

Effectiveness of a Training program on Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait

Dr. Manayer Salem Nasser Al-Rashidi

Assistant Professor, Department of physical Education and Sports, College of Basic Education, Kuwait

manayerelrashidi@gmail.com

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Abstract

This study was conducted to assess the effectiveness of a training program on Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait. The review of literature included studies which provide a durable foundation for the study including the basis for conceptual framework and formation of tools. The researcher used experimental design using one group pretest posttest design. It was carried out with 90 samples of those who fulfilled the inclusion criteria. Purposive sampling technique was used to select the sample. A self-administered tool was used to assess the pretest and posttest level of knowledge and practice regarding selected first aid measures. The training program was conducted for the duration of 30 to 45 minutes. The posttest was assessed after the fifth to seventh day by using the same tool the analysis revealed that the pretest level of knowledge regarding selected first aid measures mean score was 18.11 with the standard deviation of 7.23 and the posttest level of knowledge regarding selected first aid measures mean score was 35.18 with standard deviation of 13.61. The pretest level of practice regarding selected first aid measures mean score was 15.80 with standard deviation of 7.40 and posttest level of practice regarding selected first aid measures mean score was 26.90 with standard deviation of 3.20. the paired 't' test values were 10.50 and 13.06 which showed remarkably high significant at the level of $p < 0.001$. The person correlation coefficient value of $r = 0.543$ at the level of $p < 0.01$ which showed moderate correlation between posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait. Hence it indicates the effectiveness of training programs regarding selected first aid measures among college students. So, the research hypothesis was accepted for the study.

Key words: Training program, Knowledge Acquisition, First Aid Skills.

Introduction:

Life of everyone is a gift from God. Living a healthy life is the most important part of our life. This precious life can be affected by both external and internal factors. Adolescence period is the most joyful and remembrance phase of life. Every individual must be cautious about their health and wellbeing. Injuries are the most common problems faced by adolescence. First help is the best help so first aid is the provision of initial care for an illness or injury.

Every individual knows the value of life but there are certain situations in which it falls in danger and sometimes lives may be lost if appropriate first aid steps were not taken. A drop of water is more valuable to a thirsty man nearing to death, than a tumbler full of water near to dead man. in most cases of injury if first aid provided successfully, the dangers to life reduced to less than 60%.

The need for first aid training is greater than ever because of population growth throughout the world and due to the increased use of technological products, such as mechanical and electrical appliances in everyday use at home, working place, sports and play areas which make more people at risk of injury. In general, first aid aimed to help others, preparation for knowing what to do during disaster as well as to help self. (kadeja A Bashekah, 2023)

An emergency can happen at any time or any place. An emergency is a situation demanding immediate action. The first critical step in any emergency depends on the presence of someone who will take appropriate action. The goal of the first aid course is to train the person in the

basics of first aid that will help them to recognize and respond to any emergency appropriately. This response may help to save a life. (World Health Organization, 2017)

First aid is the immediate care given to a person who has been injured or suddenly become ill. It includes self-help and home care if medical assistance is not available or delayed. It also includes well selected words of encouragement, evidence of willingness to help and promotion of confidence by demonstration of competence. (Alemayehu Galmessa, 2006)

The person giving first aid, the first aider deals with the whole situation, the injured person and the injury or illness. First aider knows what to do as well as not to do during emergency situations and avoids errors that are frequently made by untrained persons through well-meant but misguided efforts. First aider knows their first aid knowledge and skill can mean the difference between life and death between temporary and permanent disability and between rapid recovery and long hospitalization. (International Committee of the Red Cross, 2006)

First aid generally consists of a series of simple, potentially lifesaving techniques that an individual can be trained to perform with minimal equipment. It is particularly important to know what to do in case of an accident or emergency. First aid is the immediate help given to an injured or ill person before the doctor arrives.

First aid is so important, especially now with all the strange infections that are going on. First aid is usually meant for minor cuts and scrapes or is in reference to the first response to any kind of medical emergency. Administering first aid quickly and accurately in a traumatic injury situation can make the difference between life and death. (Fabienne El-Khoury, 2013)

Basic training in first aid skills should be taught in Schools, Colleges and in workplaces, as it is mandatory to our modern and stressful life. First aid knowledge also increases the social responsibility of society and strengthens humanitarian values.

