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Nurses students' Knowledge, Attitudes, and Practice of Cardiopulmonary Resuscitation at Shendi nursing college 2025

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ABSTRACT

Cardiac arrest denotes the abrupt halting of the heart's mechanical operations, leading to a total cessation of blood circulation. This stoppage prevents blood from reaching crucial organs, starving them of oxygen, and, if not addressed, results in death. Sudden cardiac arrest is characterized by the unforeseen interruption of circulation shortly after symptoms emerge, regarded as a significant public health issue expected to account for 15–20% of all fatalities. This research aimed to evaluate the khowledge, attitude , and practices concerning cardiopulmonary resuscitation (CPR) among nursing students in Shendi nursing college. Methods: An exploratory descriptive cross-sectional analytical study was conducted at Shandi University Faculty of Nursing. A convenience sampling approach was employed for participant selection. A questionnaire was distributed via Google Forms to collect data. The information gathered was organized and coded, employing descriptive statistics to illustrate frequency and percentages, and a chi-square test was utilized to examine associations between sociodemographic characteristics and knowledge, attitudes, and practices with a significance level indicated by the p-value.

Results: 100 nurses students participated in the study, the participants showed good knowledge attitude and practice where their mean knowledge, attitude and practice were

1.0 1.98, 1.21, .141, .409 .000 consecutively and P value for all .000

Conclusion and recommendation:

The findings of the study showed that .Nurses students of college of nursing at Shendi nursing students, this study showed good knowledge attitude and practice regard (CPR).

Also showed significant association between their knowledge attitude and practice with their demographic data. Researcher suggest that When appointing any nurse, decision makers must establish a training program to qualify them to be efficient in emergency and intensive care departments, in order to consolidate their knowledge.in clinical area .

KEYWORDS: knowledge; attitude and practice; nurses students, Shandi university

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INTRODUCTION AND BACK GROUND:

Cardiac arrest Cardiac arrest refers to the halt of the heart's mechanical functions, leading to a complete lack of blood circulation. This interruption prevents blood from reaching essential organs, depriving them of oxygen, and, if not promptly addressed, can lead to fatality. Sudden cardiac arrest occurs unexpectedly, with circulation stopping rapidly after the onset of symptoms. Cardiac arrest stops blood from flowing to vital organs, depriving them of oxygen, and, if left untreated, results in death. Sudden cardiac arrest is the unexpected cessation of circulation within a short period of symptom onset. In adults, sudden cardiac arrest results primarily from cardiac disease. (Ghimire B, et al.(2023)

When the patient is unresponsive, is not breathing normally (or only gasping) and does not have a pulse, this patient is in

cardiac arrest (Markenson et al, 2019).

Cardiac arrest (CA) considers an incident that threats life and accounts for 15% of the mortality worldwide. It estimated to be more common among patients with pre-existing cardiovascular disease (Zayed & Saied, 2022).

It consider as fundamental health problem calculated to account for approximately 15-20 percent of all deaths in both developing and developed countries.(John Bosco Tamu Munezero et al.2018)

Resuscitation science is very complex and has its own features that depends on the country and culture where in it is applied (Tobase et al, 2017), that needs coordination of team members. A strong team leader is required for organizing the group, delegating tasks, and monitoring performance of team members. The effective teamwork decreases undesirable errors caused by a failure to clearly communicate. (Chu, 2019)

. Early initiation of cardiopulmonary resuscitation (CPR) and activation of the chain of survival are backbone in the saving life of patients with cardiac arrest Cardiac arrest is a substantial health problem estimated to account for approximately 15-20 percent of all deaths in both developing and developed countries..(John Bosco Tamu Munezero et al.2018)

It can be defined as a group of interventions that performed to supply circulation and oxygenation to the body through cardiac arrest incidence (Goyal, et al, 2020).

Usually, nurses are the first responders and carry out the leadership role when the patient arrives to the hospital (Chu, 2019).

Cardiopulmonary arrest is the rapid, total, and irreversible cessation of the vital respiratory and circulatory systems. keeping life alive. Cardiopulmonary resuscitation (CPR) is the most crucial emergency treatment for cardiac arrest, a condition that poses a risk to life. Research on resuscitation has long been an area of interest, and information on the subject has been periodically updated through the publication of guidelines by international organizations. CPR advancements have helped thousands of people who had sudden cardiac arrest live. The life saved by effective CPR attempts demonstrates the value of CPR and the time and effort expended to make advancements in CPR. Currently, the goal is to reach health criteria before to arrest as well as survival of individuals having cardiopulmonary arrest. (N. Caliskan et al., 2019).

