

Nurses Perception, Attitude and Practices Regarding Disasters Management and Emergency Preparedness at Sabia General Hospital Saudia Arabia 2017

Ahlam Al-Zahrani¹, Manal Bilal Mohamed^{2†}, Mohammed Ibrahim Osman Ahmed³, Nafi Dougeman Nafi Alonaizi⁴, Zahrah Mohammed Bakr Qudsei⁵ and Abeer Mohammed Hawsawi⁶

ABSTRACT

Disaster is an event that occurs every day which affects a vulnerable population or area; it has dramatic impact on individuals, families and communities. Whether the disaster is a single family house fire or a tsunami that devastates a community, the quality of life is threatened. The aim of this study was to assess the nurses' perception, attitude and practices regarding disaster management and emergency preparedness, and to find if there is relation between demographic data and their perception, attitude and practice. Cross sectional study design was used in this study. Self administer questionnaire was instructed to collect the data. 150 nurses enrolled in the study which were selected randomly. Data were statistically analyzed by descriptive criteria such as number, percentage, for demographic data, and mean, median and standard deviation for perception ,attitude and preventive practices on SPSS version 25 and inferential statistics. Chi square test was used to check the relationship between the variable. The results of this study showed that most of participant nurses have a good knowledge on disaster and its management. And also attitude and practices were good. The conclusion of this study include that nurses perception, attitude and practice were good but, there is no relation between demographic data and their perception, attitude, and practice except experience and level of education with attitude.

Keywords: Disasters; Perception; Attitude practices; Emergency preparedness; Disaster management

Introduction

Disaster is an event that occurs every day when affects a vulnerable Population or area, it has dramatic impact on individuals, families and communities. Whether the disaster is a single family house fire or a tsunami that devastates a community, the quality of life is threatened. The world health organization defines the term disaster as “a sudden ecological phenomenon of sufficient magnitude to require external assistance”. Billions of people in more than 100 countries are periodically exposed to at least one natural disaster [1] and there are around 30 identified natural disasters worldwide [2].

There is evidence that the frequency and extent of natural disasters are increasing on a global scale [3]. For instance, in the decade 1900-1909, natural disasters occurred 73 times, but in the period 2000-2005 the number of occurrences rose to 2,788 [4].

World Disasters Report 2007 reported a 60% increase in disasters in the last decade and the number of reported deaths increase from 600 000 to over 1.2 million. At the same time, the number of people affected rose from 230 million to 270 million, a 17% increase [5]. More than 400 globally disasters occur yearly, which affect more than 230 million people and causing an

¹Associate Professor Maternity And Women Health Nursing Faculty, King Abdulaziz University, Jeddah, Saudi Arabia

²Associate professor medical nursing. Director or general administration training and education development Jeddah, Saudi Arabia

³Senior nurse specialist, Nursing training and education coordinator, Nursing administration, Erada complex for mental health, Riyadh, Kingdom of Saudia Arabia (KSA)

⁴Deputy director of medical transportation of prince sultan military, Medical city, Kingdom of Saudia Arabia (KSA)

⁵Pediatric nurse specialist, Almaarefa University, Riyadh, Kingdom of Saudia Arabia (KSA)

⁶Nurse Manager, Orthopedic /neurosurgery male unit, KAMC, Jeddah, Kingdom of Saudia Arabia (KSA)

[†]Author for correspondence: Manal Bilal Mohamed, Associate professor of medical nursing. Director or general administration training and education development, Jeddah, Saudi Arabia, Email: manalbelal52@oiu.edu.sd

average of almost 75,000 deaths annually [6] and billions of people in more than 100 countries are periodically exposed to at least one natural disaster [1].

Although major disasters are always to be expected, past disasters and more recent events demonstrate that communities are still often not fully prepared for dealing with disaster issues. Disasters are certainly parts of our life. They may haphazardly occur in particular area and time. Indeed no one likes to talk about planning for disasters. It is human behavior to say 'it will never happen here'. In reality, however, daily news and reports tell us that terrible events can and do happen anywhere, anytime [7].

Disaster management is a disciplinary process taken for planning, organizing, coordinating and implementing measures that are needed for effectively dealing with its effects on people, which includes prevention, mitigation, capacity building, preparedness, response, assessment, rescue and rehabilitation [2] and any country must take it in important consideration and should be well equipped for it.

