

Awareness, knowledge, attitude and practices of first aid skills among medical and non-medical students at Taif University

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Abstract

Background: First aid is the initial assistance or treatment given at the site of accident to someone who is injured or suddenly taken ill, before the arrival of ambulance.

Objectives: The study aimed to examine knowledge and attitude of first aid skills among medical and non-medical students at Taif University.

Materials and Method: This was a cross-sectional study and was conducted on a convenience sample of 500 female and male (Medical and Non-Medical) students. The research proposal was approved by the Research Committee of the Taif University. The data was gained by validated questionnaire in a sample of 500 participants, who were randomly selected. The questionnaire included two parts: part 1 had Sociodemographic details of the participants and part 2 had items related to Knowledge, awareness, attitude and practices regarding first aid skills.

Results: The mean age of the participants was 21 ± 1.5 years. 56.6% of the participants were found to have good awareness regarding first aid and Basic life Support (BLS). The attitude towards first aid was very poor and only 8% had a good attitude toward it. There was a statistically significant relationship observed between attendance to first aid course and awareness, knowledge and practices.

Conclusion: The attitude and skills of the study participants were not satisfactory. Universities need to organize an effective committee to monitor and conduct first aid courses and activities. Students need to realize the public importance of such activities and ensure they effectively involve in these lifesaving procedures.

Key words: Awareness, medical, first, aid, emergency, Taif,

Introduction

First aid is the initial assistance or treatment given at the site of an accident to someone who is injured or suddenly taken ill, before the arrival of the paramedics. A first aid provider should be able to assess the situation quickly and calmly, and deal with life-threatening conditions outside the facilitated environment of a hospital [1]. The goals of a first aid provider include preserving life, alleviating suffering, preventing further illness or injury, and promoting recovery [2].

First aid and Basic life support consist of simple, sometimes lifesaving, medical techniques, which an individual, either with or without a formal medical background can be trained to perform with minimal equipment. Non-fatal injuries that predominantly happen in daily life may have strong effects on wellbeing, effectiveness and costly treatment and rehabilitation of preventable complications [3].

First aid of the minor injuries and accidents that any one of the general population may face at any time and in any place is one of the most important public demands [4]. The adequate knowledge required for handling an emergency out of the hospital setting at the site of the accident or emergency may not be sufficient as most medical schools do not have formal first aid training in the teaching curriculum [5].

In Saudi Arabia, the number of road traffic accidents have tremendously increased and citizens may encounter life-saving situations at the place of accidents before the victim is taken to the hospitals for medical management and 80% of the deaths in hospital happen due to road traffic injuries [6]. Citizens may find it difficult to provide first aid during accidents due to less confidence as they lack proper knowledge and skills in this area. Some of the most commonly used first aid techniques include cardiopulmonary resuscitation (CPR), control of bleeding, burn and fracture management. [7].

Studies report that past experiences in first aid during emergency situations are associated with better awareness and knowledge [8,9]. Attending courses on first aid has helped students to increase their knowledge regarding first aid skills and helped them to confidently manage life-threatening situations (1,2). Another study conducted in Saudi Arabia reported that students, when encountered with an emergency like CPR, were not able to perform it because of lack of knowledge [10].

Today's children are the future of the country and the government has the responsibility to increase the awareness and knowledge of its citizens regarding first aid practices as it could save many lives. There is a need to understand the levels of knowledge of students as this may help to plan some courses for students in first aid and Basic life support skills as the students can effectively manage such situations in many places. No study has been done in Saudi Arabia that compared the attitude, knowledge, attitude and practices regarding first aid skills between medical and non-medical students. This study

aimed to assess the awareness, knowledge, attitude and practices regarding first aid skills among university students pursuing different courses at the Taif University, Saudi Arabia.

Methodology

Study design and setting: This cross-sectional study was conducted at Taif University (TU) in Taif City, Kingdom of Saudi Arabia.

Sampling methodology: The university students were divided into two educational categories, which are Medical and non-medical. A minimum sample size of 428 was calculated for our study considering a confidence interval of 95%, power of the study (β) at 80% and an α -value of 5%. We finally included a total of 500 participants for our study which included both males and females.

Study instrument: A modified pre-tested validated questionnaire was used to collect the data, which was distributed by data collectors (university students) to the participants. The consent was taken from the original author to use the questionnaire (11). We included participants of Saudi nationality only to reduce the country of origin effect or nationality bias in our study.

