

# Determinants of knowledge and attitude toward first aid among final year students at technical and vocational schools in Addis Ababa, Ethiopia

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## Abstract

**Introduction:** Injuries among technical and vocational school students are considered one of the most serious health problems worldwide today. Getting injuries in a technical and vocational school are high as different machines are used. Therefore, this study aimed to assess knowledge, attitude, and associated factors toward first aid among graduating students at technical and vocational schools in Addis Ababa, Ethiopia.

**Methods:** School-based cross-sectional study was conducted from April to June 2019. A simple random sampling technique was employed. Data were entered in Epi-info version 7 and analyzed using SPSS version 24. Bivariable and multivariable analyses were employed using a binary logistic regression model. Variables with a p-value of <0.05 are considered as factors significantly associated.

**Results:** The result of this study reveals 53.2% and 60.3% of the respondents had good knowledge and favorable attitude, respectively. Training (adjusted odds ratio: 5.14; 95% confidence interval=(2.82, 9.38)), participating in school first aid club (adjusted odds ratio: 3.66; 95% confidence interval=(2.23, 6.00)), and mother's level of education (adjusted odds ratio: 1.90; 95% confidence interval=(1.02, 3.55)) were significantly associated with knowledge. Being female (adjusted odds ratio=2.10; 95% confidence interval=(1.24, 3.39)), training (adjusted odds ratio: 3.18; 95% confidence interval=(1.73, 5.82)), and participating in school first aid club (adjusted odds ratio: 4.82; 95% confidence interval=(2.98, 7.81)) were significantly associated with attitude.

**Conclusion:** Only half and nearly two-thirds of the participants have good knowledge and favorable attitude, respectively. Training, participating in school first aid club, and having an educated mother increase the odds of having good knowledge. Being female, training, and participating in school first aid clubs increase the odds of a favorable attitude. Since first aid is a frontline and lifesaving intervention during life-threatening situations, it is better to give attention to enhance students' knowledge and attitude toward first aid by giving training, establishing first aid clubs, and considering first aid courses to be included in the curriculum.

## Keywords

Knowledge, first aid, attitude, students, technical and vocational schools

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## Introduction

First aid is immediate support given to a sick or injured person until the health professional help arrives, and its primary goal is to “preserve life, alleviate suffering, prevent further illness or injury and promote recovery.”<sup>1,2</sup> In everyday life (at home, workplaces, school, public places, and during free time activities) accidents can occur, most of which are emergencies that need the help of others.<sup>3</sup> Among these emergencies, death could be from heart diseases, traffic accidents, occupational accidents, natural disasters, unintentional injuries, suicides, terrorist attacks, and war.<sup>4</sup>

Similarly, fall and severe burn injuries are one of the leading causes of adult mortality and a major contributor to disability in most age groups in many low-income countries such as those in Africa. Like other developing countries, the condition is highly concerning in Ethiopia, due to unsafe technology and working conditions.<sup>5</sup> Safe practice and healthy choices at work, home, school, and playground can minimize and prevent many injuries, illnesses, and deaths. However, once injuries or emergency has occurred, providing effective basic life support can make the difference between life and death.<sup>6</sup> The injured patient gets basic life support from the first level of a non-professional bystander to the highest level of hospital-based care.<sup>3</sup>

Injuries among school students are considered one of the most serious health problems in the world today because they can result in lifelong disability or even death. So that first aid and basic life support become vital for preserving their life and minimizing the consequences of injuries until help is obtained.<sup>7</sup> Thus, first-aid skills can save many lives, and therefore, this should be considered as a priority in training staff of all agencies including students.<sup>8</sup> Globally, 875,000 students under 18 years die from unintentional injuries annually, with more than 95% of these deaths occurring in low- and middle-income countries. It is estimated that if first aid was to be offered to these victims, mortality rate would be reduced by 20% owing to increased accessibility to treatment services.<sup>7</sup>

Injuries are major health problems that commonly appear on the morbidity and mortality reports of the health institutions in Ethiopia, and these injuries can happen anywhere including schools.<sup>5</sup> Especially vocational schools which are using different machines and the chance of getting injuries will be high and knowledge of first aid is important to decrease mortality and morbidity among these groups.<sup>5</sup> Research conducted in West Bengal revealed that pre-intervention knowledge on first aid management was poor.<sup>9</sup> Similarly, a study in Pune showed that pre-intervention knowledge of students was poor about different emergencies.<sup>10</sup>

In general, school students must be motivated to learn about first aid and basic life support which are components of chain survival for a person experiencing life-threatening injuries.<sup>7</sup> Thus, this study aimed to assess knowledge, attitude, and associated factors toward first aid among final year

students at technical and vocational schools in Addis Ababa, Ethiopia.

