COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF PEDIATRICS AND CHILD HEALTH

Assessment of Knowledge on Cardiopulmonary Resuscitation among Pediatric Nurses in Tikur Anbessa Specialized Hospital

By Bahja Abdirahman Mohamed (pediatrics and child health resident)

A thesis submitted to the department of pediatrics and child health, college of health sciences, Addis Ababa University in partial fulfillment of the requirements for the specialty in pediatrics and child health.

February, 2024,

Addis Ababa, Ethiopia

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ASSESSMENT OF KNOWLEDGE ON CARDIOPULMONARY RESUSCITATION AMONG PEDIATRIC NURSES IN TIKUR ANBESSA SPECIALIZED HOSPITAL

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Advisors: - DR Muluwork Tefera (associated professor, pediatric emergency and critical care specialist

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I couldn't have imagined having better advisor and mentor, thank you.

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Last but not least I would love to thank my parents, my sibling, for their ever giving support and love they have immersed me during this whole period of attachment.

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Abbreviation and acronym

CPR Cardiopulmonary resuscitation

CPA Cardiopulmonary Arrest

CI Confidence Interval

SPSS Statistical package for social science

TASH Tikur Anbessa Specialized Hospital

Summery

Background: -. The nurses, who are the first witnesses to the cardiac arrest patients, must implement cardiopulmonary resuscitation (CPR) to them at once, and the immediate implementation of CPR by the first witness is very important in

enhancing the survival rate by raising the circulation recovery rate. Out of the factors that influence the nurse in providing CPR, knowledge and self-efficacy are factors that need to be noticed. Knowledge of CPR related to the standard of care and the effectiveness of CPR performance.

Objective: - assess knowledge of cardiopulmonary resuscitation among pediatric nurses in Tikur Anbessa Specialized Hospital

Methods: - all nurses working in pediatric department were included in the study. From these 20 were not included in the study due to annual, maternity leave and refusal. The total numbers of participants were 94 making the response rate of 81%. Data was collected by total enumerating (censes) method and the collected data entered in epi data version 4.2 and analyzed by SPSS version 25. After cleaning the data were analyzed by SPSS and the result were explained through graphs, tables and charts. To determine the associated variable 95% CI used and those having a p-value <0.05 stated as statistically significant.

Result : - the knowledge levels shows that only 38 (45.5%) of those who scored good levels of knowledge and skill levels were calculated and shows that only 31 (33%) of those who scored on skill items good levels of skill. Year of the study participants and level of education were a statistically significant for level of knowledge on BLS using chi square test at p-value <0.05 and Year of the service of the study participants, sex and level of education were a statistically significant for level of skill on BLS using chi square test at p-value <0.05.

1. Introduction

1.1 Background

Of all healthcare professionals, nurses are often the first to discover a patient of cardiopulmonary arrest (CPA) in any part of the hospital, be it the “emergency” or the “in-patient” wards. Therefore, it is neediness to say that their competency in cardiopulmonary resuscitation (CPR) is a critical factor in determining successful outcomes in patients who develop CPA (1-3).Pediatric nurses have challenging role in providing nursing care for the age range from infant till toddler, which requires developmentally appropriate care and diligence in assessment of patient and parental concerns(4).

The effort in returning circulation immediately when cardiac arrest and/or breathing failure and preventing death is called cardiopulmonary resuscitation (CPR) (5). Giving high quality CPR in golden minutes (1-2 minutes) will increase survival rate of cardiac arrest patients (6).

CPR is a procedure to support and maintains breathing and circulation for an infant, child, or adolescent who has stopped breathing (respiratory arrest) and/or whose heart has stopped (cardiac arrest) (7-8).

Of all patient care areas, the emergency and ICU are the places where most of the CPAs are witnessed (95%−98% of CPAs occur in these areas in our institute), as the critically ill or injured children are admitted or transferred to these areas. Therefore, the competence of the nurses posted in these acute care areas becomes very important. Competency in CPR is defined as acquisition and retention of CPR cognitive knowledge and skills in order that healthcare professionals will be able to perform CPR in a CPA situation (9).

However, evidence is compelling to show that CPR knowledge and skills are poorly retained across nursing populations (10-12).

Nurse can be the first responder of cardiac arrest in hospital. Before starting to give CPR in golden minutes, nurses are influenced by various factors. Some of these factors are knowledge of CPR, nurses' awareness and nurses' self-efficacy in performing CPR (13-15). Out of the factors that influence the nurse in providing CPR, knowledge and self-efficacy are factors that need to be noticed. Knowledge of CPR related to the standard of care and the effectiveness of CPR performance (16.). Study on evaluation of abilities of nurses to retain basic/advanced life support skills and theoretical knowledge found that theoretical knowledge was retained (17).

