Western European Journal of Medicine and Medical Science
Volume 2, Issue 7, July, 2024
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

THE STATE OF CPR KNOWLEDGE: AN EVALUATION OF IRAQI NURSES

[1]**Hussein Abdulmohsin Dabis**, Adult nursing department/College of Nursing/University of Thi-Qar/Iraq, Email: hussein-ab@utq.edu.iq
[2]**Ali Talib Hameed,** Nursing Department/ Technical Institute-Nasiriya/Southern Technical University/Iraq, ali.talib@stu.edu.iq

Abstract
The generally known cardiopulmonary resuscitation (CPR) is the must-have qualification for any healthcare worker, with a specific focus being made on the nurses. But evidences implies that CPR information among nurses, especially in developing-world environments, may be limited. This research seeks to assess the knowledge on CPR and demographic characteristics of the nurses in Al-Nasiriyah Teaching Hospital, Thi-Qar, Iraq.
Cross-sectional descriptive design was applied in this study to determine knowledge of CPR in 200 nurses of Al-Nasiriyah Teaching Hospital in Thi-Qar, Iraq via convenience sampling. Questionnaires developed by the researcher including socio-demographic questions and 20 multiple choice CPR knowledge questions were employed in the study. Quantitative data analysis included Descriptive statistics and multiple regression analysis were used during study. The necessary permissions were consequently sought and granted from the Thi-Qar health directorate while intact consent was also obtained from each participant while ensuring anonymity and privacy of data collected.
Findings showed that while the participating nurses had clear grasp of some of the principles of CPR, they did not perform well on the more intricate aspects such as ventilation of infant and the required depth of chest compression in a neonate. As important, the study was also able to establish the correlation between CPR knowledge and demographic characteristics. Concerning the factors associated with the CPR knowledge; the research observed that age was inversely related with CPR knowledge while observing that working in ICU and having more years in practice were positively related to CPR knowledge.
These points suggest that it may be necessary to focus on the issue of CPR training implementing the approach based on knowledge gaps and subdivisions of professionals in terms of work experience. More studies with longitudinal research design and using larger samples involving more diverse participants for CPR knowledge for varied health care setting needs to be done to validate these findings and to decipher the dynamic relationship between CPR knowledge, demographics and these facets of healthcare settings.
Keywords: Cardiopulmonary Resuscitation (CPR), Nurses, Knowledge, Iraq, Healthcare Professionals

Introduction

CPR is a form of first aid and is useful in handling cases of cardiac arrest and serves as a necessary intervention if the individual is unconscious. CPR should not be a mystery to any nursing practitioner, and to eliminate any guess work, it is mandatory that nurses have adequate knowledge about CPR. CPR is made up of a series of procedures and it involves giving chest compressions as well as rescue breathe. CPR aim at ensuring the circulation of blood and other vital substances in the body especially the brain as one waits for more comprehensive care

Western European Journal of Medicine and Medical Science
Volume 2, Issue 7, July, 2024
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

intervention. Indicate that nurses' skills in the delivery of CPR must be efficient and fast enough to offer the best shot at life (Elbaih & Alissa, 2020; Sankaran et al., 2021).

It is alarmingly clear that nurses lack the necessary knowledge to perform CPR in the right manner. Studies revealed that the feasibility of nurses administering proper chest compressions was at a frighteningly low 50 percent. This is a big issue because improper performing CPR only ends up causing more harm instead of benefiting the patient. Identified below are some explanations for why nurses might lack this important CPR information. This could be due to one of the following; first, CPR training is seldom given the priority it deserves during a nursing curriculum. Another reason is that nurses cannot perform CPR frequently since the procedure cannot be conducted as often as the nurse may wish. It should be noted that all these practices may mean that many nurses lack adequate confidence when it comes to CPR performance (Amoako-Mensah et al., 2023; Tomas & Kachekele, 2023).

