Mosul Journal of Nursing

Online ISSN: 2663-0311 - Print ISSN: 2311-8784
Website: https://mjn.mosuljournals.com

Knowledge of Nurses About Cardiopulmonary Resuscitation at the Emergency Teaching Hospital in Sulaimani City

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Article information

Article history:
Received 18 May 2023
Accepted on August 21, 2023
Available online January 12, 2024

Keywords:
Knowledge, sudden cardiac arrest, cardiopulmonary resuscitation

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Abstract

Background: Nurses are expected to use cardiopulmonary resuscitation (CPR) techniques because they are skilled at caring for patients with life-threatening diseases.
Aim: To assess nurses' knowledge of cardiopulmonary resuscitation and to identify the relationship between nurses' knowledge of cardiopulmonary resuscitation and some demographic variables.
Methods: 41 nurses from the Emergency Teaching Hospital in Sulaimani City participated in this study. In the present study, a non-probability convenience sampling technique was applied. The study used questionnaires that had been designed according to the 2010 AHA guidelines for assessing knowledge of cardiopulmonary resuscitation.
Results: The result of the present study indicates that most nurses had fair knowledge of cardiopulmonary resuscitation (%63.4), More than a fourth (%26.8) had good knowledge, and only (%9.8) had poor knowledge. Knowledge of nurses affected by marital status ($p < 0.05$).
Conclusions: This study has revealed that most nurses at the Emergency Teaching Hospital in Sulaimani City had good knowledge about cardiopulmonary resuscitation, and there is a significant association between marital status and the level of knowledge of CPR. P value < 0.05.
Recommendation: Depending on the findings of the study, we recommend that there is a need to improve the education of cardiopulmonary resuscitation among nurses in Emergency Teaching Hospital, which will help to reduce the rate of mortality from cardiac arrest in the community.

DOI: 10.33899/mjn.2024.182201

INTRODUCTION

Sudden cardiac arrest (SCA) poses a critical threat to life, and timely administration of medical intervention is crucial to prevent sudden cardiac death(Erickson et al., 2021; Zimmerman & Tan, 2021). Swift and effective medical attention can significantly increase survival chances(Harmon, 2022). SCA is broadly classified into hospital and out-of-hospital incidents(Marijon et al., 2023). Estimates suggest that there are 95.9 cases of adult out-of-hospital cardiac arrest (OHCA) per 100,000 people annually(Rodríguez-Reyes et al., 2020a). A set of life-saving procedures known as cardiopulmonary resuscitation (CPR) is used in modern medicine to increase the survival rates of CNS(Rajagopalan et al., 2022). In a survey conducted in a major western Turkish city, 40.7% of residents in a highly educated area said they had received cardiopulmonary resuscitation, and 3.6% said they had previously administered bystander CPR(Batelaan et al., 2021). According to Qara

et al. (2019), this calls for a community understanding of how to recognise cardiac arrest symptoms and when to begin CPR. Early detection and intervention in cardiac arrest save lives(Held et al., 2022). The chances of survival in cardiac arrest drop from 7 to 10% for each minute that CPR is delayed (Kaihula et al., 2018). Furthermore, it could shorten the time needed before being released from the hospital(Cone et al., 2020). The prognosis of cardiopulmonary arrest is inversely correlated with the amount of time that passes between the onset of efficient reanimation and the training of the medical staff who care for the patient, according to Rosón et al. (2003). Today, CPR has been simplified into a set of abilities that anyone can learn, regardless of prior medical education(Rodríguez-Reyes et al., 2020b). This enables any qualified medical employee to quickly begin this life-saving treatment(Harris & Lubitz, 2020). CPR training was previously restricted to medical practitioners. Later, it was discovered that many of these incidents occurred outside of medical settings and that those who witnessed the incident as a witness needed to perform early CPR. Accordingly, CPR is seen as a universally applicable skill(Holmstrom et al., 2023; Isath et al., 2022).

METHOD

Design of the study: A quantitative design descriptive study was used to assess the knowledge of nurses about cardiopulmonary resuscitation in the Emergency Teaching Hospital in Sulaimani City.

Sample of the Study

Nonprobability, a convenience sample size of (41) was selected according to the original study criteria from March to May 2020. Nurses were selected from the Emergency Teaching Hospital in Sulaimani City.

The study instrument.

The questionnaire was constructed by the researchers to measure the variables underlying the present study, mainly to assess nurses' knowledge of cardiopulmonary resuscitation. Which consists of two parts:

Part One: Nurses' socio-demographic data form, which includes age, gender, marital status, academic qualification, and year of experience in an emergency.

Part 2: It had been designed according to the 2010 AHA guidelines (Field et al. 2010). Among three parts, the first one dealt with general questions about the importance of CPR in clinical practice, the second consisted of the main goal and precision of the CPR intervention, and the last segment consisted of questions targeting the indications, methods, and effectiveness of CPR.