1.2 Statement of the problem

CPR is a series of process which helps circulate blood artificially, delay the damage of the brain by helping breathing, and make the heart recover from paralysis state (1).The purpose of CPR is to minimize the damage of tissue and maximize its function by providing oxygen and blood to essential organs such as brain ,heart, etc. during cardiopulmonary arrest (10). A nurse at a hospital has a duty to do emergency treatment by starting CPR and make advanced cardiac life support done as soon as he or she discovers the cardiac arrest patient (9).

The professional practice of nursing within the pediatric environment can be both rewarding and challenging. Pediatric nurses' activities are complicated and require constant vigilance in providing quality care to the patient. The nurses get limited time to upgrade their knowledge and skills with current advancement in technology. This results in possible gap in the integration of knowledge into

practice, whereby they are expected by parents and physicians to be rationalists, knowledgeable, and collaborative on daily basis (18).

The nurses, who are the first witnesses to the cardiac arrest patients, must implement CPR to them at once, and the immediate implementation of CPR by the first witness is very important in enhancing the survival rate by raising the circulation recovery rate (10).

One of the important points in child care is that a nursing care must be provided considering the individuality according to each stage of development as well as the disease of children from newborns to adolescence and that the subjects have situational characteristics including their family as well as children. examined the knowledge of CPR, performance ability and actual level of performance of nursing officers, and as foreign studies, there are the study of which estimated the knowledge of basic CPR of only hospital nurses, and that of which analyzed the effect of the continuous education of basic CPR and advanced cardiac life support on the knowledge of professional nurses (19-20).

However, in fact, there are no previous studies which have examined the knowledge of pediatrics CPR for pediatric ward nurses. Therefore, this study will be attempted to provide the basic data of the effective CPR education by identifying the level of knowledge of Pediatrics nurse CPR of pediatric ward nurses.

1.3 Significance of the study

Knowledge on pediatric nurses on CPR is a crucial role for life saving of sudden cardiac arrest of pediatrics patient. The ability to respond quickly and effectively to a cardiac arrest situation rests on nurses being competent in the emergency life-

saving procedure of cardiopulmonary resuscitation. Increasing pediatric nurses' knowledge on CPR is an instrument to reduce child mortality using appropriate management. One of the tools to reduce child mortality of having sudden cardiac arrest is skilled CPR, which is maximize by increase nurses' knowledge in related to skilled CPR.

These studies were designed with the specific focus of assessing the knowledge gap on CPR among pediatric nurses and identify the factors to determine the nurse's knowledge on CPR

The finding of this study will be important to guide public health planners and implementers in planning and designing appropriate intervention strategies in order to increase nurse's knowledge on CPR. Findings will provide information for the further researchers, policy makers to develop strategies and guidelines or standards for education of nurse about CPR. The finding also important for designing an interventional project towards improving pediatric nurse knowledge on CPR in the study area

2. Literature review

2.1 Knowledge of pediatric nurses on CPR

The knowledge level was GPA 0.71± 0.40 out of a perfect score (1 point). Examined by items, they are as follows: 'if spinal injuries are doubted and when a

patient is placed in a spine position, head fixation is important and the patient is placed in an exact, neutral position-spine position (0.98 ± 0.15). 'The pulse is checked within 5 ~ 10sec from the brachial artery (0.89 ± 0.32), which was high. 'Unless breath and pulse don't return after they are reassessed, CPR of 4 cycles is conducted repeatedly across 1 min (0.27 ± 0.44).' In fant cardiac arrest happens more frequently by respiratory arrest, not by the heart.' (0.33 ± 0.47), which was low (21.)

The study on knowledge of CPR showed that 49 respondents (64.5%) had moderate knowledge and 73 respondents(96.1%) had high self-efficacy. The lowest domain in the knowledge was conceptual knowledge, while in the self-efficacy were reporting, debriefing and recording (22).

Evidence-based results strongly suggest that participants do not follow the international standards as regards training in CPR. Sixty-four-point seven percent of the participants attend at least one CPR course after 2010, but 10.1% never took a refresher course. Thirty percent of the faculties, 90% of the medical residents and 7% of the nursing staff did not obtain the training required by the American Heart Association (AHA)in hospital emergency services (one course every two years). The results show that the higher number of courses received, the higher is the level of knowledge regarding CPR that health staff obtains (23).

