

# A Cross-Sectional Study of Knowledge about First Aid in Undergraduate Medical Students of Maharashtra

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## Abstract

**Background-** First aid is defined as the assessment and interventions that can be performed by a bystander immediately with minimal or no medical equipments **Objective-** To study the knowledge about First aid in undergraduate medical students of Maharashtra . **Methodology-** Cross-sectional study including all the 150 first year undergraduate medical students undertaken in May 2016 in the department of Community Medicine in Government medical college in Maharashtra. **Result-** 10 % students had excellent knowledge, 52 % needed improvements, 17 % had adequate knowledge and 21 % had poor knowledge about first-aid. With respect to awareness of first aid measures, 28% and 26% had poor knowledge of first aid emergencies like loss of consciousness and snake bite. Followed by poor knowledge in management of burns 23.33%, poisoning 22% , road traffic accident 20% and seizures 19.34%. Excellent knowledge of first aid was seen in 16% cases of nasal bleeding, 14% in cases of bleeding, 12% in cases of fractures and 11.34% in cases of poisoning. **Conclusion-** The study highlights that majority of the students need improvement in knowledge of first aid. Early exposure of trainings in the medical career will make them socially responsible and clinically oriented in the emergency situations.

**Keywords-** First aid; Undergraduate medical students, Knowledge.

## Introduction

First aid is defined as the assessment and interventions that can be performed by a bystander immediately with minimal or no medical equipments<sup>1</sup>. The first aider should have a positive attitude and be prepared to help the casualty. The first aider should also have the adequate knowledge and skills about what he is doing, and be encouraging and reassuring

to the victims<sup>2</sup>. The significance of training healthcare professionals in first aid at a very early stage in their career is now acknowledged worldwide. Medical students are taught to handle these emergencies in hospital setting where all facilities are available<sup>3</sup>. However, this may not be adequate to deal with the emergency conditions (e.g. Road traffic accidents, fire) at the emergency site without hospital facility. The future health care providers in the community are students of health science colleges. First aid is not difficult, it needs a good attitude and a few simple steps with adequate knowledge and skills that make anyone deal with any accidents<sup>4</sup>. Hence this study was conducted on the first year medical students to assess their knowledge about First aid as even in their early years of studying it is expected from them by general public to know how to do first aid to an injured patient and save live.

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**Aim and objective-** To study the knowledge about First aid in undergraduate medical students of Maharashtra .

**Material and Methods**

This was a cross-sectional study undertaken in the department of Community Medicine in Government medical college in Maharashtra. The study was conducted in the month of May 2016.

**Study Sample :**

In our study, all the first year undergraduate medical students were included which were 150.

**Data collection:** After explaining the purpose of study and obtaining verbal informed consent from the students, a preformed structured questionnaire was distributed to all 150 students through “collective data collection”. The questionnaire included 15 closed ended questions which were multiple choice questions on topics about burn, bleeding, choking, fracture, nasal bleeding, seizure, poisoning, asthmatic attack, hypoglycemic attack, snake bite and loss of consciousness etc. After

briefing about the study objectives, the medical students were asked to tick the most appropriate answer in the given list of options. Questionnaire was collected back, and data regarding their knowledge on first aid was analyzed . Data was entered in Microsoft excel sheet and it was analyzed with Epi info software.All the correct responses were given one point and wrong responses were given zero point. Scores were calculated out of 15. The scoring was graded as follows: · ≥70% excellent · 51% to 69% adequate · 31% to 50% needs improvement · ≤30% poor

Throughout the study anonymity of all students was maintained and privacy as well as confidentiality of the data was assured.

**Results**

The present cross-sectional study was carried out among 150 first year undergraduate medical students in the Department of Community Medicine during the month of May 2016.

**Table 1: Sex wise distribution of students**

Sex	Number	Percentage
Male	82	54.66
Female	68	45.33
Total	150	100

Table 1 shows Sex wise distribution of students. Out of the total 150 students, 54.66% were males and 45.33% were females.

**Table 2: Knowledge of students about first-aid.**

Knowledge	Number	Percentage
Poor (<30%)	32	21
Needs improvement (31-50%)	78	52
Adequate (51-69%)	25	17
Excellent (>70%)	15	10
Total	150	100

Table 2 shows Knowledge of students about first-aid. The overall scores were, 10 % students had excellent knowledge, 52 % needed improvements,17 % had adequate knowledge and 21 % had poor knowledge about first-aid.

**Table 3. Distribution of students according to source of information about First aid-**

Source of information	Number	Percentage
Television / Radio	63	42
Newspaper / Magazine	26	17
Friends / Family	27	18
Internet	34	23
Total	150	100

Table 3 shows Distribution of students according to source of information about First aid which included maximum 42% from Television / Radio, 23% from Internet, 18% from Friends / Family and 17% from Newspaper / Magazine.

**Table 4. Distribution of students according to knowledge of first aid management in different emergencies-**

Emergency	Poor knowledge[%]	Need improvement[%]	Adequate knowledge[%]	Excellent knowledge [%]	Total
Burn	35[23.33]	72[48]	27[18]	16[10.67]	150
Bleeding	26[17.33]	75[50]	28[18.67]	21[14]	150
Choking	22[14.66]	78[52]	36[24]	14[9.34]	150
Road traffic accident	30[20]	78[52]	28[18.66]	14[9.34]	150
Fracture	25[16.66]	80[53.34]	27[18]	18[12]	150
Nasal bleeding	28[18.66]	75[50]	23[15.34]	24[16]	150
Seizure	29[19.34]	81[54]	27[18]	13[8.66]	150
Poisoning	33[22]	76[50.66]	24[16]	17[11.34]	150
Asthmatic attack	23[15.34]	87[58]	28[18.66]	12[8]	150
Hypoglycemic attack	18[12]	95[63.34]	22[14.66]	15[10]	150
Snake bite	39[26]	75[50]	21[14]	15[10]	150
Loss of consciousness	42[28]	78[52]	19[12.66]	11[7.34]	150

Table 4. shows Distribution of students according to knowledge of first aid management in different emergencies. With respect to awareness of first aid measures in various conditions, 28% [42/150] and 26%[39/150] had poor knowledge of first aid emergencies like loss of consciousness and snake bite. This was followed by poor knowledge of first aid in management of burns 23.33%[35/150], poisoning 22% [33/150], road traffic accident 20%[30/150] and seizures 19.34%[29/150].

