"A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING DISASTER PREPAREDNESS PROGRAM AMONG NURSING STAFF WORKING AT TERTIARY CARE HOSPITAL, JODHPUR"

Bimla Choudhary[1], Pallavi Mishra[2], Geeta Dhaka[3]
Staff Nurse[1,2], Nurse Practitioner Midwifery Educator[3]

ABSTRACT

A disaster is an incident that can causes massive damage and disruption. Disasters are common worldwide event now a day. Nurses role are very important in disaster management and its recovery. The aim of this study was to assess the knowledge regarding disaster preparedness program among nursing staff working at tertiary care hospital, Jodhpur. The study was conducted among 120 staff nurses working in tertiary care hospital. The research approach used in the study was Quantitative and Non-experimental descriptive research design and the sampling technique was Non-probability purposive sampling technique. The Knowledge of the samples was collected, using the administeredred Knowledge Questionnaire**.** The results of the study showed that the level of knowledge regarding disaster preparedness program among the staff nurses. The major findings are (49.17%) of staff nurses had average level of knowledge, the remaining (23.33%) had poor level of knowledge, (27.50%) had good level of knowledge. The mean of the level of knowledge regarding disaster preparedness program among the staff nurses is 20.01 with SD ±7.96.

It was also found that, there was significant association between the level of knowledge of staff nurses and year of experience.

Key words: Disaster preparedness program, nursing staff

INTRODUCTION

A disaster is an incident that can causes massive damage and disruption. Disasters are common worldwide event now a day. These events can be dramatically impact on many people, to kill and injured them, damage and destroyed their houses, health system, and interrupted their lifeline. This is big loss of any country who face the disaster.

On 1 June, Union Home Minister Amit Shah, held a preliminary review meeting with officials of National Disaster Management Authority, National Disaster Response Force (NDRF), India Meteorological Department and the Indian Coast Guard. On the same day, 33 team of NDRF were deployed in the coastal region of both the state. Fishermen from Maharashtra were alerted to return back from the sea.

Indian Prime Minister Narendar Modi, via a tweet on 2nd June 2020, updated that he spoke to Chief Minister of Maharashtra, Chief Minister of Gujarat and Administrator of Dadra and Nagar Haveli and Daman and Diu while assuring all possible support and assistance from the Central Government. As a precaution, 100,000 people were evacuated ahead of the storm.

The 2020 Uttarakhand forest fires started in late May, after several forest fires broke out in Srinagar of Pauri Garhwal district in Uttarakhand, India. As of 24th May 2020, 46 fires were reported covering around 71 hectares and 2 persons have died.

NEED OF THE STUDY

A study conducted by Khalil NS, Ahmed Atia, Moustafa MF and Hafez Soliman TT 2019. On Emergency nurses' Knowledge and Practice Regarding Preparedness of Disaster Management at a University Hospital. Egypt. A cross-sectional study was conducted in the emergency department at Mansoura emergency hospital to collect data from 22 emergency nurses. It revealed that more than two thirds (72.7%) of nurses have got unsatisfactory level of knowledge regarding preparedness of disaster management with the mean knowledge score 10.32 ± 2.75 out of 15 score. Concerning nurses' practices, the nurses demonstrated satisfactory practices regarding the process of patient's admission. On the other hand, they showed unsatisfactory practices regarding triage care, utilizing personal protective equipment and infection control measures. Significant positive correlations were found between nurses' knowledge and experience in the emergency department, as well as attending previous courses related to disaster preparedness & total practice Conclusion and Recommendation: The overall level of knowledge and practice were unsatisfactory regarding preparedness of disaster management. It can be recommended that emergency nurses need integration of clearly titled.

Radhika Mariappan, et. al. (2020) was conducted the study on Knowledge and attitude regarding disaster preparedness and management among nurses and nursing students. A comparative cross-sectional study. The results showed that 32% of the staff nurses and 14% of the nursing students had adequate knowledge regarding disaster management. With regard to attitude among staff nurses, majority, i.e., 92% had favorable attitude and 8% were neutral in their attitude. Among nursing students 98% had a favorable attitude and 2% were neutral. The study concludes that staff nurses have better knowledge when compared to nursing students and nursing students have better attitude when compared to the staff nurses towards disaster preparedness and management.

OBJECTIVES OF THE STUDY

1. To assess the knowledge regarding disaster preparedness program among nursing staff working at tertiary care hospital, Jodhpur.

2. To find the association between knowledge regarding disaster preparedness program with selected demographical variables.

