Nigerian undergraduates' knowledge, attitude and practice of accident casualty handling

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Abstract

Background and Objective: The practice of handling of accident casualties is an important factor in reducing a case fatality rate. This study assessed knowledge, attitude and practice of accident casualty handling among Nigerian undergraduates. Moreover, the prevalence of first aid training and accident scene characteristics were determined.

Materials and Methods: 401 (including 71.1% of non-medical and 28.9% of medical) undergraduates of the Obafemi Awolowo University, Ile-Ife, Nigeria volunteered for this cross-sectional study yielding a response rate of 89.1%. A previously validated questionnaire on knowledge, attitude and practice of handling of accident casualties was used. Descriptive and inferential statistics were used to analyze data. Alpha level was set at p<0.05.

Results: 50.1% of respondents had witnessed at least one accident involving car-to-car collision (38.3%) or car -to-motor cycle collision (28.4%); 13.4% of respondents reported a positive history of involvement in accidents, 74.6% were passers-by while 11.9% were by-standers. 22.7% of respondents were trained in first aid and handling of accident casualties. Only 14.4% of respondents handled accident casualties. Lifting casualty to sitting was the most common practice (51.7%) among the accident handlers. 79.3% of respondents who had handled accident casualties demonstrated incorrect practices. Handlers at accident scenes were mostly concerned about their safety (41.3%). All respondents (100%) who had handled casualties at any time demonstrated a positive attitude to handling casualties; however, more than half (69%) of respondents had fair knowledge about accident casualty handling.

Conclusions: Nigerian undergraduates demonstrate a positive attitude but have limited knowledge about accident handling and lack appropriate skills in ensuring safety and preventing fatalities among accident casualties.

Key words: knowledge, attitude, practice, accident casualties, undergraduates, Nigeria

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Introduction

Globally, road traffic accidents (RTAs) result in high rates of disability and deaths with the resultant socio-economic toll on the individuals, families and society [1,2]. Statistics show that over a million people die each year and some 10 million people sustain permanent disabilities in road traffic crashes [3]. It is estimated that by 2020, road traffic crashes would have moved from ninth to third in the world disease burden ranking as measured by disability -adjusted life years [4]. Developing countries which are still at comparatively low levels of motorization, are not exempted from increasing incidence of RTAs [4], owing to the current trends in population growth, industrialization and urbanization, which put a heavy pressure on the transport network, in particular on the road system [5].

The statistical data regarding RTA-associated casualties in Nigeria are controvertible. Nonetheless, according to the regional study from Nigeria, the overall road traffic injury rate is about 41 per 1000 population with the resultant mortality rate of about 1.6 per 1000 population [6]. Generally, based on anecdotes, empirical findings and previous studies, the case fatality rates resulting from RTAs are increasingly high [7,8]. Consequently, RTAs in Nigeria have taken a worrisome dimension as the majority of these injuries and deaths could have been prevented [9,10,11] instead of resulting in rising incidence rates of disability and deaths [12,13].

A gamut of factors may be implicated on increasing incidence of RTAs in Nigeria, including poor road network systems, infrastructural defects, human factors involving defective visual acuteness, night driving and driver fatigue, road unworthy vehicles, drunken and uncaring drivers, and pedestrians [14-18]. Apart from the aforementioned, a huge incidence of disability and mortality resulting from RTAs is due to the lack of skills of casualty handling and first aid application [19]. According to the study by Ezenwa [10[, the mortality pattern has shown that for every five fatal accident victims one subsequent death occurred outside the accident scene [10]. It has been demonstrated that the consequences and complications arising from wrong handling and management of RTA patients by 'sympathizers' could have been averted if they had a good knowledge or training in handling of accident victims [16].

Consequently, some investigators have explored the knowledge of handling of accident casualties among Red Cross personnel and road safety officials [20]. Still, studies on post-RTA handling in the general population is scarce. Furthermore, there seems to be an apparent dearth of studies on RTA casualty handling techniques in Nigeria. Therefore, this study assessed the knowledge, attitude and practice of accident casualty handling among Nigerian undergraduates. Moreover the prevalence of first aid training and accident scene characteristics of respondents were determined.