When we asked a broad range of in-hospital cardiac arrests (IHCA) first-responders through multiple disciplines about their experiences with cardiopulmonary resuscitation care in order to catch directly their perceptions on performance, we found a significant gap because of two reasons: First, perception drives behavior of individual and institutional culture, and nearly all strategies of process improvement, from standardized reporting to guideline implementation, depending partly on the understanding and cultural managing.

Basic aspects of CPR, such as the correct compression and ventilation sequence, do not appear to be correctly understood by all healthcare professionals and it has been suggested that CPR training needs to be improved in medical (López-Messa et al., 2011) and nursing schools as well as postgraduate training

SIGNIFICANT OF THE STUDY:

The early cardiopulmonary resuscitation (CPR) is an important contributory factor in the survival of cardiac arrest. The nurses are generally the first responders to cardiac arrest and initiate basic life support while waiting for the advanced cardiac life support team to arrive. Therefore, the adequate knowledge and skills regarding basic life support and appropriate application of the same is an essential requisite for nursing students

It is important that at least the health care professionals should know about the basic life support as they encounter such situation often. Such emergency situation can occur almost on daily basis in a hospital setting. Various studies have been carried out to assess the level of knowledge and attitude towards BLS among health care providers, which reflects its importance in the emergency care of the patients. The knowledge of BLS (CPR) is a major determinant in the success of resuscitation and plays a vital role in the final outcome of acute emergency situation. Therefore this study aimed to assess nurses students' knowledge attitude and practice regard CPR

RESEARCH QUESTIONS:

-What is level of knowledge of nurses students regard CPR?

-What is level of attitude e of nurses students regard CPR?

-What is level of practice of nurses students regard CPR

-Is there any correlation between their knowledge, attitude and practice with social data regard CPR?

AIM OF THE STUDY:

-To assess nurses student knowledge ,attitude and practice towards CPR

-To identify the association between their knowledge attitude and practice with their socio demographic data.

METHODS:

Research design

This study use exploratory cross sectional community based aimed to collect information from under graduate nurses student regarding knowledge, attitude and practice of CPR in Shendi Nursing College.

Study area:

Shandi university .Shandi city .Nahr Elnil province

Study setting:

Shandi university faculty of Nursing.

Duration of data collection:

From April –May 2025

Study population:

This study was conducted among under graduate nurses students in faculty of nursing

Inclusion criteria:

-Level tow, three and four

-Accept to participate in the study

-Both male and female

Exclusion criteria:

-First class level

-those who have inclusion criteria but refuse to participate in the study

Sampling size:

A convenience sampling method were selected because data collected via google form

Data tool:

Self-administering questionnaire constructed adopted from Okwuikpo et al., (2020).

For sociodemographic Data.

Consist of 4 questions, which are gender, age, education level, Attended CPR course before or not.

The second part regard Knowledge on Cardiopulmonary Resuscitation (CPR).

Contained (11) questions on knowledge of cardiopulmonary resuscitation, correct answers '1', while wrong and not decided 'zero'. The total knowledge scores were 11, knowledge scores were categorized such that scores **80-70%** consider "Good knowledge" while less than 70% were consider as "poor knowledge".

Third part regard Attitude on Cardiopulmonary Resuscitation (CPR).

Contain (10) questions on attitude towards cardiopulmonary resuscitation use five Likert scales. Strongly agree, not decided, disagree,and strongly disagree ranging from 1-5. The total attitude scores were 50 .Attitude scores were grouped **80-70%** "good attitude" while less than 70% 60% were consider as "poor attitude".

The fourth part regard practice on Cardiopulmonary Resuscitation (CPR).

Questions on practice during cardiopulmonary resuscitation, correct answers '1', while and not decided 'zero'. The total practice scores were (14), practice scores were categorized such that scores 80-70%consider "Good practice" while less than 70% were consider as "poor practice".

Data analysis:

Data gathered via google form and sent via Email coded and analyses using SPSS version (26) descriptive data Means, SD and inferential statistics chi squire to find association between socio demographic data and knowledge, attitude and value P value <0.05 consider significant.

Ethical Consideration

The study was conducted after getting approval from Committee faculty of nursing college Shendi university .

Before starting the study ethical approval was obtained ,verbal consent were taken from participants after explaining the purpose of the study and explained that it has no any risks for them and they have right to withdraw from the study at any time without giving any reasons.