## Methods and materials

### *Study design and period*

An institution-based cross-sectional study was carried out among Addis Ababa city administration technical and vocational final year students from April to June 2019.

### *Study area*

The study was conducted in Addis Ababa, the capital city of Ethiopia, and the seat for Africa union and UN-Economic Commission for Africa. The city administrative areas were organized into 10 sub-cities, 28 Woredas, and 330 Kebele. Under the Addis Ababa city administration, there are 30 government technical and vocational colleges and approximately around 30,800 college students were attending in this study period, from which approximately around 12,000 were final year students. Tegbared poly technique, Winget general college, Entoto poly technique, Nifas silk poly technique, and Gofa industrial college were selected as study areas by lottery method. These five colleges had a total of 5946 final year students.

### *Study participants*

The source population of the study was all final year students attending selected government technical and vocational schools in Addis Ababa, Ethiopia. Those students learning in selected government technical and vocational schools during the study period were the study populations.

### *Inclusion and exclusion criteria*

All final year students attending five selected government technical and vocational schools in Addis Ababa, Ethiopia, who were available at the time of data collection, were included in the study. Those graduating students who were seriously ill and unable to respond were excluded from the study.

### *Sample size determination and sampling procedure*

The sample size was determined using single population proportion formula using the following assumptions; the proportion of knowledge and attitude 44.7% and 93%, respectively, and we took the largest nearest to 50%, which is 44.7, the margin of error, 5% at 95% confidence level. The final sample size was 395 after using the correction formula and adding a 10% non-response rate. First, the total sample size was proportionally allocated for each of five technical

and vocational schools and then study participants were selected using a simple random sampling technique.

### *Variables of the study*

Dependent variable: knowledge and attitude toward first aid.

Independent variables: age, sex, level of education, having previous information about first aid, participating in school first aid club, and families' level of education.

### *Operational definitions*

Good knowledge: Participants who score median and above for knowledge-related questions.

Poor knowledge: Participants who score below the median for knowledge-related questions.

Favorable attitude: Participants who score median and above for attitude-related questions.

Unfavorable attitude: Participants who score below the median for attitude-related questions.

### *Data collection tool and procedures*

Data were collected using pretested, structured self-administered questionnaire which consists of socio-demographic information, knowledge-related questions toward first aid, and attitude-related questions toward first aid adapted from a similar study.<sup>11</sup> The questionnaire was prepared in the English version and translated to the Amharic language for asking the student and retranslated to English. Data were collected by five diploma nurses, one BSc nurse supervisor, and one facilitator from each school. Data collectors and supervisors were trained for an explanation of some terms and assessment tools, the aim of the study, concerning the need for confidentiality of respondents' information, time of data collection, and submission of the collected data on time.

### *Statistical analysis*

The collected data were checked for its completeness, consistency, and accuracy before analysis. Then, data were coded and exported to SPSS version 24 for analysis. Descriptive statistics such as frequencies, percentages, tables, and figures were used to present data. Bivariable and multivariable analyses were employed using a binary logistic regression model. Those independent variables with a p-value <0.25 at the bivariable level were considered eligible for multivariable analysis. Variables with a p-value <0.05 with a 95% confidence level were regarded as factors significantly associated.

### *Data quality management*

The data collection tool was pretested before the actual data collection time using 5% of the total sample size. Amendment on the instrument, such as wording and formatting, was made accordingly. The pretest was also used to estimate how much time it takes to fill the entire questionnaire. The tool was first developed in the English language and translated to the Amharic language with back translation to English for consistency. The one-day training was given to data collectors and supervisors on the objective of the study, instrument, and data collection procedures by the principal investigators. Supervision was conducted by the principal investigators and supervisor. To ensure data quality, each data collector checked the questionnaire from each study participant for completeness daily. The supervisors and principal investigators reviewed each questionnaire daily and checked for completeness.

### *Ethics approval and informed consent*

Ethical clearance was obtained from Addis Ababa University (Ref: EM/SM/874/2019) and an official letter was written to Addis Ababa city Technical and Vocational School Bureau, and then permission was obtained from the selected school. Written informed consent was obtained from legally authorized representatives of the study subjects before the study. All the responses were kept confidential by assuring that any information will never be passed to any third party.