ASSUMPTIONS

1. The staff nurses have limited knowledge regarding disaster preparedness program

2. The knowledge regarding disaster preparedness program may vary with the selected demographic variables among nursing staff working at tertiary care hospital, Jodhpur.

HYPOTHESIS

H_0: There is no significant association between the levels of knowledge regarding disaster preparedness program among nursing staff with selected socio- demographic variables.

H_1: There is significant difference between the levels of knowledge regarding disaster

DELIMITATION

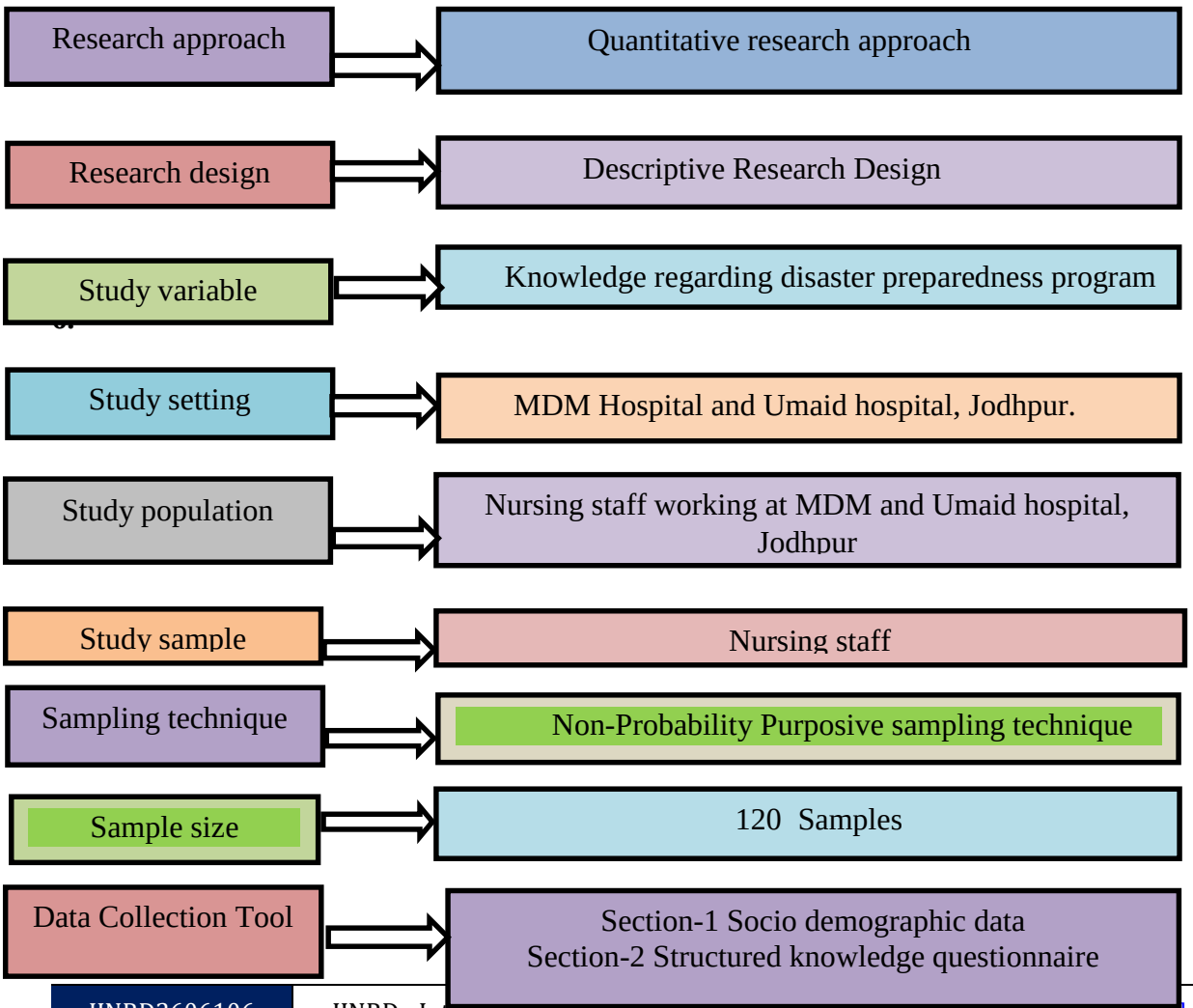
- The study is limited to the nursing staff working at tertiary care hospital, Jodhpur.
- The nursing staff who are willing to participate in the study.
- The nursing staff working in all the areas except OPD.