Data Collection: Before filling out the questionnaire, the purpose of the study was explained, and verbal consent was obtained from all participants. A self-administered questionnaire was prepared in English and distributed to all participants. Each subject takes approximately (20-25) minutes to complete the questionnaire.

Data Analysis: To achieve the stated objectives, the initial study data and the data of the study were analysed using a statistical package of social sciences through descriptive analysis (frequency, percentages) for all variables. Analytical analysis was conducted to determine the association and differences between the variables compared.

RESULTS:

Table 1 provides a comprehensive overview of the characteristics of the study sample. Most of the participants (68.3%) were male, and the highest percentage (56.1%) fell within the age range of 25 to 29 years, with a mean age score of 30.8. Furthermore, a significant portion (80.5%) of the study sample was married, and a substantial number (95.1%) had completed their education at an institute or University. In terms of work experience, 65.9% of the participants had less than 6 years of experience.

Figure 1 visually represents the level of knowledge of the study sample. Most (63.4%) demonstrated fair knowledge, while 26.8% exhibited good knowledge, and 9.8% had poor knowledge about the subject matter.

Table 2 delves into a more detailed analysis of knowledge levels across various demographic variables. In particular, individuals aged 25-29 years exhibited the highest level of good knowledge (39.1%), while those aged 35-39 years demonstrated the highest percentage of

fair knowledge (66.7%). Poor knowledge was more prevalent among participants over 39 years of age. Regarding gender, women showed a higher proportion of good knowledge (39.3%), while men had a higher prevalence of fair knowledge (61.5%). Marital status revealed a significant association, with 100% of single participants demonstrating fair knowledge and 45.5% of married participants exhibiting good knowledge. Furthermore, half of the nurses who graduated from nursing school showed good knowledge, whereas 53.8% of those with institute or university qualifications had good knowledge.

Statistical analysis revealed a highly significant association between marital status and the level of knowledge about CPR at a p-value of 0.05. However, no significant associations were found between nurses' knowledge and age, gender, academic qualification, or years of experience.

These findings underscore the importance of considering demographic factors, particularly marital status when assessing and addressing knowledge levels related to CPR among nurses. The results provide valuable information to tailor targeted interventions to improve CPR knowledge of CPR within specific subgroups of the nursing population.

Table 1. Distribution of socio-demographic characteristics

Socio-demographic characteristics	**Frequency**	**Percentage**
Age		
25-29	23	56.1
30-34	9	22
35-39	6	14.6
>39	3	7.3
Mean ± SD= 30.8 ± 4.7		
Gender		
Male	28	68.3
Female	13	31.7
Marital status		
Single	8	19.5
Married	33	80.5
Academic Qualification		
Nursing school	2	4.9
Institute/University	39	95.1
Years of experience in emergency		
1-5	27	65.9
6-10	9	22
11-15	3	7.3
> 15	2	4.9
total	41	100