## **Results**

### *Socio-demographic characteristics of the respondents*

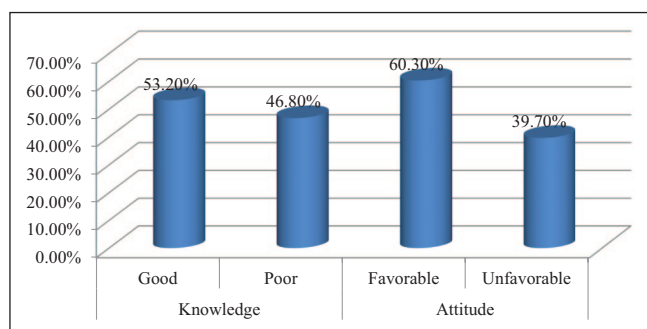
A total of 385 respondents have participated in the study with a 97.5% response rate. Among the total participants, 212 (55.6%) respondents were males. More than half (53.8%) of the respondents were in the age group above 18 years. The majority (75.3%) of the respondents were orthodox Christians. In total, 102 (26.5%) and 100 (26.0%) of the respondents were level 1 and level 2 students, respectively. Among the total of respondents, more than half (59.0%) of the respondents were untrained (Table 1).

### *Knowledge of technical and vocational school students toward first aid*

Of the total respondents, 53.2% (with 95% confidence interval (CI)=(48.3%, 58.2%)) of the respondents had good knowledge of first aid with a median score of 7.0 (Figure 1). The majority (73.3%) of the respondents correctly respond to the correct definition of first aid. More than two-thirds (67.8%) of the participants had information about first aid. The majority (93.5%) of the respondents correctly respond to first aid measures of stopping bleeding. The majority

**Table 1.** Socio-demographic characteristics of technical and vocational school students in Addis Ababa city, Addis Ababa, Ethiopia, 2019 (n=385).

Variables	Response	Frequency	Percentage
Sex	Female	171	44.4
	Male	214	55.6
Age	≤18	178	46.2
	>18	207	53.8
Religion	Orthodox	290	75.3
	Muslim	56	14.5
	Protestant	36	9.4
	Others	3	0.8
Level of education	Level 1	100	26.0
	Level 2	102	26.5
	Level 3	91	23.6
	Level 4 and above	92	23.9
Do you have training on first aid	Yes	158	41.0
	No	227	59.0
Participating in first aid club	Yes	252	65.5
	No	133	34.5
Previous exposure to situations requiring first aid	Yes	203	52.7
	No	182	47.3
Mothers' level of education	Unable to read and write	88	22.8
	Primary	126	32.7
	Secondary	103	26.8
	Diploma and above	68	17.7
Fathers' level of education	Unable to read and write	73	19.0
	Primary	96	24.9
	Secondary	122	31.7
	Diploma and above	92	24.4

**Figure 1.** Knowledge and attitude of technical and vocational school students toward first aid in Addis Ababa city, Addis Ababa, Ethiopia, 2019 (n=385).

(76.6%) of the participants were aware of the correct management of choking. More than two-thirds (69.9%) of the respondents understand the concept of immobilization for neck and back injuries (Table 2).

### *The attitude of technical and vocational school students toward first aid*

Among the total participants, more than half (60.3%; 95% CI=(55.6%, 65.2%)) of the respondents had a favorable

attitude toward first aid with a median score of 14.0 (Figure 1). A majority (79.7%) of the participants strongly disagreed with giving first aid is fair. One-fourth (25.5%) of the respondents strongly disagreed with giving first aid is unpleasant. About half (49.4%) of the respondents strongly disagreed with giving first aid is not good (Table 3).

### *Factors associated with the knowledge of students toward first aid*

Using bivariable logistic regression analysis, sex, level of education, participating in school first aid club, having previous information, training, previous experience of situations requiring first aid, and mothers' level of education were found to be significantly associated with knowledge. In multivariable logistic regression analysis, participating in school first aid club, training, and mothers' level of education were significantly associated with knowledge of students toward first aid.

Students who participate in the first aid club in their school were nearly four times higher to be knowledgeable compared with students who did not participate (adjusted odds ratio (AOR): 3.66; 95% CI=(2.23, 6.00)). Those students who have first aid training were nearly five times higher to have good knowledge compared with students

**Table 2.** Knowledge of technical and vocational school students toward first aid in Addis Ababa city, Addis Ababa, Ethiopia, 2019 (n = 385).