Injuries resulting from road traffic accident, drowning, poisoning, falls or burns, violence from assault, self-inflicted violence or acts of war kill more than five million people worldwide annually and cause harm to millions more. The injuries account for 9% of global mortality and are a threat to health in every country of the world. For every death, it is estimated that there are dozens of hospitalizations, hundreds of emergency department visits and thousands of doctor's appointments. A considerable proportion of people ended up with temporary or permanent disabilities. (Louise Constância, 2023)

Minor bleeding episodes are commonly seen among college students. It is easy to treat and has no long-term consequences. Major bleeding can be extremely dangerous and needs to be cared for immediately to prevent complications. Accidental cuts, lacerations or puncture wounds from sharp objects could cause extensive bleeding. Extensive bleeding can cause a drop in the blood pressure and decreased organ blood flow, which could lead to shock. We must check a person who is bleeding for other related injuries such as head injury, fracture, cuts and falls from height. (Tarek Owaidah, 2018)

Drowning is a process resulting in primary respiratory impairment from submersion in a liquid medium. Drowning is a liquid air interface present at the entrance to the victim's airway, which prevents the individual from breathing. Outcome may include delayed morbidity, or rapid death or life without morbidity. Immediate threats include effects on the central nervous system and cardiovascular systems. Thus, the most critical actions in the immediate management of drowning victims include prompt correction of hypoxemia and acidosis.

Drowning is a leading cause of injury related to death in children, more than 1400 united

state children younger than 20 years old children were drowned. In India it is estimated that at least 1 to 4 children suffer a serious nonfatal submersion event, many of which leaves children with permanent disabilities reported by the World Health Organization in 2006. (Krith. J. K, 2011)

A fracture is a medical condition in which there is a break in the continuity of the bone. A bone fracture can be the result of high force impact or stress. As the adolescence period is a regularly active phase always trying to explore new and there are many chances for hurting themselves. The most common orthopedic problems about 6.8 million come to medical attention each year in the United States. The average citizen in a developed country can expect to sustain two fractures over the course of their lifetime. (Tyflids. A, 2012)

An electrical injury occurs upon contact of a human body part with any source of electricity that causes a sufficient current through the skin, muscles or hair. A high voltage current passing through the body may make it impossible for a shock victim to let go of an energized object. Still larger currents can cause fibrillation of the heart and damage to tissues. Death caused by an electric shock is called electrocution. (Pippa. K, 2017)

Shock is the condition of being not conscious in a mental state that involves complete or near complete lack of responsiveness to people and other environmental stimuli. Fainting is due to a drop in blood pressure with drugs that depress the activity of the central nervous system. e.g., alcohol and other hypnotic or sedative drugs, severe fatigue and other causes. (Melinda. J. F, 2008)

The process of providing first aid measures and emergency care knowledge to the students is essential as they are the building blocks of the country.

According to the American Journal of Sports Medicine report in 2015, stated that approximately 10 percent of all college students had sports related injuries and can severely impact on them physically, emotionally and financially so the knowledge regarding the fracture prevention among the college students is essential and should emphasized on the need for fracture prevention program. (Zachary Y. Kerr, 2015)

Need for the study

First aid training is the value of both preventing, treating sudden illness and accidental injury and in caring for enormous number of persons caught in a natural disaster. Injuries are a major but neglected public health challenge that requires concerted efforts for effective and sustainable prevention.

Safety and security are of paramount importance in a college environment. College life is a remarkable period in an adolescent's life where each of them faces an entire world. In the field of sports, many adolescents participate in basketball, football, running, javelin and in other competitive games. Thus, many students are prone to get injuries.

Wounds usually result from external physical forces. The most common accidents resulting in open wounds are accidental falls while practicing physical activities and handling of sharp objects, tools, machinery and weapons that causing bleeding and loss of blood. That Which calls for immediate intervention from first aider to stop any large rapid loss of blood and to treat for shock and prevent death.