The disaster management cycle explain the ongoing process in a society which planning to reduce its effects and react during and immediately after a disaster, and take steps to recover from the impact [8].

■ Disasters come in a number of forms

Natural disasters. These include hydro meteorological (e.g. Cyclones, floods), geological (e.g. Earthquakes, volcanoes) and biological (e.g. Epidemics, locust swarms). Technological disasters (e.g. Gas leaks, industrial accidents, bridge or building collapses). Environmental disasters (e.g. Sea level rise, desertification, and climate change.

A disaster alone will not cause a disaster. Disasters have to impact on a population or area before they can have disastrous effects. For example, a tsunami traveling over open-ocean is not a disaster, but when it strikes a population located on a coastline, the results will be disastrous [9]. A disaster is a severe disruption to a community's survival and livelihood systems, resulting from people's vulnerability to disaster impacts and involving loss of life and/or property on a scale which overwhelms their capacity to cope unaided. This means that disasters-even so-called 'natural disasters'-are not exogenous and uncontrollable events, temporarily departing from normality, though they are often seen as such.

Disasters can be reduced, and in some instances even prevented, by supporting people's ability to resist disaster impacts, for example by promoting seismic resistance in building design or construction of cyclone shelters. To obtain this, we need to be centre-stage in our approaches to disasters to reduce human vulnerability and disasters longer-term societal origins. Disaster risk reduction entails measures to curb disaster losses by addressing disasters and people's vulnerability to them. Good disaster risk reduction happens well before disasters strike, but also continues after a disaster, building resilience to future disasters [9].

Disaster preparedness refers to a combination of short- and long-term strategies that help minimize or reduce the negative effects of natural hazards, prevent their impacts on assets, and escape certain peak values [10].

The issue of disasters is so critical that merit intellectual attention & resources. However, very little has so far been done in the area of disaster preparedness in Ethiopia. It is with this in mind, that the research was interested to explore mainly Knowledge, attitude and practice health care workers on disaster preparedness. Moreover, the research was intended to find out what arrangements were in place should disaster occur at hospital And nurse play a crucial role in clinical area in aspects of disaster education. In educational planning, the role of human resources is of great importance.

Materials and Methods

■ Study design

This was hospital based cross-sectional study involving the nurses at Sabia general Hospital (male and female who works in different departments in the hospital). In order to answer the research questions which, meet the study objectives and gain a better understanding of the research problems, the research was focused on collecting and analyzing data by quantitative data through the use of self-administered questionnaires with open and closed ended questions. The study intended to have 150 respondents who work in different area in hospital.

Sample size: 150 nurses enrolled in the study, who works in deferent departments in hospital.

■ Study population

Nurses attend the study and accept to participate

in the study Their qualifications are graduate post graduate and diploma, male and female. Exclusions criteria, those are in holydays and not involved in above criteria.

■ **Tools of data collection**

Fin this study our tools were self-administered to collect data composed of:

- Demographics information as; age, department, years of experience, work area
- Perception questionnaire on disaster preparedness consisted of 11 objective questions; yes and no. Each question categorized as correct=1 and incorrect= 0
- Attitudes checklist about disaster planning consisted of eleven item categorized as agree, disagree and unsure adopted from with some modifications done to suit the present study [11]

- Practices currently taking place included questions about disaster drills done at their healthcare setting, what type of drills is done, ongoing training, how often, disaster plan update and how often developed by [11]

■ **Data analysis**

Data collected, organized and managed using SPSS version 25, demographic data used descriptive statistics and inferential statistics for the rest of questionnaire (means and SD) p value 0,5 significantly

■ **Ethical consideration**

Purpose of study was explained to the study participants, and were assured that their response will be kept secret, no need for name participation and they also appreciated this step.

Table 1: Participants age, sex, period of experience, work department and educational level.

Variable	Frequency	Percent
Age by Years		
20-29	28	14.6
30-39	89	46.4
40	33	17.2
Total	150	100%
Sex		
Male	67	44.7
Female	83	55.3
Total	150	100%
Period of Experience		
1-3 Years	104	69.3
More than 3 years	46	30.7
Total	150	100
Work Department		
Critical Care Unit	14	9.3
Pediatrics	14	9.3
Medical Ward	32	21.3
Surgical Word	28	18.7
Theater Room	21	14
Outpatient Clinic	17	11.3
Maternity Department	24	16
Total	150	100
Education Level		
Diploma	57	38
Graduate	62	41.3
Post Graduate	31	20.7
Total	150	100

Table 2: Perception regarding disaster preparedness.

