

Knowledge, attitude, practice and associated factors towards Basic Life Support among health professionals at governmental hospitals in Afar Regional State, Ethiopia

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ABSTRACT

Introduction: Basic life support (BLS) is a fundamental knowledge and skill that enables healthcare professionals and individuals to respond effectively in life-threatening emergency situations. The aim of this study was to evaluate healthcare professionals' knowledge, attitude, practice, and associated factors regarding BLS.

Methods: An institutional-based cross-sectional study was conducted among healthcare professionals working in governmental hospitals in the Afar regional state of Ethiopia. Structured self-administrative questionnaires adapted from the American Heart Association guidelines were used for data collection. Epidata version 4.4.2.1 and SPSS version 23 were used for binary logistic regression with bivariate and multivariate statistical analysis to determine the significance level, 0.25 and 0.05, respectively.

Result: A total of 357 participants with a response rate of 89.2% concluded the study. In this study, 63.6%, 49.3%, and 72.8% of the study participants had poor knowledge, negative attitudes, and poor practice of BLS, respectively. Sex, age, professional type, clinical work experience, serving hospital unit, and lack of training on BLS were significantly associated with the knowledge status of respondents. Professional type, lack of training on BLS, and frequency of CPR performed previously remained significantly associated with health care providers' practice of BLS.

Conclusions: This study showed that healthcare providers had poor knowledge, a negative attitude, and poor practice on basic life support. Sex, age, educational level of HCP, professional type, clinical experience, ward currently giving service, and lack of training on BLS were the identified significant factors affecting healthcare providers' KAP.

Keywords: Knowledge, Attitude, Practice, Basic life support, Afar, Ethiopia

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1. Introduction

Basic Life Support (BLS) is a set of emergency procedures applied for respiratory and/or cardiac arrest patients and emergency events, which comprises several techniques like cardiopulmonary resuscitation (CPR), shocking, opening airways, and use of an automated external defibrillator (AED) to reverse the life-threatening situation of a victim.^(1,2) Sudden cardiac death (SCD) is a leading cause of mortality that causes half of all deaths from cardiovascular diseases and disability-adjusted life years (DALYs).^(3,4) Neurological dysfunction and tissue hypoxia result in death and disabilities in patients with emergency events like respiratory and cardiac arrest that need immediate provision of basic life support to reduce the risk of death and disability.^(5,6) Public health strategies in many African countries do not adequately address the growing burden of cardiac emergencies, and even aching emergency medical service results in low cardiopulmonary resuscitation attempt rate in hospitals.⁽¹¹⁻¹⁸⁾ The significant improvement in the survival of victims of sudden cardiac arrest (SCD) requires a paradigm shift in the delivery of emergency care and resuscitation.⁽⁹⁾ Training health care workers, general practitioners, and bystanders to deliver basic life support in the case of an emergency is essential.^(11,12) As far as the author's review of literature, there is a paucity of published studies conducted on health professionals' knowledge, attitude, practice, and their determinants on basic life support in Ethiopia in general and in the Afar regional state in particular, which is the very important part of health care services. As a result, this study aimed to evaluate the KAP and factors affecting their KAP on BLS among healthcare providers working in the governmental hospitals of Afar regional state, Ethiopia.

in Ethiopia, cardiac emergencies are becoming a serious health problem.^(7,8) The survival rate from cardiac arrest, both in and out of the hospital, has remained minimal and essentially remained the same for the last twenty years⁽⁹⁾. The immediate post cardiopulmonary resuscitation survival was 28% in cases of attempted resuscitation, but only 12% survived to hospital discharge or to 30 days.^(9,10)

Cardiopulmonary resuscitation is rarely attempted, leading to a high rate of potentially preventable deaths and disabilities.^(3,7) Previous studies had identified a lack of basic knowledge about cardiopulmonary resuscitation, disregarding the of basic life support importance, delay in the identification of the situation, a lack of resources like automated external defibrillators in public places, limitation of supply of resuscitation equipment, and difficulties in re

2. Methods and Materials

Study area, period, and Study design:

Afar regional state is one of the eleven regions in Ethiopia, located in the northeastern part of the country and 580 kilometers from Addis Ababa, the country's capital city. Afar region is located within the Danakil depression and experiences the harshest climate in Ethiopia, with temperatures reaching up to 50°C. There are five primary hospitals and one general hospital in the region. Abahala Hospital, Kalowan Hospital, Dalifage Hospital, MohammedAklie Memorial Hospital, and Asyita Hospital are primary hospitals, whereas Dubti Hospital is the only general hospital in the region.

