

# Evaluation of knowledge, attitude, and practice about usage along with awareness on first aid measures among secondary school and intermediate students

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## ABSTRACT

**Objective:** The main aim of the first aid is to save the life, prevent degradation of the situation and to promote the recovery. The adequate knowledge on first aid can promote the chances of survival of the injured person. This study was conducted to assess the knowledge, attitude, and practice of secondary school and intermediate students toward the first aid. **Methods:** It is a prospective study conducted in randomly selected secondary schools and intermediate colleges of Piler Mandal, Chittoor district, Andhra Pradesh, for a period of 3 months using a validated questionnaire which consists of 28 questions to assess their knowledge, attitude, and practice about first aid. All statistical analyses were performed using Microsoft Excel 2010 and GraphPad Prism 7.0 software. **Results and Discussion:** The goal of first aid is to preserve life, prevent further injury and promote recovery. Statistically significant difference was not found in the knowledge ( $P = 0.6204$ ), attitude ( $P = 0.2351$ ), and practice ( $P = 0.9508$ ) among secondary school and intermediate students about first aid measures. **Conclusion:** The knowledge, attitude, and practice of secondary school and intermediate students on first aid were found to be adequate, but still, it is the responsibility of each and every school to provide training on first aid measures and also to have fire extinguisher in their school campus.

**KEY WORDS:** Attitude, First aid, Knowledge, Practice

## INTRODUCTION

First aid is the emergency care provided immediately to an injured person by a trained medical or non-medical person till a medical attention is sought.<sup>[1]</sup> The main aim of the first aid is to save the life, prevent degradation of the situation and to promote the recovery.<sup>[2]</sup> Often, the first action taken for management of injuries and common illness decides the future course of disease and complication rates.<sup>[3]</sup> The importance of training persons in first aid at earlier stages of their career is now coming into practice worldwide. Since, students have the potential for changing the health scenario of the society if properly groomed and educated for healthful living.<sup>[4,5]</sup> It was mentioned that making the students to learn about first aid within the schools will probably decrease the cost of saving lives.<sup>[6]</sup> The adequate knowledge on first aid can promote the chances of survival of the injured person.<sup>[7]</sup> Since, school is the

place where children spent most of their time, by learning the new things and upgrading themselves. Apart from their studies they are involved in many extracurricular activities which are meant for their physical and mental development in a healthy way. Most common activities in which children involved are bicycle riding, swimming, and playing games. However, during these activities the children are most endangered to get injured physically.<sup>[8,9]</sup> It is stated in a study that 88% injuries in children are physical and almost 20% of those injuries were occurred only during their school hours.<sup>[10]</sup> The unfortunate incidents occurring at the schools during the extracurricular activities are leading to serious injuries compared to the non-school incidents.<sup>[11]</sup> If these injuries are left as such, the state of health of the child may be worsened.<sup>[4]</sup> Hence, it is the responsibility of healthcare professionals to create awareness and conduct training program in schools on first aid to protect the children from worsening of a condition which occurs due to injuries till they seek medical attention. Moreover, it was stated that the proper first aid measures may sometimes result in avoiding the physician consultation.<sup>[12]</sup> However, to

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provide first aid in a correct way, the provider should have some basic knowledge and experience on it to minimize the injury and to save the life. Hence, it is important for each and every individual to have some basic knowledge on first aid to save the injured person till the medical consultation is available.<sup>[13]</sup> According to National Science Advisory Board, it is the duty of every individual to learn and practice the first aid.<sup>[14]</sup> Hence, school is an appropriate place for initiating teaching and training activities on life-saving first aid skills.<sup>[15]</sup> Even though many trainings and awareness camps have been conducted on first aid, people are not ready to assist the injured persons who need medical attention by providing first aid, since they are fear of committing some mistakes while doing first aid measures.<sup>[16]</sup> On account of first aid significance in school, all the schools should be equipped with the basic facilities to provide first aid. Hence, this study was conducted to assess the knowledge, attitude, and practice of secondary school and intermediate students toward the first aid.

