



Awareness, Knowledge of First Aid and First Emergency Behavioral Perception of Medical Students in a University in Southeastern Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJMAH/2022/v20i930490

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/86624>

Original Research Article

Received 17 April 2022
Accepted 30 April 2022
Published 27 May 2022

ABSTRACT

Background: Students are usually exposed to all kinds of injury in schools and with inadequate health care services in most schools; administering first aid is important in such emergency situations. Hence, this study was conducted to assess the awareness, knowledge and behavioral perception of first aid among medical students of a tertiary institution in South-eastern Nigeria.

Materials and Methods: This cross-sectional study was conducted among 250 medical students of Gregory University Uturu, Abia state, Nigeria. A structured pre-tested validated questionnaire assessing their awareness, knowledge and attitude was used to collect the data. Data was analyzed using IBM Statistical Package for Social Sciences (SPSS) version 25. Chi-squared test were used to test for associations between socio-demographics, knowledge and attitude of respondents. A p-value of <0.05 was considered significant.

Results: Out of the respondents, 98.4% have heard about first aid before the survey, (52.8%; n=132) have good knowledge of first aid skills, and 94% (n=235) have good attitude towards first

aid. 91.2% said they are willing to help if trained while 94% of the respondents felt it was necessary to incorporate first aid in the school curriculum.

Conclusion: Although the students showed good awareness and attitude towards the concept of first aid, there is a gap in their knowledge and application of basic emergency first aid skills. There is a need to incorporate the training of basic first aid skills and basic life support skills in the school's curriculum to bridge the gap.

Keywords: First aid; behavioral perception; knowledge; university students; emergency; medical students.

1. INTRODUCTION

Accidents and injuries such as bleeding, fractures, asthmatic and epileptic attacks and drug overdose that befall students are known to occur in the school as they spend a great amount of their time in school. Although there are sick bays/clinics in almost all schools, there may be issues of availability of necessary medical equipment and trained medical personnel [1,2]. In such cases, when there is a medical emergency, the victim may end up with irreversible injury or even dead before either the arrival of qualified medical personnel or before transportation to a hospital. This reflects the importance of training of students on basic first aid; because to save life, prevent further damage and promote quick healing process are the goals of administering first aid [1,3].

In most scenarios, students may be willing to assist their injured classmates or friends but due to lack of skills, fear of the unknown or fear of infection, may end up either not helping or administering the wrong aid [4]. Usually 39% of Dead on Arrival cases can be prevented if proper first assistance is rendered [5]. Sometimes, they may have sufficient skills and knowledge from past training, but may not have the right attitude. For instance, one may be knowledgeable on basic first aid skills, but because of ones believe of putting on hand gloves before helping will eventually not render any help due to the unavailability of hand gloves at the scene. When children are trained in CPR, they can recognize the need to administer CPR and it is known to be successful in saving the life of victims when administered effectively [6].

Schools offer opportunities for learning and when children acquire these skills in school, they are likely to carry the knowledge into adulthood [1,7]. Most schools in Nigeria did not incorporate basic first aid training into their curriculum [2,6]; this study tends to provide evidence for the need to incorporate basic first aid training into schools.

Therefore, awareness, knowledge and behavioral perception of first aid of medical students in a tertiary institution were evaluated.

2. MATERIALS AND METHODS

This cross-sectional study conducted between February - March 2022 at Gregory University Uturu, Abia State, Nigeria was approved by the Ethics Review Committee of the University. The study population included 2nd year, 3rd year and 4th year students of the College of Medicine and Health Sciences. A structured pre-tested validated questionnaire which was adapted from the works of Adesegun et al [2] and Alsayali et al [3] was used to collect the data.

Verbal consent was obtained from the students and the questionnaire was uploaded into a Google form to facilitate access to it by the students. The questionnaire was structured into three parts. The first part of the questionnaire contained socio-demographic details of participants, the second part contained questions to assess their awareness and knowledge about basic first aid skills while the third part contained questions related to attitude and practices of first aid. Their knowledge about first aid was assessed with 8 basic first aid skill questions and each correct answer was awarded 1 point. Answers were graded as follows; 0-3 points- poor knowledge, 4-8 points- good knowledge. Their attitude was also graded as follows; 0-3 bad attitude, 4-8 good attitude.

Data was analyzed using IBM Statistical Package for Social Sciences (SPSS) version 25. Frequency and percentage distribution were computed for each response. Chi-squared test were used to test for associations between sociodemographics, knowledge and attitude of respondents. P-values <0.05 was considered significant.

250 participants were used for the study. The socio-demographic details of the respondents

are summarized in table 1. 71.2% of the respondents were females. Students within the age range of 15-20 constituted the highest percentage (72%) of the participants with the

lowest (0.4%) being those above 30 years. Majority (98.4%) of the participants were single. For residential area, 89.2% stay in urban region while 10.8% in rural region.