Study design and period

An institutional-based cross-sectional study design was used, and data collection was conducted from February to May 2021.

Study population: All doctors, nurses, midwives, public health officers, and anesthetists working in governmental hospitals in Afar regional state.

Eligibility Criteria

Inclusion: All doctors, nurses, health officers, midwives, and anesthesiologists who were on the job during the study period were eligible for the study.

Exclusion Criteria: Staff who were not responsible for daily patient care and other service units, like pharmacists, biomedical staff, and laboratory professionals.

Sample size determination

The actual sample size for the study was determined by using a single population proportion formula, and the calculated sample size was 364. According to the data obtained from each hospital, the number of health professionals eligible for this study, doctors, nurses, public health officers, midwives, and anesthetists working in all hospitals, was 400. Then, the number of health professionals found in the governmental hospitals of Afar regional states was nearer to the calculated sample size, which is reachable. This study included all healthcare professionals working in those selected hospitals during the study period. So, this study approached all healthcare providers in those hospitals.

Study variables

Dependent variables: Knowledge attitude and practice of health care providers towards BLS

Independent variables: Age, sex, marital status, religion, educational level, training, experience, qualification, work overload, facility type, and serving unit during data collection.

Data collection procedure and quality management

After a review of several studies and guidelines, self-administrative questionnaires were adapted from basic life support guidelines and contextualized with some modifications. The questionnaires mainly contain four different parts. These were socio-demographic, knowledge, attitude, and practice of health care providers about BLS based on objectives study identified in English language.^(19, 20) Four data collectors were selected based on their exposure and experience of data collection procedure, and they were recruited and trained on the data collection procedure and rules as well as the contents of the data collection tool. Data was collected using standardized and structured self-administered questionnaires. The principal investigator, co-researchers, and supervisors supervised the data collection process and checked every data for its completeness and errors.

Data Analysis

The data was coded, cleaned, and checked for errors. After, it was entered into epidata version 4.4.2.1 and was exported into SPSS version 23 for further analysis. Descriptive statistics were done, and the results were presented in the form of narration, tables, and figures. Binary logistic regressions were done to assess the association between each independent variable and the dependent variables. Those variables having a p-value less than 0.25 were considered to be clinically important for clinical decision-making in the bivariate analysis and were entered into the multi-variable logistic regression model. Multi-collinearity and model fitness were checked. Multi-variable logistic regression was done with 95% confidence interval and corresponding AOR to control the influence of potential confounding

variables. The statistical significance levels were declared at p-value <0.05.

Ethical consideration

Ethical clearance was obtained from Samara University, College of Health Science, and the ethical clearance review board committee of Samara University. It was then approved by the regional health bureau, and finally, the medical director of data hospitals was authorized to obtain ethical clearance. Informed consent was obtained from the hospitals and healthcare professionals who participated in the study. Confidentiality was maintained by omitting their personal identification and any personal identity information.

3. Result

Three hundred fifty-seven (357) respondents, with a response rate of 89.25%, participated. Of these study participants, 213(59.7%) were males. Most of the study participants 223(62.5%) were nurses, 53(14.8%) were physicians, 48(13.4%) were midwives, 25(7%) were health officers and

8(2.2%) were anesthetists. Similarly, 244(68.2%) of respondents were found in the age group of 20 to 29 years, and 88(24.6%) were in the age range of 30 to 39 years. Of the 357 study participants, only 93(26.1%) had training in basic life support. On the other hand, from 357 study participants, 149(41.7) of respondents had never participated in cardiopulmonary resuscitation (CPR) before, 158(44.3%) had performed some times of professional experience, only 50(14%) of them had participated in plenty of time in CPR during their professional experience. Knowledge of health professionals about BLS in hospitals of Afar regional state.

According to this study's results, 84.3% of respondents knew the BLS definition, but only 200 (55.9%) knew emergency medications used during cardiopulmonary resuscitation, and 129(36%) knew when to use an automated external defibrillator. (Table 1)

Table 1: knowledge status the study participants towards BLS (n = 357).