Materials and methods

A total of 401 (235(58.6%) males and 166(41.4%) females) undergraduates of the Obafemi Awolowo University, Ile-Ife, Nigeria volunteered to take part in this cross-sectional study yielding a response rate of 89.1%. A sample size of 450 was estimated for this study, based on the formula: $N = \underline{Z^2P(1-P)}/e^2$, where, N is the sample size required, Z is the standard normal deviation set at 1.96, P is the proportion of students who had knowledge on first aid and casualty handling (12% was used based on the previous studies) and e is the gross margin error set at 0.03.

A multi-stage sampling technique was used to recruit respondents into the study. Twelve faculties in Obafemi Awolowo University, Ile-Ife, Nigeria were randomly selected using a

fishbowl technique. The selected faculties were Administration, Agriculture, Arts, Basic Medical Sciences, Clinical Sciences, Dentistry, Education, Environmental Design and Management, Law, Pharmacy, Social Sciences and Technology. A department per faculty was randomly chosen for recruitment of respondents. The selected departments were Agriculture Economics, Chemical Engineering, Dentistry, Dramatic Art, Guidance and Counselling, Law, Management and Accounting, Medical Rehabilitation, Medicine, Microbiology, Pharmacy, Sociology and Quantity Surveying. Based on the estimated sample size, a maximum of 45 volunteers was targeted to be recruited from each department.

A previously validated questionnaire on knowledge, attitude and practice of accident casualty handling in southern Australia [21] was adapted for this study. The four-section questionnaire sought information on demographics, casualty handling skills, willingness to handle accident casualties and knowledge about handling of accident casualties.

An ethical approval for this study was sought and obtained from the Ethical Review Committee of the Obafemi Awolowo University. The purpose of the research was explained to the respondents and informed consent was obtained before participation. The copies of the questionnaire were distributed by the researcher and were collected on the same day.

Data analysis

Descriptive statistics of mean, standard deviation and frequency were used to summarize data. Inferential statistic of Chi-square was used to test the associations between knowledge, attitude and practice about accident casualty handling. Alpha level was set at $p < 0.05$. Data were analyzed using Statistical Package for Social Sciences software version 16.0 (SPSS Inc., Chicago, USA).

Results

A total of 401 (71.1% non-medical and medical 28.9%) undergraduates responded in this study. The majority of respondents (60.8%) were within the age range of 20-25 years and 300 level of study (33.2%), respectively (table 1).

Table 1: Socio-demographic characteristics of respondents (N=401)

Variable	Frequency	Percentage
Gender		
Male	235	58.6
Female	166	41.4
Age group		
<20yrs	132	32.9
20-25yrs	244	60.8
26-30yrs	25	6.1
Department		
Agriculture Economics	33	8.2
Chemical Engineering	36	9.0
Dramatic Arts	24	6.0
Dentistry	30	7.5
Guidance and Counselling	31	7.7
Law	29	7.2
Management & Accounting	30	7.5
Medical Rehabilitation	30	7.5
Medicine	32	8.0
Pharmacy	25	6.2
Sociology	41	10.0
Quantity Surveying	31	7.7
Level of study		
100 Level	57	14.2
200 Level	117	29.2
300 Level	133	33.2
400 Level	68	17.0
500 Level	26	6.5
Course group		
Medical course	116	28.9
Non-medical course	285	71.1

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Table 2 shows the prevalence of first aid training among the respondents. Only 22.7% of respondents had previous trainings in first-aid and casualty handling; 36.3% of them were trained in first aid over 2 years before this study. Mostly, the Red-Cross Society (31.9%) and other non-governmental organizations (20.9%) provided trainings in first-aid treatment and casualty handling. Training in first-aid was sought mostly because of personal choice to be of help in future need (59.3%) and also as a prerequisite for recruitment into paramilitary and medical corps (11.0%).

Table 2: Prevalence of first aid training among respondents

Variable	Frequency	Percentage
Had previous training in first aid? (N=401)		
Yes	91	22.7
No	310	77.3
Duration of first aid training (n=91)		
<6 Months	26	28.6
6-12 months	15	16.5
1-2 years	17	18.7
>2 years	33	36.3
Organizer of first aid training attended (n=91)		
Police	3	3.3
Federal Road Safety Corp	9	9.9
Man O War	2	2.2
Red Cross	29	31.9
University medical college	18	19.8
Non-Governmental Organization	19	20.9
Religious Organization	11	12.1
Reason for attending first aid training (n=91)		
To be of help	54	59.3
Corp membership requirement	10	11.0
Association membership requirement	5	5.5
Medical school obligation	16	17.6
Prospective career requirement	6	6.6

About half (50.1%), of respondents were by-standers at accident scenes. Car-to-car collision was the most witnessed type of accidents (38.3%), followed by car-bike accidents (28.4%) and car-pedestrian accidents (14.4%); 13.4% of respondents who had experienced an accident scene were involved in the accidents while 41.8% were passers-by (table 3).

