



ASSESSMENT OF FIRST AID KNOWLEDGE AND SKILLS AMONG UNDERGRADUATE STUDENTS OF A NORTH-INDIAN MEDICAL COLLEGE.

Anaesthesiology

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ABSTRACT

BACKGROUND- First aid is the first and simple step that is done outside the hospital setting to prevent condition from worsening until arrival of health care providers. The objective of the study was to assess knowledge of medical undergraduate students to provide first-aid. **METHODOLOGY:** A cross-sectional study done among undergraduate medical students of a medical college of north India. Convenience sampling was used to select 307 study participants and the data was collected using a self-administered questionnaire in multiple choice question format. Based on the correct and incorrect responses, a grading system was used to assess awareness of students. Data was entered and analysed using Epi-info 7. **RESULTS:** Out of total 307 participants, 56.45 were male and the remaining were female students. The age of the participants ranged from 20 to 30 years. Of total 307 students, 35% were of fifth semester, 37% were of semester seven and 28% were of semester nine Overall 68% students were in grade 2, followed by 24% in grade 1 and 8% in grade 3. Only 55% of undergraduate medical students knew the number of general health services ambulance number and 45% were unaware. **CONCLUSION:** Awareness of first aid among undergraduate medical students needs improvement. Level of awareness was found to increase with increasing semester but it wasn't sufficient.

KEYWORDS

cost-effective, first-aid, medical undergraduates, medical emergency

INTRODUCTION

First aid is the first and simple step that is done outside the hospital setting to prevent condition from worsening until arrival of health care providers. In its lexical sense, first aid means "first help or emergency care performed for a person who is injured or suddenly becomes ill". The American Heart Association (AHA) defines first aid as lifesaving interventions without using any medical equipment⁽¹⁻²⁾. Whenever a casualty of any nature occurs, victim needs immediate assistance until proper medical help arrives at the scene.

Therefore, implementation of first aid is meaningful to victim in emergency^(3,4). A first aid provider should recognize and evaluate the need for first aid, provide care using appropriate competencies, and seek additional help when necessary^(2,5). Medical students, even in the early years of their course are expected by general public to know how to perform first aid in case of any emergency. As the incidence of medical emergencies are on the rise in recent years, it is important to ensure that health personnel and the general public are adequately trained to deal with such events. Studies have found that the knowledge of first aid amongst medical students and general public has always been a neglected subject⁽⁶⁾. The importance of first-aid knowledge is becoming increasingly apparent to medical students as they encounter many medical situations in their daily lives outside the hospital that require first-aid intervention to limit the extent of the injury or to improve victim status prior to medical intervention. A well-trained medical student should be able to assess the situation and provide care to the victim⁽⁷⁾. Despite the expectation, the adequate knowledge and the right attitude required to handle an emergency situation may be lacking in medical students, since most of the medical colleges in India, do not have a formal first aid training course in their regular teaching curriculum^(8-12,19). Glendon suggested that the teaching of first aid to students is probably cost-effective in terms of saving lives. They also recommended that teaching first aid to the students is a good long-term investment. The art of first aid is what to do and what not to do in any emergency, and trained young people will gain confidence as their experience grows. Hence this study was undertaken to assess the awareness of medical undergraduates in providing first aid during emergency situation outside hospital settings⁽¹³⁻¹⁹⁾.

MATERIAL AND METHODS

Study Design

Cross-sectional study.

Study Area

A North Indian Medical College.

Study Period

December- January, 2017- 2018

Study Population

Undergraduate medical students of fifth, seventh and ninth semester.

Sample

Total 307 students

METHOD

Convenience sampling was done for selecting study participants.

Study Tool

Data was collected using a self administered questionnaire. The questionnaire was in the form of multiple choice questions and covered almost all the major topics of first aid and assessed the knowledge of undergraduate medical students regarding various emergency situations.

There were total 19 MCQs. Each MCQ carried 1 mark if correct and 0 if incorrect. Minimum score can be 0 and maximum score can be 19. Informed consent was taken and anonymity was maintained. A graded system was used for scoring and drawing inference, Grade 1 was score between 0-10, the inference being poor knowledge, grade 2 was score between 11-15, inference being need improvement and lastly grade 3 with score 16-19 with inference of good knowledge.

Inclusion Criteria:

All the students present on the day of study returning completely filled forms.

Exclusion Criteria:

Students either absent on the day of study or returning incomplete forms.

Statistical Analysis

The data was coded, entered and analysed in Epi-info 7. Chi square test was applied and p- value calculated. Results were calculated as percentages rounded.

RESULTS

Total number of participants in this study were 307, of which 173(56.4%) were males and 134(43.6%) were females.

The age range was 20- 30 years, with mean age being 22.9 years.