The first part of the questionnaire consisted of socio-demographic details of the participants and the second part had items related to awareness, knowledge, attitude and practices regarding first aid.

Ethical considerations: Ethical approval was obtained from the Ethics and research committee of Taif University. Written and informed consent was taken from all participants before participating in the study.

Data Analysis: Data analysis was done by the Statistical Package for the Social Sciences (SPSS) program version 25. Qualitative data was presented as number and percentage and Chi Squared test was performed to assess the relationship between variables. A p-value of less than 0.05 was considered as statistically significant.

Results

Our study included 500 student participants who are studying different programs at Taif University. We had 160 (32%) of participants from Scientific, 126 (25%) from Literary and 214 (43%) from Medical departments (Figure 1). In our study, only 31% of the students reported that they had attended courses on first aid before the study.

The mean score of awareness items in our questionnaire was found to be 10.10 ± 3.80 (Min 0- Max 25). (Table 1).

The awareness of participants regarding first aid was found to be 56.6% 'Good' and 43.4% 'Poor'. The presence of the first aid group or a committee in their university as reported by the participants was 26.2% and we found a

statistically significant association of this with awareness. 51.4% of the participants reported that their university had a first aid box and the awareness was comparatively 'good' in students who had a first aid box in their institution which was statistically significant ($p < 0.001$). (Table 2)

We also noted that awareness was good among students when teachers, compared with other staff, taught the first aid courses. Of the students who attended the course(s) (31%) had better awareness regarding first aid skills and practices. (Table 2).

There was no statistically significant relationship of awareness scale observed with departments of participants, house type, parent's education level. When we assessed the knowledge items, it showed a mean score of 9.59 ± 3.45 (Min 0- Max 30). (Table 1). Our study showed that 50% of the participants had 'Good' knowledge and the knowledge was comparatively better among scientific students than medical and literary, $p < 0.05$. (Table 3).

The attitude items showed a mean score of 7.06 ± 3.86 (Min 0- Max 20). The assessment showed that 92% of the participants had a poor attitude towards first aid. We found that there was a statistically significant association between attitude and presence of the first aid group at their institution, $p < 0.05$. Participants who reported that they had a first aid group or committee had a better attitude than others who did not. There was no association observed between attitude and previous attendance to first aid courses. (Table 4)

The practice and skills items showed a mean score of 16.6 ± 6.26 (Min 0- Max 5) (Table 1). The assessment showed that only 36% of participants had good practices and skills in first aid. Those who had learned about first aid from multiple options had better practice than from a single option. (Table 5)

In our study, 36.2% ($n=181$) reported that they had information related to first aid in their school curriculum and it was found that practices and skills related to first aid were better among these participants compared to those who had no information in the curriculum $p < 0.001$ (Table 5).