Variable	Yes (%)	No (%)
Do you know Emergency Preparedness Terms and Activities	119 (79.3)	31 (20.7)
Do you know Incident Command System (ICS) and your role within it	119 (79.3)	31 (20.7)
Do you know Ethical Issues in Triage	122 (81.3)	28 (18.7)
Do you know Epidemiology and Surveillance	116 (77.3)	34 (22.7)
Do you know Isolation/Quarantine	87 (58.0)	63 (42.0)
Do you know Decontamination	88 (58.7)	62 (41.3)
Do you know Communication/Connectivity	85 (56.7)	65 (43.3)
Do you know Psychological Issues	128 (85.3)	22 (14.7)
Special Populations	118 (78.7)	32 (21.3)
Accessing Critical Resources.	97 (64.7)	53 (35.3)
Overall Familiarity	113 (75.3)	37 (24.7)

Table 3: Attitude regarding preparedness of disaster.

Variable	Agree (%)	Disagree (%)
I need to knowledge about disaster plans	14 (9.3)	123 (82.0)
Management should be adequately prepared should a disaster occur.	77 (51.3)	59 (39.3)
Disaster planning is for all people in the healthcare setting	47 (31.3)	60 (40.0)
Training is necessary for all healthcare team.	57 (38.0)	55 (36.7)
It is necessary to have a disaster plan.	46 (30.7)	54 (36.0)
Disaster plans need to be regularly	54 (36.0)	53 (35.3)
Disasters are likely to happen in any healthcare setting	48 (32.0)	52 (34.7)
Disaster management is not limited to nurses and doctors	56 (37.3)	50 (33.3)
Disaster simulations should occur frequently in the healthcare setting	45 (30.0)	54 (36.0)
Drills should be conducted in the hospital	45 (30.0)	54 (36.0)

Results

From the results nearly third 46.4% of participants were having age between 30-39 year. The period of experience represent 69.3% ranged between 1-3 years. Nearly half of them 16.0% were working in the maternity departments while the rest of working department shown in table 1.

Table 2 shows the perception of respondents regarding disaster perception 119 79.3% while the rest of them did not know about these activities and preparedness. The rest of questionnaire found in table 2 and their respond range from 56.7%-58.7% respectively, the overall Mean and SD of their perception is M=14.0533, SD=2.00933.

Table 3 show the attitude of respondents, when we asked them about their attitude if Management should be adequately prepared should a disaster occur, one third of them agree that 51.3%, while 39.3% disagree that and 9.3% not sure, the rest of questions shown in table 3.

In table 4, responses of the respondents if the disaster drills done at your hospital, 32.7% said yes while 30.7% said no and the rest 36.7% did not know. When asked that if disaster preparedness training is continuous, 17.2% responded yes while 37.0% said no and the rest don't know. 38.0% gave their answer as yes when asked if the disaster plan is periodically updated while 28.0% of them said no and the rest don't know. From the results there is significant relation between

Table 4: Practice regarding preparedness of disaster.

Variable	Yes	No
Are disaster drills done at your hospital?	49 (32.7)	46 (30.7)
Is there ongoing training?	33 (17.2)	71 (37.0)
Is the disaster plan periodically updated	57 (38.0)	42 (28.0)

Table 5: Mean, SD and p-value for perception, attitude and practice.

Variable	N	Mean	SD	p
Perception	150	14.0533	2.00933	0
Practice	150	6.12	2.31401	0
Attitude	150	20.6333	4.94047	0

Table 6: Association between demographic data, perception, attitude and practice.

Variable	Perception	Attitude	practice
Age	0	0.026	0.05
Sex	0.022	0.824	0.13
Period of experience	0	0.143	0.052

demographic data and their perception p value .000, while insignificant relation with attitude and practice was found with values 0.318, 0.050 respectively as shown in table 6.