Table 3: Accident scene characteristics

Variable	Frequency	Percentage
Present at an accident scene?		
Yes	201	50.1
No	200	49.9
How long ago was the last accident scene experienced? (N=201)		
<6 months	52	25.9
6-12 months	37	18.4
1-2 years	69	34.3
>2 years	43	21.4
Type of accident witnessed (n=201)		
Car-Car Collision	77	38.3
Car and Bike	57	28.4
Car and Pedestrian	29	14.4
Car and Animal	3	1.5
Car and Blockade	12	6.0
Bike and Pedestrian	18	9.0
Bike and Animal	4	2.0
Bike and Blockade	1	0.5
Respondent's position during accident (n=201)		
Involved	27	13.4
Witness	174	86.5
Witness (n=174)		
Passerby	84	41.8
Traveller	66	32.8
Standing-by	24	11.9

Table 4 shows the assessment of respondents regarding handling skills at accident scenes. Only 14.4% (n=29) of all respondents reported a positive

history of accident casualty handling. Most of them (82.8% (n=24)) provided help for casualties alongside with others. Various accident handling practices of respondents included lifting a casualty who was gasping (2.5%); applying pressure on bleeding sites (10%); carrying immobile patients on the shoulder (12.5%); pulling out casualties from car wrecks (17.5%); pulling casualties to sitting to aid breathing (17.5%); and lifting casualties to sitting (37.5%). Concerns of the respondents regarding handling of accident casualties are presented in table 4. Legal risk (12.2%) and safety (29.3%) were the most expressed concerns for unwillingness to help during an accident.

Table 4: Assessment on handling skills at accident scenes and concerns of respondents

Variable	Frequency	Percentage
Ever handled accident casualty? (n=201)		
Yes	29	14.4
No	172	85.6
Did you handle accident casualty alone? (n=29)		
Yes – I was the only one	5	17.2
No, I provided help with others	24	82.8
Handling method		
I pulled out a casualty from wreck	7	17.5
I carried immobile casualty on my shoulder	5	12.5
I applied pressure on a bleeding site	4	10.0
Pulled casualty to sitting to aid breathing	7	17.5
I lifted casualty to sitting	15	37.5
I lifted a casualty who was gasping	1	2.5
I opened the airways of a gasping casualty	1	2.5
Respondents concerns with regards to handling casualty (n=41)		
Safety concern	12	29.3

Variable	Frequency	Percentage
Legal concern	5	12.2
Overwhelming scene concern	5	12.2
Different scene concern	4	9.8
Fear concern	3	7.3
Infection concern	3	7.3
Memory concern	3	7.3
No concern	6	14.6

Table 5 reveals the respondents' reasons for not intervening as a by-stander; 11 (5.2%) were afraid of making mistakes; 17 (8.1%) were confused by too many suggestions; 34 (16.1%) were discouraged to assist because of the overwhelming scenery of an accident scene; 53 (25.2%) reported they were never trained; while 54 (25.7%) saw no necessary need of providing assistance.

Table 5: Assessment of reasons why assistance was not offered to accident casualties by respondents (n=210)

Variable	Frequency	Percentage
Why assistance was not offered to accident casualties		
Not trained	53	25.2
Assistance seemed unnecessary	54	25.7
Afraid of making mistakes	11	5.2
Overwhelming scene	34	16.1
Too many confusing suggestions	17	8.1
Casualties refused help	3	1.4
Could not remember first-aid steps	6	2.9
Concerned about risk of infection	5	2.4
Legal risks consideration	7	3.3
Different scene	7	3.3
Unsafe scene considered	13	6.2

The knowledge of respondents about accident casualty handling is presented in table 6. Most of the respondents demonstrated a fair knowledge

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about casualty handling (69%). Erroneously, 39.2% agreed that lifting a casualty who is lying helpless on the floor to sitting and 41.9% agreed that pulling a casualty to sitting position to assist breathing is ideal. However, 42.4% strongly agreed to guaranteeing one's safety before helping or giving assistance at accident scenes. Improvising with a wrapper or cloth to lift an immobile casualty in the absence of a stretcher was only known by 12.0% and the use of sticks to tie broken limbs, in the absence of a stretcher was reported by 34.4% of respondents.

