

ASSESSMENT OF FIRST AID KNOWLEDGE AMONG PHYSICAL EDUCATION STUDENTS

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ABSTRACT

Accidents and injuries are part of daily events, and many of these injuries are initially treated by untrained personnel due to lack of health care providers on the accident site. These accidents and injuries can cause serious consequences if not dealt with properly. Therefore it is necessary to assess the first aid knowledge among students of physical education in the sports sciences department. As first aid knowledge is very important in everyday situation in sports and other daily activities. Therefore, implementing correct first aid measures is vital for victims in emergency cases and helps to improve the overall outcome of the first aid process in emergency situations. The purposes of the study was to assess the first aid knowledge among the students of department of sports sciences and physical education in university of the Punjab, Lahore. It was cross sectional survey study which was conducted in the department of sports science and physical education in university of the Punjab, Lahore. The participants both male and female (N=50) having age 18-25 years of the study were taken from sports sciences department by using simple random sampling technique. The data was collect by using FAA questionnaire developed by Ransone & Dunn Benett (1999). The researcher visited the sport sciences department of Punjab University to collect data from respondents. The researcher took data and filled all questionnaire from respondents in supervision. After collecting data, the data was analyzed through SPSS version -27 (Statistics Power Service Solution) by using Chi Square test of association and results of students knowledge was presented in the form of Pie Chart. It was concluded that there was a high significant association between Physical education student's knowledge and their gender.

Keywords: knowledge, accident, consequences, victims, emergency.

INTRODUCTION

The concept of "first aid" is expressed by educational institutions as behavior that should be demonstrated in emergencies based on scientific data and clinical criteria. These behaviors include proven knowledge and skills and life-saving techniques and have a very important place in the concept of education. The goals that are at the centre of first aid techniques can be counted as;

protecting life, preventing adverse situations of injuries, and promoting recovery. It is seen inevitable for people to encounter accidents and diseases in all especially for children. Of course, situations such as dealing with mobile phones in an uncontrolled way can be considered as factors that can distract children. However, appealing parts of these factors can be used in first aid

training planning and can be included in training programs (De Buck et al., 2020).

Accidents and injuries are part of daily events, and many of these injuries are initially treated by untrained personnel due to lack of health care providers on the accident site. These accidents and injuries can cause serious consequences if not dealt with properly. Therefore, implementing correct first aid measures is vital for victims in emergency cases and helps to improve the overall outcome of the first aid process in emergency situations. The National First Aid Science Advisory Board defined first aid as making an assessment and implementing interventions that can be performed by a bystander (or by the victim) with minimal or no medical equipment. However, this implementation requires certain levels of both knowledge and practice. Several studies have been conducted around the world to evaluate the level of knowledge about first aid among different groups including university students. Some studies showed that a high percentage of students in different countries lack the appropriate first aid knowledge. Similarly, different studies showed that the immense majority of peoples had little or no first aid training. Many factors had been shown to be associated with better knowledge, including taking a first aid course during school, having a driving license, or having a higher level of education (Elsebaei et al., 2022).

People encounter accidents at home, school, work, or on the street that requires first aid treatment. Simple yet effective first aid applied on time and at the site can help to save a person's life, prevent their permanent disability or diminish the seriousness of their injury. Previous studies have shown that 10-35% of post-accident deaths occur in the first 5 minutes, and more than 50% occur in the first 30 minutes. However, with the proper, knowledgeable application of first aid, 38% of deaths can be prevented at the site of the accident, and first aid treatment applied in the first five minutes has shown to be most effective. In 80% of cases, the time taken by an ambulance to reach patients is 10 minutes or shorter in urban settings, and 16 minutes or shorter in rural areas (Hadaye et al., 2020).

According to the American Heart Association (AHA), cardiac life-support ambulances should be able to reach an emergency scene in 8 minutes.

Yet, it typically takes more than 5 minutes for medical services to reach emergency situations and this could lead to serious issues, especially in cases where the circulatory system stops for more than 5 minutes, as this causes the brain to suffer irrecoverable damage, resulting in death. The data shows how vital the matter of time is in saving lives. Therefore, to get the most effective results from first aid treatment it is important for trained people to perform the necessary initiatives before the professional health team arrives. However, studies have found that the willingness of individuals to apply first aid at a scene of an emergency and the quality of first aid treatment are low around the world, but with first aid training, the willingness can be increased and the quality can be improved (Lee et al., 2023).