When a person is electrocuted, the passage of electrical current through the body may shock him causing his breathing and even his heartbeat to stop. The electrical current may cause burns both where it enters the body and where it exits the body. In some cases, the current causes muscular spasms that may prevent a casualty from breaking contact with it, Electrical injuries

usually occur in the home or workplace, due to contact with sources of low voltage current. They may also result from contact with sources of high voltage current, such as fallen power lines. People who are electrocuted by a high voltage current rarely survive.

Drowning also is one of the most serious causes of death among adolescence. About one in five people who die from drowning are children aged 14 and younger. These nonfatal drowning injuries can cause severe brain damage that may result in long term disabilities such as memory problems, learning disabilities and permanent loss of basic functioning.

The reasons also for this study include lack of knowledge and skills for other first aids like fracture, shock and so on. meanwhile social norms that do not emphasize helping strangers or the opposite gender, simply not knowing how to help, Fear of disease transfer or lack of protective barrier, Shock or being upset (ex., by abnormal visuals (fractures), unpleasant odors (burned flesh), or pain expressed by victims.

None of these problems is insurmountable. Relevant first aid education can address many of these concerns, increasing the willingness of college students to intervene and the chances that they will do so successfully.

The college students of physical education being one among the members of the healthcare team who can function as a facilitator and supporter in developing the potential abilities of others. Hence, the researcher felt that there is a need to prepare A study to assess the effectiveness of a training program on knowledge acquisition and practicing some first aid skills for students of Department of physical Education and Sports in Kuwait, which will help them to acquire knowledge, self-confidence and motivation.

Objectives

This research aims to identify the effectiveness of a training program on Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait, and that is through: -

- 1- To assess the pretest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.
- 2- To assess the posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.
- 3- To assess the effectiveness of training program on Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.
- 4- To correlate the posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.
- 5- To associate the pretest and posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait with their selected demographic variables.

Hypothesis

There is a significant association between training program and level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.

Operational definitions

Effectiveness: Refers to producing a desirable result of training program on selected first aid measures among college students.

Training program: Refers to a planned program for Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait by using poster, hand out, pamphlets and demonstration.

Knowledge: Refers to known information regarding the selected first aid measures among college students.

Practice: Refers to the immediate measures during the time of bleeding, drowning, fracture, electrical injuries and shock to be carried out by college students.

First aid measures: Refers to immediate and temporary care given to the victims during bleeding, drowning, electrical injury, fracture, and shock.

Methodology:

The methodology is the backbone for any investigation. It is a guideline system for solving a problem with specific components such as phases, tasks, methods, techniques and tools. The successes of any research depend upon the suitability of the tools and the technique that the investigator follows to gather adequate data. This design was used to assess the effectiveness of training program on knowledge and practice regarding selected first aid measures for students of physical Education and Sports in Kuwait.

Research design:

The researcher used experimental design using one group pretest posttest design.

Research Sample and community:

The sample community consisted of 350 students from the Department of Physical Education and Sports in Kuwait who were registered in the sports injuries course, the sample was chosen randomly and consisted of 120 students, 20 of whom were excluded from conducting the exploratory study. Thus, the size of the basic sample reached 90 students.

The exploratory study:

It was conducted from 1/8 to 7/8/2023 and included (20) students from the research community and outside the basic research sample.

Scoring of knowledge of sports injuries' skills was as follows: Appendix (A) part I.

The correct response carries one mark and the wrong response carries zero mark.

Adequate knowledge 76-100%

Moderately adequate knowledge 51-75%

Inadequate knowledge <50%

Scoring of practicing of sports injuries' skills was as follows: Appendix (A) part II.

It consists of five components; each component includes seven statements. The presence of skill was marked as yes and it carries one marks similarly absence of skill was marked as no and it carries zero marks.

