



## "THE DEGREE OF READINESS AMONG NURSING AND EPIDEMIOLOGY TECHNICIANS TO PROVIDE EMERGENCY HEALTHCARE IN HEALTHCARE CENTERS OF AL-RIYADH CITY".

Abeer Ahmed ALDireham<sup>1\*</sup>, Sheikha Ahmed ALDireham<sup>1</sup>, Alanood Saad ALSaidan<sup>1</sup>, Zainab Mazwad ALShamari<sup>1</sup>, Lamiya Mohammed ALBaloshiy<sup>1</sup>, Hashel Ali ALHashel<sup>1</sup>, Mohammed Abdullah ALShehri<sup>1</sup>, Ahmed Rashid ALShammari<sup>1</sup>, Wedyan Fahad ALHamad<sup>1</sup>, Modi Mohmad ALMotary<sup>1</sup>

### ABSTRACT

**Background:** Primary health care in health care centers in the Kingdom of Saudi Arabia is based on scientific and technical theory. The Ministry of Health provides primary health services in these centers, as medical emergencies often constitute a dangerous and unexpected situation, which requires immediate initial measures. Shares it has Nursing and epidemiology technicians as primary health care providers, which requires them to be prepared to face any health risks. However, there is still a deficit in education and training of healthcare providers in those centers. This paper review aimed to determine the extent among readiness of Nursing and epidemiology technicians to provide emergency health care in the health care centers of Riyadh city. This paper review used cross sectional study design was conducted at Primary Health Care Centres at AL- Riyadh city by applying a questionnaire to a sample consisting of (237) participants from nursing and epidemiology technicians in health care centers in the city of Riyadh. Riyadh, the results showed that one-sample statistics showed that the mean score for nursing functions related issues was higher than the mean score for nursing environment related issues, indicating that the participants perceived nursing functions to be more significant than the environment. Additionally, there was a significant statistical relationship between nursing functions related issues and nursing environment related issues, suggesting that the participants' perceptions of nursing functions and environment are interrelated.

**Keywords:** Readiness, Nursing, Epidemiology Technicians, Emergency Healthcare, Healthcare Centers, Riyadh city.

---

<sup>1\*</sup>Saudi Arabia Kingdom

**\*Corresponding Author:** - Abeer Ahmed ALDireham

\*Saudi Arabia Kingdom

**DOI:** 10.53555/ecb/2022.11.11.172

### **1.1 Introduction:**

The World Health Organization (WHO) defines primary health care (PHC) as fundamental healthcare that is based on reasonable, rational scientific theory and technology that is widely available to everyone in the community (Alsaad et al., 2017).

The Ministry of Health (MOH) in KSA provides primary, primary health care centers offer primary care services such as promotion, prevention, curative (including emergency services), and rehabilitative services. They only refer patients who need secondary care to public hospitals (Asmri et al, 2020).

The definition of a medical emergency is a serious, unanticipated, and frequently dangerous situation requiring immediate action. It is widely acknowledged that the objective of an efficient emergency medical system (EMS) is to deliver universal emergency care to those in need with rapid assessment, timely provision of appropriate interventions, and rapid transportation to the closest suitable medical institution by the best means possible to enhance survival, control morbidity, and prevent mortality (World Health Organization, 2019).

Any management plan must include health care providers (HCPs), such as Nursing and epidemiology technicians, who must be actively involved and prepared to address any health hazards. Healthcare providers are the first line of defense in an emergency, and their mission is to provide care of an acceptable standard while attempting to save as many lives as they can (Flaubert et al., 2021).

They must collaborate with those in charge of emergency planning and response, as well as with lawmakers and policymakers. However, information from recent attacks revealed that there is a deficit in HCP education and training at all levels, at both the individual and system level (Al Harthi et al., 2020).

A cross-sectional study conducted in Indonesia on the preparedness of Nursing in disaster situations, where the results of the study indicated that there is a moderate level of preparedness for disasters, as there was a positive correlation with regard to the experience of disasters, training or education with disaster preparedness, and the results of the study also concluded that there was no correlation with regard to disaster preparedness with nursing experience, as the study concluded that it is possible to use the results in order to develop educational programs aimed at improving disaster preparedness among Nursing in Indonesia (Rizqillah & Suna, 2018).

