Original Article

AWARENESS OF PRE-HOSPITAL FIRST AID AMONG MULTI-DISCIPLINARY UNIVERSITY STUDENTS: AN ANALYSIS

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ABSTRACT

Background: World Health Organization claimed that more than 1.25 million people are killed annually by road traffic accidents. Likewise, in Pakistan, many people are also killed by road accidents or other emergencies due to the unavailability of first aid at the place of the incident. Medical students are little taught to provide pre-hospital first aid but non-medical students are not. Therefore, many victims lose their lives or become disabled. The objective of the study was to analyze the awareness level of first aid among multidisciplinary students of the university in relation to their previous training status

Material and methods: A cross-sectional survey was conducted among 1315 multi-disciplinary students by using a self-administered questionnaire consisting of three-level Likert scale questions regarding first aid awareness. The χ^2 and t-test were used with the help of SPSS.

Results: The results showed that only 12.2% of students had a good level of awareness. T-test showed that previously trained students had more awareness of first aid than untrained students, likewise and χ^2 test showed that the opinion of previously traned students "that first aid training should be mandatory for university students" significantly differed from previously untrained students.

Conclusion: The study concluded that the level of awareness among multi-disciplinary university students was very low and immense action must be taken to improve it.

Key Words: First aid, Awareness, Emergency, Injuries

INTRODUCTION

First aid is a support that is provided to the victim of emergency on-site without any recognized medical facilities before the professional medical help arrives or victim gets shifted to the health facilities, to minimize the adverse consequences of injuries rather than its treatment. Anyone can be a first aider either a bystander or even a victim who is able to assess and provide first aid accordingly.[1]

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Untoward incidents, accidents, and injuries have become routine of our daily life. Every person who is performing any kind of job in daily routine has a chance to meet with accidents and injuries either on-road, at the workplace or even at home. So we cannot avoid accidents but we can minimize the severity of injuries and the impact on our life just by adopting certain prevention measures, education, and awareness. But there is a that an untrained first aider present on the scene can cause severe results on physical, mental, social, and economic health.[2] Therefore, in an emergency situation, it is quite important to implement proper first aid measures which will not only improve the overall outcome of the process but also help to reduce the damages caused by injury. Medical students are taught to deal with trauma patients in a well-equipped hospital setup but unfortunately not on site of accident. On other hand, students of other disciplines are not taught to deal with victims of emergencies at the place of emergency where

occurred.[3] Basic purpose of this study is to adopt certain measures which shall help to minimize the number of road traffic crashes and provide the best support and care at the site of the incident. If the members of our community including university students are trained in basic first aid knowledge and skills, they can help and save numerous lives during emergencies.[4]

The facts and figures of fatalities and injuries caused by various kinds of emergencies show, according to previous emergencies, that the earning members of families aged between 15 to 19 years are mainly the victims of road traffic accidents. 90% of fatalities caused by road traffic accidents in the world occur in those countries having low to middle per capita income. On other hand, these developing countries have only 54% vehicles as compared to the developed world. Approximately 1.25 million people have died annually in road traffic accidents over the world. To prevent and control the injuries caused by road traffic accidents, sports, fall from height, building collapses, and other hazardous pursuits, multi-sectional measures are required.[5] In Pakistan, the number of casualties caused by various emergencies is increasing due to insufficient awareness of first aid among bystanders including students at the place of the accident. During the period from 1956 to 1996, 14 times road traffic accidents increased, and 16 times fatalities increased due to road traffic accidents. And the first aid provided by bystanders to victims was not a skillful intervention for saving their lives.[6] Likewise, the status of first aid awareness among students and teachers in the light of previous studies, three quarters of public university students and teachers had no training of first aid in the USA but 87% of teachers and students were agreed that the training on first aid should be mandatory to reduce the consequences of emergencies and to save lives.[7] In Edinburgh, just 13% of people knew the appropriate pre-hospital first aid skills which were sufficient to handle pediatric incidents.[8] According to a study, the drivers who received first aid by bystanders in case of road traffic accidents were very few

in numbers.[9] The research study arranged in Greece demonstrated that the average of correct answers regarding pre-hospital first aid awareness was higher in university students trained in pre-hospital first aid than students who had no training in pre-hospital first aid.[10] In Kenya, just 45% of coaches for sectors teams in university were able to provide proper pre-hospital first aid to their injured players.[11] The study was aimed to analyze the awareness level of first aid among multidisciplinary students of the university in relation to their previous training status.

Significance of study

In the study of pre-hospital first aid awareness, multi-disciplinary students at university are an under-researched group. There are a few studies among medical and allied-health students but there has been no research study among multidisciplinary students in Pakistan. Therefore, there is a scarcity of studies that take a more comprehensive approach to describe the awareness level of pre-hospital first aid among multi-disciplinary university students. This study not only focused on the level of awareness of pre-hospital first aid among multi-disciplinary students but also measured the opinion of the students whether should be mandatory. Furthermore, this study also found out the relationship between the level of awareness of pre-hospital first aid among untrained students. Thus, because of all these reasons, this study is significant.