The majority (99.0%) of the studied students are ranged between 20-22 years old. The previous CPR training with high fidelity simulation, it is found that, more than three quarters (86.0%) of the students are haven't previous training. The majority (98.0%) of the students are not having the ability to implement what learned in CPR training during practical training in hospital (24**).**

A study on Impact of structured basic life-support course on nurses' cardiopulmonary resuscitation knowledge and skills: Experience of a pediatric department in low-resource country showed that there was an increase in mean knowledge scores from 58.3% before the training to 83.3% after the training, which decreased to 76% at 6 months after the training (25).

2.2 Determinants of the knowledge pediatric nurse on CPR

There was a statistically significant difference in age (p=.004), position (p=.002),service period (p=.008), education experience (p=.50),and a certificate (p=.001) (21). There was a statistically significant increase in the components of skills necessary for a one-person infant resuscitation right after training compared to baseline (25).

2.3 Conceptual framework

The conceptual framework was adopted from the literature

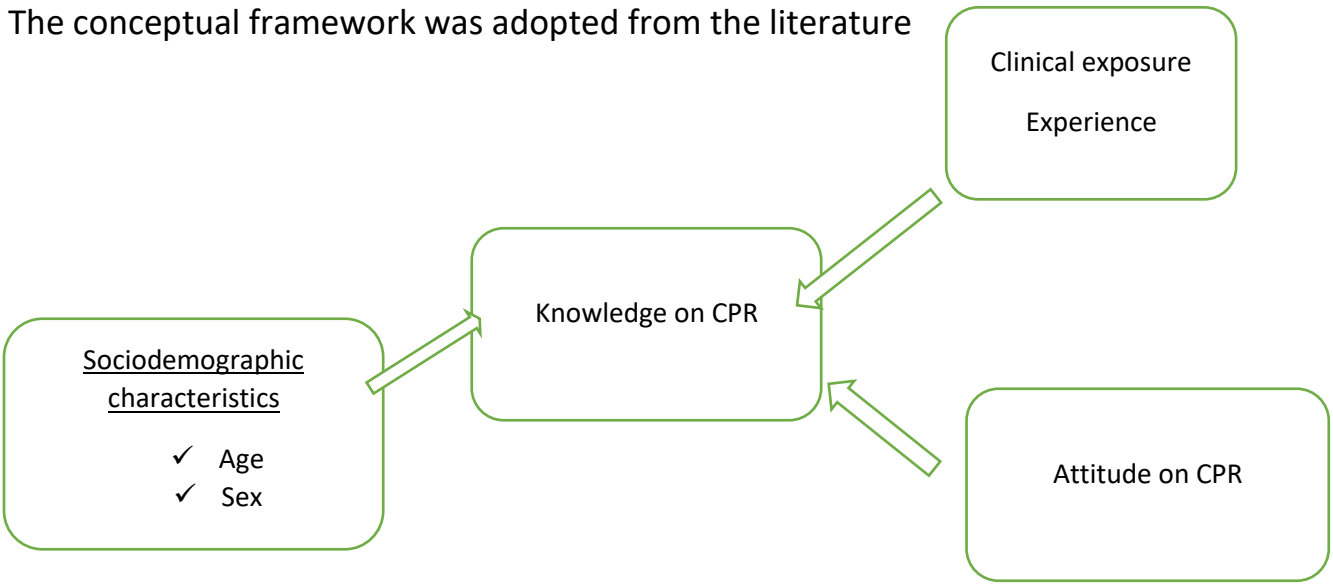


Figure1. Conceptual framework adopted from the literature

3. Objective

3.1 General objective

- Assess the knowledge cardiopulmonary resuscitation among nurses who work in pediatric ward Tikur Anbessa specialized hospital

3.2 Specific objective

- ✓ To assess the level of knowledge of CPR among pediatrics nurse who works in pediatrics ward
- ✓ To determine the determinant factor of pediatric nurses knowledge on CPR.

Methods and Materials

4.1. Study area

The study was conducted in Tikur Anbessa specialized hospital pediatric unit.

4.2. Study design and period

Facility based cross-sectional study design was employed from February 15 to 30, 2023 in Addis Ababa university pediatrics unit.

4.3. Source Population

All nurses in Tikur Anbessa specialized hospital

4.4. Study population

All nurses in pediatrics unit of Tikur Anbessa specialized hospital

4.5 Eligibility criteria

4.5.1. Inclusion Criteria

All nurses in pediatrics unit of Tikur Anbessa specialized hospital

4.5.2. Exclusion criteria

- ✓ Nurses in maternal leave
- ✓ In annual leave

- ✓ Participants who will be severely ill or in Sick leave

4.6. Sample size determination

Sample was all nurses working in the department of pediatrics and child health who fulfill the inclusion criteria. The total number of nurses working in the department were 115 from these 16 were not involved in the study

4.7 Sampling Procedure

All nurses were approached in their respected working area.