Good 76-100 %

Fair 51-75%

Poor < 50%

Validity:

The validity of the tool was assessed using content validity. Content validity was determined by experts from physical education and medical field. Appendix (C) They suggested certain modifications in the tool. After the modifications they agreed this tool for assessing effectiveness of training program on knowledge and practice regarding selected first aid measures for students of physical Education and Sports in Kuwait

Reliability:

The reliability of the tool was assessed by using the test-retest method, correlation coefficients R values are 0.75 and 0.82. The correlation coefficient was high, so the tool was appropriate and used to assess the effectiveness of training program on knowledge and practice regarding selected first aid measures for students of physical Education and Sports in Kuwait.

The pre-measurement:

It was conducted on 8,9 /8/2023.

The basic study:

It was conducted from 10/8/2023 to 9/9/2023, The training program lasted 4 weeks, with two units per week, each unit lasting 60 minutes, so the total time of the program became 480 minutes. Appendix (B)

Post-measurement:

It was performed in 10,11 /9/2023.

Data Analysis:

The data was analyzed in term of the objectives of the study using both descriptive and inferential statistics. Demographic variables of students were analyzed in terms of frequency percentage. Mean and standard deviation was used to compute pretest and posttest level of knowledge and practice regarding selected first aid measures among students. Paired 't' test was used to assess the effectiveness of training program on selected first aid measures. Karl Pearson correlation coefficient was used to correlate between the posttest level of knowledge and practice regarding selected first aid measures. The Chi square test was used to associate the pre and post level of knowledge and practice regarding selected first aid measures students with their selected demographic variables.

The following statistical treatments:

Frequencies - percentages - correlation coefficient - Chi-squared test, T test.

Discussions:

This chapter deals with discussion of the result obtained from the statistical analysis. This study aimed to assess the effectiveness of training program on Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait

The hypothesis formulated was that there was a significant association between the training program and level of knowledge and practice regarding selected first aid measures. The review of literature included related studies which provide a durable foundation for the study including the basis for conceptual framework and formation of tool.

The conceptual framework for this study was developed based on Imogen king's goal attainment theory. The research design used in the study was pre-experimental one group pretest and posttest design. It was carried out with 30 participants who fulfilled the inclusion criteria. Purposive sampling technique was used to select the sample.

A structured questionnaire and check list was given to the participants to assess the pretest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait. Training program was conducted to the participants for the duration of 30 to 45 minutes. The posttest was conducted after the fifth to seventh day by using the same tool.

Table 1: Frequency and Percentage distribution of demographic variables for students of physical Education and Sports in Kuwait N=90

demographic variables		Frequency	Percentage
Age in years	17-18	72	80.0
	19-20	18	20.0
Sex	Male	36	40.0
	Female	54	60.0
Health camp attended	Yes	9	10.0
	No	81	90.0
	Less than one week	9	10.0
	More than one week	0	0.0
	Not at all attended	81	90.0

The collected data was analyzed using descriptive and inferential statistics. The distribution of demographic variables of study showed that 72 (80.0%) students were between the age group of 17-18 years and remaining 18 (20.0%) students were in the age group of 19-20 years.

In accordance with sex 36 (40.0%) students were male and 54 (60.0%) were female.

In relation to the health camp attended, 81 (90.0%) students have not attended the camp and 9 (10.0%) students have attended the camp.

Regarding the duration of the course of study for first aid, 81 (90.0%) students have not at all participated in first aid camp and 9 (10.0%) students had attended the first aid camp in less than one week.

The first and second objective was to assess the pretest, the posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait

Table 2: Frequency and percentage distribution of pretest and posttest level of knowledge regarding selected first aid measures for students of physical Education and Sports in Kuwait N=90

Level of knowledge	pretest		posttest	
	Frequency	Percentage	Frequency	Percentage
Inadequate	66	73.33	0	0.0
Moderately adequate	24	26.67	22	24.44
Adequate	0	0.0	68	75.56

Table 3: Frequency distribution of pretest and posttest level of practice regarding selected first aid measures for students of physical Education and Sports in Kuwait N=90

Level of practice	pretest		posttest	
	Frequency	Percentage	Frequency	Percentage
Poor	60	66.67	0	0.0
Fair	30	33.33	27	30.0
Goof	0	0.0	63	70.0

In pretest 66 (73.3%) students had inadequate knowledge, 24 (26.67%) students had moderately adequate knowledge and none of the students had adequate knowledge, regarding practice, it reveals that 60 (66.67%) students had poor practice, 30 (33.33%) students had fair practice and none of the students had good practice regarding selected first aid measures.

