

Nurses' Role Perception and Knowledge about the Emergency Preparedness at Disasters

Basma Mohammed Atia¹, Abeer Mohammed Zakaria², El-Tahra Elsayed Abo Habieb³

1B. Sc.in Nursing, Faculty of Nursing-Mansoura University, 2Professor of Nursing Administration, Faculty of Nursing, Mansoura University, 3Lecturer of nursing Administration, Faculty of Nursing, Mansoura University



1.ABSTRACT

Background: Nurses' role perception and nurses' knowledge are considered the backbone of nurses' competencies for dealing perfectly with disaster events as well as during emergency situations. **Aim:** To assess nurses' role perception and knowledge about emergency preparedness at the time of disaster. **Methods:** A descriptive design was conducted with all available emergency nurses including 200 staff nurses working at the emergency hospital of Tanta University. Data was collected using nurses' role perception questionnaire and nurse knowledge about emergency preparedness questionnaire. **Results:** The highest mean score & the first rank regarding the nurses' role perception was for "the skills of nurses in dealing with disasters". The majority of nurses reported correct nurses knowledge respectively regarding to "accessing critical resources" and "ethical issues and special population" of emergency preparedness dimensions. While, they were reported incorrect knowledge related to (decontamination - detection and response to an event) of emergency preparedness dimensions. **Conclusion:** More than half of studied sample has moderate level of nurses' role perception. Nearly two third of emergency nurses had satisfactory level of knowledge about emergency preparedness. **Recommendations:** Continuous staff education and training session for improving of nurses' role perception and nurses' knowledge. Guided booklets, posters about emergency preparedness and disaster management are also recommended. Prehospital system as one of very effective method for improving emergency preparedness.

Keywords: *Disaster, Emergency Preparedness, Nurses' role perception, Nurses' knowledge*

2.Introduction

Incidences of public health emergencies and disaster increased in recent years as corona virus (COVID 19). Globally this pandemic has created a state of extreme terror, not every country but everyone must have specific plan for dealing with health emergencies .nurses as the largest group in health care domains who face the disasters or health emergencies. Especially emergency department nurses, as it is considered one of the most important hospital departments during time of pandemic (Sultan .et al,2020).

Emergency department provide health care service to urgent cases, and this role of emergency department is valuable in the time of disaster. Disasters have caused serious loss of life and financial crisis as well as emergency departmet are considered that it has a front line function during emergency situations and crisis (Gul, Fuat Guneri & Gunal 2020). Emergency department take step by step approach using the patient's

pathway, it begin with the reception of patients and discuss screening procedures triage, isolation, medical care in resuscitation, critical trolley areas, ambulatory patients and role of observation (Joy .et al,2020).

Emergency nurses play critical role in providing essential medical care during all types of disasters. Nurses made important contributions in community health; patient safety and response to emergency situation. In addition, nurse knowledge and level of preparedness play a crucial role in the period of disasters(Alzahrani,&Kyratsis,2017).

Disaster management has four phases: prevention or mitigation, preparedness, response and recovery. the Red Crescent and International federation of Red Cross societies (IFRC) defined the disaster management as the organization and management of resources and responsibilities to deal with all humanitarians' aspects of emergencies, particularly preparedness, response

and recovery to minimize disaster impact (Saidam & Eljedi, 2018). Disaster management cycle describes the current processes that used by governments and institutions in disaster management planning and interacting with them before, during and after the disaster. This four phases disaster cycle were (prevention, preparedness, response and recovery) (Enshassi & Shakalah, 2016). Prevention/Mitigation: the processes in which the disaster risks are identified and appropriate actions are taken to prevent or minimized these risks (Maskuriy .et al, 2020). Preparedness: is the most important stage in the continuity of disaster management. Achievement of good level of readiness is the goal of preparedness to respond effectively to emergency situations, Keeping of this level of preparedness required follow up and periodic review based on changes in the environment, staff changes and new information (Sawalha 2020).

Response: saving as many lives as possible is the goal of this phase. Nurses should be working as part of health care team and collaborate with onther team member to achieve the goal. Recovery /Rehabilitation: when immediate needs are met, the recovery phase was beginning. This phase focused on caring of the affected population to recovering from the impact of the disaster (Saidam & Eljedi, 2018). There are many factors that affect the success of disaster plan, one of these influenced factors is the nurses preparedness. When nurses feel that they physically unsafe and unequipped or mentally not prepared to react with unexpected emergency situation, they may refuse engaging in risky attempts to save others (Sultan .et al 2020). Preparedness is an ongoing process in which risk and vulnerability assessments, planning and implementation, funding, partnerships and political commitment at all level must be sustained this requires that all stakeholders must work together as a team in coordinated way to plan, invest, implement actions according to priority. This inform bridges the gaps between health system strengthening, disaster risk reduction & operational readiness to respond to emergency effectively (Ofrin, Bhola, & Buddha 2020).

Nurses perceptions of preparedness that affect their own level of competence and the ability to provide effective care in disaster situations (Al Thobaity, Plummer, Innes & Copnell, 2015). Nurses perception about emergency preparedness that, they not fully prepared for future acts of terrorism, also nurses had unsatisfactory perception regarding safety measures, triage skills and coordination of the first aid response team. This perception of nurses about their role may due to lack of training and education to deal with crisis events. It is a challenge for nurses as they transmitted from daily activities of nursing practice to the disaster nursing operations, nurses aware of this difficulty especially without adequate preparedness of themselves (Basal & Ahmed 2018).

Nurses' perception about their role has a great value as they were considered the largest group in the health care sector; nurses need more attention to improve their level of knowledge especially their knowledge about emergency situations. Adequately prepared nurses were critical to and provide effective health care for victims of disaster (Al Thobaity .et al, 2015).