Nurses must make sure they get CPR training often and that together with practicing the skills when they are at work. These situations should be part of training that can be done through lectures, and should also be performed. Nurses should also be allowed to practice CPR in the hospital, the clinic, and the community. CPR certification of all healthcare professionals is mandated by the American Heart Association by completion of CPR courses is advised every two years. This training should involve clinical training where learner is taught in classroom and also practice what he or she has learnt. Nurses also should also be encouraged to practice CPR independently (Noureddine et al., 2021).

The knowledge of proper methods to perform CPR will help to enhance the chances of the patient's survival in case of a cardiac arrest. Nurses are the health care professionals who are most likely to be around when a Cardiopulmonary arrest occurs, and it is within their reach to make or break the act. Besides enhancing the knowledge of nurses in CPR, Facilities that have AEDs should be provided in the most accessible places in case a person has a cardiac arrest. AEDs are portable devices that can be used to deliver an electrical shock to the heart with the aim of treating a wide range of abnormal heart rhythms (Bae & Hong, 2021).

Information which indicates that the level of knowledge of CPR Among the Nurses in Iraq is not at its optimum. A study revealed that only 8% of Nurses in Iraq have high level of knowledge about CPR (Hassan et al., 2015), while another revealed about 95% of nurses in has poor knowledge about CPR (Qadir et al., 2017). This is a real issue due to the fact that, execution of CPR that is wrong may actually exacerbate the situation. The absence of knowledge in performing CPR among the nurses in Iraq can be.getInstance, there are several reasons that might be behind the observed phenomenon. There is a lack of CPR training in nursing school due to the fact that it is not put into practice as much as it should. Another consideration is that the nurses may apply CPR infrequently due to the limited practice time (Alkhaqani, 2023). Consequently, several nurses might feel unconfident to perform CPR correctly, or otherwise, they will not be able to do it at all. Moreover, political and economic unrest present in the country of Iraq can serve as a reason for nurses to have limited knowledge in CPR (AL-ABDULLA & KALLSTRÖM, 2022). As a result, this study aims to assess Iraqi nurses' knowledge regarding CPR.

Methods

Study Design

This study employed a descriptive cross-sectional design among Iraqi nurses at Thi-Qar governorate.

Participants and Setting

Western European Journal of Medicine and Medical Science
Volume 2, Issue 7, July, 2024
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

The study included 200 nurses who were willing to participate and complete the questionnaire with a response rate of 93%. Participants were recruited from different units at Al-Nasiriyah Teaching Hospital to ensure representativeness of the sample using convenience sampling. Data were collected between 3rd of December to 15th of January, 2024.

Data Collection

Data were collected using a questionnaire developed by researcher after extensive literature review. The questionnaire consists of two parts. The first part, which included the opening six questions, focused on the subjects' socio-demographic characteristics, while the second part assessed nurses' knowledge of CPR (includes 20 questions with multiple choices).

Data Analysis

Descriptive statistics (frequencies, percentages, means, standard deviations) were used to summarize the socio-demographic characteristics. Multiple choices questions were treated as dichotomous questions (where "correct" indicating right answer, and "incorrect" indicating any of the wrong answers). multiple regression analysis was used to determine the relationship between demographics and CPR knowledge. All analyses were conducted using statistical software package, e.g., Statistical Package for the Social Sciences (SPSS) with a significance level set at $p < 0.05$.

Ethical Considerations

This study was approved by the Board of Ethics at Thi-Qar health directorate and Informed consent was obtained from all participants with the emphasis on data anonymity and confidentiality.

Results

Table 1 presents the demographic characteristics of the 200 participants in the study. The majority of participants were between 20 and 29 years old (38%), female (57.5%), worked in medical wards (25.5%), had 1-5 years of practice (49%), held a Bachelor's degree (56.5%), and did not receive specific training on CPR (66%).

