

Original Research Article

Perception of Civilians on the Emergency Care of Victims during Road Traffic Accidents Prior to Hospitalization in Nyamagana District, Mwanza, Tanzania

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Abstract: Objectives: To determination of perception of civilians on the importance of pre hospital emergence care of post-crash incidents in Nyamagana district Mwanza and their willingness to cooperate in providing the necessary first aid to victims. **Methods:** This study undertook an analytical cross sectional study design and the data was collected through interview and questionnaire of the respective study population within my area of study and all results were incorporated into my study so as to check for the perception of civilians on RTA and percentage of those willing to take part in prehospitalization care. **Results:** Among the 151 participants enrolled, 82 participants (54.3%) were females and 69 participants (45.7%) were males. Among 151 participants 147(97.4%) participants thought that it was their responsibility to give first aid at a crash scene and 4(2.6%) participants didn't think it was their responsibility to give first aid at a crash scene. 148(98%) participants thought that anyone with the right knowledge on the first aid should provide it to crash victims and 149(98.7%) were willing to provide if they were to be given the right knowledge and would recommend civilians to be educated on recommended safe methods of ensuing first aid while 3(2%) participants didn't think that anyone with the right knowledge should provide first aid at a crash scene and 2(1.3%) participants would neither take part in provision of first aid when given the right knowledge nor recommend education to civilians on first aid for victims of a crash accident. **Conclusion:** The overall perception of civilians among the 151 participants in our study on emergence care prior hospitalization was largely acceptable in terms of attitude, willingness and importance of first aid. Majority of participants in this study were willing to provide first aid if they were to be given the right knowledge. Training and equipping officers is recommended so that they can deliver competent post-crash care at the scene. Finally we recommend health officials to consider providing training to civilians on recommendable safe first aid methods at a crash scene so as to decrease the mortality and morbidity associated with road traffic accidents.

Keywords: emergency care, Perception, Road traffic accidents.**ABBREVIATIONS**

DALYs	Disability Adjusted Life Years
GDP	Gross Domestic Product
LMIC	Lower and Middle Income Countries
RTAs	Road Traffic Accidents
RTIs	Road Traffic Injuries

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INTRODUCTION**1.1 BACKGROUND**

Road traffic accidents are among the leading causes of death and lifelong disability globally; 1.2 million people are known to die in road accidents worldwide. Millions of others sustain injuries, with some suffering permanent disabilities. No country is spared this toll in lives and suffering, which strikes the young particularly. Enormous human potential is being

destroyed, with also grave social and economic consequences. Road safety is thus a major public health issue throughout the world [1].

In 2017, WHO released *Save LIVES a road safety technical package* which synthesized evidence based measures that can significantly reduce road traffic fatalities and injuries *Save LIVES: a road safety technical package* focused on Speed management,

Leadership, Infrastructure design and improvement, Vehicle safety standards, Enforcement of traffic laws and post-crash Survival [2]. WHO's *Global status report on road safety 2018* presented information on road safety from 175 countries. This report is the fourth in a series and provides an overview of the road safety situation globally [2]. These reports and packages were made after observing the cost brought about by these accidents.

It is estimated that by 2020, RTAs will probably rank as high as third among the causes of disability-adjusted life years lost [6-8]. In developing countries, most of the RTAs occur in urban regions and pedestrians, passengers, and motorcyclists collectively constitute around 90% of deaths [3]. With this overgrowing burden of mortality and morbidity it is therefore necessary to know if civilians are aware and ready to give first aid at crash scene and hence saving more lives and reducing the disability adjusted life years lost.

While data is limited, the proportion of patients who die before reaching hospital in low- and middle-income countries is estimated as at least twice that in high-income countries [6], suggesting that strengthening pre-hospital systems could have enormous global impact. Optimal pre-hospital care is provided by a responsive system that can rapidly dispatch equipped ambulances with trained providers and extrication services where needed but where this is not available, there are many ways to improve basic care at the scene of a crash [4].

In Tanzania, the site of the present study, road transport accounts for three quarters of all types of transport [5] RTIs increase the burden on the health care system, which in many countries is already overwhelmed by other health problems [10]. As well, the families of RTI victims can become impoverished by the need to expend increased resources to cover treatment costs. The World Health Organization (WHO) has found that on a global basis, about 5% of gross domestic product (GDP) is spent on goods and services related to RTIs [2]. However, it is now agreed that the impact of RTIs can be minimized if post-crash care is maximized [11, 5].

1.2 Problem statement

According to the 2015 *Global status report on road safety*, the WHO African Region had the highest rate of fatalities from road traffic injuries worldwide at 26.6 per 100 000 population for the year 2013 [1, 2]. In 2013, over 85% of all deaths and 90% of disability adjusted life years (DALYs) lost from road traffic injuries occurred in low- and middle-income countries, which have only 47% of the world's registered vehicles [2, 3]. The increased burden from road traffic injuries and deaths is partly due to economic development, which has led to an increased number of vehicles on the

road [5, 6]. Given that air and rail transport are either expensive or unavailable in many African countries, the only widely available and affordable means of mobility in the region is road transport [1, 2, 7]. However, the road infrastructure has not improved to the same level to accommodate the increased number of commuters and ensure their safety and as such many people are exposed daily to an unsafe road environment [1, 4, 6].