It is notable that the increasing the number of people who have been trained and know how to correctly apply first aid can decrease the number of deaths and serious injuries in cases around the world where first aid is needed. Moreover, it has been emphasized that the health benefits derived from first aid will serve to improve the sense of social responsibility within society and strengthen societal values. Knowledge and skills in performing first aid are especially important for personnel working in universities, where there is a dense population of young people and accidents and emergencies necessitating first aid can occur more frequently. Some studies regarding this issue have recommended that studies assessing first aid knowledge in universities should not only include students, but also academic personnel, in order to fully identify any deficiencies in first aid capabilities. A literature review showed that while there have been domestic-based and international-based studies assessing the efficacy of training on first aid, there have been no studies examining the efficacy of first aid training on knowledge level and skills that specifically involved academic and administrative personnel of universities. Yet, academic and administrative personnel constitute a group that has a strong possibility of experiencing cases that require first aid. To this end, this study aims to assess the results of first aid training given to academic and administrative personnel working at a state university on their knowledge level of first aid treatment (Silva et al., 2023).

Many experts and emergency medicine societies recommend teaching first aid at school so that every citizen knows how to perform first aid appropriately and raise emergency alerts at the earliest possible time. Children can provide first aid measures and save lives by recognizing life-threatening emergency situations and by making an emergency call. So far, however, there is no proof of the positive effects of first aid measures on patient outcome, except from basic life support (Abelairs Gomez et al., 2020).

According to the National Electronic Injury Surveillance System in 2000, an estimated 145,000 youth soccer related injuries occurred (Adams & Schiff, 2006). In addition, Whitaker, Cunningham, and Selfe (2006) identified that coaches were the most likely people to be responsible for providing first aid during training sessions. Given the large number of reports on soccer injuries and that coaches are the most likely individual to attend to these injuries, knowledge of first aid and emergency care by coaches is imperative to ensure proper health care and referral. (Flores et al., 2021).

Injuries are part of athletic participation, and many of these injuries are initially treated by untrained personnel due to a lack of health care providers on the athletic field. Coaches are often faced with the responsibility of caring for these injured players. High school athletic programs are one level of athletics that have undergone scrutiny over the past 2 decades for their medical care. District and high school administrators, coaches, and team physicians are being held liable for injuries sustained by participants (Pike Lacy et al., 2021).

It is important that coaches have the knowledge and expertise in medical care for which they are being held accountable. However, the educational background of coaches in medical assessment and injury care varies greatly; therefore, we need to ensure that coaches possess a minimum level of knowledge in first aid. Most states require coaches to maintain current certification in first aid and cardiopulmonary resuscitation (CPR), 3'4 whereas a few states require coaches to have a degree in physical education or completion of specialized courses. First aid is providing early and first care for injury or illness by the untrained or inexperienced person until medical treatment can be provided.

Injuries are the major causes of morbidity and death in the world, especially in middle- and low-income countries. Primary care physicians are not present at the schools. Rapid administration of first aid by school teachers may minimize morbidity and mortality of pupils attributed to injury-related problems, therefore, teachers should have adequate knowledge and practice in basic first aid skills (Dohsten et al., 2020).

First aid involves simple medical techniques that individually provide, this individual is either with or without a formal medical. A study to investigate the associated factors of first aid knowledge, attitude, and practice among elementary school teachers in Ethiopia. They found that school teachers have low knowledge of first aid. Educational status, previous first aid training, service year, and information on first aid were the determinant of first aid knowledge (Singletary et al., 2020).

However, due to a lack of knowledge or indifference, they do not provide it directly, only by notifying the appropriate services. WHO and the European Red Cross strive to ensure that all participants in driving courses are trained in first aid. Health care professionals, students of medical faculties (including medicine, emergency medicine, and nursing) gain and constantly improve their qualifications in the field of CPR. First aid is defined as the steps taken towards an injured or acutely ill person. In Hong Kong (HK), standard first aid (SFA) is one of the first aid training courses offered by one of the four recognized organizations to individuals aged 12 or above, transferring basic first aid knowledge and skills, 2-5 including patient assessment, bandaging and cardiopulmonary resuscitation (CPR), to trainees so that they are capable of delivering first aid whenever necessary (Garcia-Abeijon et al., 20203).

Research Questions:

The following research questions were developed for the study.

- What was the current level of basic first aid knowledge among physical education students?
- Was there a correlation between first aid knowledge and students self-reported

confidence in providing first aid in emergency situation?