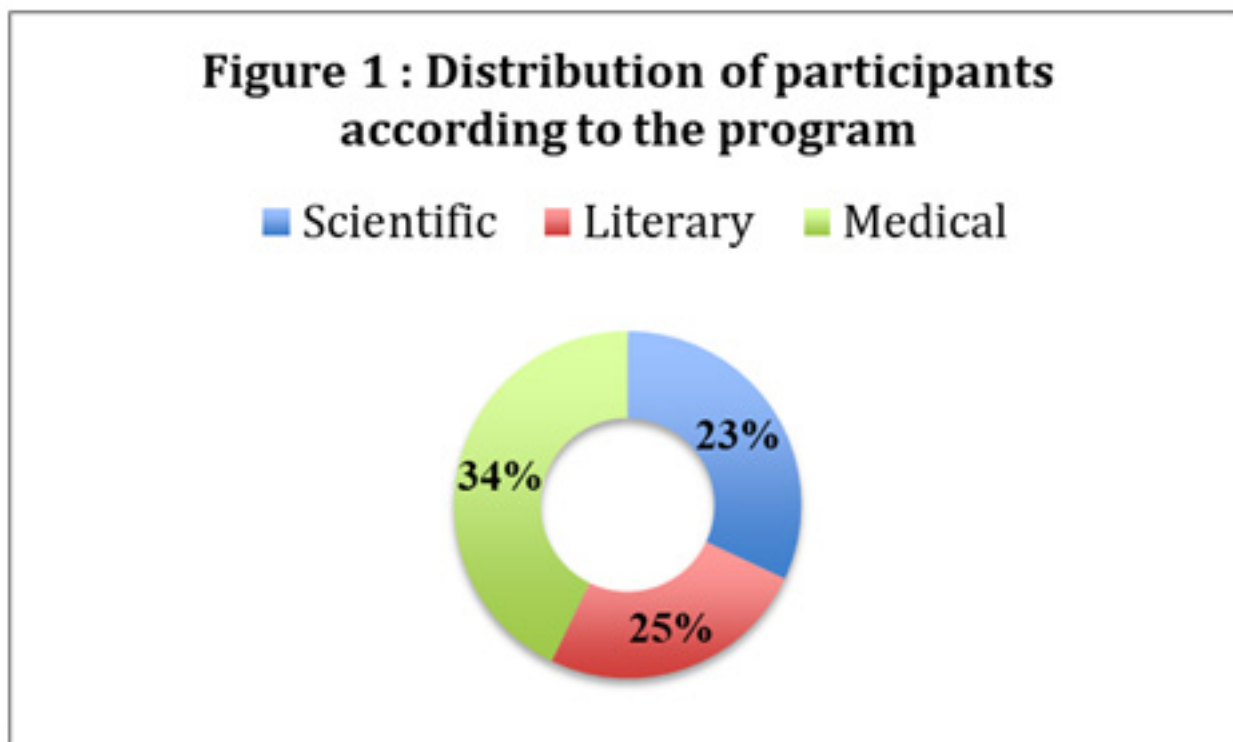


Table 1: Mean scores of different components

Variable	N	Mean	Std. Deviation	Minimum	Maximum
Awareness	500	10.1050	3.80624	1.00	20.00
Knowledge	500	9.5980	3.45286	3.00	19.00
Attitude	500	7.0620	3.86886	2.00	25.00
Practices	500	16.6740	6.26404	1.00	38.00

Table 2: Awareness regarding first aid and its relationship with associated variables

Variables		Attention				Chi square value	P value
		Good		Poor			
		N	%	N	%		
Academic	Scientific	92	32.5%	68	31.3%	4.037	.133
	Literary	62	21.9%	64	29.5%		
	Medical	129	45.6%	85	39.2%		
House	Owner	220	77.7%	162	74.7%	.648	.421
	Rent	63	22.3%	55	25.3%		
Father's education	Illiterate	11	3.9%	8	3.7%	6.021	.421
	Primary	29	10.2%	25	11.5%		
	Intermediate	30	10.6%	31	14.3%		
	Secondary	70	24.7%	56	25.8%		
	Bachelors	106	37.45%	60	27.6%		
	Phd and Masters	37	13.1%	37	17.05%		
Mother's education	Illiterate	27	9.5%	24	11.1%	10.878	.092
	Primary	47	16.6%	44	20.3%		
	Intermediate	41	14.5%	28	12.9%		
	Secondary	49	17.31%	41	18.9%		
	Bachelors	95	33.56%	49	22.58%		
	Phd and Masters	24	8.5%	31	14.3%		
Does the university have committee or group for first aid?	No	41	14.5%	85	39.2%	83.421	<0.001
	Yes	115	40.6%	16	7.4%		
	I do not know	127	44.9%	116	53.5%		
Are there first-aid boxes at the university?	No	34	12.0%	114	52.53%	126.09	<0.001
	Yes	204	72.7%	53	24.4%		
	I do not know	45	15.9%	50	23.0%		
Person in-charge of first aid	Lecturers	13	4.6%	3	1.4%	12.281	<0.05
	Administrators	41	14.5%	21	9.7%		
	Students	9	3.2%	3	1.4%		
	Nurses	41	14.5%	24	11.1%		
	I do not know	179	63.3%	166	76.5%		
Where did you learn about first aid?	Book or magazine	32	11.3%	25	11.5%	13.288	<0.05
	TV or radio	34	12.0%	36	16.6%		
	Folder or poster	19	6.7%	7	3.2%		
	Teacher	61	21.6%	55	25.3%		
	Family member or Friend	43	15.2%	46	21.2%		
	Multiple choice	94	33.2%	48	22.1%		
Did the school curriculum contain information related to first aid?	No	172	60.78%	147	67.7%	4.059	0.131
	Yes	111	39.22%	70	32.3%		
Have you attended a first-aid course?	No	183	64.7%	164	75.6%	6.886	<0.05
	Yes	100	35.3%	53	24.4%		