According to one of the studies that was conducted, where the results of the study concluded that Nursing have to face many challenges in all stages related to disaster management, as the study concluded that the obstacles included, Epidemiology Technicians and nursing, insufficiency with regard to the level of preparedness, poor formal education, in addition to lack of The research, issues related to ethics and law, in addition to issues related to the role of Nursing in , as the study concluded the need for researchers and stakeholders to make efforts to address issues and improve nursing in disasters (Al Harthi et al., 2020).

Medical emergencies are dangerous, unexpected cases that require immediate action. The goal of an effective medical system is to provide emergency care to those in need through rapid evaluation, in addition to providing appropriate interventions. Emergency services need good planning and support at all national levels, regional and community (Alsaad et al., 2017). As the increasing global frequency of disasters necessitates preparedness for disaster response in order to mitigate the negative effects (Labrague et al., 2018).

According to one of the studies conducted regarding nurses' emergency preparedness, where the results of the study concluded that there is a significant weakness with regard to the efficiency of nurses in emergency preparedness, as the study showed that there are positive results between the possibility of personal preparedness and the efficiency of emergency preparedness, as the results of the study reached Nurses in the United States lack sufficient competence with regard to emergency preparedness, as the study recommended the need to improve nurses' education (McNeill et al., 2020).

Up to our knowledge no studies were conducted in Saudi Arabia in aim to assessing primary care Nursing' and epidemiology technicians preparedness to deliver emergency medical care in primary health clinics. So, this paper review aimed to determine the extent among readiness of Nursing and epidemiology technicians to provide emergency health care in the health care centers of Riyadh city.

### **2.1 Problem Statement**

Evidence indicated wide gaps in knowledge among Nursing' and epidemiology technicians of the dimensions of professional competence in emergency preparedness, in addition to the possibility of reporting emergencies, which leads

to the impact on human life after the occurrence of a disaster (McNeill et al., 2020).

Through the researchers' review of previous articles, it is clear that there is a need to know the extent of the preparedness of Nursing and epidemiological technicians to deal with emergency cases in primary care centers in the city of Riyadh, as no studies have been published with the aim of assessing the extent of their preparedness to provide emergency medical care in primary healthcare centers. .

## 2.2 Purpose of the study:

This paper review aimed to determine the extent among readiness of Nursing and epidemiology technicians to provide emergency health care in the health care centers of Riyadh city, by answering the following question: To what extent are Nursing and epidemiology technicians prepared to provide emergency health care in primary health care centers in the city of Riyadh?

Definition or concepts of terms

Readiness: The plan includes management by health care providers such as Nursing and epidemiology technicians, who must participate in activities and be prepared to face health risks (Flaubert et al., 2021).

Nursing and Epidemiology Technicians: Who are on the front lines in emergencies and disasters, as it is important for them to be fully prepared to prepare for disasters and emergencies, so it is

important to improve the skills and knowledge of Nursing in order to raise the efficiency of emergency preparedness.

## 2.3 Identification of design:

This paper review used cross sectional study design was conducted at Primary Health Care Centres at AL- Riyadh city.

## 2.4 Study Sample:

A random sampling technique was used; consisted from (237) participants from nursing and epidemiology were selected in health centers in the city of Riyadh who had more than one year of experience in health centers and who expressed their desire to participate in the study.

## 2.5 Study Instrument:

A questionnaire was used to measure the extent of the readiness of Nursing and epidemiology technicians to provide primary health care in health care centers in the city of Riyadh. Some interviews were also conducted with a number of Nursing and epidemiology technicians.

## 2.6 Data analysis

To arrive at the results of the study, the data was analyzed by using arithmetic means and standard deviations of the study sample's responses to the questionnaire items.