Out of total 307 students, 35% were of fifth semester, 37% were of semester seven and 28% were of semester nine. Male students comprised of 63% in fifth semester, 57% in seventh semester and 47% in ninth semester and female students were 37%, 43% and 53% in these semesters respectively.

Table1. Percentage of correct and wrong responses for management of each emergency situation presented

| S. No | Emergency situation | Correct response N (%) | Wrong response N (%) |
|-------|----------------------------------|------------------------|----------------------|
| 1. | Asthma attack | 252(82.1) | 55(17.9) |
| 2. | Bleeding from wound | 200(65.2) | 107(34.8) |
| 3. | Leg fracture | 281(91.5) | 26(8.5) |
| 4. | Burn | 211(68.7) | 96(31.3) |
| 5. | Choking | 256(83.4) | 51(16.6) |
| 6. | Diabetic emergency | 162(52.7) | 145(47.3) |
| 7. | FAST in stroke | 49(16.0) | 258(84.0) |
| 8. | Swelling due to injury | 244(79.5) | 63(20.5) |
| 9. | Location of pain of heart attack | 153(49.8) | 154(50.2) |
| 10. | Heart attack while standing | 153(49.8) | 154(50.2) |
| 11. | Poisoning | 244(79.5) | 63(20.5) |
| 12. | Seizure | 129(42.0) | 178(58.0) |
| 13. | Unresponsive but breathing | 133(43.3) | 174(56.7) |
| 14. | Unresponsive and not breathing | 201(65.5) | 106(34.5) |
| 15. | Emergency ambulance number | 170(55.4) | 137(44.6) |
| 16. | Epistaxis | 230(74.9) | 77(25.1) |
| 17. | Bee sting | 211(68.7) | 96(31.3) |
| 18. | Dog bite | 246(80.1) | 61(19.9) |
| 19. | Snakebite | 145(47.2) | 162(52.8) |

Table 1 shows the nineteen first aid question along with their correct and wrong responses.

Maximum 65.3% of the male students scored between 11-15 and were in the grade 2, followed by 27.2% in grade 1 (score 16-19) and the rest 7.5% were in grade 3 (score 0-10). Similarly, 70.9% of female students scored between 10-15 and were in the grade 2, followed by grade 1 (19.4%) and grade 3 (9.7%). The chi square value was 2.69, degree of freedom-2 and p value was >0.05 and hence it was not significant. Overall 68% students were in grade 2, followed by 24% in grade 1 and 8% in grade 3. When the awareness level was analyzed for the students semester-wise, the result was found to be significant as shown in table 2. Only 55% of undergraduate medical students knew the number of general health services ambulance number and 45% were unaware. Figure 1 shows the attitude of medical undergraduates towards training and providing first-aid services.

Table 2. Grading distribution of medical undergraduates semester wise.

| Grade | V semester (n=108) N(%) | VII semester (n=114) N(%) | IX semester (n=85) N(%) |
|-----------|-------------------------|---------------------------|-------------------------|
| Grade I | 47(43.5) | 19(16.7) | 7(8.2) |
| Grade II | 59(54.6) | 87(76.3) | 62(73.0) |
| Grade III | 2(1.9) | 8(7.0) | 16(18.8) |

Chi square value=49.7, df=4, p<0.05

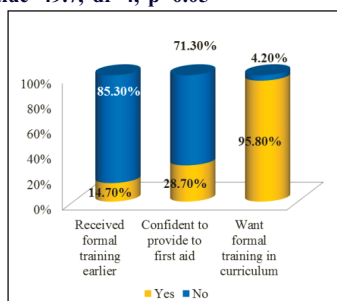


Figure 1. Attitude of medical undergraduates towards training and providing first-aid services.

DISCUSSION

Results of the study showed that majority of the students scored between 11-15 and were in grade 2 followed by 24% of students scored between 0-10 and were in grade 1. Thus a whopping 92% of medical students had either poor knowledge or needed improvement, which is much below of what is expected from medical undergraduates. Similar finding was reported by a study conducted in Jordan [3] and in Riyadh, Saudi Arabia [7] where large number of students, even among those trained in first aid, presenting serious lacks of basic first aid knowledge. However it was in contrast to a Karachi based study by Khan A. et al [4] which found that 63.2% medical students had good, 28.3% average and 8.3% poor knowledge about first aid. Also it's a matter of great concern that majority (55%) of students could not answer the ambulance number for general health services. The students of the present study themselves were aware of their shortfall which was also reflected in their attitude towards receiving formal training in which 95.8% demanded such a training to be formally inducted in their curriculum.

CONCLUSION

Awareness of first aid among undergraduate medical students needs improvement.

Level of awareness was found to increase with increasing semester but it wasn't sufficient.

Recommendation

Keeping in mind the grades obtained by students and also their felt need, we would like to recommend inclusion of first aid training in medical curriculum all over the country.

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