4.8 Study Variables

4.8.1 Dependent variable

Knowledge and skill on CPR

4.8.2 Independent Variables

- ✓ Socio demographic; - age, sex, religion.
- ✓ Clinical exposure
- ✓ Environmental exposure

4.9 Operational Definition

- ➢ Knowledge on CPR: - participant who score above the mean value of knowledge-based question

4.10 Method of data collection and Tools

Structured and pre-tested questionnaire were used to collect data from the study participants. The questionnaire was designed in English.

4.11 Data collection procedure quality control

Data were collected by self-administered using structured questionnaires. 2 BSc nurses were selected. Before data collected from self-administering tool the supervisors were trained on the objective, benefit of the study, individual's right, Informed consent.

Before starting the actual data collection to assure the data quality high emphasis were given to designing data collection instrument, first the questionnaire was pre-tested on 5% of sample size and further more adjustments to the data collection tool and to improve clarity, understandability, and simplicity of the messages.

4.12 Data analysis and interpretation

The collected data was checked manually for completion and any incomplete or misfiled questions were cleaned and stored for consistency and entered in to epi-data version 4.2 and analysis by SPSS version 25.0 software.

Descriptive statistics were done and presented using tables and figures. Initially, bivariate logistic regression was carried out to see the association of each of the independent variables with the outcome variables.

Thereafter, the multivariate logistic regression method was used. The variables that were not significant in the bivariate logistic regression will not be considered in the multiple regression analysis. P- Value of <0.05 and 95% confidence level was used as a difference of statistical significance. Finally, results were compiled and presented using tables, graphs and texts.

4.13 Ethical Consideration

Approval was obtained from the department of pediatrics and child health, research Ethics committee (REC). The permission was obtained from the department and Emergency unit.

After explaining the objectives of the study in detail, informed verbal consent were taken from all study participants. All the participants reassured of the anonymity, and as personal identifiers were not used.

Then, after obtaining consent from every participant, the data collectors continued their job by giving due respect to the norms, values, and ensured the confidentiality of the data.

4.14 Dissemination and Utilization of Result

The results of this finding will be disseminated or communicated to pediatrics and child health, and other concerned bodies through reports and publication on an appropriate journal. Efforts will be made to present the results on scientific conferences and publications will be considered.

5. Result

5.1 Sociodemographic characteristics of the study participants assessment of knowledge on cardiopulmonary resuscitation among pediatric nurses in Tikur Anbessa Specialized hospital

In table 1, the results show that the majority of the respondents were females (69.1%). In addition, the majority of (553.2%) of participant were in age range of

31-40 years. Few participants (18.1%) reported that they had BLS in service training

Table 1. Sociodemographic characteristics of the study participants

Variable	frequency	Percent
Age of the study participants		
25-30	30	31.9
31-40	50	53.2
>40	14	14.9
Sex of the study participants		
Male	29	30.9
Female	65	69.1
Year of service		
1-5	13	13.8
6-10	57	60.6
>10	24	25.5
level of education		
BSC	72	76.6
MSC	22	23.4
Training on BLS		
Yes	17	18.1
No	74	81.9

5.2 Response to knowledge about BLS

In table 2, respondents were requested to tick the correct answer which corresponds to the items describing the basic life support knowledge. It is obvious that only 9.6% of all study participants know the first step when performing CPR for child and infants. It is in addition clear that throughout the 14 items indicating the knowledge of most participants were incorrect dominated only 20% of the participants had while (80%) of the nurses don't know the correct sequence of CPR.

Table 2. Response to knowledge about basic life support on assessment of knowledge on cardiopulmonary resuscitation among pediatric nurses in Tikur Anbessa Specialized hospital

Variable	Answer	Response	Frequency	percent
The initial basic life support steps for child		determine responsiveness	12	12.8
		open airway	47	50
		check for breathing	26	27.7
	Correct	checking the science of safety	9	9.6
Method of opening the airway in cervical spine		head tilt chin lift	33	35.1
	Correct	Jaw thrust	54	57.4
		Heimlich method	4	4.3
		abdominal thrust	3	3.2
length of assessment for a pulse to decide on compression		open to three second	19	20.2
		three to five second	18	19.1
	Correct	At least 5 seconds but no longer than 10 seconds	54	57.4
		thirty seconds	3	3.2
artery usually used	Correct	brachial artery	23	24.5