Knowledge is one of the substantial parts that must exist when establishing the intellectual aspects and human behavior related with what would be understood by human (Hayati, 2019). Nurse knowledge in disaster management is an indispensable part, this part has a lot of benefits not only for nurses but also for health care organization in disasterprone areas. In addition when the nurse was highly qualified and possesses the required knowledge about disaster management they will be good health educator for public about how to cope with disaster. This knowledge possess by nurses about disaster may be adequate or inadequate, that based on allot of factors as level of education, previous experience, age and self-development (Hayati, 2019).

2.1 Significance of Study

In recent years: some of nations change their disaster management strategies to deal effectively with the current and predictable disasters. Nurses as a human resource must be well prepared to face this type of unpredictable emergency situations. Nurses must be up to date by continuous

researching to be more skillful and knowledgeable to provide the appropriate and essential care at the time of the disaster. (Martono, , Satino, Nursalam, Efendi, & Bushy,2019).

Nurses knowledge and perception about their role in disaster management was limited, So, nurses need to be prepared and aware of required competences to deal with disaster situations, As well as nurses should be aware of gap in their knowledge, skills and ability to response effectively in emergency situation.

2.2 Aim of the study

This study aimed to assess nurses' role perception and knowledge about emergency preparedness at the time of disaster.

2.3 Research Questions

- **RQ1:** What is the nurses' perception about their role in emergency preparedness at the time of disasters?
- **RQ 2:** What is the nurses' knowledge about emergency preparedness at the time of disasters?

2.4 Operational definition:

Nurses' Role Perception : was defined as nurses capacity to recognize their responsibilities of variety nurse roles behind greater awareness and understanding of their personal strengths and limitations that allow them to improving their nursing clinical management, ethical and moral reasoning as well as decision making (Younas, Rasheed, Mehmood & Inayat, 2021).

3. Methods

3.1. Research design:

Descriptive design was utilized to conduct this study. The descriptive design is one of various studies. It allows the researcher to study and describe the distribution of one or more variables, without regard to any causal or hypotheses (Aggarwal & Ranganathan 2019).

3.2. The study setting :

The research was carried out in patient unites at Emergency Hospital Tanta University that receives emergent cases and road traffic accident from most areas of Gharbia governorate.

3.3. Participants :

All available staff nurses (n= 200) at the time of data collection and have experience at

least one year and accepted to participate in this study

3.4 Tools of data collection:

The data was obtained through two tools.

Tool (I): Nurse role perception questionnaire.

The development of this questionnaire by (Saidam& Eljedi, 2018) It is Separated into two parts.

Part I: personal characteristics. This section was used to identify personal and demographic characteristic data like age, gender, marital status, years of experience, qualification.

Part II: It includes 43 items to assess the role perception and preparedness of emergency nurses. cover four dimension as following; the role of nurses during disasters (13 items), nurse knowledge of disaster (11 items) the skills of nurses in dealing with disasters (10 items) and nurses preparedness for disasters (9 items). The items rated on using likert scale of 5-points, ranging from (1 to5) (5= strongly agree to 1= strongly disagree).

The scoring system of role perception response ranged from 43:215. The total scores divided in to three levels based on the following cut of point:

-Low perception < 50% (scored from 43-107)

-Moderate perception 50-75% (scored from 108-161)

-High perception > 75% (scored from 161-215)

Tool (II): Nurse Knowledge about emergency preparedness questionnaire

It was developed by (Rady & Elbially 2019) and modified by the researcher to assess nurses knowledge about emergency preparedness and divided in to two parts

Part 1: This part was used to assess general knowledge about emergency preparedness during disaster, it was consisted of 11 questions , the response was measured on 3-point likert scale ranging from 0 to 2. (0= I don't know, 1=no and 2= yes).

Part 2: Which was used to assess specific knowledge about large scale emergency preparedness. This part was consisted of 18 questions it cover ten dimensions about emergency preparedness ;detection and response to an event, incident leadership system and nurses' role with it.

, knowledge about activities in triage, epidemiology and surveillance, isolation and quarantine, decontamination, communication and connectivity, psychological issues, ethical issues and special populations and assessing critical resources. The response was done as follows: the correct answer was taken one and in correct answer was taken zero.

Scoring system

Knowledge response ranged from 0:18. The total scores divided in to two levels based on the following cut of point:

- Unsatisfactory knowledge <60% (scored from 0-10)
- Satisfactory knowledge ≥60% (scored from 11-18)

3.5 Validity and reliability:

Validity was established for face and content validity via a panel of five expertises from faculty of nursing at Mansoura University who reviewed the tools for clarity, relevancy, applicability, comprehensiveness, understanding, and ease for implementation and according to their opinions modifications were applied. The modifications were related to rephrase of some sentences, such as: modifying the sentence of experience in emergency and age from open ended questions to five categories, and nurses who participate in this research were choice the appropriate answer. Tool of nurse knowledge about emergency preparedness part one, that was consisted of 12 questions, excluded one question and was become 11 questions as expertise opinions.

Reliability test of the study tools, Nurses' perception of their role and Nurses' knowledge about emergency preparedness were assessed by Cronbach's Alpha. It was (-0.97), (0.90) for Nurses' role perception of their and Nurses' knowledge about emergency preparedness respectively.

3.6 Pilot study:

A pilot study was carried out on 22 nurses' as 10% of the study sample for testing the clarity, feasibility of the questions, identifying obstacles and problems that may be encounter during data collection and for determining the time needed to fill-in questions. According to the feedback from participants, there was no need for any change in the questionnaire, as the domains and items were clear and there is

no vagueness. The pilot sample was excluded from the total study sample.

3.7 Ethical consideration:

Ethical approval was obtained at 19/9/2021 from the Research Ethical Committee of Faculty of Nursing, Mansoura University. An official permission to conduct the study was obtained from the responsible administrator of Emergency Hospital Tanta University. Oral consent was obtained from staff nurse who accept to participate in the study after providing the explanation of nature and aim of the study. All participants were informed that the study is voluntary and they have the right to withdraw from the study at any time. All participants were assured about the confidentiality of the collected data and the privacy of the study sample was assured at all phases of the study.