The knowledge level of respondents on accident casualty handling is presented in table 7. The majority of respondents (69%) had fair knowledge about accident casualty handling. All respondents (29 -100%) demonstrated positive attitudes to casualty handling. However, most of the respondents (79.3%) demonstrated incorrect practices with accident casualty handling. Table 8 shows the results of the chi-square test of the association between casualty handling practice and respondents' characteristics. There was no significant association between casualty handling practice and each of gender (χ^2 = 0.004; p=0.947), age (χ^2 = 1.827; p=0.401) and course level (χ^2 = 2.882; p=0.578). However, there was a significant association between casualty handling practice and course classification as medical or non-medical oriented (χ^2 = 5.784; p=0.016). Furthermore, there

Table 6: Participants' knowledge about accident casualty handling (N=401)

Knowledge Item	Agreed n(%)	Unsure n(%)	Disagree (%)
If present at an accident scene, I will help to lift a casualty who is lying helpless on the floor to sitting	289(72.1)	66(16.5)	46(11.4)
If present at an accident scene, I will help pull a casualty to sitting position to assist breathing	293(73.1)	58(14.5)	50(12.4)
If present at an accident scene, I will first guarantee my safety before I can help or give assistance	317(79.1)	51(12.7)	33(8.2)
If present at an accident scene, in the absence of stretcher, I can improvise a wrapper or cloth to assist in lifting immobile casualties	207(51.6)	130(32.4)	64(16.0)
If present at an accident scene, I will help disperse a crowd around casualty to aid breathing	308(76.9)	81(20.2)	12(3.0)
If present at an accident scene, I will use stick to help tie a broken limb in the absence of a stretcher	201(50.1)	130(32.4)	70(17.5)
If present at an accident scene, in the absence of a stretcher I will carry immobile casualties with my hands	190(47.4)	116(28.9)	95(23.7)
If present at an accident scene, I will careful with touching a bleeding patient because of safety concern about risk of infection (HIV/AIDS; hepatitis etc.)	155(38.7)	98(24.4)	148(36.9)
The constitution does not permit a non-medically trained person or corps to render assistance to casualties at accident scenes	75(18.7)	118(29.4)	228(51.9)
If present at an accident scene, I would force out a casualty from entrapment by all means to prevent further harm to him/her	250(62.3)	87(21.7)	64(15.9)
Traffic control at an accident site will ensure safety	306(76.3)	71(17.7)	24(6.0)
A caution sign to warn on-coming vehicles is important at an accident scene or site	323(80.5)	66(16.5)	12(2.9)
If present at an accident scene, I will apply pressure on any bleeding site to prevent further bleeding	286(71.3)	78(19.5)	37(9.2)
A check for the pulse of the pulse of casualties to ascertain if dead/alive is important at an accident scene/site	291(72.6)	82(20.4)	28(5.9)

Table 7: Chi-square test of association between casualty handling practice and respondents' characteristics (n=29)

	Casualty handling practice				
	Correct n(%)	Incorrect n(%)	Total	χ^2	p
Knowledge about accident handling					
Below Average	1 (3.4)	2 (6.9)	3 (10.3)	4.826	0.090
Average	2 (6.9)	18 (62.1)	20 (69.0)		
Above Average	3 (10.3)	3 (10.3)	6 (20.7)		
Gender					
Male	4 (13.8)	15 (51.7)	19 (65.5)	0.004	0.947
Female	2 (6.9)	8 (27.6)	10 (34.5)		
Age					
<20 Years	1 (3.4)	9 (31)	10 (34.5)	1.827	0.401
20-25 Years	4 (13.8)	13 (44.8)	17 (58.6)		
26-30 Years	1 (3.4)	1 (3.4)	2 (6.9)		
Course grade					
100 Level	0 (0)	4 (13.8)	4 (13.4)	2.882	0.578
200 Level	4 (13.8)	10 (34.5)	14 (48.3)		
300 Level	2 (6.9)	5 (17.2)	7 (24.1)		
400 Level	0 (0)	3 (10.3)	3 (10.3)		
500 Level	0 (0)	1 (3.4)	1 (3.4)		
Course category					
Medical	4 (13.8)	4 (13.8)	8 (27.6)	5.784	0.016
Non-Medical	2 (6.9)	19 (65.5)	21 (72.4)		

Note: The association between practice and attitude could not be computed because all respondents demonstrated positive attitudes towards accident casualties.

was no significant association between casualty handling practice and knowledge on accident handling ($\chi2$ = 4.826 p=0.090). The respondents with poor knowledge on accident casualty handling recorded the lowest percentage on correct handling practice (6.9%).

