Awareness and Emergency Response of School of Health Technology (SOHT) Students towards Health Emergency Occurrences

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Abstract

Background: Sudden medical emergencies occur every day; bystanders often do not know the first line of treatment to offer in order to save the victim’s life. Hence, it is essential that every average man has a good knowledge of first aid in order to help preserve a life before the arrival of medical care. 

Aim/Objective: the aim of this study is to assess the awareness and emergency response of SOHT students towards health emergency occurrences. 

Materials and Methods: A cross-sectional study was carried out among SOHT students of Federal University of Technology Owerri (FUTO). A systematic sampling technique was used to select 302 students who were given a validated well-structured closed-ended questionnaire. Statistical Package for Social Sciences (SPSS) Version 22.0 was used to analyse the data collected. 

Results: 85.1% and 59.3% had knowledge of the meaning of first aid and its aims respectively, also 77.2% knew that anybody could perform first aid. 75.8% knew what a seizure is but only 40.1% could recognize a snake bite. 58.9% knew the suspected symptom of a heart attack and 57.0% could recognize an unconscious person; only few responded accurately to the first aid measures given in cases of severe bleeding, snake bite, choking, fainting, unconsciousness, drowning and seizures. Also, 94.7% of the students wanted first aid training course to be incorporated into the school’s curriculum. 

Conclusion: The level of knowledge of first aid and emergency response among the students is not satisfactory. Hence, there is need for the incorporation of first aid training programmes at schools and colleges in Nigeria.

Keywords: First aid, Bystanders, Emergency response, Mortality, Morbidity.

Introduction

Today’s global Emergency Medical Services (EMS) has advanced so much that it contributes widely to the overall function of health care systems. The World Health Organization regards EMS systems as an integral part of any effective and functional health care system. According to Susser, Varghese, Kellermann and Lormand [1], it is the first point of contact for the majority of people to health care services during emergencies and life-threatening injuries and act as a gate-keeping step for accessing secondary and tertiary services.

Early resuscitation and stabilization substantially reduces the morbidity and mortality associated with a range of medical emergencies. Jamison supports that African countries suffer the highest rates of every category of injury from road-traffic to drowning; the highest rates of maternal death from acute complications of pregnancy; and the highest rates of acute complications of communicable diseases, including respiratory infections, malaria, and HIV. 

In developed economies, integration of pre-hospital trauma life support and emergency trauma care systems are responsible for a marked reduction in morbidity and mortality [2]. Sadly, these integrated trauma systems are lacking in most African countries.
According to LeDuc Media [3] recent report on the world health ranking of death rates caused by drowning, ranked Nigeria 42 out of 172 countries on the list, with a 6.79 death rate per 100,000. Similarly, Nigeria was ranked 1 out of 145 countries as having the highest death rate of 21.13 per 100,000 in fire accidents. Ranking of deaths from rheumatic heart disease in the list puts Nigeria on the 70 out of 172 countries, 73rd position for deaths caused by stroke with rates of 5.52 and 104.23 respectively. Also, the ranking of death toll caused by road traffic accidents keeps Nigeria on the 9th position out of 172 countries with a rate of 35.39 per 100,000.

These statistics have revealed a sharp rise in the number of accident victims who die annually due to poor emergency management in Nigeria. A study on pre-hospital deaths showed that at least 39 per cent and up to 85 percent of preventable pre-hospital deaths may be due to airway obstruction and all the pre-hospital deaths reported occurred before the arrival of medical help or a paramedic/ambulance crew [4]. An absence of emergency medical transport is known to be a common barrier to care. Studies have shown that the knowledge of first aid amongst medical students has always been a neglected subject.

It should not be surprising to note that even junior doctors at certain hospitals cannot perform the first aid skills satisfactorily [5]. Swetha, Suchitra and Sahana [6], did a rapid assessment of first aid knowledge, attitude and practice of female nursing students in MVJ Nursing College, Bangalore, India and found that nursing students had inadequate knowledge and practice of first aid at the beginning of their nursing career.

To determine the Basic Life Support (BLS) awareness among medical and college of applied medical sciences students in King Saud Bin Abdulaziz University of Health Sciences (KSAU-HS) Riyadh, Saudi Arabia. Abdullah et al. [7] conducted a cross-sectional study among College of Applied Medical Sciences (CAMS) and College of Medicine (COM) students, findings of the study showed that none of the responders had complete knowledge on BLS. Also Onyeaso and Onyeaso [8] conducted a quasi-experimental study to determine the CPR skills of secondary school students in Obio-Akpor Local Government Area of Port Harcourt city, Rivers State; Before training, the participants were found to have no CPR skills whatsoever, while after training, about 92% of them could perform chest compressions and rescue breaths satisfactorily. Mustapha, Odu and Akande [9] revealed a significant deficit in terms of general knowledge about epilepsy and knowledge of first aid measure among secondary school teachers in Osogbo South-West Nigeria.