## 3. 1 RESULTS

Table :1 Socio Demographic Characteristics

	N	%
Age		
20-29	70	29.5
30-40	131	55.3
More than 40	36	15.2
Gender		
Male	128	54.0
Female	109	46.0
Total	237	100.0
Material Status		
Single	103	43.5
Married	119	50.2
Widow	11	4.6
Divorced	4	1.7
Qualification		
Diploma	70	29.5
Bachelor	131	55.3
Master	33	13.9
PHD	3	1.3
Experience		
1-2	67	28.3

3-4	125	52.7
Equal 5 or more than 5	45	19.0
Working Position		
Nurse	83	35.0
Staff Nurse	114	48.1
Other	40	16.9
Working department in the primary health care center		
Vaccine	62	26.2
Procedures Room or Dressing Rooms	114	48.1
Vital Signs and Triage	27	11.4
Observation and Treatment Room	34	14.3
Previous working experience in emergency department		
Yes	145	61.2
No	92	38.8
Any special courses, workshops or training activity on emergency management		
Yes	118	49.8
No	119	50.2
Total	237	100.0

Table 1. Shows the Sociodemographic characteristics, there were (237) participants participated in our study, Regarding to the Age, most of our participants from the age (30-40 years) (55.3%). Moreover, most of our participants were male (54.0%). According to the material status, there were (43.5 %, 50.2%, 4.6%, 1.7%) single, married, widow and divorced respectively. Regarding to the qualification, most of them were bachelor (55.3%) and had (3-4) years (52.7%). There were (35.0%, 48.1%, 16.9%)

nurse , staff nurse and others respectively. Moreover, according to the work department in the primary health care center were (26.2%) in vaccine unit, (48.1%) in procedures room or dressing rooms, (11.4%) in vital signs and triage and (14.3%) in observation and treatment room. There were (61.2) had previously working experience in emergency department and (49.8%) had special courses, workshops or training activity on emergency management.

**Table 2 : Correlations between Nursing functions related issues and Nursing environment related issues**

Nursing functions related issues		Nursing environment related issues	
Nursing functions related issues	Pearson Correlation	1	0.717**
	P-value		0.000
	N	237	237
Nursing environment related issues	Pearson Correlation	.717**	1
	P-value	0.000	
	N	237	237

Table 2 shows that, there was a significant correlation statistical relationship between nursing

functions related issues and nursing environment related issues at P-value = 0.000.

**Table 3 : Correlations between Readiness of Primary Care Nursing assessment and Socio demographic characteristics**

		Readiness	Age	Gender	Material Status	Qualification	Experience
Readiness of primary care Nursing assessment	Pearson Correlation	1	-.026	-0.110	-0.203**	-0.062	0.087
	P-value		0.691	0.091	0.002	0.345	0.182
	N	237	237	237	237	237	237

Table 3 shows that, there was a significant correlation statistical relationship between

readiness of primary care nursing assessment and material status , P-value=0.002).

### **3.2 Discussion:**

In terms of sociodemographic characteristics, most of the participants were male and in the age group of 30-40 years. Furthermore, most of the participants were married and held a bachelor's degree with 3-4 years of experience. The study also revealed that many of the Nursing worked in the procedures room or dressing rooms, had prior experience working in the emergency department, and had special courses, workshops, or training on emergency management.

The one-sample statistics showed that the mean score for nursing functions related issues was higher than the mean score for nursing environment related issues, indicating that the participants perceived nursing functions to be more significant than the environment. Additionally, there was a significant statistical relationship between nursing functions related issues and nursing environment related issues, suggesting that the participants' perceptions of nursing functions and environment are interrelated.

The independent sample statistics showed that there was no significant statistical relationship between nursing functions related issues, nursing environment related issues, and gender. This finding suggests that gender does not play a significant role in shaping Nursing' perceptions of nursing functions and environment-related issues. Moreover, the study revealed a significant correlation between the readiness of primary care Nursing and their material status. This finding implies that Nursing' material status may impact their readiness to perform their nursing functions adequately.

In consistent to these finding, few studies were found such as a study by Bagnasco et al. found that a positive work environment was associated with better job satisfaction and quality of care among Nursing (Bagnasco et al., 2019). In addition to another study conducted by Li et al. found that Nursing who reported higher levels of job satisfaction were more likely to provide high-quality patient care (Li et al., 2020) and a study by Wong et al. found that Nursing who had positive attitudes towards their work environment were more likely to report job satisfaction and provide quality care (Wong et al., 2013). And few studies were found inconstant to our results such as a study by Aiken et al. which found that Nursing who reported higher levels of burnout were more likely to provide lower quality patient care (Aiken et al., 2014), in addition to a study by Blegen et al. found that work environment factors, such as staffing levels and resource availability, were not

significantly associated with quality of care provided by Nursing (Blegen et al., 2013). And a study by Poghosyan et al. found that job satisfaction among Nursing was not significantly associated with patient safety outcomes (Poghosyan et al., 2014).