Discussion

This study investigated knowledge, attitude and practice of Nigerian undergraduate students regarding accident casualty handling. Moreover, the prevalence of first aid training and accident scene characteristics of respondents were determined. About 80% of the undergraduates in this study had no formal training in first-aid and casualty handling. A comparable finding was reported in a Pakistani study where a prevalence of 17.5% was found for formal first aid training (i.e. 82.5% of no formal training) [22]. Another study among Tanzania medical students reported 46.1% rate of formal first aid training [23]. However, there is empirical evidence in support of the effectiveness of first aid teaching to students [24]. First aid education as a component of public school curricula has been recommended for most developed countries [24-26]. Unfortunately, formal first aid training and practice in sub-Sahara Africa is still exclusively within the domain of medical profession and organizations such as the Eed Cross/Crescent.

According to the study findings, most of the students (36.3%) who had formal training in first aid were trained over 2 years prior to the study, which can indicate the lack of refresher and update courses on first aid care. The effective use of first aid in handling of an emergency outside the hospital setting, such as an accident scene, requires fresh knowledge. A Swedish study have found that the loss of knowledge and skills occurs primarily during the first year of training [27]. Similar studies by Anderson et al. and Mahony et al. have demonstrated that many necessary skills of cardiopulmonary resuscitation and first aid are forgotten shortly after certification and that those who had renewed their certificate once or more times performed better than those who had learned the information only once [28,29].

Our study shows that the Red Cross Society (31.9%) and some non-governmental organizations (20.9%) provided training in first aid and casualty handling. This finding is an indicator that first aid education is yet to be part of public school curricula in Nigeria. This is further buttressed by the fact that 28.9% of the total population in this study were medical students; only 19.8% of them received training in first aid as part of medical school programme. Most of the students in this study sought formal training in first aid in order to be of help in future need and prospectively as an employment requirement for paramilitary and medical corps.

About half of the students in this study were by-standers while a slightly more than 40% were passers-by at accidents scenes. The above finding indicates that students may serve as effective first responders at accident scenes whose roles may transit from mere witnesses to effective handlers if adequately equipped with requisite knowledge in first aid. Moreover, car-to-car collisions, car-to-bike accidents and car-to-pedestrian accidents were the most preponderant accident scenes witnessed by the students. The pattern of accidents reported in this study is similar to the previous reports in Nigeria showing high prevalence rates of vehicle-vehicle, motorcycle-vehicle and pedestrian-motorcycles/vehicle crashes, respectively [10, 30-33].

Our results demonstrate that 13.4% of students were involved in an accident. The observed rate of involvement in RTAs among students in this study corroborates the previous reports that RTAs are a leading cause of death in adolescents and young adults globally [2,6]. Specifically, RTAs have become a significant public health problem in Nigeria with high morbidity and mortality rates [6,9-11,34,35]. A high rate of students' involvement in RTAs in Nigeria has been acknowledged, as they represent a very mobile segment of the population [30,33,36]. However, the above is anecdotal evidence, and the empirical data on prevalence of students' involvement in RTAs are sparse.

Furthermore, this study reveals that 7.2% of all the students that participated in this study reported a positive history of accident casualty handling. This percentage represents 14.4% of those who witnessed an accident scene and is within the range of the few available studies, which show that there is a low incidence of first aid interventions at accident scenes. Specifically, an Australian study among the general population has reported that 11% of participants provided first aid at the site of a RTA [19,21]. According to another study carried out among Polish students on first aid training and by-stander actions at accident scenes, a bystander offered help to accident casualties in 20% of crashes [27]. Willingness to provide care at accident scenes is predicated upon a variety of factors. However, it is stressed that availability of appropriate first aid at the RTA scene can reduce morbidity and deaths significantly [19,37]. From this study findings reveal that slightly more than 80% of students who reported a positive history of accident casualty handling provided interventions alongside with

others. It is adduced that these students might be able to singlehandedly provide interventions for accident casualties if adequately equipped with appropriate first aid and accident handling skills.