Table (1) represent sociodemographic characteristics of study sample (n=200)

Demographic variables	Groups	n	%
Age	20–29	76	38
	30–39	42	21
	40–49	50	25
	>50	32	16
Gender	Male	85	42.5
	Female	115	57.5
Department	Medical wards	51	25.5
	Surgical wards	47	23.5
	Intensive Care	55	27.5
	Emergency Department	47	23.5
Duration of practice (Years)	1-5	98	49
	6-10	69	34.5
	>10	33	16.5
Education level	High school diploma	72	36
	Bachelor’s degree	113	56.5
	Further education	15	7.5
Specific training on CPR	Yes	68	34

Western European Journal of Medicine and Medical Science
Volume 2, Issue 7, July, 2024
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

	No	132	66

Table 2 reveals the percentage of correct answers provided by the participants for each CPR knowledge question. Knowledge varied widely, with higher percentages of correct answers for basic CPR skills like chest compression location (59.5% for adults) and depth (49% for adults) compared to more nuanced topics such as the order of steps in CPR (8%) and differences between reversible and irreversible brain damage (71%).

Table (2) illustrate the correct answers for the main items regarding CPR knowledge

Questions	**number of correct answers**	**Percentage of correct answers**
What does the acronym BLS stand for?	47	23.5
How should you react to witnessing a cardiac arrest in a public setting?	71	35.5
Where should chest compressions be performed on adults?	119	59.5
Where should chest compressions be performed on infants?	35	17.5
What is the correct method for giving rescue breaths to an infant?	19	9.5
How deep should chest compressions be for an adult?	98	49
How deep should chest compressions be for a child?	44	22
How deep should chest compressions be for a newborn baby?	24	12
What is the appropriate speed for performing chest compressions?	61	30.5
What is the order of steps in performing CPR according to current guidelines?	16	8
What is the ideal ratio of chest compressions to rescue breaths?	75	37.5
Is CPR more successful in a hospital setting or outside of a hospital?	91	45.5
How long after a person's heart stops beating is CPR still potentially effective?	59	29.5
Is it more important to provide artificial respiration or chest compressions during respiratory arrest?	38	19
Do most people survive after receiving CPR?	80	40
What are the differences between reversible and irreversible brain damage?	142	71
How long can blood flow cease before cells in the body begin to die?	38	19
For what length of time should CPR be performed continuously?	42	21
What is compression-only CPR and how is it different from standard CPR?	28	14
What is the likelihood of surviving a cardiac arrest after being treated with a defibrillator?	30	15

Western European Journal of Medicine and Medical Science
Volume 2, Issue 7, July, 2024
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

Table 3 highlights the demographic factors significantly associated with CPR knowledge. Older age was associated with lower CPR knowledge, while working in certain departments (Intensive care) and having more years of experience were associated with higher CPR knowledge. This suggests that both individual characteristics and workplace factors might influence healthcare providers' understanding of CPR.

Table (3) identify demographic factors associated with CPR knowledge

Independent variables*	B	SE	β	t value	P-value
(Constant)	.779	.008		93.950	.00
Age	-.053	.003	-.202	-15.594	.031
Department	0.97	0.35	-.851	2.88	.001
Years of Experience	.036	.003	.131	5.946	.044

* Only statistically significant variables were mentioned.

Discussion

Most of the participants were females, and almost evenly distributed among age groups. In regard to the years of clinical practice, the participants had differing responses, and a significant proportion of the participants practiced for 1-5 years. The sample was further heterogeneous in relation to the departments where participants worked, thus showing that the study included a diverse range of healthcare professionals. However, most said they had had no specific CPR training. This could imply the existence of deficit in CPR training amongst the study population.

These results are consistent with recent work expert opinion supporting the need to provide effective CPR training to all healthcare providers. One study discovered that healthcare professionals with less than 5 years of experience have lower CPR performance levels (Silverplats et al., 2020; Spinelli et al., 2021). Our results also underscore the importance of ongoing CPR training across different departments and levels of experience. This is principal given the high incidence of cardiac arrest in the healthcare setting and the effectivity of CPR on patient outcomes (Kaplow et al., 2020).