## METHODOLOGY

### Study Design and Data Collection

It is a cross-sectional, comparative study conducted in randomly selected secondary schools and intermediate college of Piler Mandal, Chittoor district, Andhra Pradesh, for a period of 3 months (June to August, 2017). The Institutional Ethics Committee of RVS Institute of Medical Sciences approved this study (Approval No: IEC/RVSIMS/2017/01) and also we have taken permission from Piler Mandal Educational Officer to conduct this study. A comprehensive plan of the study was described to the Principal of Secondary School and Intermediate College and their consent was taken before discussion with students. Consent was also taken from the students participating in the study. A validated questionnaire which consists of 28 questions (18-knowledge oriented, 5-attitude oriented, and 5-practice oriented) was used to assess their knowledge, attitude, and practice about first aid. The frequent incidents which need first aid such as external bleeding (including epistaxis), choking, snake bite, burns, and fits were assessed. 600 students (300 from secondary school and 300 from intermediate college) were included in this study. The validated questionnaire was issued to the students and sufficient time was given to the students to answer the questionnaire. Verbal consent was obtained from each student during data collection. The confidentiality of the data obtained was assured, and the personal details of the student were omitted from the questionnaire. While the collection of questionnaire, the students were asked for any unclear ideas in the questionnaire, checked for any unfilled information and education and training regarding first aid was provided to the students.

### Statistical Analysis

The collected data were tabulated and analyzed using Microsoft Excel 2010 and GraphPad Prism 7.0 software. Chi-square test and student *t*-test were used to determine the presence or absence of statistically significant difference wherever necessary. Wherever computed,  $P < 0.05$  was considered significant; since the confidence interval was maintained at 95%.

## RESULTS

The sociodemographic characteristics of 300 secondary school and 300 inter-college students are shown in Figures 1-4. The students who are participated in this study have been segregated into four groups based on the class what they are studying which is shown in Figure 1.

Statistically significant difference was not found in the knowledge ( $P = 0.6204$ ), attitude ( $P = 0.2351$ ), and practice ( $P = 0.9508$ ) among secondary school and intermediate students about first aid measures.

## DISCUSSION

The goal of first aid is to preserve life, prevent further injury and promote recovery. We can achieve this goal by obtaining training in three skills which safeguard breathing, bleeding, and bones. The knowledge of students was assessed using 18 validated questions

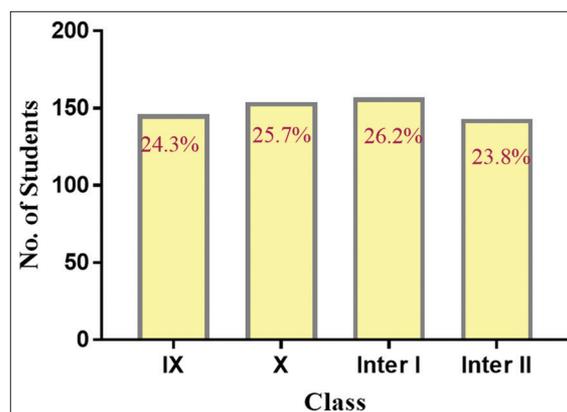


Figure 1: Class-wise distribution

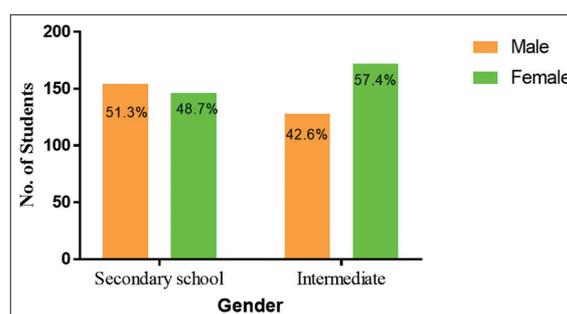
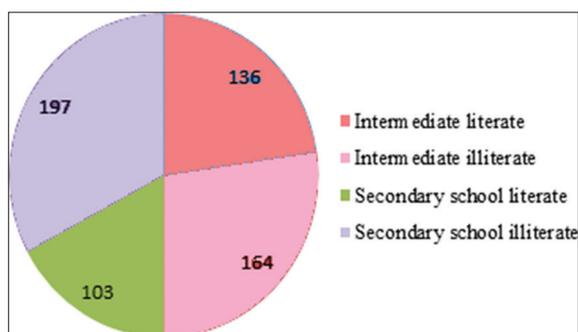


Figure 2: Gender wise distribution. Statistically significant difference in the gender was not found between the groups ( $P = 0.0744$ )