Variables of knowledge assessment	Variable category	Frequency	Percentage %
For how long should you assess for a pulse before deciding the victim needs compression?	Incorrect answer	220	61.5%
	Correct answer	138	38.5%
The three steps to check for breathing in victims	Incorrect answer	151	42.2%
	Correct answer	207	57.8%
How to know when to start chest compression.	Incorrect answer	277	77.4%
	Correct answer	81	22.6%
The correct sequence of CPR for adults	Incorrect answer	287	80.2%
	Correct answer	71	19.8%
Conditions that cause to give rescue breathing for victims	Incorrect answer	187	52.2%
	Correct answer	171	47.8%
Rate of compressions per minute as specified by AHA guidelines for adults.	Incorrect answer	250	69.8%
	Correct answer	108	30.2%
Rescuers switch roles when performing 2 rescuers CPR	Incorrect answer	191	53.4%
	Correct answer	167	46.6%
Action to be taken when more rescuers arrive	Incorrect answer	228	63.7%
	Correct answer	130	36.3%
The goal of CPR	Incorrect answer	153	42.7%
	Correct answer	205	57.3%
	Incorrect answer	118	33.0%

A person with severe obstruction in their throat unable to speak, cough, or breathe.	Correct answer	240	67.0%
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The study included factors that can affect the knowledge of healthcare professionals about BLS. Accordingly, males respondents were 3.589 times more knowledgeable about BLS than females [AOR 3.73: 95% CI: (1.941, 6.638)] and respondents in age group of greater than 40 years were 94.6% more knowledgeable than those age group of 30-39 years AOR 0.054: 95% CI: (0.007, Table 2)

0.401)] and 97.1% more knowledgeable than those in age group of less than twenty years with AOR 0.029: 95% CI: (0.002, 0.39)]. Moreover, those health care providers who had ever had training on BLS were 1.95 times more likely knowledgeable than those who had never trained on BLS with [AOR 1.95: 95% CI: (1.034, 3.676)]

Table 2: Bivariate and multivariate knowledge related factors of respondents (n = 357)

Characteristic		Knowledge		Odds ratio (95% CI)		AOR (95%CI)	
		Poor	Good	COR (p<0.25)	p-value	AOR (P<0.05)	p-value
		Frequency					
Sex	Male	108	105	4.628(2.784,7.69)	0.00	3.589(1.941,6.638)	0.001**
	Female	119	25	1			
Educational qualification	Diploma	113	35	0.122(0.055,0.269)	0.001	0.354(0.125,1.003)	.051**
	BSc.	102	52	0.200(0.092,0.434)	0.0001	0.325(0.122,.867)	.025**
	Specialists	1	15	5.89(3.693, 0.693)	0.104	5.090(.487,53.174)	.174*
	GP	11	28	1			
Age group	Age <20 years	8	6	0.375(0.076 ,1.858)	.230	0.029(0.002,0.390)	.008**
	Age 21-29	155	88	0.284 (0.083, 0.970)	.045	0.035(0.004,0.314)	.003**
	Age 30-39	60	28	0.233(0.065,0.840)	.026	0.054(0.007,0.401)	.004**
	Age ≥40 years	4	8	1			
Profession type	Nurse	148	75	0.434(0.236,0.801)	.008	0.595(.270,1.315)	.200*
	Midwife	34	14	0.353(0.154, 0.807)	.014	0.442(0.15,1.296)	.137*
	HO	17	8	0.403(0.148,1.098)	.076	0.263(0.074,0.932)	.038**
	Anesthetist	3	5	1.429(0.309,6.608)	.648	0.816(0.130,5.115)	.828*
	Doctor	24	28	1			
Clinical experience	< 1year	38	32	1.684(0.786,3.610)	0.180	6.146(1.484,	.012**
	2-4 year	83	52	1.253(0.627,2.506)	0.24	5.456)	.033**
	5-9 year	74	30	0.811(0.389,1.691)	0.576	4.120(1.125,	.259*
	>10 year	32	16	1		5.088) 2.013(0.598,6.779)	
Service unit	OPD	55	42	0.625(0.237,1.645)	0.341	0.546(0.167,1.789)	.318*
	Medical ward	31	22	0.581(0.206,1.637)	0.304	0.804(0.236,2.737)	.727*
	Surgical ward	41	13	0.259(0.088,0.764)	0.014	0.216(0.057,0.814)	.024**
	Delivery ward	39	10	0.210(0.068,0.644)	0.006	0.276(0.075,1.013)	.052*
	OR	15	16	0.873(0.283,2.696)	0.813	0.708(0.182,2.747)	.617*
	Emergency	32	16	0.354(0.123,1.019)	0.054	0.437(0.130,1.474)	.182*
	AICU/NICU	9	11	1			
	Yes						