3.8 Data collection:

Data collection took three months from the beginning of March 2022 to end of May 2022. The researcher collected data through interviewing and distributing questionnaire to each subject in the study during work hours in morning, afternoon and night shifts. The aim of the study and how to fill tools were explained by the researcher. Give them the allotted time (20-30) minutes to fill out the questionnaire sheet. The emergency nurses filled the questionnaire sheets in the presence of the investigator to ascertain all questions were answered.

3.8 Statistical analysis

The collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 22, SPSS Inc. Chicago, IL, USA). The categorical variables were represented as frequency and percentage. Continuous variables were represented as mean, and standard deviation. Independent t-test was used to test the difference between two means of continuous variables. ANOVA test was used to test the difference between more than two means of continuous variables. Statistically significant was considered at p-value ≤ 0.05 & 0.01.

4. Results:

Table (1) shows personal characteristics of the studied nurses, more than third of emergency nurses (36.0%) were in age group (20-25). More than half of them (56.0%) were females. Nearly half of emergency nurses (49.0%) had bachelor degree of education. In concerning of years of experience, (49.5%) have (5-10) years of

experience, while (4.0%) of them have experience more than 20 years.

Table (2) shows the descriptive statistics of nurses' role perception regarding emergency preparedness at the time of disasters. According to this table, the highest means (50.39 ± 7.08) for "role of nurses during disasters", while "skills of nurses in dealing with disasters" reported as high mean percentage (82.9%). The lowest mean was (28.10 ± 6.51) and mean percentage (62.44%) for "nurses' preparedness for disasters". The first rank for the nurses' role perception domains was "the nurses' skills in dealing with disasters", and the last rank was "the nurses' preparedness for disasters".

Table (3) and Figure (2) show Levels of nurses' role perception regarding emergency preparedness at the time of disasters. More than half of studied sample (54.5%) has moderate level of nurses' role perception. while, (3.0%) had low level of nurses' role perception regarding emergency preparedness.

Table (4) Shows general nurses' knowledge about emergency preparedness during disaster in their hospital. The table illustrated that, more than half (57.0%) and (51.0) of nurses reported yes regarding "do you know what the disaster drill is?" "is this plan being developed continuously?" respectively. While (62.0%) reported no regarding "are you member of this team?" However, there

were more than half of nurses (56.5%) and (54.5%) reported i don't know regarding "emergency preparedness policy for large-scale emergencies in their hospital" and "a plan for the large-scale emergencies in their hospital" respectively.

Figure (3) Shows team formation as reported by the studied nurses of emergency. According to this figure, (48.0%) nearly half of studied sample don't know about team formation.

Table (5) and Figure (4) show Specific nurses' knowledge related emergency preparedness. According to these results, nearly two third of emergency nurses (68.5%) reported correct for total nurses' knowledge related emergency preparedness. The majority of nurses (85.5%) and (83.0%) reported correct knowledge respectively regarding to "accessing critical resources" and "ethical issues and special population" of emergency preparedness dimensions. While, the same percentage (42.0%) of studied nurses were reported incorrect knowledge related to (decontamination - detection and response to an event) of emergency preparedness dimensions.

Table (6) and Figure (5) show Levels of nurses' knowledge about emergency preparedness. According to these results, nearly two third (64.5%) of emergency nurses had satisfactory level of knowledge about emergency preparedness

Table (1): Personal characteristics of the studied nurses (n=200)

Variables	No.	%
Age years		
▪ 20-25	72	36.0
▪ 26-30	50	25.0
▪ 31-35	44	22.0
▪ 36-40	25	12.5
▪ >40	9	4.5
Gender		
▪ Male	88	44.0
▪ Female	112	56.0
Marital status		
▪ Single	76	38.0
▪ Married	105	52.5
▪ Divorced	13	6.5
▪ Widowed	6	3.0
Level of education		
▪ Technical degree	91	45.5
▪ Bachelor degree	98	49.0
▪ Master	8	4.0
▪ Doctorate	3	1.5

Experience years in the unit		
▪ < 5	52	26.0
▪ 5-10	99	49.5
▪ 11-15	26	13.0
▪ 16-20	14	7.0
▪ >20	9	4.0

Table (2): Descriptive statistics of nurses' role perception regarding emergency preparedness at the time of disasters (n=200)

Nurses' role perception domains regarding emergency preparedness at the time of disasters	No of items	Min - Max	Mean±SD	Mean percentages	Rank
A. Role of nurses during disasters	13	28.0-64.0	50.39±7.08	77.52	2
B. Nurses' knowledge of disaster	11	14.0-55.0	38.42±8.41	69.85	3
C. Skills of nurses in dealing with disasters	10	23.0-50.0	41.45±5.63	82.9	1
D. Nurses' preparedness for disasters	9	12.0-44.0	28.10±6.51	62.44	4
Overall perception	43	95.0-274.0	158.35±23.29	73.88	