SCOPE OF THE STUDY:

1. The study will suggest the need to conduct orientation programs and in- service education programs regarding disaster preparedness program
2. The prepared learning guide can act as guide in continuing education program.
3. The study will stimulate and arouse interest in health professionals to conduct further research in this field.

METHODOLOGY

SCHEMATIC REPRESNTATION OF THE RESEARCH DESIGN



SAMPLING CRITERIA:

INCLUSION CRITERIA

1. Nursing staff who are available at the time of study.

2. Nursing staff who are willing to participate in the study.

3. The study included registered nurses both male and female posted at the trauma Emergency department, general medical surgical ward, Critical Care Unit.

EXCLUSION CRITERIA

The study excluded unregistered nurses, and those who were disagree to participate in the study.

RELIABILITY

The "Split Half method" by using "Karl Pearson's formula" is used to check the reliability. According to Karl-Pearson Correlation Coefficient if **"**r-value" is more than +0.745 then the tool is reliable. Investigator calculated the **"**r-value for knowledge = +0.832" Hence the tool was found to be valid, feasible and reliable.

ANALYSIS AND INTERPRETATION

SECTION-A

DESCRIPTION OF SOCIO-DEMOGRAPHIC VARIABLES ON STAFF NURSES

Frequency and percentage of staff nurses with regards of age, gender, professional qualification, designation, clinical experience, department of work, any training

DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1. Age in year-		
a. 21-25	60	50%
b. 26-30	41	34.17%
c. 31-35	14	11.67%

d. Above 35	5	4.17%
2. Gender-		
a. Male	82	68.33%
b. Female	38	31.67%
3. Professional qualification-		
a. GNM	29	24.17%
b. B. Sc nursing	71	59.17%
c. M. Sc nursing & above	20	16.67%
4. Designation-		
a. Nurse Grade I	69	57.5%
b. Nurse Grade II	51	42.5%
5. Years of experience-		
a. 1-5 years	39	32.5%
b. 6-10 years	50	41.67%
c. 11-15 years	27	22.5%
d. More than 16 years	4	3.33%
6. Department of work-		
a. Critical care units	62	51.67%
b. Trauma emergency department	43	35.83%
c. General Medical surgical ward	15	12.5%
7. Have you ever attended any training for disaster management-		
a. Yes	6	5%
b. No	114	95%

SECTION-B

Assess the knowledge regarding disaster preparedness program among the staff nurses.

Knowledge of 120 staff nurses were assessed by using Structured Knowledge Questionnaire and Analyzed by descriptive statistics. The total scores were arbitrarily classified as Poor (1-11), Average (12-23) and Good (24-35).

Frequency and Percentage distribution of staff nurse knowledge regarding disaster preparedness program among the staff nurses.

Level of Knowledge	Frequency (f)	Percentage (%)
Poor (1-11)	**28**	**23.33%**
Average (12-23)	**59**	**49.17%**
Good (24-35)	**33**	**27.50%**
Mean	**20.1**	
SD	**7.96**	

Data presented in Table shows that level of knowledge regarding disaster preparedness program among the staff nurses. The major findings are (49.17%) of staff nurses had average level of knowledge, the remaining (23.33%) had poor level of knowledge, (27.50%) had good level of knowledge. The mean of the level of knowledge regarding disaster preparedness program among the staff nurses is 20.01 with SD ±7.96.

SECTION-C

TO ASSESS THE ASSOCIATION BETWEEN KNOWLEDGE AND SELECTED DEMOGRAPHICAL VARIABLES

Association of knowledge regarding disaster preparedness program

n=120

Age in years	Poor knowledge		Average knowledge		Good knowledge		df	Chi square table value	chi square calculated value	p value	Remark
21-25	18	15%	28	23.3%	14	11.6%	6	12.59	4.13	0.66	NS
26-30	7	5.8%	21	17.5%	13	10.8%					
31-35	3	2.5%	6	5%	5	4.1%					
Above 35	0	0%	4	3.3%	1	1%					

Association of knowledge regarding disaster preparedness program and educational qualification of the staff nurses

n=120

Professional qualification-	Poor knowledge		Average knowledge		Good knowledge		df	Chi square table value	Chi square value	p value	Remark
GNM	6	5%	12	10%	11	9.1%	4	9.48	3.30	0.51	NS
B. Sc. Nursing	17	14.1%	17	14.1%	37	30.8%					
M. Sc. nursing & above	5	4.1%	5	4.1%	10	8.33					