RESULTS:

Table (1) Distribution of nurses students socio demographic characteristics (n=100)

variable	frequency	Percent (%)
Age Group by years		
18-20	46	46
20 >-<23	54	54
Gender		
Male	31	31
Female	69	69
Level of education		
Second class	27	27
Third class	44	44
Fourth class	29	29
Attended CPR course before		
yes	85	85
no	15	15

Table (2) Distribution of nurses students' knowledge regard CPR (N=100)

Item	yes	no	I don't know
Are you clearly understanding of what CPR is?	85(85%)	15(15%)	
CPR support and maintain breathing and circulation for an infant, child, or Adolescent	85(85%)	15(15%)	
CPR should be done on every person	87(87%)	7(7%)	6(6%)
CPR training and retraining is necessary for nurses	100(100%		
CPR should be conducted on patient immediately before informing the Doctor	91(91%)	9(9%)	
The compression of ventilation ratio for the lone rescuer giving CPR to victims of any age is 20:1?	7(7%)	88(88%)	5(5%)
Chest compression during cardiopulmonary resuscitation stimulate 25% heart functioning	79(79%)	14(14%)	7(7%)
I take 25 seconds to check for pulse of an adult before commencing CPR	9(9%)	82(82%)	9(9%)
Chest compression during CPR should be done at the center of the chest on lower half of the breast	88(88%)	10(10%)	2(2%)
The pulse of an adult with cardiac emergencies should be checked at the carotid artery	88(88%)	12(12%)	
Rescuer performing CPR should switch role after each cycle	95(95%)	5(5%)	
Mean knowledge level	frequency		Percent (%)
Good mean **80-70%**	**79**		**79%**
Poor knowledge less than 70%	21		21%

Table (3) Distribution of nurses students' attitude regard CPR (N=100)

item	Strongly agree	agree	neutral	disagree	Strongly disagree
I believe that CPR is part of nursing role	**95(95%)**	**5(5%)**	**0**	**0**	**0**
I do not hesitate to start CPR in a victim	**0**	**0**	**4(4%)**	**18(18%)**	**87(87%)**
I feel panic during CPR	**0**	**0**	**3(3%)**	**6(6%)**	**91(91%)**
I feel not competent to perform CPR during sudden cardiac arrest			**3(3%)**	**5(5%)**	**95(95%)**
I feel CPR is complex and time consuming	**4(4%)**	**93(93%)**	**3(3%)**		
I feel CPR is energy consuming	**4(4%)**	**93(93%)**	**3(3%)**		
I feel Mouth to mouth ventilation should be perform if mask is not available on a patient during CPR	**4(4%)**	**93(93%)**	**3(3%)**		
feel it is futile to perform CPR for elderly patient			**7(7%)**	**72(72%)**	**21(21%)**
I think Mouth to mouth ventilation should not be performed on opposite sex during CPR	**0**	**0**	**8(8%)**	**82(82%)**	**10(10%)**
CPR should not be practice if necessary equipment are not easily found	**0**	**0**	**0**	**69(69%)**	**23(23%)**
Mean attitude level	**frequency**			**Percent (%)**	
Good mean attitude **80-70%**	**98**			**98%**	
Poor attitude less than 70%	**2**			**2%**	

Table (4) Distribution of nurses students' practice regard CPR (N=100)

item	yes	no	Not decided
Assess for unconsciousness	95(95%)	5(95%)	0
Call for help	95(95%)	5(95%)	0
Assess carotid pulse	95(95%)	5(95%)	0
Chest compression rate and recoiling of chest	95(95%)	5(95%)	0
Assess airway	87(87%)	10(10%)	3(3%)
Rescue breathing	95(95%)	5(95%)	0
checking the victim's chest rise during rescue breathing	95(95%)	5(95%)	0
Reassess pulse from carotid artery	95(95%)	5(95%)	0
head tilt - chin lift	85(85%)	13(13%)	2(2%)
Compression ventilation ratio	95(95%)	5(95%)	0
Apply AED pad	95(95%)	5(95%)	0
Analyze ECG rhythm	95(95%)	5(95%)	0
Clear instruction	95(95%)	5(95%)	0

Administering shock	95(95%)	5(95%)	0
Mean practice level	**frequency**		**Percent (%)**
Good mean practice **70-60%**	**78**		**78%**
poor practice less than 60%	**22**		**22%**

Table (5) Mean.SD and P value nurses students for knowledge attitude and practice

Item	Mean	SD	P value
knowledge	**1.0**	**.000**	**.000**
attitude	**1.98**	**.141**	**.000**
practice	**1.21**	**.409**	**.000**

Table (6) correlation between knowledge, attitude and practice and nurses demographic cherecteriscts

Item	Variable	P value
knowledge	age	.081
	gender	.124
	Education level	.055
	Attending course regard CPR	.05
Attitude	age	.134
	gender	.055
	Education level	.000
	Attending course regard CPR	.00
Practice	age	.692
	gender	.790
	Education level	.001
	Attending course regard CPR	.000

DISCUSSION:

The present study aimed to assess undergraduate nurses students' knowledge, attitude and practice regard (CPR).