Mean percentages calculated related to maximum scores

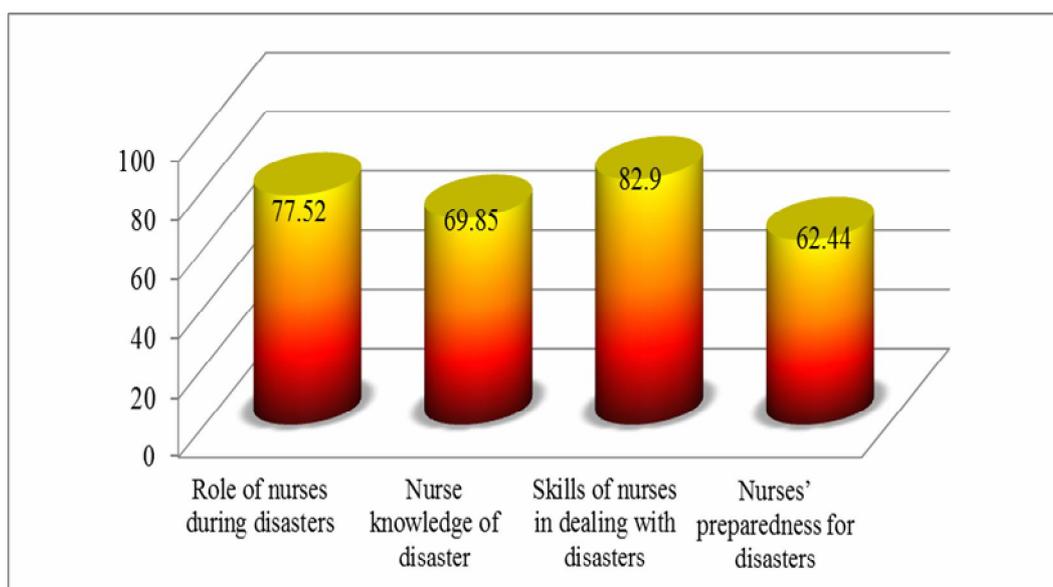


Figure (1): Mean scores percentages and rank of nurses' perception of their role regarding emergency preparedness at the time of disasters (n=200)

Table (3) Levels of nurses'role perception of their role regarding emergency preparedness at the time of disasters (n=200)

Levels of nurses 'role perception regarding emergency preparedness at the time of disasters	Score	No	%
• Low (<50%)	43 -107	6	3.0
• Moderate (50%-75%)	108 -161	109	54.5
• High (>75%)	162 -215	85	42.5

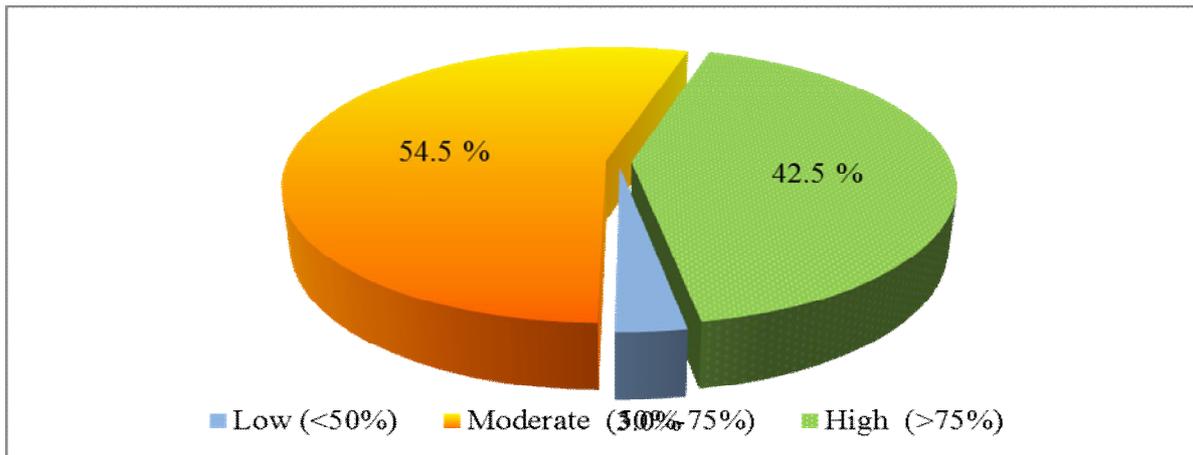


Figure (2): Levels of nurses' role perception regarding emergency preparedness at the time of disasters (n=200)

Table (4): General Nurses' knowledge about emergency preparedness during disaster in their hospital (n=200)

Statements	Don't know		No		Yes	
	N	%	n	%	n	%
1. Is there a team to deal with large-scale emergencies in your hospital?	57	28.5	84	42.0	59	29.5
2. Are you member of this team?	32	16.0	124	62.0	44	22.0
3. Is there a plan for the large-scale emergencies in your hospital?	109	54.5	31	15.5	60	30.0
4. Is this plan being developed continuously?	68	34.0	30	15.0	102	51.0
5. Is there an emergency preparedness policy for large-scale emergencies in your hospital?	113	56.5	23	11.5	64	32.0
6. Can nurses know what emergency preparedness policies your hospital has?	47	23.5	54	27.0	99	49.5
7. Do you have an emergency calling system in large scale emergency period in your hospital?	40	20.0	116	58.0	44	22.0
8. Do you know what the disaster drill is?	0	0.0	86	43.0	114	57.0
9. Is a disaster drill done in your hospital?	25	12.5	107	53.5	68	34.0
10. Does everyone in your unit know their role during emergency drill time?	31	15.5	92	46.0	77	38.5

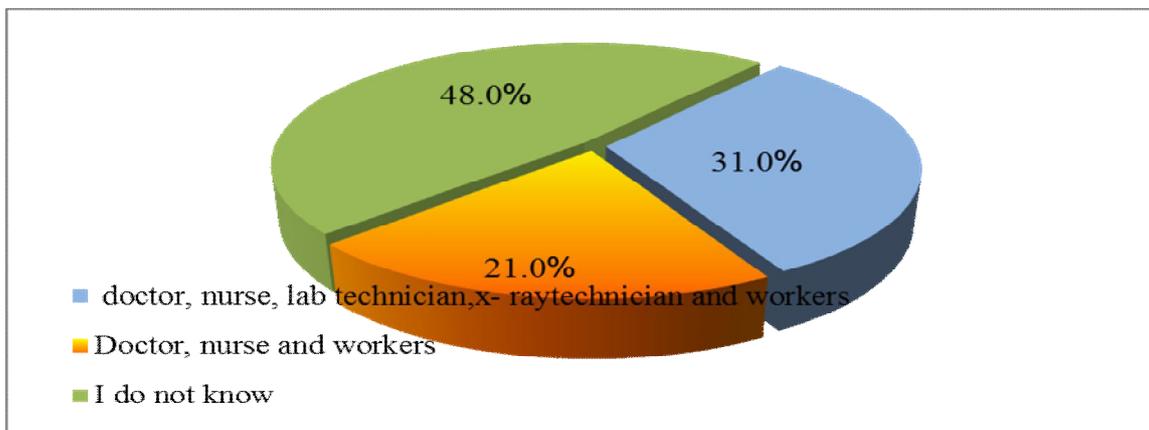


Figure (3) Team formation as reported by the studied nurses (n=200)