Overall, the participants showed understanding to some elements of the basic CPR knowledge, however, the obtained results indicate several failings. Items with lower percentage of correct answers point to specific knowledge gaps such as: the appropriate technique for performing infant rescue breaths and the depth of chest compression s for newborn. This implies that the study population is insufficiently trained regarding the specifics of CPR or otherwise lacks the competency expected of them.

These observations are in harmony with contemporary research on the importance of encouraging participants to undergo training and get update often on CPR. Research conducted revealed that a large percentage of the health care practitioners and final year students forget important aspects of CPR and how to perform it satisfactorily, showing that training and practice should be maintained (West et al., 2022) (Gros, 2021). The gaps observed in this study pointing towards a need for more effective and complete CPR training programs that target knowledge deficits if any, and focus on skill in! Enriquez 14 enhancement in CPR.

This study found that age, department, and working experience influence the level of CPR knowledge amongst the personnel. It was also ascertained that older participants within the context of the study and the participants, who would have been practicing for more years, were

Western European Journal of Medicine and Medical Science
Volume 2, Issue 7, July, 2024
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

those who showed higher levels of knowledge. Participants from the emergency department also had lower CPR knowledge scores than participants from other sectors.

The relationship between the age of the providers and compliance with CPR knowledge supports the findings of other studies who emphasize increased experience and continuous courses as pivotal factors to remain competent in CPR (Andrell et al., 2021). The observed level of CPR knowledge among the respondents was, therefore, lower than the expectations in some related literature noting that the emergency department personnel would have better CPR knowledge due to frequent exposure to cardiopulmonary arrest incidents (HA & SM, 2020; Papi et al., 2020; Zheng et al., 2022). This might reduce from specific training methods followed in these departments, working pressure, and kinds of tasks performed which requires more analysis and proper training added to these departments.

There were some limitations in the current study, which are worthy of concern when generalizing on the research study findings. First of all, it is based on a self-completion questionnaire, and while the responses may be expected to be measures of participants' actual knowledge, some participants may consciously exaggerate or give incorrect answers. Furthermore, the nature of the study being cross-sectional in nature reduces the potential of making causal conclusions between the demographic characteristics explored and knowledge of CPR. Also, the sample is drawn from a particular population, which reduces shouldering of the study results by other populations of healthcare professionals. The limitation of cross-sectional research design and non-diverse sample groups used in this study implies that further research with longitudinal research and diverse sample groups is needed to confirm these findings and to have a more enhanced understanding of the CPR knowledge and the factors that perhaps impeding its acquisition.

References

1. AL-ABDULLA, O., & KALLSTRÖM, A. (2022). 7 THE JOB THAT KILLS YOU–HEALTH CARE WORKERS IN CONFLICT SETTING–CASE SYRIA. *Public health in a chaotic world*, 83.
2. Alkhaqani, A. L. (2023). Exploring Nurses' Knowledge and Attitudes Concerning Basic Life Support: A Questionnaire Survey Study. *Al-Rafidain Journal of Medical Sciences (ISSN 2789-3219)*, *5*, 40-47.
3. Amoako-Mensah, E., Achempim-Ansong, G., Gbordzoe, N. I., Adofo, C. E., & Sarfo, J. O. (2023). Perceptions of nurses regarding quality of adult cardiopulmonary resuscitation in Ghana: a qualitative study. *BMC nursing*, *22*(1), 220.
4. Andrell, C., Christensson, C., Rehn, L., Friberg, H., & Dankiewicz, J. (2021). Knowledge and attitudes to cardiopulmonary resuscitation (CPR)–a cross-sectional population survey in Sweden. *Resuscitation Plus*, *5*, 100071.
5. Bae, S. J., & Hong, S. Y. (2021). A study on factors for improving CPR based on health care professionals treating cardiac arrests. *International Journal of Internet, Broadcasting and Communication*, *13*(1), 229-237.
6. Elbaih, A. H., & Alissa, Z. K. (2020). The effect of cardiopulmonary resuscitation quality on cardiac arrest outcome. *J Emerg Med Care*, *3*(1), 102.
7. Gros, A. (2021). *The Effects of Knowledge Retention, Self-Confidence, and Anxiety Levels Associated with Peer-Assisted Learning in a Healthcare Course* University of Louisiana at Monroe].
8. HA, Z., & SM, S. (2020). Assessment of basic life support knowledge among nursing professionals. *Egyptian Journal of Occupational Medicine*, *44*(1), 455-470.