Table 1. Socio-demographic details of participants

| Variable | Frequency (%) |
|---------------------------|---------------|
| Sex | |
| Male | 72(28.8) |
| Female | 178(71.2) |
| Age range | |
| 15-20 | 180(72.0) |
| 21-25 | 63(25.2) |
| 26-30 | 6(2.4) |
| >30 | 1(0.4) |
| Area of Residence | |
| Urban | 223(89.2) |
| Rural | 27(10.8) |
| If urban, how long | |
| <15 years | 54(23.0) |
| >15 years | 181(77.0) |
| Marital status | |
| Single | 246(98.4) |
| Married | 4(1.6) |

Table 2. Awareness of first aid of participants

| Variable | Frequency (%) |
|--|---------------|
| Have you heard about first aid before now | |
| Yes | 246(98.4) |
| No | 4(1.6) |
| If yes, where | |
| Internet | 5(2.0) |
| Seminar/workshops | 10(4.1) |
| Books/Magazine | 6(2.4) |
| School | 205(83.3) |
| Family/Friends | 15(6.1) |
| TV/Radio | 5(2.0) |
| Yes | 135(54.0) |
| No | 115(46.0) |
| If yes, where | |
| Red Cross Society | 24(14.9) |
| HSE | 2(1.2) |
| Paramedical group | 15(9.3) |
| Religious organizations | 12(7.5) |
| NGOs | 4(2.5) |
| Others (social media, YouTube, etc.) | 104(64.6) |

Table 3. Knowledge of first aid of participants

| Variable | Yes (%) | No (%) | Grade = n (%) |
|---|-----------|-----------|----------------|
| Aims of first aid | 130(52.0) | 120(48.0) | Good=132(52.8) |
| Meaning of 'DRABC' | 149(59.6) | 101(40.4) | |
| Most important person in an emergency situation | 40(16.0) | 210(84.0) | Poor=118(47.2) |
| First thing to do with an unconscious individual | 13(5.2) | 237(94.8) | |
| Opening an airway | 165(66.0) | 85(34.0) | |
| First victim to attend to at a scene of an accident | 128(51.2) | 122(48.8) | |
| Most effective way to stop a major bleeding | 196(78.4) | 54(21.6) | |
| How to help a victim of seizure/convulsion | 53(21.2) | 197(78.8) | |

3. RESULTS

3.1 Awareness of First aid among Participants

Out of the respondents, 98.4% have heard about first aid before the survey, with 83.3% (n=246) having heard about it from their schools and 2% knowing about it from the television or radio. 54% of the respondents claimed to have previously received basic first aid training and among these, the least (1.2%) received training from Health, Safety and Environment (HSE) group while majority (64.6%) received training from other platforms like social media (Table 2).

3.2 Knowledge of Basic First aid among Participants

Their knowledge about first aid was assessed with 8 basic first aid skill questions and each correct answer was awarded 1 point. Answers were graded as follows; 0-3 points- poor knowledge, 4-8 points- good knowledge. In response to knowledge of first aid, 52% knew the three aims of first aid, 59.6% knew the steps in assessing a victim, 16% knew the most important person in an emergency scene, 5.2% knew the first thing to do with an unconscious victim, 66% knew how to open an airway, 51.2% knew who to attend to first in an accident scene, 78.4% knew how to stop bleeding and 21.2% knew what to do during a seizure (Table 3). Overall, 52.8% of the participants had good knowledge while 47.2% had poor knowledge.

3.3 Behavioral Perception of First aid among Participants

84.8% agree that first aid is necessary in all emergency situations. 43.2% of respondents agree that one must not put on a glove before helping an individual. 91.2% said they are willing to help if they know how to administer first aid. When asked if they have seen a medical emergency happen, 92.8% said yes while 59.7% of those who have seen were able to apply first

aid to assist. For those who did not assist, 37.3% attributed it to lack of skills, none of the participants attributed it to fear concern while 41.27% attributed it to other personal concern. 74% were able to remain calm during the incident and 88.8% did call for help. 94% of the respondents felt it was necessary to incorporate first aid in the school curriculum (Table 4).

3.4 Correlation between the Socio-demographics and Knowledge and Behavior of First aid of Participants

There was no significant association between the sex of the participants and their knowledge of first aid while there was a significant association between the sex and the behavior of the participants ($X^2 = 4.68$, $p < 0.03$). The knowledge and behavior of first aid was not significantly associated with the age and residence of participants. The knowledge of first aid of the participants was also not significantly associated with their behavior.

4. DISCUSSION

This study was carried out to evaluate the awareness, knowledge and behavioral perception of first aid of students of the medical college in a tertiary institution in order to provide scientific evidence of the need to incorporate basic first aid training into schools. The findings from this study show that the medical students have good awareness of first aid. This is in conformity with the work of [3] who reported that medical students had good awareness of first aid than literary students which could be as result of the students knowing the value of first aid and its association with the medical profession. The result of this study also revealed just a little above average (54%) of the students have actually been trained in basic first aid skills which shows a need to invest in the training of the students in first aid in order to equip them for 'out of the hospital' emergency cases. This agrees with the work of Mbada et al [8].