Table (5) Specific Nurses' knowledge related emergency preparedness (n=200)

Specific Nurses' knowledge related emergency preparedness dimensions	Incorrect		Correct	
	n	%	n	%
A. Detection and response to an event	84	42.0	116	58.0
B. Incident leadership system and your role with it	57	28.5	143	71.5
C. Knowledge about activities in triage	60	30.0	140	70.0
D. Epidemiology and surveillance	81	40.5	119	59.5
E. Isolation and quarantine	51	25.5	149	74.5
F. Decontamination	84	42.0	116	58.0
G. Communication and connectivity	83	41.5	117	58.5
H. Psychological effects	63	31.5	137	68.5
I. Ethical issues and special population	34	17.0	166	83.0
J. Accessing critical resources	29	14.5	171	85.5
Total	63	31.5	137	68.5

Figure (4) Specific Nurses' knowledge related emergency preparedness (n=200)

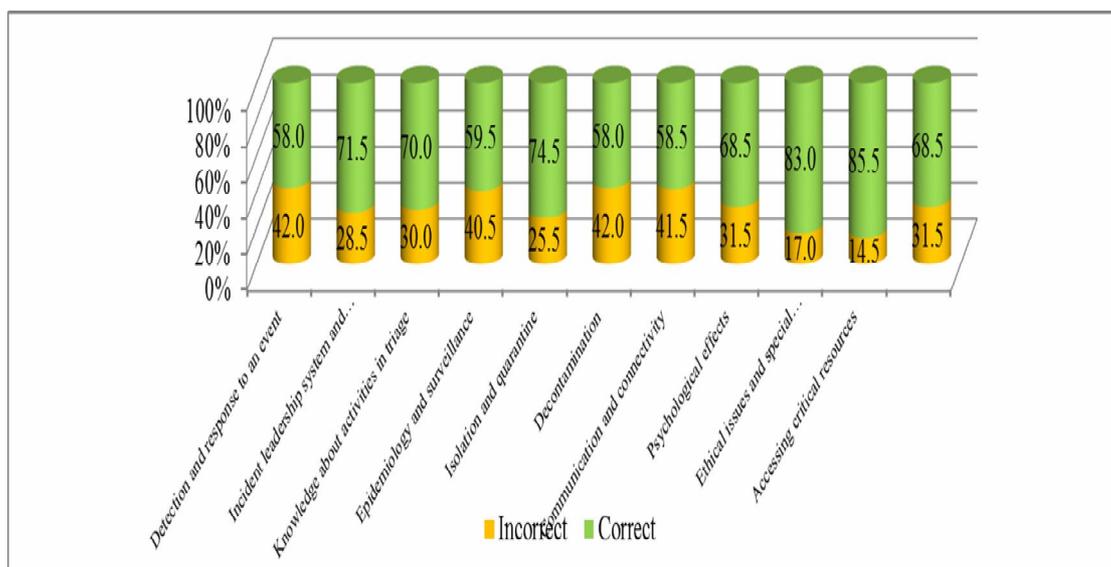


Table (6) Levels of nurses' knowledge about emergency preparedness (n=200)

Levels of nurses' knowledge	Score	No	%
• Unsatisfactory (<60%)	0-10	72	36.0
• Satisfactory (≥60%)	11-18	128	64.0

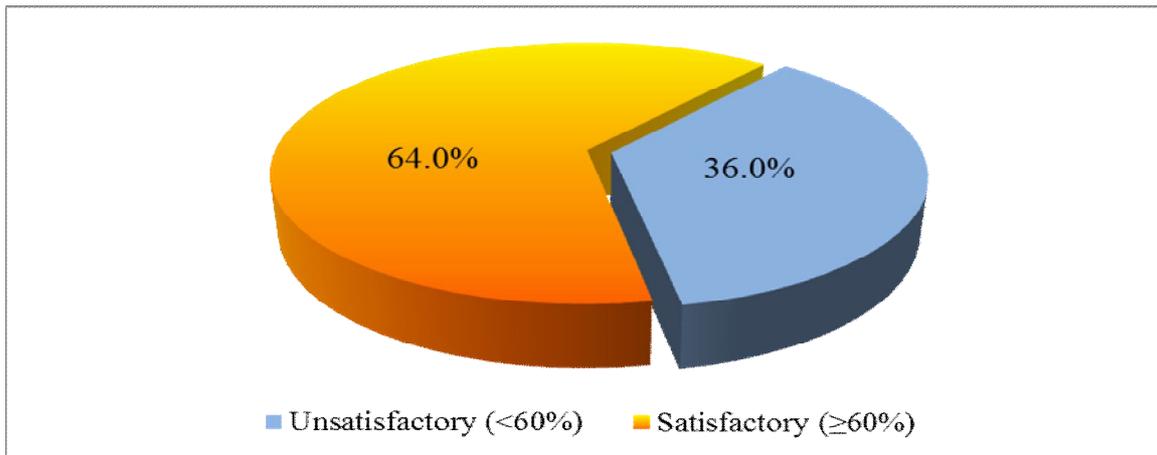


Figure (5): Levels of nurses' knowledge about emergency preparedness (n=200)

5. Discussion: -

Disaster management especially emergency preparedness became the base of any strategic plan for making the communities capable of facing crises, as well as it consider a matter of national security. Every day, we hear news of earthquakes, floods or any other disasters around the world. Emergency departments and registered emergency nurses must be well prepared for facing the disaster and minimizing disaster consequences as possible. So, emergency nurses must equip by adequate knowledge and skills about large-scale emergencies and disasters, as well as, that they needed to it for dealing with these events. Moreover, Nursing roles during disasters are considered valuable and unlimited topic. Therefore, it must be clearly defined and nurses must be fully aware of each role during disaster (Alharbi, et al, 2022).