Western European Journal of Medicine and Medical Science
Volume 2, Issue 7, July, 2024
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

9. Hassan, H. B., Abbas, S., & Abdul-Wahhab, M. M. (2015). Nurse's Knowledge toward Cardio-Pulmonary Resuscitation at critical care unit in Baghdad city. *Higher education*, *5*(10.0), 100-100.
10. Kaplow, R., Cosper, P., Snider, R., Boudreau, M., Kim, J. D., Riescher, E., & Higgins, M. (2020). Impact of CPR quality and adherence to advanced cardiac life support guidelines on patient outcomes in in-hospital cardiac arrest. *AACN Advanced Critical Care*, *31*(4), 401-409.
11. Noureddine, S., Avedissian, T., Khatib, N., & Irani, J. (2021). Towards better out-of-hospital cardiopulmonary resuscitation: A survey of nurses. *Journal of Clinical Nursing*, *30*(19-20), 3036-3044.
12. Papi, M., Hakim, A., & Bahrami, H. (2020). Relationship between knowledge and skill for basic life support in personnel of emergency medical services, Islamic Republic of Iran. *Eastern Mediterranean Health Journal*, *26*(10), 1193-1199.
13. Qadir, H., Ahmed, H., & Hussein, M. (2017). Assessment of nursing studentsknowledge regarding cardio-pulmonary resuscitation in Erbil Medical Technical Institute. *Polytechnic Journal*, *7*(4), 207-214.
14. Sankaran, S., Pradeep Kumar, M., & Geethaanandhi, C. (2021). An Automatic Cardio Pulmonary Resuscitator—A Device for People Affected with Cardiac Arrest. Soft Computing: Theories and Applications: Proceedings of SoCTA 2020, Volume 2,
15. Silverplats, J., Källestedt, M.-L. S., Wagner, P., Ravn-Fischer, A., Äng, B., & Strömsöe, A. (2020). Theoretical knowledge and self-assessed ability to perform cardiopulmonary resuscitation: a survey among 3044 healthcare professionals in Sweden. *European journal of emergency medicine*, *27*(5), 368-372.
16. Spinelli, G., Brogi, E., Sidoti, A., Pagnucci, N., & Forfori, F. (2021). Assessment of the knowledge level and experience of healthcare personnel concerning CPR and early defibrillation: an internal survey. *BMC cardiovascular disorders*, *21*, 1-8.
17. Tomas, N., & Kachekele, Z. A. (2023). Nurses' knowledge, attitudes, and practice of cardiopulmonary resuscitation at a selected training hospital in Namibia: a cross-sectional survey. *SAGE Open Nursing*, *9*, 23779608231216809.
18. West, R. L., Otto, Q., Drennan, I. R., Rudd, S., Böttiger, B. W., Parnia, S., & Soar, J. (2022). CPR-related cognitive activity, consciousness, awareness and recall, and its management: A scoping review. *Resuscitation Plus*, *10*, 100241.
19. Zheng, K., Du, L., Cao, Y., Niu, Z., Song, Z., Liu, Z., Liu, X., Xiang, X., Zhou, Q., & Xiong, H. (2022). Monitoring cardiopulmonary resuscitation quality in emergency departments: a national survey in China on current knowledge, attitudes, and practices. *BMC Emergency Medicine*, *22*(1), 33.