Table 4. Behavioral perception of first aid of participants

| Variable | Yes (%) | No (%) | Unsure (%) |
|---|-----------|-----------|------------|
| First aid is necessary in all emergency situations | 212(84.8) | 17(6.8) | 21(8.4) |
| One must put on a glove before helping an individual | 113(45.2) | 108(43.2) | 29(11.6) |
| If I see a sick or injured person, I would help if I know first aid | 228(91.2) | 11(4.4) | 11(4.4) |
| Have you ever seen a medical emergency happen before | 232(92.8) | 13(5.2) | 5(2.0) |
| If yes, did you apply any first aid to assist | 145(59.7) | 89(36.6) | 9(3.7) |
| Were you able to stay calm during the incident | 185(74.0) | 39(15.6) | 26(10.4) |
| Did you call for help | 222(88.8) | 16(6.4) | 12(4.8) |
| First aid should be incorporated in the school curriculum | 235(94.0) | 7(2.8) | 8(3.2) |

Table 5. Association between socio-demographics and knowledge and behavior of first aid of participants

| Variable | Knowledge | | X ² (P value) | Behavior | | X ² (P value) |
|---------------------------|-----------|-----------|--------------------------|-----------|---------|--------------------------|
| | Good (%) | Poor (%) | | Good (%) | Bad (%) | |
| Sex | | | | | | |
| Female | 95(53.4) | 83(46.6) | 0.081 (0.776) | 171(96.1) | 7(3.9) | 4.684(0.03)* |
| Male | 37(51.4) | 35(48.6) | | 64(88.9) | 8(11.1) | |
| Age | | | | | | |
| >30 | 1(100) | 0(0.0) | 2.197(0.532) | 1(100) | 0(0.0) | 0.760(0.859) |
| 15-20 | 91(50.6) | 89(49.4) | | 168(93.3) | 12(6.7) | |
| 21-25 | 36(57.1) | 27(42.9) | | 60(95.2) | 3(4.8) | |
| 26-30 | 4(66.7) | 2(33.3) | | 6(100) | 0(0.0) | |
| Residence | | | | | | |
| Rural | 12(44.4) | 15(55.6) | 0.848(0.357) | 25(92.6) | 2(7.4) | 0.106(0.744) |
| Urban | 120(53.8) | 103(46.2) | | 210(94.2) | 13(5.8) | |
| If urban, how long | | | | | | |
| <15 years | 22(40.7) | 32(59.3) | 4.117(0.128) | 50(92.6) | 4(7.4) | 0.274(0.872) |
| >15 years | 101(55.8) | 80(44.2) | | 171(94.5) | 10(5.5) | |
| Knowledge | | | | | | |
| Good | -- | -- | -- | 126(95.5) | 6(4.5) | 1.049(0.306) |
| Poor | -- | -- | -- | 109(92.4) | 9(7.6) | |

Values are expressed as frequency (%):* Statistical significance, $X^2 > 4.32$ ($P < 0.05$)

Although the awareness of first aid and having the right attitude and courage is needed in emergency situations, good knowledge of basic first aid skills and applying the correct measures has a key role in saving a victim in such situations [9]. The students knew how to handle major bleeding as it is a pretty common case which they are used to. This agrees with the report of Adesegun et al [2]. But when it comes to who to attend to first in a multiple casualty scene, and first thing to do when dealing with an unconscious victim, the students demonstrated poor knowledge, probably because these aspects are mostly taught during first aid training. For the first aid treatment of seizures or convulsions, majority of the students believed that putting a spoon in the mouth is the best treatment. This was also reported in the several studies [2,10-12]. The prevalence of the use of this wrong method for seizures is a common practice in Nigeria which has been passed down from older generations and there is a need to sensitize the students of the need to protect the victim from surrounding danger and waiting for the seizure to end while making necessary observations.

The results of this study showed a positive attitude of the students towards first aid as 92% of them were willing to administer first aid if properly trained. This was also reflected when about half of the respondents who didn't assist an injured victim attributed their reason to lack of skills. This is in contrast to the work of Adewale

et al [13] who reported fear of contracting infection as the major reason why respondents did not administer help. The International Liaison Committee on Resuscitation has strongly recommended the need to incorporate the training of Cardiopulmonary Resuscitation (CPR) into every school curriculum, especially medical schools [14]. Majority of the students agreed that basic first aid and basic life support training be incorporated into the schools' curriculum. This is a factor that the country's education ministry should consider as several studies are also in conformity [2,6,13,15]. Knowledge of first aid of the participants showed no statistical correlation with their behavioural perception which indicates the fact that the students have good attitude towards first aid irrespective of their poor knowledge of the skills. This may be because the students are already imbued with the need to provide help due to their field but just need the right training.

5. CONCLUSION

Although the students showed good awareness and attitude towards the concept of first aid, there is a gap in their knowledge and application of basic emergency first aid skills. This study shows that the students are willing and ready to acquire the necessary skills, hence, there is a need to incorporate the training of basic first aid skills and basic life support skills in the school's curriculum to bridge the gap and increase the number of first responders in the country.

DISCLAIMER

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

Authors declare that informed consent was obtained from each volunteered participant for publication of this research article and purpose of this study was thoroughly explained while they participated in the study.

ETHICAL APPROVAL

Authors declare that this cross-sectional study was approved by the Ethics Review Committee of the University and performed in accordance with the ethical standards.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
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