Research Hypothesis

H1: There are more mean scores of awareness of pre-hospital first aid among previously trained students as compared to untrained students.

H2: Opinion of multi-disciplinary students "first aid training should be mandatory for students" is differed by their previous training status of pre-hospital first aid.

MATERIAL AND METHODS

According to the nature and objectives of the study, a cross-sectional survey for this study

and a survey was conducted from December 2020 to February 2021. The target population for this study was the students of multi-disciplines at Bahauddin Zakariya University Multan. The stratified sampling was used to include the students from all departments of the university with a sample size of 1315. The same issue, according to available literature, was often measured with less than 500 respondents among medical or allied-medical students while the students as respondents of current study had characteristics-diversity in relation to their multiple-disciplines, so the high sample size was rationalized seeing that. It is generally not feasible to arrange such pieces of training twice in the same semester among the students. The study excluded the students of the first semester because the study aimed to know the students' previous status of training. Apart from those, all other students were respondents to the study. The data were collected by a self-administered questionnaire consisting of nine specific items which were constructed with the help of previously available relevant studies to operationalize the "awareness of pre-hospital first aid" and six general items. The data were analyzed by using SPSS version-24 for frequency distribution, percentages, and mean scores, and the aforementioned hypotheses were tested by t-test and chi-square tests to check out the association between dependent and independent variables. A pilot study was carried out to confirm the reliability and the wordings of items used in the questionnaire. The value of Cronbach's Alpha was 0.86, which made it acceptable to use this instrument for the study. Informed consent was taken from respondents before completing the questionnaires. The respondents were given 30 minutes to complete the instrument, which was returned to the researchers immediately after completion.

The students were considered as having "good awareness" of first aid whose scores were more than 70%, "moderate awareness" whose scores were from 50% to 70%, and "poor awareness" if they had scored less than 50%.

RESULTS

Table 1: Frequency and percentage distribution of students' demographic information

Variables	F	%
Gender		
Male	748	56.9
Female	567	43.1
Program		
Graduate	446	33.9
Master	493	37.5
MPhil	279	21.2
PhD	97	7.4
Faculty		
Pure Science	493	37.5
Others	822	62.5
Area of Residence		
Urban	760	57.8
Rural	555	42.2
Previously Trained Students		
Trained	195	14.8
Untrained	1120	85.2

Table.1 showed that 56.9% male and 43.1% female participated in this study whereas more students had been studying in the master program with 37.5% and only 7.4% were the students of the Ph.D. program. 62.5% of students were from others faculties rather than pure sciences. Interestingly, only 14.8% of students trained previously in first aid but untrained students were about five times more with 85.2%.

Table-2 demonstrated that 58.6% of students knew the ultimate aim of first aid only 24.5%, 24.6%, and 25.5% students had the awareness of first aid about the closed wound, bleeding wound and airway chocking with great extent respectively. 23.5%, 23.1%, and 22.5% of students had knowledge of first aid about heatstroke, snakebite, and thermal burn respectively. Bleeding wounds and hypovolemic shock are usually life-threatening but 49.1% and 35.2% of students had no awareness of first aid about them. 55.4% of students strongly agreed that first aid training for students should be mandatory and only 12.5% of students did not agree. 12.2% of university students were on high awareness level of general first aid whereas 27.5% students were on low or no awareness level.

Table 2: Frequency and percentage distribution of students' awareness of first aid

Awareness of First Aid about	To great extent (Score per item=2)		To some extent (Score per item=1)		Not at all (Score per item=0)	
	F	%	F	%	F	%
Ultimate Aim	770	58.6	347	26.4	198	15.1
Closed Wound	322	24.5	347	26.4	646	49.1
Bleeding Wound	323	24.6	395	30.0	597	45.4
Airway Chocking	334	25.4	393	29.9	588	44.7
Heat Stroke	309	23.5	411	31.3	595	45.2
Hypovolemic Shock	513	39.0	339	25.8	463	35.2
Electric Shock	449	34.1	368	28.0	498	37.9
Snake Bite	304	23.1	399	30.3	612	46.5
Thermal Burn	296	22.5	401	30.5	618	47.0
Training should be mandatory for university students	**Strongly agree**		**Agree**		**Not agree**	
	F	%	F	%	F	%
	729	55.4	421	32.0	165	12.5
Overall awareness level of first aid	**Good awareness**		**Moderate awareness**		**Poor awareness**	
	F	%	F	%	F	%
	160	12.2	794	60.4	361	27.5

Table 3: Mean scores of first aid in relation to the socio-demographic status of students