Table 3: Knowledge regarding first aid and its relationship with associated variables

Variables		Knowledge				Chi square value	P value
		Good		Poor			
		N	%	N	%		
Academic	Scientific	95	38.0%	65	26.0%	10.442	<0.05
	Literary	64	25.6%	62	24.8%		
	Medical	91	36.4%	123	49.2%		
House	Owner	182	72.8%	200	80.0%	3.594	.058
	Rent	68	27.2%	50	20.0%		
Father's education	Illiterate	13	5.2%	6	2.4%	9.405	0.152
	Primary	27	10.8%	27	10.8%		
	Intermediate	33	13.2%	28	11.2%		
	Secondary	66	26.8%	60	24.0%		
	Bachelors	70	28.4%	95	38.0%		
	Phd and Masters	39	15.6%	34	13.6%		
Mother's education	Illiterate	35	14.0%	16	6.4%	11.650	.070
	Primary	40	16.0%	51	20.4%		
	Intermediate	37	14.8%	32	12.8%		
	Secondary	46	18.4%	43	17.6%		
	Bachelors	62	24.8%	80	32.4%		
	Phd and Master	29	12%	26	10.4%		
Does the university have committee or group for first aid?	No	73	29.2%	53	21.2%	7.254	<0.05
	YES	70	28.0%	61	24.4%		
	I DO NOT KNOW	107	42.80%	136	54.40%		
Are there first-aid boxes at the university?	No	83	33.2%	65	26.0%	5.539	0.236
	I do not know	49	19.6%	47	18.8%		
	Yes	118	47.2%	138	55.2%		
Person in-charge of first aid	Lecturers	11	4.4%	5	2.0%	6.758	0.239
	Administrators	32	12.8%	30	12.0%		
	Students	9	3.6%	3	1.2%		
	Nurses	35	14.0%	30	12%		
	I do not know	164	65.6%	182	73.2%		
Where did you learn about first aid?	Book or magazine	28	11.2%	29	11.6%	9.634	0.86
	TV or radio	39	15.6%	31	12.4%		
	Folder or poster	6	2.4%	20	8.0%		
	Teacher	56	22.4%	60	24.0%		
	Family member or Friend	44	17.6%	45	18.0%		
	Multiple choice	77	30.8%	65	26.0%		
Did the school curriculum contain information related to first aid?	No	153	61.2%	167	66.8%	1.705	0.426
	Yes	97	38.8%	83	33.2%		
Have you attended a first-aid course?	No	161	64.4%	186	74.4%	5.886	0.015
	Yes	89	35.6%	64	25.6%		

Table 4: Attitude regarding first aid and its relationship with associated variables

Variables		Attitude				Chi square value	P value
		Good		Poor			
		N	%	N	%		
Academic	Scientific	16	41.0%	144	31.2%	11.384	0.003
	Literary	16	41.0%	110	23.9%		
	Medical	7	17.9%	207	44.9%		
House	Owner	25	64.1%	357	77.4%	3.548	0.060
	Rent	14	35.9%	104	22.6%		
Father's education	Illiterate	4	10.3%	15	3.3%	8.464	0.206
	Primary	7	17.9%	47	10.2%		
	Intermediate	4	10.3%	57	12.4%		
	Secondary	9	23.1%	118	25.6%		
	Bachelors	12	30.8%	154	33.4%		
	Phd and Masters	3	7.7%	70	15.2%		
Mother's education	Illiterate	8	20.5%	43	9.3%	8.432	0.208
	Primary	8	20.5%	83	18.0%		
	Intermediate	5	12.8%	64	13.9%		
	Secondary	9	23.1%	81	17.6%		
	Bachelors	7	17.9%	137	29.7%		
	Phd and Masters	2	5.1%	53	11.5%		
Does the university have group of first aid	No	17	43.6%	109	23.6%	12.168	0.002
	YES	13	33.3%	118	25.6%		
	I DO NOT KNOW	9	23.10%	234	50.80%		
Are there first-aid boxes at the university?	No	16	41.0%	132	28.63%	3.867	0.424
	I do not know	4	10.3%	92	19.96%		
	Yes	19	48.7%	237	51.41%		
Who is the person in charge of first aid at the university?	Lecturers	2	5.1%	15	3.25%	4.151	0.528
	Administrators	6	15.4%	57	12.36%		
	Students	2	5.1%	10	2.17%		
	Nurses	2	5.1%	61	13.23%		
	I do not know	27	69.2%	318	69.0%		
Where did you learn about first aid?	Book or magazine	1	2.6%	56	12.1%	19.680	0.001
	TV or radio	5	12.8%	65	14.1%		
	Folder or poster	0	0.0%	26	5.6%		
	Teacher	3	7.7%	113	24.5%		
	Family member or Friend	14	35.9%	75	16.3%		
	Multiple choice	16	41.0%	126	27.3%		
Did the school curriculum contain information related to first aid?	No	20	51.3%	299	64.86%	3.079	0.215
	Yes	19	48.7%	162	35.14%		
Have you attended a first-aid course?	No	24	61.5%	323	70.1%	1.231	0.267
	Yes	15	38.5%	138	29.9%		