Part 1: Nurses' role perception regarding emergency preparedness at disaster

The present study revealed that the highest mean percentage and the first rank of nurses' role perception regarding emergency preparedness was the dimension of "skills of nurses in dealing with disaster". This result due to that, clinical area of nursing profession had more attention for nursing skills and these skills consider the initial requirements of this profession. In addition, nurses use personal protective equipment (gloves, masks, etc.)" and " have the skill to prevent transmission among patients", have ability to use the available resources as possible to solve the problem of shortage of resources.

This finding is supported by Saidam, & Eljedi, (2018) who found that the topic of the skills of nurses in dealing with disasters was at the first rank of nurses' role perception dimensions. As the

same line, Zhiheng .et al., (2012) found that nurses had the highest mean score related to skills of nurses during disaster.

On other hand this result not consistent with Labrague .et al , (2018) who concluded that nurses do not feel confident about ;their skills and uncklear of their role in responding to disaster events. As more Tzeng, . et al , (2016) concluded that nurses haven't enough skills for dealing with disaster situations. Also, they added that nurses not skillfully in the basic emergencies skills as triage and basic first-aid issues and transportation. On the same line, this finding is also not supported with Ying .et al, (2023) who stated that nurses had moderate level of skills in disaster management.

The present study revealed that, the domain of" nurses' preparedness for disaster" has the last rank as well as it considered the lowest domain in mean percentages among nurses' role perception domains. This result may be due to the most of emergency nurses haven't full knowledge about disaster plan of their work place and its updating of this plan.

This finding is consistent with Labrague, . et al , (2018) when reported that nurses are insufficiently prepared. And added that most of nurses were felt incapable regarding execution of the disaster plan and this highlights the need for nurses to be actively involved in all stages of disaster planning, for a better perspective of their roles and responsibilities during disaster events.

On other hand, the finding is not consistent with Basal & Ahmed, (2018)who concluded that emergency nurses had high level of preparedness for dealing with emergency situations.

Part II: Nurses' knowledge about emergency preparedness

General nurses' knowledge related to emergency preparedness

The present study revealed that, more than half of emergency nurses reported that, "they don't know anything about the large-scale emergency plan, "they weren't a member of emergency team and there weren't team for dealing with large-scale emergencies, and reported not done about emergency drill. and don't know anything about preparedness policy for large-scale emergencies in their hospital.

This result may be due to that, there weren't large-scale emergency plan and emergency team or emergency nurses not oriented by the emergency plan and not contribute in emergency plan developmental. In emergency departments, nurses expected to perform wide range of clinical activities include prevention, surveillance, general assessment and caring of patient, triage, resuscitation and psychological care more than planning and leadership.

This finding is supported by **Alzahrani, & Kyratsis, (2017)** who found that nurses had limited knowledge and awareness of the large scale emergencies and preparedness of disaster plans, including key elements of their hospital strategies for disaster management in comparing with their knowledge and awareness about clinical roles in disaster response. As the same line **Grochtdreis, de Jong , Harenberg , Görres , & Schröder-Bäck (2016)** Who concluded that nursing curriculums as well as nurses knowledge as all are insufficient in the area of disaster and large-scale emergencies, and they added , all nurses(emergency nurses or not) must acquire minimal knowledge or initial knowledge about disaster and emergency nurses must receive special knowledge about disaster management for dealing with emergency and disaster situations

In addition, **Naser& Saleem, (2018)** when assessing the current knowledge, attitude and training in emergency and disaster preparedness among Yemeni health professionals. who stated that overall knowledge status of emergency nurses was insufficient regarding to emergency and disaster preparedness.

This finding is not consistent with **Al Thobaity,Plummer, Innes & Copnell, (2015)** who concluded that, Nurses in Saudi Arabia perceive themselves as not well-prepared and also added that in the area of disaster preparedness, nurses

have only moderate knowledge. And they concluded that "during disaster drill, most of nurses learned and developed their skills". Additionally **Hayati, (2019)** who stated that the nurse's knowledge about disasters is a important aspect in disaster management process in both preparedness and response phases of disaster

Specific nurses' knowledge about large scale emergency preparedness

The study revealed that majority of nurses were reported correct nurses knowledge regarding to "accessing critical resources" and" ethical issues and special population" of emergency preparedness dimensions. This result may due to the nurses in emergency sitting especially universal hospitals had more experience with different ethical dilemma and can dealing with it professionally. As well, nursing as humanitarian profession sanctifies ethics and human rights as well as the precaution of special population group.

This finding is consistent with **Rady & Elbialy (2019)** who concluded that nurses in governmental hospitals had good knowledge about the ethical issues and especial population as well as their good knowledge about accessing critical resources. however.

This finding is also supported by **Aliakbari, Hammad, Bahrami & Aein (2015)** who examined the ethical and legal competencies required for nurses to provide care in disaster situations. And concluded that understanding of legal knowledge and ethical issues were essential for nurses for dealing with disaster.

This finding is supported with **Sultan, .et al, (2020)** who concluded that majority of nurses have specific knowledge about ethical consideration in saving life procedure, as well as, they have the required knowledge that seemed to performing necessary measures and caring of special population or vulnerable groups. Furthermore, **Bahrami, Aliakbari, & Aein(2014)** who stated that disaster nurses need specific knowledge about disaster as ethical dilemmas and some of personal abilities to prepare themselves and to be more effective in a nursing care as Iranian nurses emphasized.