to feel for a pulse in infant victim		carotid artery	41	43.6
		radial artery	25	26.6
		popliteal artery	5	5.3
the three steps to check for a victim breathing	Correct	look, listen and feel	51	54.3
		feel, push and ventilate	7	7.4
		listen, breath and exhale	9	9.6
		look, listen and ventilate	27	28.7
How do you know when to start compressions?		The victim has is breathing but has no pulse	34	36.2
		The victim has a pulse but is not breathing	18	19.1
		The victim is breathing and has a pulse	9	9.6
	Correct	The victim is not breathing and has no pulse	33	35.1
The correct sequence of steps for CPR is		Breathing, airway, chest compressions.	10	10.6
	Correct	Chest compressions, airway, breathing.	19	20.2
		Breathing, airway, chest compression.	14	14.9
		Airway, breathing, chest compressions	51	54.3
Rescue breathing should be done	Correct	When the victim has a pulse but no spontaneous breathing	22	23.4

		One breath every five to six seconds on adult victims	10	10.6
		One breath every three to five seconds on child and infant victim	8	8.5
		All of the above	54	57.4
rate of compressions per minute as specified in the 2020 AHA guidelines.		80 to 100	39	41.5
	correct	100-120	28	29.8
		at least 100	18	19.1
		at least 120	9	9.6
How often should rescuers switch roles when performing 2 rescuers CPR		After every cycle of CPR	29	30.9
		After every 2 cycles of CPR	24	25.5
	correct	After every 5 cycles of CPR	37	39.4
		After every 10 cycles of CPR	4	4.3
The goal of CPR is to maintain the		Heart beat until respirations are restored	10	10.6
		Respirations until the heart beat is restored	17	18.1
		Consciousness until the heart beat is restored	5	5.3
	Correct	Oxygenation and circulation until heart beat and respiration are restored.	62	66
The patient who collapsed doesn't respond to your call, which is you best		Check response	33	35.1
		Start high quality CPR	15	16
		Start providing rescue breaths	9	9.6
	Correct	Shout for nearby help	37	39.4

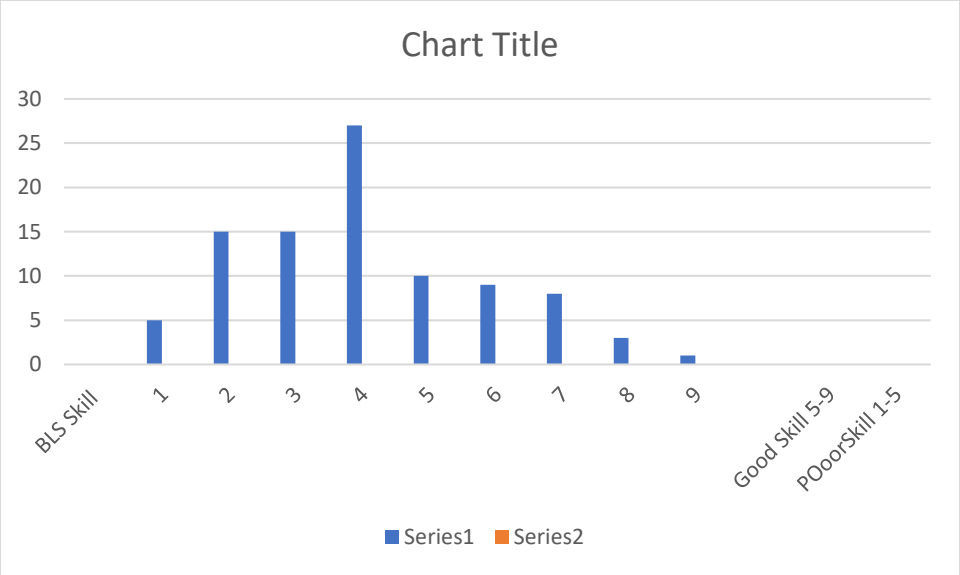
next action				
What action should you take when more rescuers arrive?	Correct	Assign tasks to other rescuers and rotate compressors every 2 minutes or more frequently if needed to avoid fatigue	35	37.2
		continue CPR while AED is attached even if you are fatigued	25	26.6
		Wait for the most experienced rescuer to provide direction to team	10	10.6
		Direct the team to assign a team leader and roles while you continue CPR	24	25.5
Which action can rescuers perform to potentially reduce the risk of gastric inflation?	correct	Delivering each breath over 1 second	12	12.8
		Giving rapid, shallow breaths	11	11.7
		Using a bag-mask device for delivering ventilation	53	56.4
		Using the mouth- to-mask breathing technique	18	19.1