Table (1): Demonstrates personal data of studied nurses students, half of them their age range between54 (20 >-<23), most of them are female, 44(44%) are in third class while 27(27%), 29(29%) in second and fourth class respectively, this support study done by (Rasha D. etal,(2023))

their more than half of groups aged between 20 to < 30 years with percentage 87.1% other study not agreed our finding their study age group is clarified that more than three quarter of the participating nurses aged between 20 to < 30 years old, this result matched with (Alharbi et al., 2016)

In table(2) the participants report good knowledge about CPR when asked them if anyone can do (CPR),and all of them emphasized that (CPR)training and retraining is necessary for nurses.

Regard Chest compression during CPR should be done at the center of the chest on lower half of the breast, the pulse of an adult with cardiac emergencies should be checked at the carotid artery, Chest compression during CPR should be done at the center of the chest on lower half of the breast, the pulse of an adult with cardiac emergencies should be checked at the carotid artery, they answered by 88(88%) for these statement,

on other hand 95(95%) they reported that Rescuer performing CPR should switch role after each cycle. This supported by study done in Jazan university faculty of nursing after demonstrated education program for the students A large number of student nurses 89% were unable answer regarding how often should the rescuer switch roles when performing two

rescuer in pre-test but 67% were able to answer post-test.80% of respondent did not know how long the pulse check last and only 8% were not knowing in post-test,this disagree with our result ,our participants 88(88%) were know the pulse of an adult with cardiac emergencies should be checked at the carotid artery. (Ahmad, Awais etal. (2018)

Also our finding supported by **(Vural et al. 2017)** who reported that nursing students had a great knowledge about the purpose and importance of CPR

On other hand our finding disagree with study in in Acra sector their results showed low knowledge 44.76%.(Ofori, D. (2019), also our finding disagree with study done at hospital in

New Delhi, India (68%) their participants had average level of knowledge(Sachdeva, Seema. (2020)

From our finding participants mean knowledge were good 79(**79**%), and report significant association with their social demographic data (age ,gender and educational level this agree with finding done in support study done at University Affiliated Public sector Hospital in Johannesburg where their participants knowledge of CPR Showed significant association between their socio demographic data and knowledge P value .000 (Moepeng, M .(**2017).**

In table (3) our finding showed good attitude regard (CPR) the majority of them showed 98(**98%)**, this disagree with study recently done at Shree Medical and Technical College

(Ghimire et al.(2023),where their results showed that half of their participant were posse 52.3% of respondents had negative attitude.In addition our study disagree with study done at hospital in Namibia where most prevalent negative perception was observed toward administering mouth-to-mouth resuscitation during CPR in instances where a mask was not available, with 39%(**Tomas N, Kachekele ZA.(2023)**

From our finding our participants showed significant association between their attitude and socio demographic data P value **.000**

Regard practice our participants showed good level of practice, they showed all steps of doing CPR 78 (78%) and significant association between their social demographic data and their practice when doing (CPR) P value **.000**, this support **Trisyani et al(2023) their participants** showed competency in handling of life –threatening emergency situations to nursing practice such as cardiac arrest and their role during (CPR) and his finding reflected the community needs of nurses who work in ED settings and the need for competency development of emergency nurse,this finding agree with study done in **Tomas N, Kachekele ZA.(2023),**on other hand our finding disagree with study where their participants were lacking steps , carotid pulse assessment, and calling for help and location of AED placement.(**Sachdeva, Seema. (2020)**

CONCLUSION AND RECOMMENDATION:

The following conclusion were drawn on the basis of the findings of the study-

-Among college of nursing, Shendi nursing students, this study showed good knowledge attitude and practice regard (CPR).

-Also showed significant association between their knowledge attitude and practice with their demographic data. Researcher suggest that When appointing any nurse, decision makers must establish a training program to qualify them to be efficient in emergency and intensive care departments, in order to consolidate their knowledge.in clinical area**.**

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