was used to identify nurses' perceptions about overcrowding at emergency departments at governmental hospitals in the Gaza strip. Which is useful for describing variables of the study and its relationships.

Setting of the study

The study was conducted at adult emergency departments at governmental hospitals in the Gaza Strip. The number of governmental hospitals is 13, but the number of hospitals offering adult emergency services is 7. The adult emergency departments at governmental hospitals in Gaza Strip include Indonesian Hospital, Beit Hanoun Hospital, Al-Shifa Medical Complex, Al-Aqsa Hospital, Nasser Medical Complex, European Gaza Hospital, and Al-Najjar Hospital.

The sample

The sample of this study was census sample means that the researcher was selected all the units or members of a population, consisting all nursing staff working in emergency departments at the governmental hospitals in Gaza Strip of both sexes with different grades. The sample size was 145 nurses who participated in the study with a response rate of 82.85%.

Eligibility criteria

The study included all employed nurses in the Emergency department with different qualifications and nurses who worked for at least one year at emergency departments at governmental hospitals in Gaza Strip.

Study instrument

The researcher has developed the tool of the study depending on the factors that cause ED overcrowding after reading the literature review. The tool was a 5-point Likert-scale where 5 represents the highest agreement and 1 weakest factor and 5 represents the strongest factor and it consisted of two parts. The

first part was about sociodemographic data. The second part was about the factors that may cause ED overcrowding.

Reliability and validity of the instrument

The questionnaire was sent to a panel of expert persons to assess the clarity and relevance of the questionnaire to the objectives of the study and the researcher was used the Cronbach alpha coefficient to estimate the internal consistency for the study instrument. Cronbach alpha was 0.902.

Pilot study

The pilot study (N = 20) was done to develop and test the adequacy of the research questionnaire before starting the actual data collection as a pretest to determine the real-time needed to fill the questionnaire and identify areas of vagueness, to point out weaknesses in wording. To check the reliability of the study and modifications of the questionnaire. No modifications were made to the questionnaire and the pilot sample was added to the study sample.

Ethical consideration and procedures

Approval was obtained from the Al-Quds University and official approval for the study was obtained from the Helsinki Ethics Committee. Official permission was obtained from the Ministry of Health. Consent was obtained from participants via a consent form, ethical codes of conduct strictly adhered at all stages of the study. The data that we obtained in this research was used for research purposes only. Participation in this study was voluntary and all data collected remained anonymous and confidential. All data were stored in a locked file cabinet.

Data collection

Data have been collected by the researcher and through some colleagues in hospitals by using a self-administered questionnaire to get information from the eligible nurses about the status of their working conditions at the emergency departments. Participants were asked to fill the questionnaire form, which was distributed during their working hours and break time.

Data analysis

The data entered and analyzed the collected data using Statistical Package for the Social Sciences (SPSS) program version (23). The stages of data analysis included: coding the questionnaire, data entry, and data cleaning. Data cleaning was performed by reviewing frequency tables, a random selection of questionnaires to ensure the accurateness of data entry. The frequencies and descriptive and inferential analyses were conducted to assess the research variables. Multivariate statistics such as ANOVA and t-test were used to find out the significance and differences between variables.

Results

Demographical characteristics of participants in the study

Table 1: showed that male nurses represented (75.2%) of the respondents while females represented (24.8%) of them. Most of the nurses were less than 30 years old (60.7%) and most of them are married (62.1%). Also, the majority of ED nurses were staff nurse (74.5%). In addition, (80.0%) of the nurses in the emergency departments have experience between 1 - 5 years and more than three-quarters (77.2%) of the nurses have a bachelor's degree.

Variables	Categories	Frequency	Percent (%)
Gender	Male	109	75.2
	Female	36	24.8
Age	Less than 30	88	60.7
	30 - 39 years	47	32.4
	More than 39 years	10	6.9
Marital Status	Single	55	37.9
	Married	90	62.1
Workplace	Indonesian Hospital	21	14.5
	Al-Shifa Complex	29	20.0
	Beit Hanoun Hospital	14	9.7
	Al-Aqsa Hospital	22	15.2
	Nasser Medical Complex	22	15.2
	European Gaza Hospital	19	13.1
	Al-Najjar Hospital	18	12.4
Job Title	Practical Nurse	26	17.9
	Staff Nurse	108	74.5
	Head Nurse	7	4.8
	Supervisor	4	2.8
Experience in ED	1 - 5 years	116	80.0
	6 - 10 years	24	16.6
	11 - 15 years	5	3.4
Qualification	Associate degree in nursing	27	18.6
	Bachelor's degree in nursing	112	77.2

	Master's degree or more	6	4.2
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Nurses' perceptions toward the factors that may cause ED overcrowding