$p \leq 0.25$, CI- 95 % (Confidence Interval), COR- crude odds ratio, AOR-adjusted odds ratio Remained statistically significant ($p < 0.05$) in adjusted odds ratio. (* variables of binary significant, ** variables of multi regression significant.)

Attitude of health care professionals in hospitals of Afar regional state towards BLS.

According to the result obtained from this study, 211(58.9%) of healthcare providers reported that BLS training should given to all health professionals, whereas 77(21.5%) believed the general public should get training on BLS. On the other hand, 69(19.3%) of the respondents said that only emergency room health professionals should be trained on basic life support. Similarly, 257(71.8%) of respondents agree with the inclusion of BLS training in the curriculum of undergraduate students of health professionals. On the other hand, 156(43.7%) of the study

participants were not willing to perform cardiopulmonary resuscitation. They reported that they were not willing because of fear of transmission of a disease 12.3%, further patient harm 11.5%, and fear of taking responsibility for the victim patient (10.3%). Similarly, they were asked if they would volunteer to give a mouth-to-mouth rescue breath for a collapsed patient, and 127(35.6%) of them were not volunteers to give mouth-to-mouth rescue breath. In this study, 253(70.9%) agree that performing BLS can save lives and prevent organ damage, and 288(80.9%) believe that CPR can preserve life in collapsed patients.

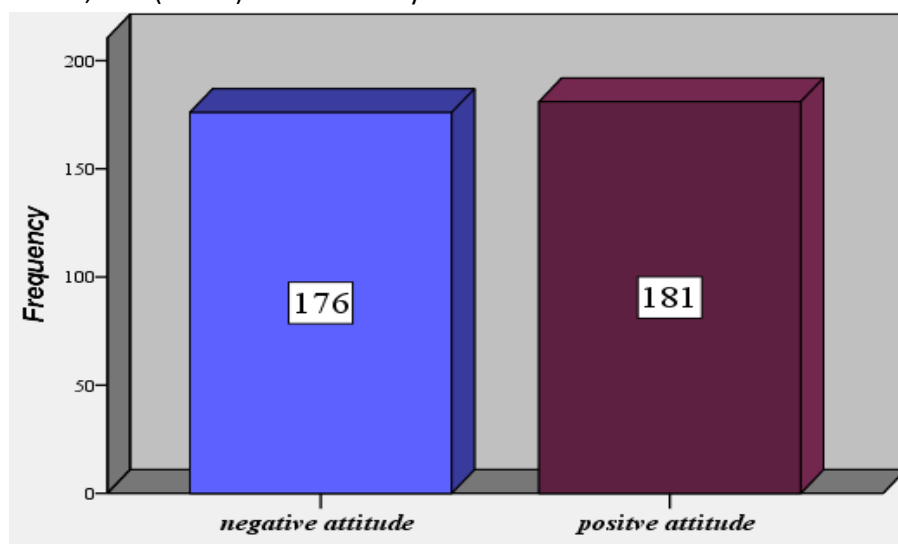


Figure 1: Category of attitude towards BLS

According to statistical analysis of factors affecting health care professionals' attitudes towards BLS, those working in intensive care unit and neonatal intensive care unit had 5.539 times more positive attitudes than those who were working in a medical ward with [AOR 5.539: 95% CI (1.506,20.378)], those who were working in surgical ward were 5.27 times less likely to have a positive attitude with [AOR 5.27: 95% CI

(1.375,20.194)], those who were working in labor and delivery ward had 5.541 times negative attitude with [AOR 5.541: 95% CI (1.486,20.654)] and those who were working in operation room were 5.255 times less likely to have positive attitude with [AOR 5.255: 95% CI (1.421,19.433)] when compared with those health care workers serving in intensive care unit and neonatal intensive care unit Table 3.