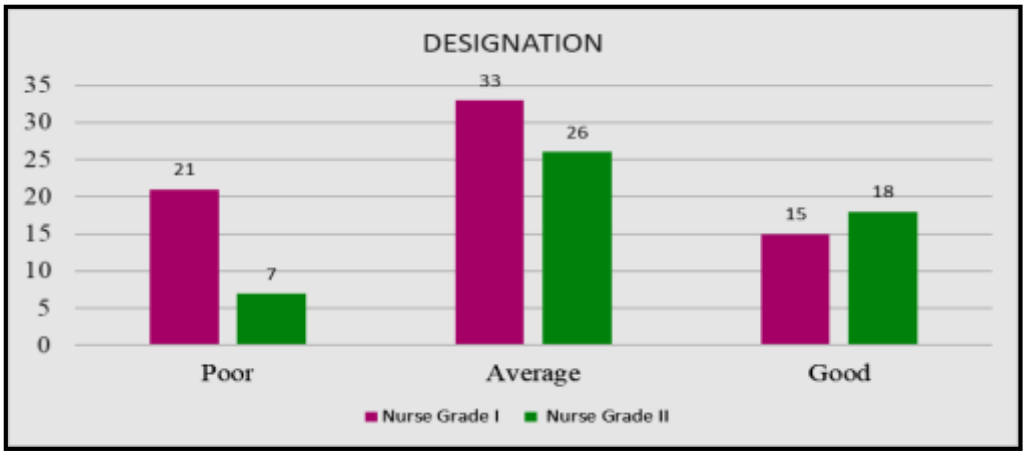
Table shows that out of 120 staff nurses in the educational qualification GNM had average knowledge of 12(10%), 11(9.1%) had good knowledge 6(5%) % had poor knowledge score. In the B Sc Nursing staff had good knowledge of 37(30.8.%), 17(14.1%) had average knowledge as well as poor knowledge. In the M Sc Nursing and above had good knowledge of 10(8.33.%), 5(4.1%) had average knowledge as well as poor knowledge.

Table reveals that there is no significant association between the level of knowledge of staff nurses and their qualification. The calculated chi-square value is (3.30%) less than table value 9.48 with degree of freedom 4, at 0.05 level of significant. So, the hypothesis was not accepted on this demographic variable.

Association of knowledge regarding disaster preparedness program and designation

n=120

Designation-	Poor knowledge		Average knowledge		Good knowledge		df	Chi square table value	Chi square value	p value	remark
Nurse Grade I	21	17.5%	33	27.5%	15	12.5%	2	5.99	5.53	0.06	NS
Nurse Grade II	7	5.8%	26	21.6%	18	15%					



Bar diagram representing association between knowledge regarding disaster preparedness program and designation

Table and figure show that out of 120 staff nurses in the grade 1 nurses had average knowledge of 33(27.5%), 21(17.5%) had poor knowledge 15(12.5%) % had good knowledge score. in grade II nurses had average knowledge of 26(21.6%), 18(15%) had good knowledge, 7(5.8%) % had poor knowledge score.

Table reveals that there is no significant association between the level of knowledge of staff nurses and their designation. The calculated chi-square value is (5.53%) less than table value 5.99 with degree of freedom 2, at 0.05 level of significant. So, the hypothesis was not accepted on this demographic variable.