Factors	Mean	SD	%*	Rank
Inadequate beds for emergency patients	3.93	1.33	78.6	9
Presence of a lot of patient escorts in the ED	4.58	0.86	91.6	1
Unavailability of some lab tests in the hospital	3.61	1.23	72.1	14
Delay in lab tests results	3.61	1.23	72.3	13
Delay in radiology results	3.26	1.33	65.2	23
Presence of some patients for non-urgent reasons	4.34	1.07	86.8	2
Shortage of nurses in the emergency department	4.25	1.02	85.0	5
Shortage of physicians in the emergency department	4.31	1.03	86.2	3
Lack of administrators in emergency department	3.30	1.37	66.1	22
Shortage of patient representatives for emergency department	3.60	1.17	72.0	15
Absence of messengers in emergency department	3.90	1.18	77.9	10
Lack of a system for coordination among health service providers	3.54	1.25	70.8	18
Delay in decision-making by	3.56	1.21	71.2	16

some doctors				
Health personnel are not always present in emergencies	3.39	1.39	67.9	21
Lack of intensive care beds in the emergency department	3.74	1.31	74.8	11
Inadequate inpatient hospital beds	4.01	1.24	80.3	8
Lack of resources and medical equipment	4.20	1.09	84.0	6
Increased number of patients due to accidents	4.02	1.13	80.4	7
Architectural design of emergency department is not suitable	3.72	1.29	74.3	12
There is no place for patients who need to stay some time in an emergency to receive treatment such as patients who need fluids	4.26	1.41	85.2	4
Not enough ambulances to transfer cases	3.55	1.24	71.0	17
Lack of an effective triage system	3.40	1.35	68.0	20
The presence of training groups with a large number of students in the emergency department	3.41	1.21	68.3	19

Table 2: showed the mean, standard deviation, weighted mean and rank of the factors affecting ED overcrowding as perceived by ED nurses. Results show that the highest item was "Presence of a lot of patient escorts in the ED" with weighted mean 91.6%, followed by the item "Presence of some patients

for non-urgent reasons" with weighted mean 86.6. While the lowest item was "Delay in radiology results" with a weighted mean of 65.2% followed by the item "Lack of administrators in emergency department" with a weighted mean of 66.1%.

Discussion

The results showed that the majority of nurses who work in the ED are males. The researcher believes that this percentage is rational because of the nature of the ED workload. For the job title, most of the nurses in the ED are staff nurses and few of them are practical nurses with 18.6%. The researcher believes that the reason for this increase is the tendency of nurses with a diploma degree in nursing to complete their studies and obtain a bachelor's degree, for reasons related to improving salary or getting a job.

Also, the results showed that the presence of many patient escorts in the ED is the main factor that causes ED overcrowding in Gaza Strip with a weighted mean of 91.6%. This is consistent with another study conducted by Nassrallah [6] that stated high attendance of patient family member increase interventions that delays the patient flow and increases overcrowding. However, after reviewing the literature, studies have not mentioned this factor as a cause of ED overcrowding. This could be attributed to the culture of the Gaza Strip people and the lack of security members in the EDs.

Also, the results showed that the presence of patients in the ED for non-urgent reasons is another strong factor that causes ED overcrowding in the Gaza Strip hospitals. This is consistent with what has been found in the majority of previous studies. Chinonyelum et al. [7] stated in their study which was conducted in Nigeria that overcrowding in the ED is triggered by the chronic and non-emergency cases accessing the ED. Durand et al. [8] also consider non-urgent patients are a cause of ED overcrowding. Baratloo & Maleki [9] study about Iranian emergency department overcrowding shows that the increase in the number of unnecessary referees in non-emergency cases is one of the major factors for overcrowding, leading to the distraction of physicians from critical and emergency patients during their visiting time toward the noises of non-emergency referees.

In addition, the current study showed that the lack of health care professionals is another important factor of emergency department overcrowding. Di Somma et al. [10] states that Overcrowding in the ED is a product of several factors including a shortage of ED nursing and physician staff. This agrees with the results of this study which shows that the shortage of physicians and nurses in the ED is ranked in the first top-five factors that cause ED overcrowding.

This study indicates that delay in radiology results is ranked in the last place of factors that may cause ED overcrowding. However, this result does not agree with a study conducted by Shah et al. [11] which considers laboratory and radiology reporting delays as important factors causing ED overcrowding. This can be attributed to the proximity of ED to the radiology department and computerized radiology system in the Gaza Strip hospitals.

The researcher believes that the item “Health personnel are not always present in emergencies” had a low mean may attributed to the fact that people do not usually like to show their negative points and it could be actually a stronger factor that can trigger ED overcrowding.

The nurses believe that lack of administrators in the ED is one of the weakest factors that may trigger ED overcrowding which may be attributed to that administrators have no clear rule in the EDs and the head nurses and shift seniors are the ones who do the managerial tasks in the EDs.

Conclusion

As EDs are an important component of any health care system, treating people who have a serious illness or injury that requires urgent attention, 24 hours a day and 7 days a week. For all of that ED overcrowding situation is considered as a serious health problem both in Gaza Strip and around the World [12]. This study aimed to assess nurses' perception about factors may lead to ED overcrowding at governmental hospitals in Gaza Strip. The study concluded that, from nurses' perspectives, governmental hospitals in the Gaza Strip suffer from ED overcrowding, because of the shortage of healthcare providers with an increased flow of non-urgent cases with many escorts with the same patient.

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