Table 3: Bivariate and multivariate predictors with attitude of respondents (n = 357)

Character		Attitude		Odds ratio (95% CI)		AOR (95% CI)	
		Negative	Positive	COR (p<0.25)	p-value	AOR (P<0.05)	p-value
		Frequency					
Sex	Male	88	125	2.232(1.449,3.438)	.000	1.121(0.655,1.919)	.676
	Female	88	56	1			
Educational qualification	Diploma	91	57	0.216(0.098,0.477)	.000	.4619(0.156,1.361)	.161
	BSc.	75	79	0.363(0.166,0.796)	.011	.755(0.266, 2.142)	.598
	Specialists	0	16	557060(.638, 0.00)	.998	.	.998
	GP	10	29	1			
Clinical experience	< 1year	27	43	1.593(0.758,3.347)	.219	1.269(0.530,3.035)	.593
	2-4 year	71	64	0.901(0.466,1.742)	.758	0.794(0.359,1.755)	.569
	5-9 year	54	50	0.926(0.467,1.835)	.826	1.025(0.447,2.348)	.954
	>10 year	24	24	1			
Service unit	OPD	47	50	1.976(0.726,5.378)	.183	3.558(0.998,12.678)	.051
	Medical	24	29	2.244(0.773,6.517)	.137	5.539(1.506,20.378)	.010
	Surgical	28	26	1.724(0.596,4.991)	.315	5.270(1.375,20.194)	.015
	Delivery	25	24	1.783(0.608,5.230)	.292	5.541(1.486,20.654)	.011
	OR	14	17	2.255(0.707,7.191)	.169	3.171(0.767,13.117)	.111
	Emergency	25	28	2.080(0.717,6.036)	.178	5.255(1.421,19.433)	.013
	AICU/NICU	13	7	1			
Had you training	Yes	31	62	2.437(1.486,3.996)	.000	1.633 (0.848,3.142)	0.142
	No	145	119	1			
Knowledge	Poor	147	80	0.156(0.095,0.256)	.000	0.209(0.114,0.383)	.0001
	Good	29	101	1			
	Poor						

Practice level of BLS among healthcare professionals

The study participants were asked how they manage if sudden cardiac arrest occurs in the hospital, and 46(12.8%) responded that the patient starts CPR, gives two rescue breathes and

defibrillate, and only 20.7% reported the correct manipulation of AED for the collapsed patient.

Overall, the practice of basic life support among health professionals in this study shows that 260(72.8%) of the study participants have poor practice with (CI 67.8 to 76.8) at a 95% confidence level. (Table 4)

Table 4: practice status of respondents towards BLS (n = 357)

Assessment variables	Variable code	Frequency	percentage %
The first step of Basic Life Support for adults during in hospital cardiac arrest	Incorrect answer	258	72.3%
	Correct answer	99	27.7%
The compression to-ventilation ratio you give as one rescuer CPR for victims.	Incorrect answer	310	86.8%
	Correct answer	47	13.2%
The correct sequence of procedure you do for patient with cardiac arrest in hospital	Incorrect answer	196	54.9%
	Correct answer	161	45.1%
Depth of compression in infant during CPR	Incorrect answer	238	66.7%
	Correct answer	119	33.3%
The correct depth of compression for an adult patient.	Incorrect answer	216	60.5%
	Correct answer	141	39.5%
Activities that can maximize quality of CPR.	Incorrect answer	145	40.6%
	Correct answer	212	59.4%
The proper steps for operating an AED	Incorrect answer	240	67.2%
	Correct answer	117	32.8%
How to help patient with choking	Incorrect answer	162	45.4%
	Correct answer	195	54.6%
The procedure done for infant with choking.	Incorrect answer	162	45.4%
	Correct answer	195	54.6%

Statistical analysis of different variables to determine the set of predictor variables that affect the practice of BLS among health care providers. Accordingly, doctors had 2.919 times better practice than nurses with [AOR 2.919: 95% CI (1.290, 6.607)]. Healthcare professionals who had no previous BLS training had 2.383

times poorer practice than those trained healthcare professionals [AOR 2.383: 95% CI (1.187, 4.783)], and those HCP who had frequently performed CPR procedures had 2.571 times better practice than those who had never performed cardiopulmonary procedures with [AOR 2.571: 95% CI (1.378, 4.797)]

Table 5.