Item	Responses	Frequency (%)
Previous information	Yes	261 (67.8)
	No	124 (32.2)
Definition of first aid	The immediate care given for a person who sustained an injury or accident before the victim arrives at health institution <sup>a</sup>	281 (73.0)
	The care given only in the health institution	68 (17.7)
	The care is given only by the health profession	36 (9.4)
Measure to stop bleeding	Pressing the affected part by clean cloth <sup>a</sup>	360 (93.5)
	Not touching the affected part	14 (3.6)
	Giving water by mouth	11 (2.9)
Fainting measure	Giving fluid by mouth	235 (61)
	Nothing giving by mouth <sup>a</sup>	70 (18.2)
	Smoking the victim's nose with match	80 (20.8)
Epilepsy measure	Giving fluid	71 (18.4)
	Smoking the victim's nose by match	90 (23.4)
	Keeping airway clear by placing by his side <sup>a</sup>	224 (58.2)
Choking measure	Smoking the victim's nose with match	15 (3.9)
	Giving water	75 (19.5)
	Standing behind the victim and encircling the chest by hand and squeezing <sup>a</sup>	295 (76.6)
Measure to back and neck injury	Keeping airway clear	47 (12.2)
	Standing behind the victim and encircling the chest by hand and squeezing	69 (17.9)
	Avoiding head and neck movement and keeping the body straight <sup>a</sup>	269 (69.9)
Measure to human/ animal bite	Giving fluid	35 (9.1)
	Doing nothing	43 (11.2)
	Cleansing the area with water and soap for 5 min <sup>a</sup>	307 (79.7)
Measure to nose bleeding	Placing the students sitting comfortably with slight forward and applying uninterrupted pressure on nostrils together <sup>a</sup>	287 (74.6)
	Placing the student in forward position	69 (17.9)
	Placing the student in a side position	29 (7.5)
	Encouraging the student to sit quietly and breath in deeply through the nose and out throughout <sup>a</sup>	319 (82.9)
Measure to the difficulty of breathing	Giving fluid	42 (10.9)
	Placing the student in a side position	24 (6.2)

<sup>a</sup>Correct answer.

who did not have training (AOR: 5.14; 95% CI=(2.82, 9.38)). Those study participants who have mothers with primary education were nearly two times higher to have good knowledge about first aid compared with students who have mothers who were unable to read and write (AOR: 1.90; 95% CI=(1.02, 3.55)) (Table 4).

### Factors associated with the attitude of teachers toward first aid

Bivariable and multivariable logistic regression analyses were carried out. Sex, age, training, participating in school first aid club, previous information, previous experience of situations requiring first aid, and level of education were eligible for multivariable analysis. In multivariable analysis, the factors significantly associated with the attitude of the participants were sex, participating in school first aid club, and training. Females were two times more likely to have a

favorable attitude toward first aid than males (AOR=2.10, 95% CI=(1.24, 3.39)). Students who participate in first aid clubs in their school were nearly five times higher to have a favorable attitude compared with students who did not participate in school first aid club (AOR: 4.82; 95% CI=(2.98, 7.81)). Those students who take first aid training were three times higher to have a favorable attitude compared with students who did not have training (AOR: 3.18; 95% CI=(1.73, 5.82)) (Table 5).

### Discussion

The result of this study revealed that 53.2% and 60.3% of the respondents have good knowledge and favorable attitude toward first aid, respectively. Training, participating in school first aid club, and mother's level of education were significantly associated with knowledge toward first aid. Having a favorable attitude toward first aid was significantly



**Table 3.** Attitude of technical and vocational school students toward first aid in Addis Ababa city, Addis Ababa, Ethiopia, 2019 (n = 385).

Item	Response			
	Strongly disagree	Disagree	Agree	Strongly agree
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Giving first aid is fair	307 (79.7)	53 (13.8)	6 (1.6)	19 (4.9)
Giving first aid is unpleasant	98 (25.5)	227 (59.0)	19 (4.9)	41 (10.6)
Giving first aid is very good	258 (67.0)	87 (22.6)	16(4.2)	24 (6.2)
Learning first aid is good	258 (67.0)	91 (23.6)	11 (2.9)	25 (6.5)
Learning first aid is useful	256 (66.5)	85 (22.1)	9 (2.3)	35 (9.1)
Learning first aid is important	257 (66.8)	92 (23.9)	9 (2.3)	27 (7.0)
First aid training from MOH is important	236 (61.3)	106 (27.5)	18 (4.7)	25 (6.5)
Training is important only for teachers	162 (39.5)	190 (49.4)	12 (3.1)	31 (8.1)

MOH: Ministry of Health.