Our finding was not consistent with **Nofal, Alfayyad, Khan, Alseri & Abu-Shaheen (2018)** who concluded that nurses knowledge was low in the dimensions of ethical issues and special population as well as accessing critical resources. This finding is also not supported with **Al Harthi, Al Thobaity, Al Ahmari, & Almalki (2020)** who

concluded that barriers for nurses in the field of disaster management were as ethical and legal issues and uncertainty and ambiguity with regard to nurses' roles

The study revealed that nearly half of studied nurses were reported incorrect knowledge related to (decontamination - detection and response to an event) of emergency preparedness dimensions. This result may be due to that, the policies of decontamination processes are applied strictly only for newly hired nurses during the orientation then by day to day work load and high rate of patients especially in emergency departments, nurses forget the details of this policies. As well as there weren't frequently training and supervising for this issue. The target of emergency care is lifesaving. So, this lofty goal can sometimes make nurses forget anything else as decontamination rules

This finding is supported with **Brewer, Hutton,Hammad &Geale(2020)** who concluded that, nurses had some limitations in the areas of decontamination, implementation of emergency plan as well as detection and response during emergency situations . As more, this finding is also supported with **Veenema, .et al, (2016)**. Who concluded that there were some barriers and challenges against to urgent response and call to action and added nurses must receive specific programs to establish processes for response and ultimately influence their national response framework.

This finding is not supported with **Sultan, .et al, (2020)** who stated that most of the nurses had good knowledge of the decontamination process in their hospitals. As more, **Poggiali, .et al,(2020)** who concluded that there were high level of detection and response for victims as well as applying ideal decontamination processes.

The present study sought, nearly two third of emergency nurses had satisfactory level of knowledge about emergency preparedness. This result may be due to the qualifications of the emergency nurses (majorities of them had bachelor degree). There were training programs for new hiring emergency nurses and they also aware of triage activities and how to accessing critical resources.as well as they had general knowledge about emergency drill.

This finding is consistent with **Sultan, .et al, (2020)** who found that a majority of the nurses had good knowledge regarding what they needed to do during emergency. As more, the finding is also

supported with **Brewer, Hutton,Hammad &Geale,(2020)** who concluded that nurses had satisfactory knowledge about disaster. On other hand, not supported with **Azizpour, Mehri & Soola, (2022)** who found that emergency nurses have unsatisfactory level of knowledge about disaster preparedness according to the mean score of total disaster preparedness knowledge.

This finding is not consistent with **Ibrahim (2014)** who concluded that the level of nurses' knowledge regarding emergency preparedness as well as disaster knowledge were below average, and participants also added that they need to specific knowledge about disaster plan and disaster management.

6.Conclusion:

Based on the study findings, it was concluded that more than half of studied sample has moderate level of nurses' role perception. Two third of emergency nurses have satisfactory level of knowledge about emergency preparedness.

7.Recommendations: -

Based on the results suggested to:

- ❖ Improving of nurses' role perception and nurses knowledge through continuous staff education.
- ❖ Clear policies and rules should be established with in the hospitals to improve nurses' role perception
- ❖ The field of disaster, disaster managements and disaster planning must be covered in nursing curriculums by enough lectures and labs as well as disaster drills.
- ❖ Improving coordination by applying pre hospital system for the purpose of ensuring that nurses are capable of working effectively without confusion among organizations involved in between the organizations involved in the disaster response.

Further research:-

- Disaster drill and simulation exercise as methods for improving disaster nurses knowledge.
- Disaster planning for large-scale emergencies and nurses role during this process.

8. References:

- Aggarwal, R., & Ranganathan, P. (2019). Study designs: part 2—descriptive studies. *Perspectives in clinical research*, 10(1), 34.
- Al Harthi, M., Al Thobaity, A., Al Ahmari, W., & Almalki, M. (2020). Challenges for nurses in disaster management : a scoping review. *Risk management and healthcare policy*, 13, 2627.
- Al Thobaity, A., Plummer, V., Innes, K., & Copnell, B. (2015). Perceptions of knowledge of disaster management among military and civilian nurses in Saudi Arabia. *Australasian Emergency Nursing Journal*, 18(3), 156-164.
- Alharbi, N. S., Youssef, H. A., Felemban, E. M., Alqarni, S. S., Alharbi, N. M., Alsayed, A. A. O., ... & Shahbal, S. (2022). Saudi Emergency Nurses Preparedness For Biological Disaster Management At The Governmental Hospitals. *Journal of Positive School Psychology*, 6(9), 1218-1235.
- Aliakbari, F., Hammad, K., Bahrami, M., & Aein, F. (2015). Ethical and legal challenges associated with disaster nursing. *Nursing ethics*, 22(4), 493-503.
- Alzahrani, F., & Kyratsis, Y. (2017). Emergency nurse disaster preparedness during mass gatherings: a cross-sectional survey of emergency nurses' perceptions in hospitals in Mecca, Saudi Arabia. *BM Journal open*, 7(4).
- Azizpour, I., Mehri, S., & Soola, A. H. (2022). Disaster preparedness knowledge and its relationship with triage decision-making among hospital and pre-hospital emergency nurses-Ardabil, Iran. *BMC Health Services Research*, 22(1), 1-10.
- Bahrami, M., Aliakbari, F., & Aein, F. (2014). Iranian nurses' perception of essential competences in disaster response: A qualitative study. *Journal of education and health promotion*, 3.
- Basal, A. A., & Ahmed, R. E. (2018). Perception of Nurses' Regarding Role, Preparedness and Management Skills during Hospital Disasters. *Intern J Novel Research Healthcare Nurs*, 5, 151-161.
- Brewer, C. A., Hutton, A., Hammad, K. S., & Geale, S. K. (2020). A feasibility study on disaster preparedness in regional and rural emergency departments in New South Wales: Nurses self-assessment of knowledge, skills and preparation for disaster management. *Australasian emergency care*, 23(1), 29-36.
- Enshassi, A., & Shakalaih, S. (2016). Community based disaster risk reduction: a case study from Palestine. *In 2nd International Conference on Disaster Management, Kyoto (Japan)*.
- Grochtdreis, T., de Jong, N., Harenberg, N., Görres, S., & Schröder-Bäck, P. (2023). Nurses' roles, knowledge and experience in national disaster pre-paredness and emergency response: A literature review. *South Eastern European Journal of Public Health*.
- Gul, M., Fuat Guneri, A., & Gunal, M. M. (2020). Emergency department network under disaster conditions: The case of possible major Istanbul earthquake. *Journal of the Operational Research Society*, 71(5), 733-747.
- Hayati, Y. S. (2019). Relationship of knowledge and self-regulating with nurses 'preparedness facing smoke disaster in Pontianak city. *The Malaysian Journal of Nursing (MJN)*, 11(1), 25-30.
- Ibrahim, F. A. A. (2014). Nurses knowledge, attitudes, practices and familiarity regarding disaster and emergency preparedness—Saudi Arabia. *American Journal of Nursing Science*, 3(2), 18-25.
- Joy, Q. L. J., Kenneth, T. B. K., Tzay-Ping, F., Jeremy, W. C. P., Lim, C. S., Gayathri, N., & Chua, Y. Y. (2020). Reorganising the emergency department to manage the COVID-19 outbreak. *International Journal of Emergency Medicine (Online)*, 13(1).
- Labrague, L. J., Hammad, K., Gloe, D. S., McEnroe - Petite, D. M., Fronda, D. C., Obeidat, A. A., ... & Mirafuentes, E. C. (2018). Disaster preparedness among nurses: a systematic review of literature. *International nursing review*, 65(1), 41-53.