Table 5: Bivariate and multivariate predictors with practice of respondents (n= 357)

Character		Practice		Odds ratio (95% CI)			
		Poor Freq.	Good Freq.	COR (p<0.25)	p- value	AOR (P<0.05)	p-value
Sex	Male	138	75	3.014(1.767,5.141)	0.00	1.136(0.553,2.336)	.728*
	Female	122	22	1		1	
Educational qualification	Diploma	117	31	0.166(0.078,0.353)	0.00001	0.787(0.150,4.124)	.777*
	BSc.	126	28	0.139(0.065,0.298)	.0001	2.341(0.533,10.284)	.260*
	Specialists	2	14	4.375(0.869,22.018)	.073	2.327(0.566,9.561)	.241*
	GP	15	24	1		1	
Age group	Age <20 years	8	6	1.050(0.220,5.003)	.951	2.000(0.148,27.016)	0.602*
		179	64	0.501(0.153,1.633)	.251	0.467(0.056,3.901)	0.482*
	Age 21-29	66	22	0.467(0.134,1.621)	.230	0.423(0.061,2.927)	0.383*
	Age 30-39	7	5	1		1	

	Age ≥ 40 years						
Profession type	Nurse	168	55	0.446(0.238,0.837)	.012	2.919(1.290, 6.607)	0.01**
	Midwife	41	7	0.233(0.088,0.615)	.003	0.367(0.100,1.342)	.130*
	HO	16	9	0.767(0.287,2.053)	.598	1.489(0.420,5.271)	.537*
	Anaesthetist	4	4	1.364(0.307,6.057)	.684	1.936(0.275,13.643)	.507*
	Doctor	30	22	1		1	
Clinical experience	< 1year	51	19	0.166(0.078,0.353)	.000	0.787(0.150,4.124)	.777*
	2-4 year	95	40	0.139(0.065,0.298)	.000	2.341(0.533,10.284)	.260*
	5-9 year	76	28	4.375(	.073	2.327(0.566,9.561)	.241*
	>10 year	38	10	.869,22.018) 1		1	
Service unit	OPD	70	27	1.157(0.383,3.494)	0.796	0.823(0.191,3.540)	0.793*
	Medical ward	42	11	0.786(0.234,2.636)	0.696	0.713(0.154,3.311)	0.666*
	Surgical ward	42	11	0.857(0.259,2.841)	0.801	1.954(0.415,9.205)	0.397*
	Labor & deliver	42	7	0.500(0.138,1.817)	0.292	1.226(0.255,5.892)	0.799*
	OR	15	16	3.200(0.932,10.982)	0.064	3.659(0.781,17.137)	0.100*
	Emergency	34	19	1.676(0.527,5.334)	0.382	3.542(0.847,14.819)	0.083*
	AICU/NICU	15	5	1		1	
BLS performed frequency	Never	128	21	0.227(0.110,0.469)	.000	2.571(1.378,4.797)	0.003**
	Sometimes	103	55	0.737(0.385,1.413)	.358	0.984(0.414,2.339)	.972*
	many times,	29	21	1		1	
Had you training	Yes	48	45	3.822(	.000	2.383(1.187,4.783)	.015**
	No	212	52	2.301,6.348) 1			
Knowledge	Poor	197	30	0.143(0.086,0.240)	.000	0.244(0.120,0.495)	.000**
	Good	63	67	1		1	
Attitude	Poor	151	25	0.251(0.149,0.420)	.000	0.461(0.23,0.904)	.024**
	Good	109	72	1		1	

p <= 0.25, CI- 95 % (Confidence Interval), COR- crude odds ratio, AOR-adjusted odds ratio remained statistically significant (p < 0.05) in adjusted odds ratio. (* variables of binary significant, ** variables of multi-regression significant.)