- Do the physical education student possess the basic first aid necessary knowledge to overcome emergency situation regarding sports injuries?

Hypothesis of the Study:

There was a high significant association between Physical education student’s knowledge and their gender.

Objectives of the Study:

The purposes of the study was to assess the first aid knowledge among the students of department of sports sciences and physical education in university of the Punjab, Lahore.

Statement of the Problem:

The study aim to assess the first aid knowledge among students in sports sciences and physical education department to identify the gaps in their knowledge about basic life preserving techniques that are crucial in the emergency situations. This is very important for these students as they more prone to sports injuries more often while playing in ground and during competition.

Statement of the Problem:

This study was significant because of several reasons. This study can help physical education student to prevent sports injuries and to

manage these injuries if these occurred. This study can facilitate different athletes and player to cope up with different sports injuries. This study can promote safety culture in sports and ground or can enhance the basic life preserving skills, abilities and capabilities of the students to overcome emergency situation efficiently.

Methodology:

It was cross sectional survey study which was conducted in the department of sports science and physical education in university of the Punjab, Lahore. The participants both male and female (N=50) having age 18-25 years of the study were taken from sports sciences department by using simple random sampling technique. Only those participants were selected for the study who participated willingly. The data was collect by using FAA questionnaire developed by Ransone& Dunn Benett (1999. Before collecting data an ethical consent was taken from all participants. The researcher visited the sport sciences department of Punjab University to collect data from respondents. Before collecting data the researcher provided all instruction to all participants of the study. The researcher took data and filled all questionnaire from respondents in supervision. After collecting data, the data was analyzed through SPSS version -27 (Statistics Power Service Solution) by using Chi Square test of association and results about knowledge of physical education students was presented in the form of Pie Chart.

DATA ANALYSIS

Table No: 01

List	Items		Frequency	Percent
	Gender	Male	35	70%
		Female	15	30 %

Table 1 shows that the total no. of the participants were 50 meanwhile 35 (70%) were male and rest 15 (30%) were female.

Table No: 02

The table no. 02 showed the frequency & percentages of correct answers for each question by each participants

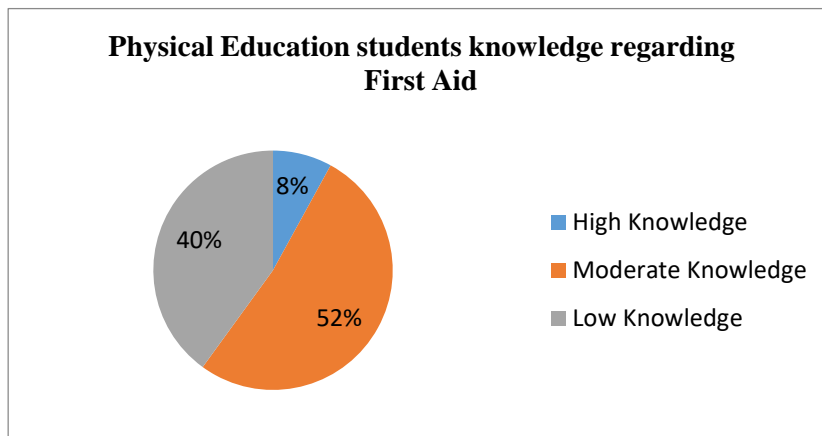
First Aid statements	Correct Answers Frequency	Correct Answers Percentages
Ice should always be used after an injury occurs unless otherwise directed physician/athletic trainer	46	24.4%
What is shock	37	28.1%
An athlete who is knocked unconsciousness may return to play	35	22.1%
Reason of Heat stroke	38	25.1%
What is Musculotendinous tissue injury	40	26.4%
What is not include in standard First Aid for sprained ankle	42	36.2%
Characteristics of heat exhaustion	43	26.5 %
Best prevention of Heat stroke	49	29.2%
Which is the first step in caring bleeding wound	52	29.3%
What should you do if you think an athlete has internal bleeding	48	25.1%
What is splint	50	26.4%
What should you do for an athlete who is experiencing heat exhaustion	52	27.2%
When there is no visible bleeding and upper leg is red and swell what type of wound it will be?	53	28.5 %
What is proper care for muscle cramp in the calf?	59	26.2%
At what rate should chest compression be performed during CPR efforts on an adolescents?	54	25.2%
How can you reduce the risk of disease transmission when caring for open bleeding wounds	45	26.2%

Table No. 03

List	Items		Knowledge			χ^2
			Moderate	High	Low	
	Gender	Male	20	3	12	$\chi^2 = 23.484$ $\chi^2 = 23.430$ d.f.= 8 p-value = 0.01
		Female	6	1	8	

Table 3 displays that there was a high significant association between Physical education student's knowledge and their gender.