5.3 Levels of knowledge on basic life support

In the present study, in order to scale the knowledge levels; the scores were developed to get the average score that would be considered to be poor and good levels of knowledge. The overall mean knowledge scores are 5.06 and 59.6% had poor knowledge on basic life support. Knowledge scores were calculated from 14

questions that describes the levels of knowledge on basic life support. The lowest level of score is 2 and represents the respondents who were able to answer correctly only two question among 14, while the highest one 9 represents the respondents who were able to answers correctly only 9 questions among the 14. The scores were arranged in two categories from the poor knowledge to good knowledge. The scores between1 to 5 were categorized as poor level while from 6 to 9 were categorized as good level of knowledge on basic life support.

Figure III. Knowledge score of the study participants on assessment of knowledge on cardiopulmonary resuscitation among pediatric nurses in Tikur Anbessa Specialized hospital



The knowledge levels were calculated and shows that only 38 (45.5%) of those who scored on knowledge items documented good levels of knowledge while 60(40.4%) documented poor levels of knowledge. It is evident that the majority of the study participants have low levels of knowledge with regards to basic life support at the study site.

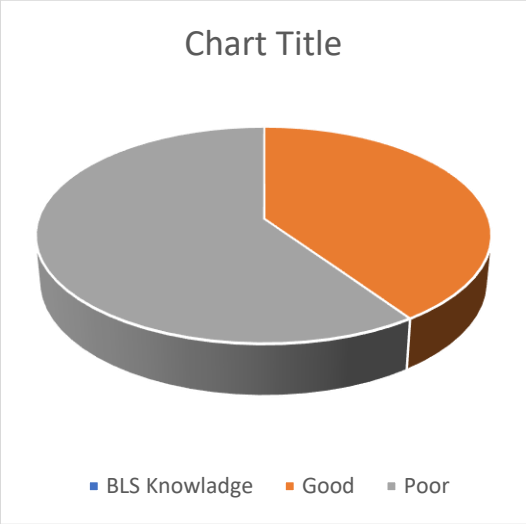


Figure I. The overall knowledge of the study participants *on* assessment of knowledge on cardiopulmonary resuscitation among pediatric nurses in Tikur Anbessa Specialized hospital

Table 4 Cross tabulation of knowledge and selected socio-demographic characteristics on assessment of knowledge on cardiopulmonary resuscitation among pediatric nurses in Tikur Anbessa Specialized hospital

	Level of knowledge		Total	p-value
variable	Poor knowledge	Good knowledge		
Age of the study participants				0.521

25-30	16	14	30	
31-40	30	20	50	
>40	10	4	4	
Sex of the study participants				0.136
male	14	15	29	
female	42	23	65	
Year of service				
1-5	4	9	13	0.014
6-10	37	20	57	
>10	15	9	24	
level of education				0.042
BSC	47	25	72	
MSC	9	13	22	
Training on BLS				0.634
Yes	11	6	17	
no	45	32	77	

5.4 Characteristics of the skills on basic life support the study participants

It is obvious that only 33% of all study participants know the first step when performing CPR for child and infants. It is in addition clear that throughout the 14 items indicating the skill, most of the participants incorrect dominated the correct answers. Only one item had scored above the half of the value

Table 3. Characteristics of the skills on basic life support the study participants

Variable	response	Alternative	frequency	Percent

The initial Basic Life Support steps for children		Assess the victim, give 2 rescue breaths, defibrillate, start CPR	7	7.4
	correct	Assess the victim, activate EMS, get AED, check pulse, start CPR	31	33
		Check pulse, give rescue breaths, assess the victim, defibrillate	17	18.1
		Assess the victim, start CPR, give 2 rescue breaths, defibrillate	39	41.5
The proper steps for operating an AED are:		Power on the AED, attach the electrode pads, shock the analyze the rhythm	9	9.6
	correct	Power on the AED, attach electrode pads, analyze the rhythm, clear the patient, and deliver shock	45	47.9
		Attach electrode pads, check pulse, shock patient, analyze rhythm	11	11.7
		Check pulse, attach electrodes, analyze rhythm, shock patient.	29	30.9
clearing the victim" during defibrillation		Taking the pads off the victim's chest	13	13.8