4. Discussion

This study indicated that 46(12.8%) of respondents knew when to start CPR for a collapse occurring in a hospital with no response, only 56(15.6%) of the study participants considered scene safety while performing BLS for a victim, and 39(10.9%) of participants know jaw thrust as a save and appropriate maneuver for a patient with suspected spinal cord injury. This study result is not similar to a cross-sectional study conducted at Saveetha University.⁽¹⁵⁾ The difference between the study results may be due

to economic resource supply, educational curriculum policy, awareness of health care professionals, and access to technology to get references and resources. Generally, the overall assessment of health care professional's knowledge about BLS shows that 227(63.6%) of the study participants have poor knowledge about basic life support, which is nearly similar to a cross-sectional study conducted in Pakistan, about 58.3% of the study participants had poor knowledge.⁽¹¹⁾

According to this study, males were more knowledgeable about basic life support than females, and older healthcare professionals were more knowledgeable than younger ones. Doctors were more knowledgeable than BSc nurses and public health officers. On the other hand, those healthcare professionals with clinical experience of 10 years and above were more knowledgeable about basic life support than those with clinical experience of less than one year, and those with clinical experience between two to four years were less knowledgeable than those with clinical experience of greater than 10 years of clinical experience. This result is congruent with a cross sectional conducted in Amhara region referral hospitals, northwest Ethiopia.⁽¹²⁾

In this study, the majority of respondents agree that all health professionals should train BLS and include BLS in the curriculum of undergraduate students of health professionals. On the other hand, the study participants were not willing to perform cardiopulmonary resuscitation. This result is not congruent with the study conducted in Kist Medical College Hospital, Nepal 95 % of the respondents said that BLS should be included in the undergraduate curriculum, 82.6% of the participants were not eager to perform CPR, 64% preferred to use some barrier for mouth to mouth ventilation, and 7% refused to use barriers for mouth to mouth ventilation.⁽¹⁰⁾ This discrepancy may be due to a lack of adequate knowledge, awareness, and training, as well as a lack of adequate resources for BLS activity. In this study, healthcare professionals working in the intensive care unit and neonatal intensive care unit showed more positive results than those who work in other wards, which is not congruent with a study conducted among healthcare professionals working in the emergency of BPKIHS.^(14, 20) The discrepancy may

be due to knowledge about BLS, resource availability, and applicability of BLS in the country policy. Overall, nearly three-fourths of the study participants had poor practice. This is congruent with a cross-sectional conducted in Amhara region referral hospitals in Ethiopia; 71.6% of the participants had poor BLS practice. In this study result, doctors had better practice than nurses ($p=0.01$), healthcare providers who had previous training on BLS had good practice on basic life support for patients ($p=0.015$), and those health professionals who had frequently performed CPR procedures had better practice of BLS than who had never performed cardiopulmonary procedures ($p=0.003$). Similarly, those healthcare providers with good knowledge had better practice than those with poor knowledge ($p=0.000$). This result is congruent with across sectional conducted in Amhara region referral hospitals nurse's knowledge and practice.⁽¹²⁾

Limitations

The study was used only self-reported which can be biased to assess attitude and practice of health professionals. Census study approach is a cross sectional study is also not adequate.

5. Conclusion and recommendation

The overall result of this study indicated that healthcare providers had poor knowledge and practice, and nearly half had a negative attitude toward BLS. Sex, age, professional type, clinical experience, unit of service, previous frequency of BLS performance, and lack of training on BLS were the identified significant predictors that affected the KAP of healthcare providers. Training HCPs on BLS, initiating emergency services in hospitals, creating awareness of BLS in all service units, and enabling all healthcare providers to perform BLS is crucial.

Abbreviations

AED: Automated External Defibrillator
 AOR: Adjusted Odds Ratio
 ART: Anti-Retroviral Therapy
 BLS: Basic Life Support
 CPR: Cardiopulmonary Resuscitation
 DALY: Disability Adjusted Life Years
 FMOH: Federal Ministry of Health
 FP: Family Planning
 HCP: Health Care Providers
 ICU: Intensive Care unit
 KAP: Knowledge Attitude and Practice
 NCD: Non-Communicable Disease
 OPD: Out Patient department
 SCD: Sudden Cardiac Death

Author Contributions

Fikiru Yigezu: the principal investigator and setted objectives, developed statement of the problem and conceptual framework, data management and manuscript development.

Kiros G/Krstos: trainer, data collection organizer and literature reviewer for the study. Also worked on result write up, discussion writing and manuscript development

Ahmed Adam and Abubeker Alebachew, developed methodology and model, statistical analysis and result and formatted on manuscript writing.

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Conflict of Interest

The authors declare no conflicts of interest.

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