**Table 4.** Bivariable and multivariable logistic regression analysis of factors associated with knowledge toward first aid among technical and vocational school students in Addis Ababa city, Addis Ababa, Ethiopia, 2019 (n = 385).

Variables		Knowledge		OR with 95% CI		p-value	
		Good	Poor	Crude	Adjusted		
Sex	Female	99	72	1.40 (0.93, 2.10)	1.25 (0.76, 2.06)	0.372	
	Male	106	108	1	1		
Level of education	Level 4 and above	53	39	1.40 (0.77, 2.40)	1.29 (0.67, 2.49)	0.440	
	Level 3	42	49	0.86 (0.49, 1.51)	0.66 (0.34, 1.28)		
	Level 2	60	42	1.43 (0.82, 2.49)	1.58 (0.84, 2.98)		
School club	Level 1	50	50	1	1	0.157	
	Yes	160	92	3.40 (2.19, 5.29)	3.66 (2.23, 6.00)		
Having previous information	No	45	88	1	1	<0.001*	
	Yes	155	106	2.16 (1.40, 3.35)	0.87 (0.48, 1.58)		
Training	No	50	74	1	1	0.658	
	Yes	114	44	3.87 (2.50, 6.00)	5.14 (2.82, 9.38)		
Previous experience	No	91	136	1	1	<0.001*	
	Yes	90	92	1	1		
Mothers' level of education	No	90	92	1	1	0.202	
	Yes	115	88	0.75 (0.50, 1.12)	0.74 (0.47, 1.18)		
	Diploma and above	32	36	1.12 (0.59, 2.11)	1.06 (0.52, 2.20)		0.868
	Secondary	64	39	2.06 (1.16, 3.68)	1.86 (0.96, 3.60)		
Primary	70	56	1.57 (0.91, 2.72)	1.90 (1.02, 3.55)	0.045*		
Unable to read and write	39	49	1	1			

OR: odds ratio; CI: confidence interval.

\*Statistically significant at p-value < 0.05.

associated with sex, participating in school first aid club, and training. The finding of this study is in line with previous studies conducted in the United Arab Emirates (54.2%),<sup>12</sup> India (53.3%),<sup>13</sup> and Kuwait (49.0%).<sup>14</sup> The finding of this study was higher than a study conducted in Pakistan (40.3%),<sup>15</sup> Malaysia (42.8%),<sup>16</sup> and Maharashtra (41.3%).<sup>17</sup> The possible justification for this variation might be due to differences in the study period, sample size, and socio-demographic characteristics of the respondents. On the contrary, the result of this study was lower than the studies done in South India (82.2%).<sup>18</sup> This difference might be due to the

variation in accessibility of the information, school setup, and the depth of training given.

Attitudes of technical and vocational students toward first aid are important because how people act depends on what they believe. Attitudes determine how strongly a person feels about a particular thing. Most injuries and accidents result from human actions and are caused either by unsafe actions or by the production of unsafe conditions. Much effort must be made to minimize injuries and accidents by improving the attitude of students which indirectly translate into better outcomes through improved first aid practices. In the current

**Table 5.** Bivariable and multivariable logistic regression analysis of factors associated with attitude toward first aid among technical and vocational school students in Addis Ababa city, Addis Ababa, Ethiopia, 2019 (n = 385).

Variable	Response	Attitude		COR (95% CI)	AOR (95% CI)	p-value
		Favorable	Unfavorable			
Sex	Female	119	52	2.05 (1.34, 3.12)	2.10 (1.24, 3.39)	0.005*
	Male	113	101	1	1	
Age	>18	119	88	0.78 (0.52, 1.17)	0.72 (0.45, 1.15)	0.171
	≤18	113	65	1	1	
School club	Yes	185	67	5.05 (3.21, 7.94)	4.82 (2.98, 7.81)	<0.001*
	No	47	86	1	1	
Training	Yes	112	46	2.17 (1.41, 3.34)	3.18 (1.73, 5.82)	<0.001*
	No	120	107	1	1	
Previous exposure	No	116	66	1	1	0.179
	Yes	116	87	1.32 (0.87, 1.99)	1.38 (0.86, 2.20)	
Level of education	Level 4 and above	63	29	1.45 (0.80, 2.63)	1.51 (0.77, 2.97)	0.228
	Level 3	51	40	0.85 (0.48, 1.51)	0.76 (0.40, 1.47)	0.420
	Level 2	58	44	0.88 (0.50, 1.54)	0.92 (0.48, 1.74)	0.791
	Level 1	60	40	1	1	

COR: crude odds ratio; CI: confidence interval; AOR: adjusted odds ratio.