Sudden medical emergencies occur every day in Nigeria, people present during those occurrences often do not know the first line of treatment to offer in order to save the victim's life. In most cases, the decision made by people is to rush the victim to a nearby hospital.

A lot of time is wasted during this course of action as lives are lost between the location of incident and the hospital. Hence, it is essential that every average man has a good knowledge of first aid in order to help preserve a life before the arrival of medical care. It is against this background that this study on the awareness and emergency response of students towards emergency occurrence is designed. It is hoped that the findings of this study will form inputs for addressing the identified problems.

Materials and Methods

The study was conducted at the Federal University of Technology Owerri. The study design was a descriptive cross-sectional study which involved the distribution of questionnaires to students in the various departments of school of health technology (public health, prosthesis and orthopaedic, biomedical technology, optometry and dental technology).

The 302 students that participated in the study were selected using a systematic random sampling technique. Selection of participants was done during the examination period to ensure that the whole students of a class were present and that equal opportunity is given to all. A questionnaire comprising of 26 objective questions based on commonly encountered emergency situations was distributed to be filled voluntarily by the chosen students comprising of 109 males and 193 females.
The questionnaire included questions that assessed the knowledge of first aid and the immediate emergency response of the students. The return rate of the questionnaire by participants after response was 100%. Data was entered and analyzed using Statistical Package for Social Sciences Version 22.0 (SPSS 22.0). Frequency distribution tables, pie charts and bar charts were constructed for all class variables and were all expressed as percentage of the distribution.

Results

114 (37.7%) of the respondents were from the department of public health, 42 (13.9%) were from the department of prostheses and orthopaedics, 36 (11.9%) from the department of biomedicine, 58 (19.2%) from the department of dental technology, 52 (17.2%) from the department of optometry technology, and 52 (17.2%) from the department of biomedical technology. Sex distribution was 109 (36.1%) males and 193 (63.9%) females. Also, 190 (62.9%) were between the ages of 15-20 years, 105 (34.8%) were between the ages of 21-25 years and 7 (2.3%) were between the ages of 26-30 years. 105 (34.8%) of the respondents were in their first year of study, 84 (27.8%) in their second year, 68 (22.5%) in their third year of study, 6 (2.0%) in their fourth year, 34 (11.3%) in their fifth year and 5 (1.7%) were in their sixth year of study.

Assessing the level of knowledge of first aid, 257 (85.1%) responded correctly that first aid is an immediate care given to an injured or unconscious person before arrival to a hospital while 45 (14.9%) responded incorrectly. 179 (59.3%) responded correctly to the aim of first aid while 123 (40.6%) responded incorrectly. 233 (77.2%) knew that anybody can be a first aider while 69 (22.9%) had no idea who can perform first aid.

The level of awareness of health emergencies among respondents showed that 229 (75.8%) knows what a seizure is, 121 (40.1%) of the respondents could recognize a snake bite, only 178 (58.9%) answered correctly to the symptoms of a heart attack and 172 (57.0%) could recognize an unconscious person.

Assessing the level of first aid skills of the respondents showed that only 16 (13.6%) knew how many rescue breaths is given during CPR and only 27 (21.8%) knew how many chest compressions are given per rescue breath.

The first response of the students during health emergencies showed that 144 (47.7%) could control minor bleeding, 36 (11.9%) replied they would immobilize the area of a snake bite and keep it below the heart level while 88.2% answered incorrectly. Only 82 (27.2%) knew the first line of action to relieve a choking victim and only 52 (17.2%) of the respondents could manage a seizing victim. Also 59 (19.5%) alone could manage a child with a bleeding nose while 80.5% could not.

Only 74 (24.5%) had knowledge of how to manage a victim who fainted and only 71 (23.5%) could make attempt to help a stranger lying unresponsive on the floor. 90 (29.8%) could respond to a drowned victim. Only 889 (8.9%) of the respondents claimed to have checked for pulse and breathing as well as perform CPR on a victim they had encountered in their life. Lastly, 286 (94.7%) of the respondents replied that first aid training course should be incorporated into the school’s curriculum while only 16 (5.3%) replied otherwise.

**Figure 1: First responses of respondents in cases of severe bleeding**
Figure 2: First responses of respondents in cases of snake bite

Figure 3: Pie chart presenting responses on how to help a choking victim

Figure 4: Pie chart showing how many respondents wants first aid training course to be incorporated into the school's curriculum

Figure 5: Bar chart showing how respondents helped someone who slumped in their presence
Discussion

The results of this study revealed that 85.1% of the students were aware of the meaning of first aid and 59.3% also knew the aims of first aid, this implies that there is a good knowledge of the meaning of first aid among the students. This is in line with the results of the study by Joshua et al. [10] where 92% of the respondents correctly defined first aid. The study also revealed that a good number of the students were aware of who a first aider is, this is in contrast with the findings of Joshua et al. [10] where only 13.7% of the students knew who a first aider is.