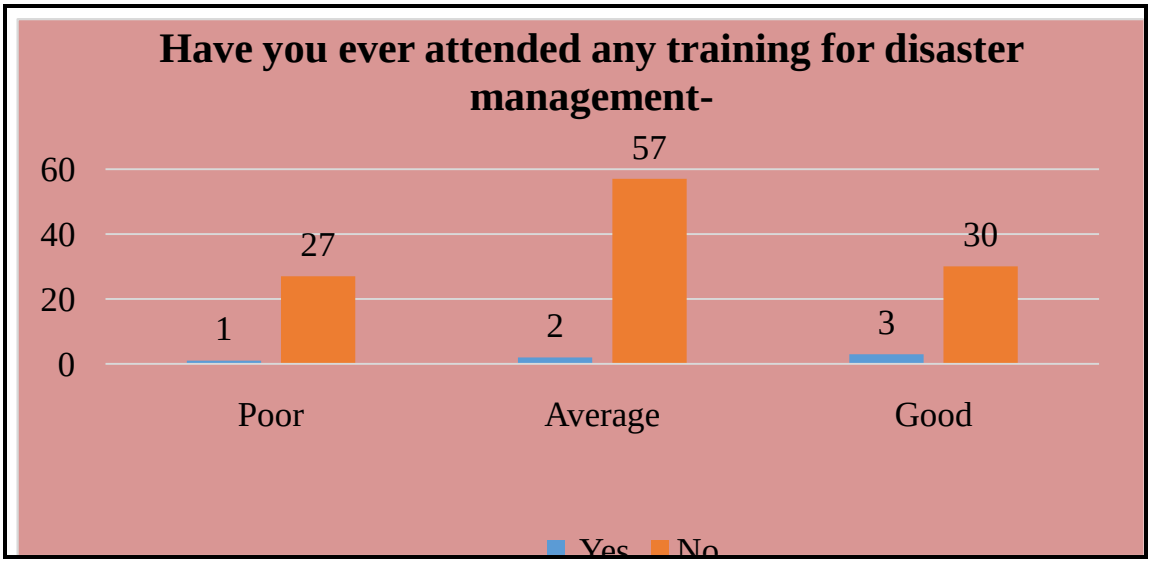
Association of knowledge regarding disaster preparedness program and attended any training for disaster

n=120

Have you ever attended any training for disaster management-	Poor knowledge		Average knowledge		Good knowledge		df	Chi square table value	Chi square value	p value	remark
Yes	1	0.8%	2	1.6%	3	2.5%	2	5.99	1.61	0.45	NS
No	27	22.5%	57	47.5%	30	25%					

Table and figure show that out of 120 staff nurses attended any training for disaster had good knowledge of 3(2.5%), 2(1.6%) had average knowledge and 1(0.8%) poor knowledge score. Not attended any training for disaster had average knowledge of 57(47.5%), 30(25%) had good knowledge and 27(22.5%) had poor knowledge score.

Table reveals that there is no significant association between the level of knowledge of staff nurses and attended any training for disaster. The calculated chi-square value is (1.61) less than table value 5.99. With degree of freedom 2, at 0.05 level of significant. So, the hypothesis was not accepted on this demographic variable.



bar diagram representing association between knowledge regarding disaster preparedness program and attended any training for disaster.

DISCUSSION

Knowledge regarding disaster preparedness program among the staff nurses.

The major findings were (49.17%) of staff nurses had average level of knowledge, the remaining (23.33%) had poor level of knowledge, (27.50%) had good level of knowledge.

The overall mean percentage of the knowledge score was with 20 ± 7.96 as mean and SD. This revels that majority of staff nurses had average level of knowledge regarding disaster preparedness program

Association between knowledge and selected demographical variables.

There was no significant association between the level of knowledge of staff nurses and their age. The calculated chi-square value is (4.13) less than table value 12.59 with degree of freedom 6, at 0.05 level of significant. So, the hypothesis was not accepted on this demographic variable.

There was no significant association between the level of knowledge of staff nurses and their gender. The calculated chi-square value is (1.83) less than table value 5.99 with degree of freedom 2, at 0.05 level of significant. So, the hypothesis was not accepted on this demographic variable.

There was no significant association between the level of knowledge of staff nurses and their professional qualification. The calculated chi-square value is (3.30) less than table value 9.48 with degree of freedom 4, at 0.05 level of significant. So the hypothesis was not accepted on this demographic variable.

There was no significant association between the level of knowledge of staff nurses and their designation. The calculated chi-square value is (5.53) less than table value 5.99 with degree of freedom 2, at 0.05 level of significant. So the hypothesis was not accepted on this demographic variable.

There was significant association between the level of knowledge of staff nurses and their years of experience. The calculated chi-square value is (14.37) more than table value 12.59. With degree of freedom 6, at 0.05 level of significant. So the hypothesis was accepted on this demographic variable.

There was no significant association between the level of knowledge of staff nurses and their department of work. The calculated chi-square value is (0.80) less than table value 9.48. With degree of freedom 4, at 0.05 level of significant. So the hypothesis was not accepted on this demographic variable.

There was no significant association between the level of knowledge of staff nurses and attended any training for disaster. The calculated chi-square value is (1.60) less than table value 5.99. With degree of freedom 2, at 0.05 level of significant. So the hypothesis was not accepted on this demographic variable.