- **Martono, M., Satino, S., Nursalam, N., Efendi, F., & Bushy, A. (2019).** Indonesian nurses' perception of disaster management preparedness. *Chinese journal of traumatology*, 22(1), 41-46.
- **Maskuriy, R., Selamat, A., Ali, K. N., Maresova, P., Krejcar, O., Kuca, K., & Mohd, S. (2020, June).** Man-made Disaster Prevention using Waste Management Hierarchy and Disaster Management Cycle. *In IOP Conference Series: Earth and Environmental Science* (Vol. 479, No. 1, p. 012004). IOP Publishing.
- **Mulyadi, M., Dedi, B., Hou, W. L., Huang, I. C., & Lee, B. O. (2022).** Nurses' experiences of emergency department triage during the COVID - 19 pandemic in Indonesia. *Journal of Nursing Scholarship*, 54(1), 15-23.
- **Nofal, A., Alfayyad, I., Khan, A., Alseri, Z., & Abu-Shaheen, A. (2018).** Knowledge, attitude, and practices of emergency department staff towards disaster and emergency preparedness at tertiary health care hospital in central Saudi Arabia. *Saudi medical journal*, 39(11), 1123.
- **Ofrin, R. H., Bhola, A. K., & Buddha, N. (2020).** Turning commitments into actions: perspectives on emergency preparedness in South-East Asia. *WHO SouthEast Asia journal of public health*, 9(1), 5-14.
- **Poggiali, E., Vercelli, A., Mazzoni, S., Bastoni, D., Iannicelli, T., Demichele, E., ... & Magnacavallo, A. (2020).** COVID-19 pandemic, Piacenza calling. The survival strategy of an Italian Emergency Department. *Acta Bio Medica: Atenei Parmensis*, 91(3), e2020045.
- **Rady, Sh, M., & Elbially, G. (2019).** Nurses' knowledge about the emergency preparedness in governmental and private hospitals. Master thesis, Master of Nursing Administration, *In 15th International scientific Nursing Conference on Closing the Gap & Enhancing the Quality, Alexandria (Egypt)*.
- **Saidam, M. N. & Eljedi, A, Y (2018).** The Role Perception and Preparedness of Emergency Nurses for Disaster Management at the Governmental Hospitals in Gaza Strip. Master thesis, Master of Crisis and Disaster Management, *The Islamic University of Gaza Deanship of Research and Graduate Studies*.
- **Sawalha, I. H. (2020).** A contemporary perspective on the disaster management cycle. foresight.
- **Sultan, M. A. S., Khorram-Manesh, A., Carlström, E., Sørensen, J. L., Sulayyim, H. J. A., & Taube, F. (2020).** Nurses' Readiness for Emergencies and Public Health Challenges—The Case of Saudi Arabia. *Sustainability*, 12(19), 7874.
- **Sultan, M. A. S., Löwe Sørensen, J., Carlström, E., Mortelmans, L., & Khorram-Manesh, A. (2020, December).** Emergency healthcare providers' perceptions of preparedness and willingness to work during disasters and public health emergencies. in *healthcare, multidisciplinary digital publishing institute* (Vol. 8, No. 4, p. 442)..
- **Tzeng, W. C., Feng, H. P., Cheng, W. T., Lin, C. H., Chiang, L. C., Pai, L., & Lee, C. L. (2016).** Readiness of hospital nurses for disaster responses in Taiwan: a cross-sectional study. *Nurse education today*, 47, 37-42. Published online 2016 Mar 2. doi: [10.1016/j.nedt.2016.02.025](https://doi.org/10.1016/j.nedt.2016.02.025)
- **Veenema, T. G., Griffin, A., Gable, A. R., MacIntyre, L., Simons, R. N., Couig, M. P., ... & Larson, E. (2016).** Nurses as leaders in disaster preparedness and response—a call to action. *Journal of Nursing Scholarship*, 48(2), 187-200.
- **Ying, W. A. N. G., Yu, L. I. U., Mingfeng, Y. U., Hui, W. A. N. G., Chaohua, P. E. N. G., Zhang, P., ... & Changyan, L. I. (2023).** Disaster Preparedness Among Nurses in China: A Cross-Sectional Study. *Journal of Nursing Research*, 31(1), e255.
- **Younas, A., Rasheed, S. P., Mehmood, F., & Inayat, S. (2021).** Role and application of self - awareness in managerial practice: A qualitative study of nurse managers. *Journal of Nursing Management*, 29(4), 785-793.
- **Zhiheng, Z., Caixia, W., Jiaji, W., Huajie, Y., Chao, W. & Wannian, L. (2012).** The knowledge, attitude and behavior about public health emergencies and the response capacity of primary care medical staffs of Guangdong Province, China. *BMC Health Services Research*. 12 (1), 338.