The level of awareness of health emergencies of the students was observed to be good as majority of them could suspect a heart attack when someone complained of breathlessness and a tight chest pain, also majority could recognize an unconscious person. The study of Swetha et al. [6] complements this finding as 86% of the students knew cases of suspected heart attack.

Assessing the level of first aid skills among the students revealed that there is a poor level of first aid skills. Only 39.1% of the students agreed to knowing how to perform mouth-to-mouth resuscitation, however, further assessment showed that the knowledge they had about how to give a rescue breath was highly inadequate as only 13.6% knew how many rescue breaths is required for a cycle. Also, 41.1% of the students agreed to knowing how to give chest compression, however, further assessment showed that only 21.8% of them knew the correct number of compressions to be given.

This result is in relation with that of Onyeaso and Onyeaso [8] who performed a cross-sectional study to determine the CPR skills of students in both private and public secondary schools in Obio/Akpor Local Government Area of Port Harcourt city, Rivers State. The study revealed that the participants were found to have no CPR skills whatsoever prior to training on CPR. Similarly, the findings of Joshua et al. (2012) reported that only 10.5% of the student participants knew the C-A-B principles of resuscitation.

Furthermore, the level of correct first and immediate emergency response of the students towards health emergencies is considerably poor.

Among 29.8% of the students who had prior experience of medical emergency, only 8.9% of them could offer BLS to the victim. Up to 40% prompted to rush the victim to the hospital without offering any first aid measure, this being a risk. Similar to this finding is the study result of Joshua et al. [10] that showed that over 50% of the students were faced with emergency situations and only 10% of them could offer help to the victim.

Also, majority of the students knew that in cases of severe bleeding, direct pressure should be applied, this is in contrast to the study of Swetha et al. [6], that revealed that only 16% of the nursing students knew that in cases of severe bleeding, direct pressure should be applied. A poor knowledge of snake bite first aid measure was recorded in the study as only 11.9% of the students would immobilize the area and keep it below the heart level.

Majority of them (49.7%) said they would tie a piece of cloth above the bite area. This is a wrong immediate first aid measure to snake bite as immobilization of the area helps to reduce the rate at which the venom reaches the bloodstream. This is in line with the poor level of response to snake bite also recorded in the study of Swetha et al. [6] where only 5% of the students knew the first aid measures to a snake bite.

Also, the study findings show a poor immediate response of the students in cases of choking, a good number of the students would give the victim water to drink in such cases, only a few knew that 5 blows should be given at the back of the victim. Only 17.2% knew the first aid measures to be given to an epileptic person having a seizure while 58.3% believed that putting spoon into the victim’s mouth will help the person. This is generally a wrong first aid measure as the spoon could cause a damage to the victim.

This finding is in accordance with that of Swetha et al. [6], where only few knew the proper first aid measure to be taken in seizure emergency while majority answered that a key or iron should be placed in their hands which reflects on the incorrect practices and myths associated with first aid. Similarly, a study by Mustapha et al. (2013), revealed a significant deficit in terms of
general knowledge about epilepsy and its associated seizure and knowledge of first aid measure among 269 secondary school teachers in Osogbo South-West Nigeria.

Majority of the students responded wrongly to a case of nose bleeding, saying they would ask the victim to raise the head, this could cause asphyxiation in the victim. Majority also answered they would sprinkle water on a breathing victim who fainted and only few knew to raise the legs to elevate them and improve blood flow to the heart. These findings imply there is a low level of response and first aid skills among the students as supported by the findings of Swetha et al. [6] and Mustapha et al. [9].

As the incidence of medical emergencies are on the rise in recent years it is important to ensure that students who are going into a career, are adequately trained to deal with such events. The training of students in the management of emergencies is of utmost importance as they may be faced with these emergencies at some point in their career and in the school campus. Establishing first aid training programs in Nigerian undergraduate curriculum is a very extensive, efficient and effective way to prepare the citizens of Nigeria towards responding to medical emergency cases encountered at home, school, church, road, workplace, recreational parks, etc.

Conclusion

In conclusion, the students across the five health departments had a good knowledge of the meaning of first aid but an inadequate knowledge of correct first aid measures to be taken in response to medical emergencies. The awareness level of health emergencies among the students was considerably good but they had poor level of first aid skills. The study also brings out first aid training as a felt need among the health students of FUTO as there is no formal first aid training in the school’s curriculum. The study findings pose one to assume that if the health students had such poor level of first aid skills and emergency response, how much more the non-health students in the school. This study thus identified the need for introducing formal first aid training classes for students so that the trained students are competitive enough to provide first aid independently and spontaneously in real life situations in order to decrease the early mortality and morbidity of accidents and emergencies.

References