	Correct	Making sure no one is touching the victim	37	39.4
		Moving the victim to a clear room	25	26.6
		Beginning the CPR immediately after defibrillation	18	19.1
The compression-to-ventilation ratio for one rescuer CPR for victims of all age		5 compressions to 1 breath	4	4.3
	correct	30 compressions to 2 breaths	46	48.9
		10 compressions to 2 breaths	17	18.1
		15 compressions to 2 breaths	27	28.7
best describes the method used to hold the mask in place while delivering ventilations via a bag valve mask?		The W-C clamp.	16	17
		the C-C grip.	30	31.9
	Correct	The E-C clamp.	39	41.5
		the E-W grip.	9	9.6
How can you tell if ventilations are going into a victim?	Correct	Watch for chest rise	46	48.9
		Watch for abdominal rise	17	18.1
		Listen for air going through the airway	23	24.5
		Listen for the victim exhaling air	8	8.5
The correct depth of compression for an adult (child) patient is		2.5 to 3 inches	28	29.8
		1.5 to 2 inches	30	31.9
		2 to 2.4 inches	14	14.9
	Correct	2 inches (5cm)	22	23.4

The critical characteristics of high-quality CPR include which of the following?		Starting chest compressions within 10 seconds of cardiac arrest	17	18.1
		Push hard and fast	8	8.5
		Minimize interruptions	7	7.4
	correct	All of the above	62	66
Which step is one of the universal steps for operating an AED	Correct	Placing the pads on the victim‟ s bare chest	41	43.6
		Shaving the victim hairy chest	12	12.8
		Removing the victim from water	26	27.7
		Finding the victim's implanted pacemaker	15	16
What action should you take when the AED is analyzing the rhythm?		Check the pulse	40	42.6
		Continue chest compression	27	28.7
		Give rescue breaths only	14	14.9
	Correct	Stand clear of the victim	13	13.8

5.5 Levels of skill on basic life support

In the present study, in order to scale the skill levels; the scores were developed to get the average score that would be considered to be poor and good levels of skill. The overall mean skill scores are 4.04 and 67% had poor skill on basic life support. skill scores were calculated from 14 questions that describes the levels of skill on basic life support. The lowest level of score is 1 and represents the respondents

who were able to answer correctly on 1 question among 14, while the highest one (9) represents the respondents who were able to answers correctly on 9 questions among the 14. The scores were arranged in two categories from the poor skill to good skill. The scores between1 to 4 were categorized as poor level while from 5 to 9 were categorized as good level of knowledge on basic life support.

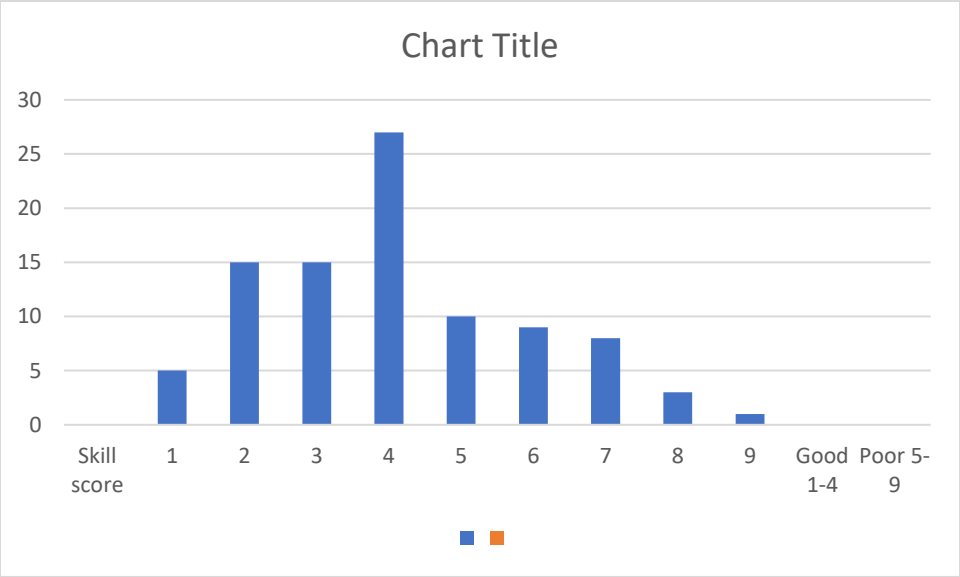


Figure IV The score of skill on BLS *on* assessment of knowledge on cardiopulmonary resuscitation among pediatric nurses in Tikur Anbessa Specialized hospital

The skill levels were calculated and shows that only 31 (33%) of those who scored on skill items documented good levels of skill while 63(67%) documented poor levels of skill. It is evident that the majority of the study participants have low levels of skill with regards to basic life support at the study site.