Figure No. 01: Pie Chart for the total First Aid knowledge among physical education students.



The above figure showed physical education students have 8% Students have high knowledge regarding first aid, whereas 52% students are at moderate level and 40% students have low knowledge of first aid.

Discussion:

Each year athletes of all ages and abilities participate in sports where the potential for injury exists. Therefore, quality medical care needs to be available to those participating in athletics. The information in this thesis is to provide insight to youth soccer coaches the importance of requiring first aid and CPR certification, and the importance of maintaining that knowledge in case an athlete is injured. The First Aid Assessment of knowledge. Ransone and Dunn-Bennett (1999) revised the American Red Cross First Aid Assessment to assess the first aid knowledge of high school athletic coaches. The validity of the First Aid Assessment test was established by expert review to determine the most appropriate questions related to athletic competition (Hodgson et al., 2022).

Sollied Moller (2021) obtained the original test that is currently used by the American Red Cross for determining proficiency after completion of the Basic First Aid and Sports Injury courses. The test in this study was modified to include updated information on CPR, specifically the compression to breathe ratio for child and adult. The test consisted of 38 multiple

choice questions. The test assessed competency in six areas identified as responsibilities of individuals who provide first aid. The six areas are anatomy, care and treatment, prevention, assessment, equipment, and heat/cold related factors. A score of 80 percent or greater was required to pass (Sollied Moller, 2021).

The current study's findings suggest that almost all students have positive awareness of and good attitudes towards first aid. High levels of awareness of and good attitudes to first aid among the students of physical education of university of the Punjab. No similar studies evaluating the level of first aid knowledge among university students in Jordan exist so far. Results of the current study reveal the inability of the majority of the students surveyed to provide efficient first aid in emergency cases. Even with respect to simple questions (e.g., normal values of the pulse, respiration rate, the number of mouth-to-mouth ventilation or chest compressions in CPR), there are a large number of students, even among those trained in first aid, presenting serious lacks of basic first aid knowledge.

Interestingly, students were less knowledgeable about the correct respiratory rate in an adult in 1 min. Only about 11% of the participants knew the correct respiratory rate. However, respiration is one of the most crucial vital signs of an individual. Similarly, Ahmer et al., (2020) reported that university students in Kuwait have poor levels of first aid knowledge.

Results revealed that female students were more knowledgeable than males about first aid measures. This result is supported by the results of an Indian study, which revealed that 11.5% of male students and 15.4% of female students had a good level of knowledge on first aid measures (Ahmer et al., 2020).

Having previous first aid experience was strongly associated with better first aid knowledge of students. This result is consistent with the results of a Turkish study. Furthermore, in Greece, Yu et al, (2021) supports this result showing that trained industry workers on first aid were more knowledgeable than nontrained workers. A similar trend was noted among university students in Pakistan. Moreover, a study conducted in Austria demonstrated that the monstrous greater part of individuals had next to zero first aid preparing and that there was an immediate relationship between the level of emergency treatment preparing and the nature of first aid measures taken by the general population who attended accidents (Yu et al., 2021).

Students from the health sciences and scientific colleges had better first aid knowledge compared to students of literary and sport colleges. In Jordan, joining health sciences or scientific colleges requires students to get higher averages in the high school which indicates the better academic performance of those students. This notion may explain the difference in knowledge between the health sciences and scientific colleges from one side and students from other colleges on the other side. However, in general, knowledge among students of health sciences is quite surprising. Students from health sciences should be more knowledgeable. However, in fact, health Sciences College is just starting at Yarmouk University, and the last batch of students is still in the 1st year during which general university requirements are taught rather than core health sciences courses. Therefore, the low study year may explain this lack of knowledge among students of health Sciences College (Liang et al., 2023).

Recommendation:

The following recommendations are recommended for future research;

- 1) Administration of the survey to other youth sports such as Pop Warner football, cheerleading, baseball, and softball
- 2) The use of sport specific decision making scenarios which may evoke a different response from coaches of other youth sports
- 3) The development of an injury prevention and care program and the effectiveness of such a program.
- 4) Future research in concluding if the age divisions of the athletes play a role in the knowledge of first aid.

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