Variable & Responses	Mean scores of First Aid Awareness		
	Mean	*N*	*SD*
Gender			
Male	42.9	748	21.5
Female	42.1	567	21.2
Faculty			
Pure sciences	41.6	493	21.2
Others	43.1	822	21.5
Program			
Graduate	43.0	446	21.5
Master	41.1	493	21.3
MPhil	43.9	279	20.6
PhD	43.7	97	23.1
Residence Area			
Urban	42.2	760	21.0
Rural	43.0	555	21.9
Got training previously			
No	40.9	1120	20.5
Yes	51.8	195	24.1

Table.3 showed that there was almost no difference between male and female mean scores of first aid awareness among university students with 42.9 and 42.1, and there was a lit bit difference between pure sciences faculties and other faculties' students mean score with 41.6 and 43.1 but this difference is not significant statistically. The scores of Graduate, Master, MPhil, and Ph.D. students were 43.0, 41.1, 43.9, and 43.7 respectively but this difference among them is not significant also in light of statistics, and the residential area of students did not show any significant difference in mean scores of first aid awareness as well. There was only a significant difference between mean scores of previously trained and untrained students regarding first aid with 40.9 and 58.8 respectively.

The results of hypothesis "Previously trained students having more awareness of First Aid than untrained students" showed that previously trained students in first aid had more awareness of first aid ($M = 51.75$, $SD = 24.08$) than previously not trained ($M = 40.90$, $SD = 20.50$). According to the t-test, the null hypothesis was rejected because there was enough evidence to suggest significant differences between trained and untrained students, $t(1315) = 6.64$, $p < .001$.

The hypothesis "Opinion of students "first aid training should be mandatory for students" is differed by their previous training status of pre-hospital first aid" was also proved by supporting the results of qui-square: $\chi^2 (2, N = 1315) = 73.5, p < .001$.

DISCUSSION

The current study showed that very few students (12.2%) had a high level of awareness of first aid and 60.4% of students had poor awareness of first aid. A similar percentage was found in the Peruvian study conducted among medical students, result showed 60.4% of medical students had poor knowledge of first aid.[14] Another Dutch study showed junior doctors were having poor awareness of first aid with 81% which was higher than current study.[15] The previously trained students were also very rare with 14.8% but not in first aid practice and did not take any refresher training which was in accordance with an Indian study showed that very few students who had previous training.[12]

The awareness of first aid for the management of bleeding wounds caused by road traffic accidents or other emergencies was good in about 44% of medical students[11,16] and 82.7% in another study[17], which was much better than current results (24.6%) because those studies were conducted among medical students but current study was conducted among university students. This study also showed that 22.5 university students of multi-disciplines had awareness of first aid for thermal burn and similarly Irish study demonstrated that only 23.2% of medical students had well knowledge of first aid of burn but the majority of students did not know how to manage thermal burn on the spot out of hospital setting.[18] A study had been conducted in Singapore, where 85.5% of students were agreed that first aid training for students should be mandatory and it will be useful for them, and their community members as well.[19] Similar results were explained by this study that 87.4% of students agreed that first aid training should

be mandatory for students because first aid skills would be beneficial not only for them but also for the community.

Previous studies demonstrate the significant association among various socio-demographic factors and level of first aid awareness among students of the university. This study also measured a comparison among mean scores of first aid awareness in relation to socio-demographic factors of the University students. A previous study showed a significant association between gender and level of first aid awareness among students. According to the aforesaid study, the female students had more awareness of first aid than male students.[10] Similarly, this showed that there is no significant difference between mean scores of first aid awareness among students of pure sciences faculties and other faculties but some previous studies showed that students of sciences faculties had more first aid knowledge than students of other faculties.[14] The results of hypothesis "Previously trained students having more awareness of First Aid than untrained students" and mean scores of this study demonstrated that the level of first aid awareness among previously trained students was high than untrained students. Similar results explained by a previous study that had previous experience of first aid training among students had more awareness of first aid than the students with no previous experience of training.[13] So, the results of the current study and previous studies explicitly demonstrate that the awareness level of first aid among university students as well as medical students is insufficiently emphasizing the need for first aid training and its refresher training among students of the universities.

CONCLUSION

This study analyzed the awareness regarding pre-hospital first aid among multi-disciplinary university students rather than medical students. Although traumatic injuries and other emergencies are common problems among university students and people around them rare number of students have

experience of pre-hospital first aid training, and a very low percentage of students have a high level of its awareness. So, it is suggested that this problem must be mitigated with rigorous of the plan because it is a life-saving matter. The awareness level of first aid among university students must be improved through conducting training on pre-hospital first aid. The universities can play a vital role for students, teachers and staff. Moreover, there is a rigorous need for the introduction of first aid in the syllabus by the university to enhance awareness of basic first aid skills and to promote the culture of a safer community.

AUTHOR'S CONTRIBUTION

ZH: Framed Idea & Compiled the whole paper
GY: Analyzed Data
MIA: Literature Searched & Reviewed
MD: Collected data
MI: All over supervision & Critical Review
MMA: Collected Data

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