The results of this study show that lifting casualties to sitting, pulling casualties to sitting to aid breathing and pulling casualties from car wrecks were the common practices at accident scenes. In general, the casualties handling patterns observed in this study were largely faulty. Such faulty patterns of accident casualty handling have also been reported in some other Nigerian studies but among different populations [38]. The above observations pose a challenge to the traditional cliché in first aid intervention that "*it is better to do something than do nothing*". This age-long cliché seems intact when there is the need for cardiopulmonary resuscitation. However, in handling the casualties that require lifting and carrying, doing something wrong may not be better than doing nothing at all. These results further buttress the need for first aid education in schools in Nigeria.

About 50% of the students in this study who witnessed an accident did not offer to render assistance to casualties. Safety and legal risk were the most expressed concerns for their unwillingness to help accident casualties. Most accident scenes are often unsafe to render assistance to accident casualties due to heavy traffic, presence of crowds and overwhelming situations [27,39]. Furthermore, some of the students in this study did not render help to accident casualties due to lack of training, fear of making mistakes and discouragement by overwhelming accident scenes. In consonance with our findings, some studies have found lack of knowledge to accurately judge the injuries of crash victims [27], nature of emergencies and the severity of perceived injuries as often overwhelming [39] and resulting in unwillingness of bystanders to render first aid to accident casualties.

Most of the students in this study demonstrated fair knowledge about casualty handling (69%). Metin et al. [40] in their study among university students from Turkey have reported that 65% of respondents had no knowledge about first aid [40]. The findings of Sasser et al. in a study conducted by the World Health Organization, have reiterated the need for community residents as first responders to be trained in accident casualty handling [41]. It was hypothesized that unless there is in-depth knowledge of basic life-support techniques, more harm may be done than good. Moreover, above 40% of the students in that study erroneously agreed that pulling a casualty to a sitting position to assist breathing is ideal. Only a few (above 10%) knew about an improvising wrapper or cloth to lift an immobile casualty in the absence of a stretcher, and less than half realised the importance of ensuring one's safety at accident scenes. The previous studies have stressed traffic, fuel leaks, fires and crowd are necessary steps to be taken as part of procedures at accident scenes [42]. The use of a rolled blanket placed around the neck to maintain the stability of the cervical spine in the absence of cervical collar, use of blankets or shirts/blouses in place of backboards while carrying and moving unconscious or non-ambulatory casualties are recommended as part of improvisations. Furthermore, the use of sticks to tie broken limbs was known by less than 40% of students, the use of improvised splinting materials such as branches, towels and blankets to apply soft and rigid splints on the upper and lower extremities to immobilize fractures is therefore encouraged. In addition, about 40% of students agreed that checking for pulse of a casualty at the accident scene is important. This result corroborates the previous findings that stress the importance of pulse assessment in crash victims [41].

This study found no significant association between casualty handling practice and the level

of knowledge on accident handling. Theoretical knowledge about accident casualty handling does not translate to appropriate practical handling, which is consistent with the previous findings that students seem to incorrectly practice hands-on interventions despite having good knowledge on first aid and accident casualty handling [22]; furthermore, the need for dummy demonstrations has been emphasized to bridge the gap between class and field.

This study showed that medical respondents handled accident casualties better than their non-medical counterparts. Better casualty handling by medical students may be associated with their training and exposure to handling of cases and casualties. An accident scene may therefore serve as an opportunity for hands-on demonstration of medical school knowledge on casualty handling. However, this study found no significant association between practice of casualty handling versus gender, age and level of study. All the students that had experience in handling of accident casualties demonstrated positive attitudes, which shows that a good attitude towards first aid and casualty handling may be an indicator of willingness to render assistance to accident casualties.

Conclusion

The prevalence of first aid training and handling of accident casualties among Nigerian undergraduate students was low. Nigerian undergraduate students demonstrated positive attitudes but have limited knowledge about accident handling and lack appropriate skills in ensuring safety and preventing further disabilities to casualties. Our study indicates an urgent need for training, enlightenment and education of the general populace in casualty handling. It is therefore suggested that learning about first aid and casualty handling be incorporated into school curricula.

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