The study correlates with Delavar. M. A., et al., (2012) who has conducted a cross sectional study to assess the knowledge, attitude and practices of relief workers posted in rescue and relief bases of the Red Crescent society at Iran. This study was conducted among 219 relief workers gathered from 13 different cities. The cluster random sampling was used to select the data and used a pretest questionnaire to assess the knowledge and attitude. This study result shows that 83% of relief workers knew how to correctly perform a cardiopulmonary resuscitation while 94% of relief workers did not know how to perform cardiopulmonary resuscitation. The researcher concluded that the relief workers demonstrated moderate level of knowledge, attitude, and practice towards first aid. (Delavar. M. A.,2012)

The study correlates with the study done by Ali S. Mobarak, et al., (2015) who has conducted a study to assess the attitude of high school students regarding the problem of first aid in emergency trauma. This study was conducted among 642 students from randomized selection from various high schools. A questionnaire with single choice answers was administered to them. This study results showed that about 80% of the respondents know the importance of first aid, only 21% undertake the first aid procedure in emergency and 67% claimed that their skills are insufficient. This study concluded that the level of first aid training is poor and students do not learn practical skills and the training should start from primary school itself. (Ali S. Mobarak,2015)

In posttest level of knowledge 68 (75.56%) students had adequate knowledge, 22 (24.44%) students had moderately adequate knowledge and none of the students had inadequate knowledge. In the posttest level of practice 63 (70.0%) students had good practice, 27 (30.0%) students had fair practice and none of the students had poor practice.

The study correlates with **Eldosoky. R. S., et al., (2012)** who has reviewed a cross sectional study to evaluate knowledge, attitude, and practice about first aid on home related injuries among children of the rural mother at Egypt. This study was conducted among 1450 rural mothers of children aged up to 12 years. The interview questionnaire method was used regarding certain aspects like home injuries, cut wound, fall, and fracture, burns, poisoning and foreign body aspiration. This study result showed that the mothers with younger age, higher education and high socio-economic status were having more knowledge regarding first aid. (Eldoskey. R. S,2012)

The study correlates with the study done by **Parnell. M., et al., (2016)** has reviewed a study to assess the knowledge and attitude towards resuscitation in Newzealand high school students. This study was conducted among 494 students with the age group of 18 to 20 years. A questionnaires method was used to assess both knowledge and attitude regarding resuscitation. This study results showed that the students have shown poor theoretical knowledge regardless of female and male students. This study finding suggested that although most high school students were willing and motivated to learn Cardiopulmonary resuscitation, a smaller percentage of students had a negative attitude towards Cardiopulmonary resuscitation that would function as a barrier to future learning or performance of resuscitation. The researcher recommended that more cardiopulmonary resuscitation training to high school should be introduced. (Parnell. M,2016)

The third objective was to assess the effectiveness of training program on Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.

Table 4: Comparison of mean and standard deviation of pretest and posttest level of knowledge regarding selected first aid measures N=90

Assessment of knowledge	Mean	Standard Deviation	Paired 't' test
Pre test	18.11	7.23	10.50***
Post test	35.18	13.61	

*** $p < 0.001$

Table 5: Comparison of mean and standard deviation of pretest and posttest level of practice regarding selected first aid measures. N=90

Assessment of Practice	Mean	Standard Deviation	Paired 't' test
Pre test	15.80	7.40	13.06***
Post test	26.90	3.30	

*** $p < 0.001$

In comparison of mean and standard deviation between pretest and posttest level of knowledge regarding selected first aid measures. Analysis reveals that the pretest level of knowledge mean score was 18.11 with the standard deviation of 7.23 and the posttest level of knowledge mean score was 35.18 with the standard deviation of 13.61. The paired 't' test value of 10.50 was remarkably high significant at the level of $p < 0.001$. The difference between pretest and posttest level of knowledge score is high and it is statistically remarkably high significant.