Table 5: Skills and practice regarding first aid and its relationship with associated variables

Variables		Practice				Chi square value	P value
		Good		Poor			
		N	%	N	%		
Academic	Scientific	63	35.0%	97	30.3%	1.186	0.553
	Literary	44	24.4%	82	25.6%		
	Medical	73	40.6%	141	44.1%		
House	Owner	139	77.2%	243	75.9%	0.105	0.745
	Rent	41	22.8%	77	24.1%		
Father's education	Illiterate	10	5.6%	9	2.8%	6.67	0.245
	Primary	13	7.2%	41	12.8%		
	Intermediate	22	12.2%	39	12.2%		
	Secondary	51	28.3%	76	23.8%		
	Bachelor	59	32.8%	107	33.4%		
	Phd and Masters	25	13.9%	48	15.0%		
Mother's education	Illiterate	19	10.6%	32	10.0%	4.76	0.444
	Primary	27	15.0%	64	20.0%		
	Intermediate	28	15.6%	41	12.8%		
	Secondary	30	16.7%	59	18.4%		
	BA	59	32.8%	85	26.6%		
	Phd and Masters	17	9.4%	39	12.2%		
Does the university have group of first aid	No	59	32.8%	67	20.9%	16.866	<0.001
	YES	55	30.6%	76	23.8%		
	I DO NOT KNOW	66	36.70%	177	55.30%		
Are there first-aid boxes at the university?	No	55	30.6%	93	29.1%	4.962	0.291
	I do not know	30	16.6%	66	20.6%		
	Yes	95	52.8%	161	50.3%		
Who is the person in charge of first aid at the university?	Lecturers	8	4.4%	8	2.5%	7.587	0.181
	Administrators	15	8.3%	49	15.3%		
	Students	6	3.4%	6	1.9%		
	Nurses	23	12.8%	40	12.5%		
	I do not know	128	71.1%	217	67.8%		
Where did you learn about first aid?	Book or magazine	26	14.4%	31	9.7%	17.838	<0.05
	TV or radio	16	8.9%	54	16.9%		
	Folder or poster	5	2.8%	21	6.6%		
	Teacher	36	20.0%	80	25.0%		
	Family member or Friend	32	17.8%	57	17.8%		
	Multiple choice	65	36.1%	77	24.1%		
Did the school curriculum contain information related to first aid?	No	77	42.8%	242	75.6%	55.484	<0.001
	Yes	103	57.2%	78	24.4%		
Have you attended a first-aid course?	No	119	66.1%	228	71.3%	1.433	0.231
	Yes	61	33.9%	92	28.8%		

Discussion

Awareness and knowledge regarding first aid play a crucial role in undergraduate students, especially those who are pursuing a medical career, as they are tomorrow's lifesavers. There is an increasing possibility in a medical students' life they will encounter a life-saving situation both inside and outside the college that requires doing a first-aid intervention, which could help improve the medical condition of the patient before transferring to the hospital.

The findings of our study showed that awareness regarding first aid was found to be 56.6% good and 43.4% poor among 500 participants. The common people always have the expectation that junior doctors or medical students should be competent in giving basic life support including cardio-pulmonary resuscitation in case of any emergency [12].

In our study, we found that awareness was found more in medical students compared to literary students or students pursuing other science courses. A study done in Kuwait by Al-Khamees reported that the awareness regarding first aid was more in health sciences students than literary students [8]. The reason for increased awareness among medical students could easily be explained based on factors such as the acquaintance or association of them with the profession, which makes them realize the importance of first aid more than others. Today's world requires students to have awareness of first aid in order to help others or themselves in event of any accidents or emergencies (13).