Excellent knowledge of first aid was seen in 16%[24] in cases of nasal bleeding, 14%[21] in cases of bleeding, 12%[18] in cases of fractures and 11.34%[17] in cases of poisoning.

Adequate knowledge of first aid was seen in 24%[36] in cases of choking, 18.66%[28] in cases of bleeding, asthmatic attack, road traffic accidents and 18%[27] in cases of fractures, seizures and burn.

There is need of improvement in knowledge of first aid in 63.34%[95] cases of hypoglycemic attack, 58%[87] cases of asthmatic attack , 54%[81] cases of seizures, 53.34%[80] cases of fracture and 52%[78] cases of choking, road traffic accident and loss of consciousness.

## Discussion

The present cross-sectional study was carried out among 150 first year undergraduate medical students in the Department of Community Medicine during the month of May 2016.

Table 1 shows Sex wise distribution of students. out of the total 150 students, 54.66% were males and 45.33% were females. The study findings were parallel to a study done by Anoop Singh et al<sup>5</sup>. The study was done on 100 medical students among them 50% were male, and 50% were female. A study done by Joseph N et al found that there was no association of gender and first aid among the participants<sup>6</sup>.

Table 2 shows Knowledge of students about first-aid. The overall scores were, 10 % students had excellent knowledge, 52 % needed improvements, 17 % had adequate knowledge and 21 % had poor knowledge about first-aid. Parallel findings were found in a study done by Chaitali A.Gore et al in which 43 out of 150 students had excellent knowledge, 71 out of 150 needed improvements, 35 out of 150 had adequate knowledge and only 1 out of 150 had poor knowledge about first-aid<sup>7</sup>.

Table 3 shows Percentage of source of information in students regarding First aid which included maximum 42% from Television / Radio, 23% from Internet, 18% from Friends / Family and 17% from Newspaper / Magazine. The study findings are parallel to a study done by Swetha C. et al<sup>4</sup>.

Table 4. shows Distribution of students according to knowledge of first aid management in different emergencies. With respect to awareness of first aid measures in various conditions, 28% [42/150] and 26%[39/150] had poor knowledge of first aid emergencies like loss of consciousness and snake bite. This was followed by poor knowledge of first aid in management of burns 23.33%[35/150], poisoning

22% [33/150], road traffic accident 20%[30/150] and seizures 19.34%[29/150]. The study findings are parallel to a study done by Swetha C. et al<sup>4</sup> which found that 12% students were aware that a fainted person should be positioned on his back .Only 5% knew that in case of snake bite the victim should be made to lie down calm till medical help is available , 74% knew that the first information to be gathered in a person who has swallowed poison was, what they have taken, when and how much, 30% knew that the first thing to be done for a victim of seizures was to keep him safe from injury.

Excellent knowledge of first aid was seen in 16%[24] in cases of nasal bleeding, 14%[21] in cases of bleeding, 12%[18] in cases of fractures and 11.34%[17] in cases of poisoning. . The study findings are parallel to a study done by Swetha C. et al<sup>4</sup> in which 6% of the students were aware that in case of bleeding nose in a child they should pinch the nose and ask the child to lean forwards 16% knew that in case of severe bleeding due to cut injury in arm direct pressure should be applied on the wound, 55% were aware that in case of broken leg a soft padding should be placed around the limb.

Adequate knowledge of first aid was seen in 24%[36] in cases of choking, 18.66%[28] in cases of bleeding, asthmatic attack, road traffic accidents and 18%[27] in cases of fractures, seizures and burn. . The study findings are parallel to a study done by Swetha C. et al<sup>4</sup> which found 48% students knew that upto 5 back blows were to be given in case of choke on some food, 74% knew that in case of asthma attack the person should be made to sit in comfortable position and asked to take his medication

There is need of improvement in knowledge of first aid in 63.34%[95] cases of hypoglycemic attack, 58%[87] cases of asthmatic attack , 54%[81] cases of seizures, 53.34%[80] cases of fracture and 52%[78] cases of choking, road traffic accident and loss of consciousness. . The study findings are parallel to a study done by Swetha C. et al<sup>4</sup> which found 62% students knew that airway should be checked first in a victim lying on ground and not responding.

## Limitations of the study-

As it was a study involving only the first year undergraduate students of one medical college, the study

findings can not be generalised to all medical students.

### Conclusion

The study highlights that majority of the students need improvement in knowledge of first aid. There is need for provision of first aid training to all the medical students. Early exposure of such trainings in the medical career will make them socially responsible and clinically oriented in the emergency situations.

**Ethical approval:** The study was approved by the Institutional Ethics Committee.

**Funding-** There are no sources of funding for this study.

**Conflict of Interest** - All authors declare that there are no conflicts of interest in this study.

**Acknowledgement** - We sincerely appreciate the support and co-ordination of the medical and paramedical faculty of the tertiary care hospital.

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