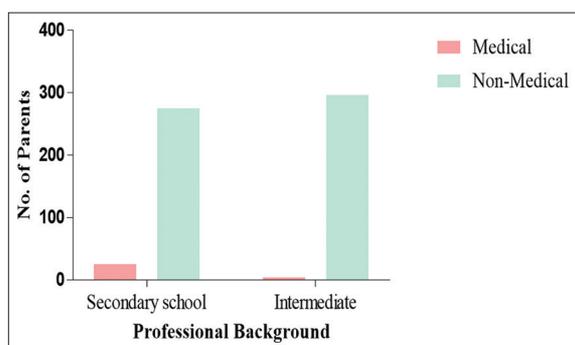
**Table 1: (a) Evaluation of students' knowledge about first aid**

| Questions | Yes n (%)  |              | No n (%)   |              |
|-----------|------------|--------------|------------|--------------|
|           | Secondary  | Intermediate | Secondary  | Intermediate |
| Q1        | 278 (92.6) | 204 (68)     | 22 (7.3)   | 96 (32)      |
| Q2        | 300 (100)  | 300 (100)    | 0 (0)      | 0 (0)        |
| Q3        | 261 (87)   | 172 (57.3)   | 39 (13)    | 128 (42.6)   |
| Q4        | 258 (86)   | 96 (32)      | 42 (14)    | 204 (68)     |
| Q5        | 87 (29)    | 84 (28)      | 213 (71)   | 216 (72)     |
| Q6        | 0 (0)      | 113 (37.6)   | 300 (100)  | 187 (62.3)   |
| Q7        | 133 (44.3) | 111 (37)     | 167 (55.6) | 189 (63)     |
| Q8        | 102 (34)   | 108 (36)     | 198 (66)   | 192 (64)     |

Q1: Did you ever hear the word "first aid"? Q2: Where did you hear this term "first aid"? Q3: Do you aware of all the things that are present in the first aid box and what for they are used? Q4: Do you know how to use the INHALER? Q5: Do you know how to inject insulin into a diabetic patient? Q6: Do your school possess fire extinguisher? Q7: Do you know how to use fire extinguisher in case of emergency? Q8: Do you know about cardiopulmonary resuscitation?



**Figure 3:** Parent's literacy distribution. Among parents of 600 students, 39.83% (239) of parents were literate, and 60.17% (361) of parents were illiterate



**Figure 4:** Parent's professional background-medical/non-medical. Knowledge, attitude, and practice of the students about first aid measures were evaluated using 28 questions. The results are shown in Tables 1-3

which mainly focuses on injuries and events that are common in school where emergency measures are considered essential. Among all knowledge questions, everyone has answered correctly to the 17<sup>th</sup> question implied that both the group of students was aware of ambulance number to be dialed in an emergency situation. Only 4.4% of students have answered correctly (by making their airway clear and turning them side, with their mouth pointing to the ground) to the 11<sup>th</sup> question and 95.6% of students have given a wrong answer that they should hold a metal object. According to a study conducted by Semwal *et al.*, only 15 (3.3%) out of 441 students have complete

knowledge of providing first aid for fits.<sup>[17]</sup> The students response rate to the remaining knowledge questions were shown in Table 1a and b. This study has demonstrated that students have inadequate knowledge regarding the basic first aid measures to be provided for ordinary events. There is no significant difference in the knowledge of first aid measures among secondary school and intermediate students which was determined by the  $P = 0.6204$ . Therefore, the teachers and trainers should educate students in such a way they are knowledge enough regarding first aid measures.

Students' attitude toward first aid execution and learning were assessed using five authenticated questions. Majority of the students (both secondary and intermediate) have showed a positive attitude to the first, second, fourth, and fifth question. The least positive response rate was obtained for the third question (i.e., do not you feel tense while performing first aid in an emergency condition?). Students should be adequately knowledge and trained to perform first aid so that they will not feel tense while performing it. A study conducted by Al-Khamees stated that a strong correlation was found between knowledge and attitude.<sup>[18]</sup> A significant difference was not found in the assessment of attitude about first aid measures among secondary school and intermediate students which was determined by the  $P = 0.2351$ .

In this study, five questions were included to determine the student's level of practice regarding practice of first aid for burns, open wound injury, fits, nose bleeding, and using first aid kit. Statistically significant difference was not found in the practice of first aid measures among secondary school and intermediate students which was determined by the  $P = 0.9508$ . The concept of practice is highly significant especially in the field of life-supportive measures. Hence, it is mandatory for all the trainers to impart sufficient practice to the trainees on those supportive skills.