We noticed that there was a statistically significant relationship observed between the presence of first aid group /committee with the awareness, knowledge, attitude and practices scores. An institution needs to provide resources to increase the awareness of first aid among its students as this could help the students to understand the importance of basic life support that should be given to any person.

In our study, 25.2% of the participants reported that they didn't have a first aid group in their institutions and 19% reported that they don't have an idea of its presence. A similar study was done in Saudi Arabia that also reported that one quarter of students didn't have an idea regarding the presence of a first aid group in the institution (11). Institutions need to form a first aid group or committee as this may not only help to improve the knowledge but also could create increased awareness regarding first aid.

The presence of a first aid box at institutions is very important, as every student should know the purpose of this, the contents in it and also how to use them. In our study, the scores regarding knowledge of first aid were more among scientific students. This contrasts with other studies, which showed that medical students have better knowledge regarding first aid than non-medical students (5, 13,14).

We also considered factors like parent's educational levels and their relationship on the awareness, knowledge, attitude and practices of first aid among students. We didn't find any relationship with any of the parameters in our study. In our study, we found that the person-in-charge for first aid in the institution was mostly nurses and administrators. There was also a statistically significant relationship found with the type of person-in-charge for first aid with awareness, knowledge, attitude and practice scores. The person-in-charge of first aid is usually responsible for the maintenance of the first aid boxes and also for calling the emergency services. He/she should have a certificate in first-aid treatment and thus the institution could utilize these persons to conduct courses of first aid for their employees or students (15).

It is always suggested that a person who has good communication skills, knowledge and experience in first aid should be given responsibility in any institution (16). 23.2% reported that they learned first aid through teachers. School and its environment is the best place to impart awareness and knowledge regarding first-aid in students (17,19). Teachers need to undergo training in first aid services as it can strengthen the health care services in schools and colleges which could help the students to increase the awareness and knowledge towards the same (20).

The results of our findings showed that students who had first aid information or contents in the school curriculum had good knowledge and practices regarding the same. This finding suggests that when planning to teach first aid in the school curriculum, it should not only be restricted to lectures only but should also include more hands-on practices (21).

Many studies reported that schools have failed to provide enough education and training in first aid and Basic Life Support services (BLS); skills that may reduce the confidence of young doctors or graduates to get involved in a life-saving situation (22-25).

In our study, 63.8% of participants reported that their school curriculum contains information related to first aid. It is recommended that the curriculum of schools should be revised and give more importance to first aid and BLS so that students or young doctors would become more confident in acting in a real life-saving situation. Even though the government of Saudi Arabia has already made it mandatory to attend courses on first aid and BLS in some groups, reports show that knowledge regarding this is weak (26,27).

It is essential that people who provide First aid and BLS need to recognize and assess the injury or any emergency situation before performing the required pre-hospital medical management (28). For this, there is a need to attend courses on First aid and BLS to make the management more effective. The findings of our study showed that only 30.6% of the participants have attended first aid courses in any form. This is similar to another study done in Saudi

Arabia by Al-Johani et al., which reported attendance of 34.5% (26). Another study done in the Kingdom reported that 65.3% of female university students couldn't provide first aid because of the lack of knowledge and other issues (29). Courses on First aid and BLS should be made mandatory in universities and this should be done through lectures coupled with hands-on practices to make it more effective. Countries like England have made BLS courses mandatory in the school curriculum and research showed that 86% of school children effectively demonstrated performing CPR correctly (30).

In any universities announcements for first aid, courses should be made through the entire campus and attendance should be made mandatory irrespective of the fields of study. This could help the students to confidently act during any life-threatening situation.

Limitations

One of the limitations of this study was using self-reported questionnaires that may be prone to recall bias. The use of a cross-sectional study showed the relationship between variables without disclosing a cause-effect relationship.

Conclusion

The study showed that half of the participants exhibited good knowledge regarding first aid and BLS, but the practices and skills related to this were very poor. There was better knowledge and awareness in participants who attended first aid courses, and this was statistically significant. Proper knowledge regarding different techniques, materials used in first aid and BLS play a crucial role in effective management of victims at a place of emergency. Institutions should give predominant importance to first aid and BLS skills of their students by conducting courses on a regular basis.

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