Discussion

The present study was aimed to measure nurses’ perception, attitude, practice regarding disaster and emergency preparedness-in Sabia hospital-Saudi Arabia. The present study findings; the age nearly third 46.4% of participants were aged between 30-39 year old .The period of experience represent 69.3% ranged between 1-3 years. Nearly half of them 16.0% were working in the Maternity departments while the rest of working department show in table 1. Regarding perception part, the study participants showed good perception level in disaster preparedness and emergency Preparedness Terms and Activities and Incident Command System (ICS) and their role within it, p value 0.000, this came in different with study done in Saudi Arabia [12]. Where their knowledge towards disaster preparedness showed lack of their knowledge (our significant differences $p \leq 0.000$ table 5. Other study done in Addis Ababa, their results showed their respondents had good knowledge about hospital disaster preparedness [13].

Regarding the attitude of our respondents to

disaster prepared agree that disasters are likely to happen in any healthcare setting with highly significant difference $p \leq 0.000$ as hown in table 2. When asked them whether they need knowledge about disaster plans, only (9.3%) agree that ,which came at verse with study done in Saudia Arabia i.e., 69.8% accept that [12].

Concerning practices part; the study findings revealed that practices of disaster preparedness was (36.7%) when asking them if drills done at hospital ,when asked them if there is any ongoing training (38.7%) don’t know with significant differences $p \leq 0.000$. This came averse with study done in the Saudia where 38.9% of the results were yes to the training [12].

Study done in General hospital Lahore, Their result towards practice was that 70.5% of the respondent agreed toward training which came averse with our study [14]. From the results no association found between knowledge attitude and practice with demographic data except the level of education with attitude.

Conclusion and Recommendation

From the present study results, it can be concluded that perception, practice and attitude regarding disaster and emergency preparedness were found good with p value 0.000. It’s also concluded that there was no association found

between knowledge, attitude and practice with demographic data except period of experience and educational level.

Thus by integration of clearly labelled theory

and practice teaching courses about disaster and emergency preparedness into nursing curriculum, they are educated well for their learning/training preferences but those with diploma require compression

References

1. Moe TL, Gehbauer F, Sentiz S, et al. Balanced scorecard for natural disaster management projects. *Disaster Prev. Manag: Int J* 16, 785-806 (2007).
2. Deshmukh R, Rodrigues LL, Krishnamurthy GR. Earthquake risk and knowledge management. *J Knowl Manag Pract* 9, (2008).
3. Warren C MJ. The Role of Public Sector Asset Managers in Responding to Climate Change. *Property Management* 28, 245-256. (2010).
4. Kusumasari B, Alam Q, Siddiqui K. Resource Capability for Local Government in Managing Disasters. *Disaster Prevention and Management* 19, 438-451 (2010).
5. Klyman Y, Kouppari N, & Mukhier M. *World disasters report (2007). Focus on discrimination.* Geneva: International Federation of Red Cross and Red Crescent Societies.
6. GFDRR and INEE. *Guidelines Notes on Safer School Construction* (2009).
7. Karen M. *In Case of Emergency. Hospital Staff Need Proper Preparation for Potential Disasters* 12, 42.
8. Clerveaux V, Spence B, Katada T. Promoting disaster awareness in multicultural societies: the DAG approach. *Disaster Prev Manag: Int J* 19, 199-218 (2010).
9. Rasid H, Mallik A. Flood adaptations in Bangladesh: is the compartmentalization scheme compatible with indigenous adjustments of rice cropping to flood regimes?. *Appl Geogr* 15, 3-17 (1995).
10. Dekens J. *Local knowledge for disaster preparedness: A literature review.* International Centre for Integrated Mountain Development (ICIMOD) 2007.
11. Labarrere CA, Woods JR, Hardin JW, et al. Early prediction of cardiac allograft vasculopathy and heart transplant failure. *Am J Transplant* 11, 528-35 (2011)
12. Ibrahim FA. Nurses' knowledge, attitudes, practices and familiarity regarding disaster and emergency preparedness–Saudi Arabia. *Am J Nurs Sci* 3, 18-25 (2014).
13. Habte A, Addisie A, Azazh A. Assessment of knowledge, attitude and practice of disaster preparedness among Tikur Anbessa specialized hospital health care workers, Addis Ababa, Ethiopia. *Am J Nurs Sci* 7, 39-48 (2018).
14. Shabbir R, Afzal M, Sarwer H, Gilani SA, Waqas A. Nurses knowledge and practices regarding disasters management and emergency preparedness. *Saudi J Med Pharm* 3, 464-476 (2017).