**Table 1: (b) Evaluation of students' knowledge about first aid**

| Questions | Correct <i>n</i> (%) |              | Incorrect <i>n</i> (%) |              |
|-----------|----------------------|--------------|------------------------|--------------|
|           | Secondary            | Intermediate | Secondary              | Intermediate |
| Q9        | 78 (26)              | 172 (57.3)   | 222 (74)               | 128 (42.6)   |
| Q10       | 21 (7)               | 12 (4)       | 279 (93)               | 288 (96)     |
| Q11       | 19 (6.3)             | 7 (2.3)      | 281 (93.7)             | 293 (97.6)   |
| Q12       | 175 (58.3)           | 124 (41.3)   | 125 (41.7)             | 176 (58.6)   |
| Q13       | 90 (30)              | 78 (26)      | 210 (70)               | 212 (70.6)   |
| Q14       | 187 (62.3)           | 148 (49.3)   | 113 (37.6)             | 152 (50.6)   |
| Q15       | 67 (22.3)            | 119 (39.6)   | 233 (77.6)             | 181 (60.3)   |
| Q16       | 213 (71)             | 274 (91.3)   | 87 (29)                | 26 (8.6)     |
| Q17       | 300 (100)            | 300 (100)    | 0 (0)                  | 0 (0)        |
| Q18       | 152 (50.7)           | 160 (53.3)   | 148 (49.3)             | 140 (46.7)   |

\*\**P*=0.6204. Q9: What measure will you take when it is continuously bleeding from an open wound injury? Q10: How will you stop nose bleeding? Q11: How will you save if you see any person affecting with fits around you? Q12: During a snake bite injury, the stings over the injured area should not be removed through the mouth? Q13: What is the first aid measure for a patient with burns? Q14: What is the first aid measure for a person with breathing difficulty? Q15: Which of the following action is called as self-CPR during any emergency conditions? Q16: What are the first aid measures to be taken for a person with low blood pressure? Q17: Do you know the ambulance number to be dialed during emergency? Q18: Do you know standing behind the child encircling the child's chest by hands and squeezing is the first aid measure for choking child?

**Table 2: Evaluation of students' attitude on first aid**

| Questions | Positive <i>n</i> (%) |              | Negative <i>n</i> (%) |              |
|-----------|-----------------------|--------------|-----------------------|--------------|
|           | Secondary             | Intermediate | Secondary             | Intermediate |
| Q1        | 287 (95.7)            | 297 (99)     | 13 (4.3)              | 3 (1)        |
| Q2        | 282 (94)              | 298 (99.3)   | 18 (6)                | 2 (0.7)      |
| Q3        | 101 (33.7)            | 85 (28.3)    | 199 (66.3)            | 215 (71.7)   |
| Q4        | 283 (94.3)            | 296 (98.7)   | 17 (5.7)              | 4 (1.3)      |
| Q5        | 271 (90.3)            | 296 (98.7)   | 29 (9.7)              | 4 (1.3)      |

\*\**P*=0.2351. Q1: Do you support that performing first aid is helpful in emergency condition? Q2: Are you ready to perform first aid for a person during an emergency? Q3: Don't you feel tense while performing first aid in an emergency condition? Q4: Will you show interest in attaining the knowledge about first aid? Q5: Do you think that it is necessary for everyone to know about the first aid?

**Table 3: Evaluation of students' practice on first aid**

| Questions | Yes <i>n</i> (%) |              | No <i>n</i> (%) |              |
|-----------|------------------|--------------|-----------------|--------------|
|           | Secondary        | Intermediate | Secondary       | Intermediate |
| Q1        | 242 (80.6)       | 116 (38.6)   | 58 (19.4)       | 184 (61.4)   |
| Q2        | 138 (46)         | 125 (41.6)   | 162 (54)        | 175 (58.4)   |
| Q3        | 224 (74.7)       | 247 (82.4)   | 76 (25.3)       | 53 (17.6)    |
| Q4        | 124 (41.4)       | 225 (75)     | 176 (58.6)      | 75 (25)      |
| Q5        | 185 (61.6)       | 188 (62.6)   | 115 (38.4)      | 112 (37.4)   |

\*\**P*=0.9508. Q1: Have you ever used the first aid kit in your school? Q2: Have you ever given first aid for burns? Q3: Have you ever stopped bleeding by pressing over the open wound injury? Q4: Have you ever performed first aid for fits? Q5: Have you ever given first aid for nose bleeding?

## CONCLUSION

The knowledge, attitude, and practice of secondary school and intermediate students on first aid were found to be adequate, but still, it is the responsibility of each and every school to provide training on first aid measures. In addition, every school and college must possess fire extinguisher and first aid kit in their school campus. The limitation is that this study was conducted among students of randomly selected schools and colleges. However, it is responsibility of the school management in educating students on how to identify risks and providing first aid training.

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