In comparison of mean and standard deviation between pretest and posttest level of practice regarding selected first aid measures. Analysis reveals that the pretest level of practice mean score was 15.80 with the standard deviation of 7.40 and the posttest level of practice mean score was 26.90 with the standard deviation of 3.20. The paired 't' test value of 13.06 was remarkably high significant at the level of $p < 0.001$. The difference between pretest and posttest level of practice score is high and it is statistically remarkably high significant. Thus, it indicates the effectiveness of the training program regarding selected first aid measures.

The study correlates with **Serrao, Jane Maria; Ansuya; Malathi (2013)** who has conducted a study to assess the effectiveness of lecture cum demonstration on first aid for selected minor injuries among Accredited social health activities in selected area of Udupi district. The researcher used the evaluative approach with pre-experimental one group pretest and posttest design. This study result shows that the majority 63.3% the sample were serving as ASHA since 1 to 2 years, majority 83.3% of them had no previous experience of giving first aid and 100% of them had obtained information about first aid through various sources, majority 93.3% of them had not attended any training on first aid. This Study found that the middle most 50% posttest knowledge scores were higher than the pretest knowledge score indicating the significant improvement in the knowledge on first aid and improvement in skills in first aid for open wounds, closed fracture of the arm, snake bite, dog bite and bee sting after teaching through lecture cum demonstration. The researcher concluded that the lecture cum demonstration on first aid measures was effective in enhancing the knowledge and skills of ASHA. (Serrao, Jane Maria; Ansuya; Malathi,2013)

The fourth objective was to correlate the posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.

Table 6: Correlation between posttest level of knowledge and practice regarding selected first aid measures N=90

Assessment	Mean	Standard deviation	Karl Pearson Correlation Coefficient R
Knowledge	35.18	13.61	r =0.543 S**
Practice	26.90	3.20	

** $P < 0.01$

person correlation coefficient value of $R = 0.543$ at the level of $p < 0.01$ which showed moderate correlation between posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait.

The study correlate with Sarbaz Abdalla Mustafa, et al., (2021) who has conducted a descriptive study to Assess the knowledge of theoretical and practical first aid among senior students in medical colleges in the governmental universities in Sulaimani city. This study was conducted for 157 students in the last stage of different medical colleges for 24 days (from 12th November to 5th December) to evaluate their knowledge of first aid measures. The researcher used Semi-experimental approach to answer their research question and meet the aims and objectives of the study. This study result shows that the overall percentage of correct answers was 71.5%, and 28.5% with insufficient knowledge. The highest percentage of correct answers belonged to students from the College of Nursing, 38.5%. A significant difference was found among students who had taken first aid courses and/or lectures previously when compared to those who had not, but there was no significant difference between those who work as health professionals and those who do not.

Conclusions was the level of knowledge and awareness of first aid is satisfactory among the senior students, yet further compulsory first aid training programs with practical activities are needed, with more significant research studies. (Sarbaz Abdalla Mustafa,2021)

The fifth objective was to associate the pretest and posttest level of Knowledge Acquisition and practicing some First Aid Skills for students of physical Education and Sports in Kuwait with their selected demographic variables.

Table 7: Association of pretest level of knowledge regarding selected first aid measures with their demographic variables N=90

Demographic variables	Pretest level of knowledge				Chi square χ^2
	Inadequate		Moderately adequate		
	N	%	n	%	
Age in years					$\chi^2 = 0.51$
17-18	54	60.0	18	20.0	df= 1 NS
19-20	12	13.33	6	6.67	
Sex					$\chi^2 = 1.41$
Male	18	20.0	15	16.67	df= 1 NS
Female	48	53.33	9	10.0	
Health camp attended.					$\chi^2 = 1.46$
Yes	9	10.0	6	6.67	df= 1 NS
No	57	63.33	18	20.0	
Duration of first aid camp attended.					$\chi^2 = 1.75$
Less than one week	8	8.89	5	5.56	df= 2 NS
More than one week	1	1.11	1	1.11	
Not at all attended	57	63.33	18	20.0	