\*Statistically significant at p-value < 0.05.

study, 60.3% with 95% CI (55.6%, 65.2%) of technical and vocational graduate class students had a favorable attitude toward first aid. This finding was lower than studies conducted in Pakistan (67.1%) and Sri Lanka (98.8%).<sup>19,20</sup> The possible justification for this difference might be the difference in study setting (difference in socioeconomic status), study participants in which the study conducted in Pakistan incorporated only students aged 18–19 years while the current study included students aged 18–30 years, and sampling technique in which the study conducted in Sri Lanka used convenience sampling whereas the current study used simple random sampling technique to select study participants.

Training, participating in school first aid club, and mother's level of education were significantly associated with knowledge toward first aid. The odds of having good knowledge were five times higher among trained students compared with untrained counterparts. This finding was supported by the studies conducted in Saudi Arabia,<sup>21</sup> Jordan,<sup>11</sup> and Addis Ababa.<sup>22</sup> This might be because when the students are trained by experienced and professional trainers, the students easily access the information regarding first aid which helps them to be knowledgeable. According to the result of this study, only 41.3% of the respondents were trained on first aid. It implies a great gap in addressing first aid training for technical and vocational schools. First aid training would equip students with the required knowledge and skills to effectively respond to victims in emergency situations. The odds of having good knowledge were nearly four times higher among students who participate in school-based first aid clubs compared with their counterparts. This finding was supported by the studies conducted in Saudi Arabia.<sup>21</sup> It might be because the students in the first aid club share their information what they have heard and read. Respondents who have educated mothers were two times higher to be knowledgeable

compared with students who have mothers unable to read and write. This might be because mothers who can read and write have a better understanding and information regarding first aid from different sources like reading material and they share it with their family.

Having a favorable attitude toward first aid was significantly associated with sex, participating in school first aid club, and training. Females were nearly two times more likely to have a favorable attitude toward first aid than males. This might be due to the feminine gender role which is associated with women who are encouraged to help and at a time to be expected to help and place the needs of others above their own needs. This might also be attributed to the female gender role which comes with certain characteristics like nurturing, responsibility, and are more empathic and has more sympathy to others including those who suffer from injuries and require first aid. Students who participate in the first aid club in their school were nearly five times more likely to have a favorable attitude compared with their counterparts. This might be due to the reason that, those students who participated in school first aid club can learn lifesaving skills and develop leadership and teamwork skills which in turn improves their attitude toward first aid and becomes more favorable. Those students can also get an opportunity and time to know about the importance of first aid and learn first aid management options. Those students who take first aid training were nearly three times more likely to have a favorable attitude toward first aid compared with students who did not have training. A similar finding was reported by a study conducted in Addis Ababa, Ethiopia.<sup>22</sup> This might be because taking first aid training enables them to get knowledge regarding first aid and emergency medical care which in turn improves their attitude regarding first aid. This denotes that having evidence about emergency

care and first aid from training raises the probability of having a favorable attitude toward first aid.

This study has some limitations: First, using the median as a cutoff point could affect the generalizability of the results. Second, there might be a likelihood of recall and social desirability bias. Finally, the lack of similar studies leads to insufficient comparison.

## Conclusion

Only half and nearly two-thirds of the participants have good knowledge and a favorable attitude. Less than half of the students take first aid training. First aid training, participating in school first aid club, and having an educated mother with primary level increases the odds of having good knowledge. Being female, training, and participating in school first aid clubs increase the odds of a favorable attitude. Since first aid is a frontline and lifesaving intervention during life-threatening situations, it is better to give attention to enhance students' knowledge and attitude toward first aid by giving training, establishing and strengthening school-based first aid clubs, and considering first aid courses to be included in the curriculum. It is better to consider the first aid training in the curriculums of the technical and vocational schools to forward the message and concept of first aid to the community.

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## Ethical approval

Ethical approval for this study was obtained from the Addis Ababa University (Ref: EM/SM/874/2019).

## Informed consent

Written informed consent was obtained from legally authorized representatives of the study subjects before the study.

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## Data sharing statement

All data are available upon reasonable request.

## Supplemental material

Supplemental material for this article is available online.

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