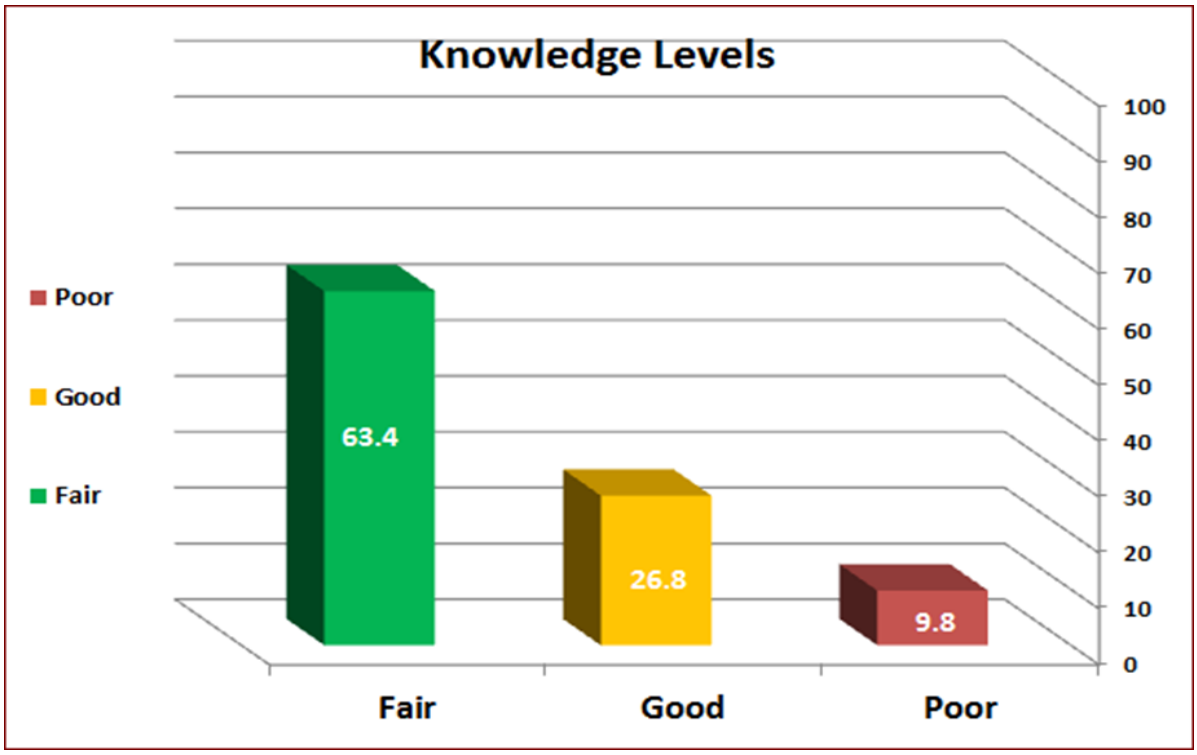

Figure (1) Distribution of nurses' knowledge levels on cardiopulmonary resuscitation.

Table 2. Association between the knowledge and socio-demographic characteristics.

Variable	knowledge					
	GOOD		FAIR		POOR	
AGE	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
25 - 29	9	39.1%	12	52.2%	2	8.7%
30 - 34	3	33.3%	4	44.4%	2	22.2%
35 - 39	2	33.3%	4	66.7%	0	0
>39	1	33.3%	1	33.3%	1	33.3%
Chi-square = 3.448a		P value=0.751		Not Significant		
Gender						
Female	11	39.3%	13	46.4%	4	14.3%
Male	4	30.8%	8	61.5%	1	7.7%
Chi-square = 0.888a			P value=0.641		Not Significant	
Marital status						
Single	0	0%	8	100%	0	0%
Married	15	45.5%	13	39.4%	5	15.1%
Chi-square =9.466a		P value=0.009		highly Significant		
Education level						
Nursing School	1	50%	0	0	1	50%
Institute&university degree	14	35.9%	21	53.8	4	10.3%
Chi-square =3.644a		P value=0.162		Not Significant		
Years of experience						
1-5	10	37%	15	55.6%	2	7.4%
6-10	3	33.3%	4	44.4%	2	22.2%
11-15	1	33.3%	2	66.7%	0	0%
>15	1	50%	0	0%	1	50%
Chi-square=5.438a		P value=0.489		Not Significant		

DISCUSSION

A vital component of the medical team is nurses. They are essential for the institutional care of patients, especially those receiving critical and emergency treatment. People in critical care and emergency departments are likely to develop cardiac arrest, which can happen even in healthy people who do not even experience a heart problem. The objective of the current study is to examine the knowledge of nurses with CPR in a teaching hospital in Sulaimani City, Iraq. As the study shows, most of the study sample (63.4%) has a fair knowledge of CPR. The result of the present study was in agreement with previous studies in Botswana, which found that nurses in the three district hospitals showed markedly deficient knowledge and skills. (Rajeswaran, Cox, Moeng, and Tsima, 2018). Furthermore, studies conducted in a tertiary care teaching hospital in Nepal in 2011 found that, in general, nurses' knowledge was low. (Valarmathi and Parajulee, 2014)

Regarding socio-demographic characteristics, the present study revealed that the majority (64.7%) of the study sample were male. These results agreed with the findings of many studies by Al-Ftlawi (2011) and Al-Ani et al. (2014), which indicated that the majority of nurses were males.

Regarding the age group, most of the respondents were between (25-29) years of age, and work experience ranging from 1 to 5 years could be explained by the fact that younger nurses were more engaged, driven, and recently graduated than their more senior counterparts in these fields. This result was supported by Winkelman et al. (2009), and their findings indicate that more of the nurses studied were between (20-30) years old. Regarding academic qualifications, the majority of the study sample were nurses who graduated from the institute or University and accounted for (95.1%). This result agrees with Wendel (2011), who found that the majority of the study sample were nurses who had a bachelor's degree. Furthermore, this study also highlighted an association between some socio-demographic variables and the level of knowledge, such as age, sex, marital status, years of experience, and qualification, and revealed that there is a significant association between marital status and no other significant variables.

CONCLUSIONS

The result of the study concluded that most nurses in the Emergency Teaching Hospital in Sulaimani City had a good understanding of cardiopulmonary resuscitation, and there was a highly significant association between marital status and the level of knowledge of CPR, while there was no significant association between the level of knowledge and age, gender, level of education and years of experience in the emergency room.

DECLARATION SECTION

Acknowledgements

We thank the Nurese for their time and responses. We thank all Emergency teaching hospital staff in Sulaimani city for their kind help and support for this study.

Ethical Considerations

This research study has received ethical approval from the Ethics Committee of the Faculty of Nursing, University of Sulaimani, Iraq.

Conflict of interest

Funding:

None to be declared.

Data availability:

Data are available by contacting the corresponding author by email.

Authors contribution

All authors have read and approved the manuscript.

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