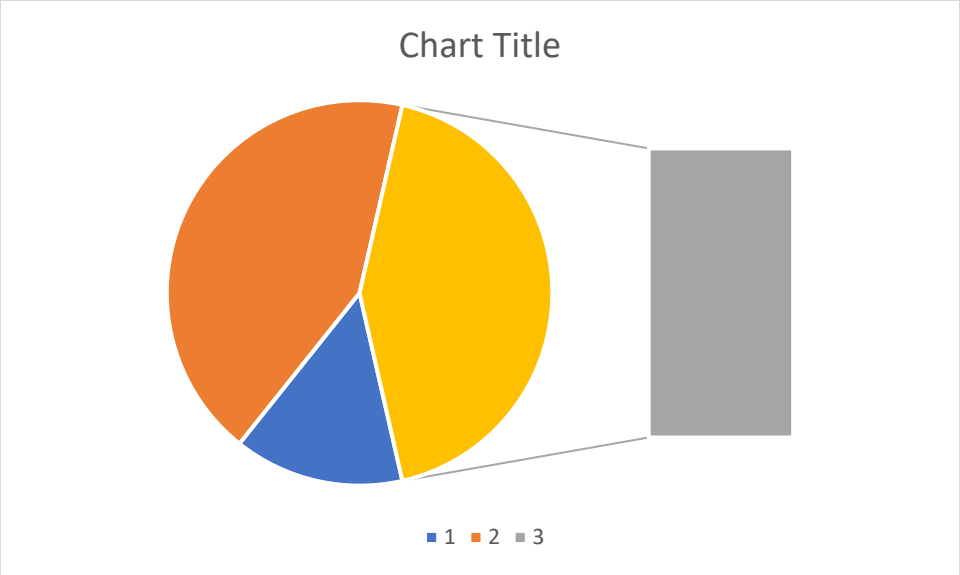


Figure II. Level of skill on basic life support

5.6 Cross tabulation of BLS skill and selected socio-demographic characteristics

Year of the service of the study participants, sex and level of education were a statistically significant for level of skill on BLS using chi square test at p-value <0.05.

Table 4. Cross tabulation of BLS skill and selected socio-demographic characteristics

	Level of skills on BLS		Total	p-value
variable	Poor Skill	Good skill		
Age of the study participants				0.591
25-30	19	11	30	
31-40	33	17	50	
>40	11	3	14	
Sex of the study participants				0.035

Male	15	14		
female	48	17		
Year of service				
1-5	5	8		0.057
6-10	40	17		
>10	18	6		
level of education				0.052
BSC	52	20		
MSC	11	11		
Training on BLS				0.427
Yes	10	7		
No		2534		

7. Discussion

In contrast to a study conducted in Nepal, which found that 66% of participants had inadequate knowledge, 32% had moderate knowledge, and 2% had adequate knowledge on basic life support, (26), the overall knowledge of study participants in this research was **40.4%.**

The findings of a different study on the "knowledge, attitudes, and practices of registered nurses in a selected teaching hospital in Namibia regarding CPR" revealed that the participants' understanding of the necessary depth of chest compressions for adults as well as the amount of time needed to check for a pulse before beginning CPR was lacking.

These results are in line with earlier research that found that between 63.3% and 77% of nurses lacked basic CPR skills (27).

The results of this investigation, however, exceeded those of certain other studies that found that just 60% of nurses knew how to perform CPR (28).

The differences in results may be attributed to poor education, a lack of refresher training, and the Nursing Council's reluctance to allow nurses to maintain their annual registration without proof of attending any CPD activities (29)

Furthermore, the survey found that 33% of nurses were skilled in BLS,

In an assessment of nurses' knowledge and skills following cardiopulmonary resuscitation training at Mbarara Regional Referral Hospital in Uganda, the average score prior to instruction was 53.8 for knowledge and 82.5 post test, and for skills, it was 46 pre-instruction and 81.5 post instruction. (30)

The percentage change in respondent's knowledge and skills ranged from 16.8% to137.2% with a mean of 59.9% for knowledge and from 19.18% to 2115.6% with a mean of 159.8% for the skills assessment.

The finding also revealed that participants year of service and level of education were a statistically significant for level of knowledge on BLS using chi square test at p-value <0.05.

This was maybe due to higher levels of education often entail more extensive training in CPR and related life-saving techniques.

7. Conclusion

The knowledge levels shows that only 38 (45.5%) of those who scored good levels of knowledge and skill levels were calculated and shows that only 31 (33%) of those who scored on skill items good levels of skill. Year of the study participants and level of education were a statistically significant for level of knowledge on BLS using chi square test at p-value <0.05 and Year of the service of the study participants, sex and level of education were a statistically significant for level of skill on BLS using chi square test at p-value <0.05.

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