NS- Nonsignificant

Table 8: Association of posttest level of knowledge regarding selected first aid measures with their demographic variables N=90

Demographic variables	Posttest level of knowledge				Chi square x^2
	Moderately adequate		Adequate		
	N	%	n	%	
Age in years					$x^2 = 11.83$
17-18	22	24.44	42	46.67	df= 1 S*
19-20	0	0.0	26	28.89	
Sex					$x^2 = 0.23$
Male	9	10.0	24	26.67	df= 1 NS
Female	13	14.44	44	48.89	
Health camp attended					$x^2 = 5.82$
Yes	0	0.0	15	16.67	df= 1 S*
No	22	24.44	53	58.89	
Duration of first aid camp attended					$x^2 = 6.30$
Less than one week	0	0.0	15	16.67	df= 2 S*
More than one week	1	1.11	1	1.11	
Not at all attended	21	23.33	52	57.78	

NS- Nonsignificant, S- statistically significant, * $p < 0.05$

Table 9: Association of pretest level of practice regarding selected first aid measures with their demographic variables N=90

Demographic variables	Pretest level of Practice				Chi square x^2
	Poor		Fair		
	N	%	N	%	
Age in years					$x^2 = 2.81$
17-18	45	50.0	27	30.0	df= 1 NS
19-20	15	16.67	3	3.33	
Sex					$x^2 = 0.86$
Male	24	26.67	9	10.0	df= 1 NS
Female	36	40.0	21	23.33	
Health camp attended.					$x^2 = 2.63$
Yes	10	11.11	0	0.0	df= 1 NS
No	50	55.56	30	33.33	
Duration of first aid camp attended.					$x^2 = 1.40$
Less than one week	14	15.56	0	0.0	df= 2 NS
More than one week	1	1.11	1	1.11	
Not at all attended	45	50.0	29	32.22	

NS- Nonsignificant

Table 10: Association of posttest level of practice regarding selected first aid measures with their demographic variables N=90

Demographic variables	Posttest level of Practice				Chi square x^2
	Fair		Good		
	n	%	n	%	
Age in years					$x^2 = 5.93$
17-18	27	30.0	51	56.67	df= 1 S*
19-20	0	0.0	12	13.13	
Sex					$x^2 = 9.62$
Male	15	16.67	14	15.56	df= 1 S*
Female	12	13.13	49	54.44	

Health camp attended					$\chi^2 = 0.94$
Yes	8	8.89	9	10.0	df= 1 NS
No	19	21.11	54	60.0	
Duration of first aid camp attended					$\chi^2 = 0.56$
Less than one week	8	8.89	7	7.78	df= 2 NS
More than one week	1	1.11	1	1.11	
Not at all attended	18	20.0	55	61.11	

NS- Nonsignificant, S- statistically significant, * $p < 0.05$

In association with the demographic variables with pretest and posttest level of knowledge, there is no statistically significant association found between pretest level of knowledge with their demographic variables but in posttest level of knowledge there was a significant association found. The chi square value of 11.83 showed that there was a significant association between the age of the college students and posttest level of knowledge after the conduction of training program regarding selected first aid measures at the level of $p < 0.05$. The chi square value of 5.82 showed that there was a significant association between the health camp attended by college students and posttest level of knowledge after the conduction of training program regarding selected first aid measures at the level of $p < 0.05$.

The chi square value of 6.30 showed that there was a significant association between the course of camp for first aid and posttest level of knowledge after the conduction of training program regarding selected first aid measures at the level of $p < 0.05$.

In association with the level of practice, there is no statistically significant association found between pretest level of practice with their demographic variables but in posttest level of practice there was a significant association found. The chi square value of 5.93 showed that there was a significant association between the age of the college students and posttest level of practice after the conduction of training program regarding selected first aid measures at the level of $p < 0.05$. The chi square value of 9.62 showed that there was a significant association between the sex of the college students and posttest level of practice after the conduction of the training program regarding selected first aid measures at the level of $p < 0.05$.

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