The findings of the present study are in line with the similar studies such as:

Sedighe Sadat Tabatabaei Far, Milad Ahmadi Marzaleh, Nasrin Shokrpour, Ramin Ravangard (2020) conducted study on Nurses' Knowledge, Attitude, and Performance about Disaster Management: A Case of Iran. The results showed that the highest and lowest mean scores were related to the attitude (2.38±0.19) and knowledge (1.70±0.50) of the studied nurses, respectively. However, all three dimensions were at a moderate level. The results showed significant relationships between the mean score of performance and the gender, marital status, age, and work experience of the studied nurses. In addition, statistically significant relationships were found between the mean score knowledge and their age and work experience ($p<0.05$). According to the findings, the following suggestions can be made to increase the knowledge and performance of the studied nurses for being prepared in critical situations: reducing the duration and increasing the quality of training classes and workshops on disaster preparedness; providing some incentives for nurses, especially female, married, older, and more experienced ones to attend these classes; and improving the methods of training materials related to disaster management.

RECOMMENDATION

1. A similar study can be replicated on larger sample to make generalizability.

2. The same a study can be carried out to evaluate the efficiency of various teaching strategies like STP, pamphlets, in service education, PTP, webinar, workshop and conference, video assisted teaching module.

3. A survey study conducts on regarding disaster preparedness program among staff nurses.

LIMITATIONS

1. This study was conducted at MDM and Umaid hospital and therefore study results can only be generalized to the specific ward where the study was conducted.

2. The sample size was small (n=120) and generalizability of result based on such a small sample size is at times questionable. However, the statisticians have indicated that the sample size of 120 respondents was adequate for results to be interpreted as statistically valid.

3. The study is limited to the experience level of the researcher

4. The study confines itself only to find the knowledge of staff nurses, their practice and attitude are not studied

BIBLIOGRAPHY

1. Javad Babaie, Ali Ardalan, Hasan Vatandoost, Mohammad Mehdi Goya, Ali Akbarisari. 2015. Performance Assessment of Communicable Disease Surveillance in Disasters: A Systematic Review. PubMed. gov, DOI:10.1371 /currents. dis.c72864d9c7ee99ff8fbe9ea707fe4465.
2. Disaster management in India 2011.Ministry of Home Affairs Government of India. https://www.undp.org › content.
3. WHO Natural events World Health Organizationhttps://www.who.int
4. Report of Centre for Research on the Epidemiology of Disaster CRED. 4 January 2018. Available at https://www.cred.
5. Suhrid Sankar Chattopadhyay Amphan is the biggest natural calamity to ever hit West Bengal. Https://www.frontlinthehindu.com › the-nation.
6. 2020 Assam gas and oil leak. htpps://www.wikipedia.org
7. Cyclone Nisarga.https://www.wikipedia.org
8. Uttarakhand forest fires: Heatwave making matters worse. http://www. timesnownews.com
9. Gas Leakage | Knowledge Centre - Gujarat Gas.https://www.gujaratgas.com
10. Mohamad Sorani, Sogand Tourani, Hamid Reza Khankeh, Serous Panahi. y. 2018. Prehospital Emergency Medical Services Challenges in Disaster; a Qualitative Study. Original research Volume 6 (1), page no .1-26. DOI: 10.22037/emergency. v6i1.20465.
11. Disaster Nursing - International Council of Nurses https://www.icn.ch Ingrassia PL, Foletti M, Djalali A, Scarone P, Ragazzoni L.2013. Education and Training Initiatives for Crisis Management in the European Union: A Web-based Analysis of Available Programs. Prehospital and Disaster Medicine. Vol. 29, No. 2 page no 116-126.doi:10.1017/S1049023X14000235.
12. Mohamad Sorani, Sogand Tourani, Hamid Reza Khankeh, Serous Panahi. y. 2018. Prehospital Emergency Medical Services Challenges in Disaster; a Qualitative Study. Original research Volume 6 (1), page no .1-26. DOI: 10.22037/emergency. v6i1.20465.
13. The human cost of Weather-Related Disasters 1995-2015. Centre for Research on the Epidemiology of Disaster (CRED). http://www. repo.floodalliance.net/ jspui/handle.
14. Hospital safety index: guide for evaluators, 2nd ed. World Health Organization & Pan American Health Organization. (2015). page. 173. https://www. apps.who.int/ iris/handle.
15. Khalil NS, Ahmed Atia, Moustafa MF and Hafez Soliman TT. 2019. Emergency nurses' Knowledge and Practice Regarding Preparedness of Disaster Management at a University Hospital. Egypt. Nursing & Healthcare International Journal. Volume 3 Issue 30. page no.1-12. DOI: 10.23880/nhij-16000192.