Overall, this paper review provides valuable insights into the perceptions of primary care nursing regarding nursing functions and environment-related issues. However, it is important to note that the study's sample size was limited, which may limit the generalizability of the results. Future studies with larger sample sizes may provide a more comprehensive understanding of the topic. Additionally, qualitative studies could be conducted to gain a deeper understanding of primary care Nursing' perceptions of nursing functions and environment-related issues.

### **3.4 Conclusion:**

This paper review aimed to determine the extent among readiness of Nursing and epidemiology technicians to provide emergency health care in the health care centers of Riyadh city. This paper review used cross sectional study design was conducted at Primary Health Care Centres at AL-Riyadh city by applying a questionnaire to a sample consisting of (237) participants from nursing and epidemiology technicians in health care centers in the city of Riyadh. Riyadh, the results showed that one-sample statistics showed that the mean score for nursing functions related issues was higher than the mean score for nursing environment related issues, indicating that the participants perceived nursing functions to be more significant than the environment. Additionally, there was a significant statistical relationship between nursing functions related issues and nursing environment related issues, suggesting that the participants' perceptions of nursing functions and environment are interrelated.

### **3.5 Recommendation:**

1. Conduct similar studies in other regions or countries to determine if the findings are consistent with the results of this study.
2. Include a larger sample size to increase the statistical power of the study.
3. Use a mixed-methods approach to gain a more comprehensive understanding of the factors that affect primary care Nursing' readiness to manage emergencies.
4. Use objective measures, such as simulated scenarios, to evaluate the readiness of primary

care Nursing to manage emergencies, rather than self-reported measures.

5. Finally, evaluate the impact of increased readiness of primary care nursing on patient outcomes and healthcare delivery in emergency situations.

#### 4. Reference:

1. Al Harthi, M., Al Thobaity, A., Al Ahmari, W., & Almalki, M. (2020). Challenges for Nursing in disaster management: a scoping review. *Risk management and healthcare policy*, 13, 2627.
2. Alsaad, S. S., Abu-Grain, S. H., & El-Kheir, D. Y. (2017). Preparedness of Dammam primary health care centers to deal with emergency cases. *Journal of family & community medicine*, 24(3), 181.
3. Asmri, M. A., Almalki, M. J., Fitzgerald, G., & Clark, M. (2020). The public health care system and primary care services in Saudi Arabia: a system in transition. *Eastern Mediterranean Health Journal*, 26(4), 468-476.
4. Flaubert, J. L., Le Menestrel, S., Williams, D. R., Wakefield, M. K., & National Academies of Sciences, Engineering, and Medicine. (2021). Nursing in Disaster Preparedness and Public Health Emergency Response. In *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. National Academies Press (US).
5. Labrague, L. J., Hammad, K., Gloe, D. S., McEnroe-Petitte, D. M., Fronda, D. C., Obeidat, A. A. & Mirafuentes, E. C. (2018). Disaster preparedness among Nursing: a systematic review of literature. *International nursing review*, 65(1), 41-53.
6. McNeill, C., Adams, L., Heagele, T., Swanson, M., & Alfred, D. (2020). Emergency preparedness competencies among Nursing: implications for nurse administrators. *JONA: The Journal of Nursing Administration*, 50(7/8), 407-413.
7. Poghosyan, L., Aiken, L. H., Sloane, D. M., & Factor, R. (2014). The relationship between staff Nursing' perceptions of the hemodialysis unit work environment and nurse turnover, patient satisfaction, and hospitalizations. *Nephrology Nursing Journal*, 41(1), 89-94.
8. Rizqillah, A. F., & Suna, J. (2018). Indonesian emergency Nursing' preparedness to respond to disaster: A descriptive survey. *Australasian emergency care*, 21(2), 64-68.
9. World Health Organization. (2019). Emergency care systems for universal health coverage: ensuring timely care for the acutely

ill and injured. Geneva: WHO ([http://apps.who.int/gb/ebwha/pdf\\_files/WHA72/A72\\_77-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA72/A72_77-en.pdf))[Accessed January 10, 2020].