According to the latest WHO data published in 2018 Road Traffic Accidents Deaths in Tanzania reached 19,058 or 5.24% of total deaths. The age adjusted Death Rate is 46.17 per 100,000 of population ranks Tanzania #6 in the world. WHO rankings of top 50 leading causes of death in Tanzania ranked Road traffic accidents as number seven [7].

In Tanzania, fewer than 10% of seriously injured patients benefit from ambulance evacuation [2]. Most of RTI victims' get to the hospital facilities from the scene through the efforts of untrained civilians and medically unknowledgeable lay responders such as police officers [7, 8]. Although lay responders play a significant role in helping to transfer RTI victims from an accident scene to a health facility, they are generally not trusted by the victims to whom they provide care due to their low skills in managing casualties [9]. If effective care is to be provided, there is a need to strengthen the capacity of lay responders and for them to become competent in the provision of post-crash care [10-13, 8].

From this overwhelming burden of death of post-crash victims is where this study came into mind aiming at assessing the awareness of civilians in Nyamagana district in handling of the casualties from post-crash accidents and by doing so shedding light to the gaps left in the emergence medical care for post-crash victims in Nyamagana district so that the respective officials may act on these shortcomings and help save more lives and by doing so achieving the WHO2030 agenda for reduction by 50% of death of post-crash victims in 2020 as this study will also create awareness to the civilians.

LITERATURE REVIEW

2.1 Overview on Road traffic accidents.

The World Health Organization (WHO) reports that about 1.24 million people die annually on the world's roads, with 20–50 million sustaining non-fatal injuries [1, 2]. Globally, road traffic injuries are reported as the leading cause of death among young people aged 15–29 years and are among the top three causes of mortality among people aged 15–44 years [6].

Road Traffic Injuries (RTIs) are the eighth cause of death in the world and there has been a 46% increase since the 1990s [1]. Recent WHO analyses estimate that RTIs could become the fifth cause of death in the world by 2030 with high levels of

inequality in situations, between, and within, LMICs (Low and Middle Income Countries) [2]. Added to this burden are the millions of people suffering long-term from their injuries or disabilities [3]. The highest number of deaths occurs on the African continent, i.e. a rate of 26.6 deaths per 100 000 inhabitants [2]. A recent study found that the rate could be closer to 65 deaths per 100 000 inhabitants [4, 9, 10].

2.2 Epidemiology

The *Global status report on road safety 2018*, launched by WHO in December 2018, highlights that the number of annual road traffic deaths has reached 1.35 million. Road traffic injuries are now the leading killer of people aged 5-29 years. The burden is disproportionately borne by pedestrians, cyclists and motorcyclists, in particular those living in developing countries. The report suggests that the price paid for mobility is too high, especially because proven measures exist. Drastic action is needed to put these measures in place to meet any future global target that might be set and save lives [11].

A number of countries have seen success in reducing road traffic deaths over the last few years, but progress varies significantly between the different regions and countries of the world. There continues to be a strong association between the risk of a road traffic death and the income level of countries. With an average rate of 27.5 deaths per 100,000 populations, the risk of a road traffic death is more than three times higher in low-income countries than in high-income countries where the average rate is 8.3 deaths per 100,000 populations. Furthermore, as shown in Figure 2, the burden of road traffic deaths is disproportionately high among low- and middle-income countries in relation to the size of their populations and the number of motor vehicles in circulation [12, 13].

2.3 Risk factors and causes of RTAs

Several factors attribute to the data above but some of those factors include inexperience and risk taking behaviors, including excessive speed and drug and alcohol use, have been associated with the collisions of young drivers. Conversely, as age advances, increased prevalence of visual and cognitive impairment as well as medication use have been associated with the collisions of older drivers [14].

Environmental factors and stress plays avital role in causing major road traffic accidents. Other important factors such as the age of the vehicle, safety measures, human error and time and place of accident decide the fatalities and the seriousness of the accidents. Human error seems to be the major cause in majority of vehicular accidents. Examination on the operator or human causes will be a critical component for accident analyses insufficiently experienced drivers and authorizing improperly trained drivers and insufficient knowledge of traffic signs tend to increase the number

of road traffic accidents. Carelessness is one of the causes of road accidents in our country. Some of the examples include using mobile phone while driving a vehicle, ignoring the red signal in traffic signals and emerging from a side road into the path of another vehicle. Over speeding is one of the reason as injury severity increases with collision speed and the lack of head protection accounts for the most severe but preventable injuries. Another important cause for alarming increase in number of road accidents is driving of vehicle in drunken state. Under the influence of alcohol and other intoxicated substances, the drivers lose the self-consciousness and control over the vehicle which ultimately forms the reason for accident [15].

Statistics show that 78.84% of road accidents are caused by human behavior specifically poor adherence to traffic rules and regulations. For instance, in India, it is relatively easy for people to get a license without proper driving skills (Chakraborty, Gupta & Bhatnagar, 2013). Tanzania is of no exception in this case. It is among the highly affected developing countries in East Africa and Africa in general (Chiduo & Minja, 2001). In Iringa a study was conducted that revealed that road accidents on-site conditions were caused by poor infrastructure, overloading of vehicles, law impunity, inadequacy of relevant laws, corruption, negligence of drivers, lack of road safety education and road traffic signs [16, 17].

2.4 Impact of RTAs

The burden of traffic accidents, in terms of both mortality and morbidity, is rapidly increasing in developing countries due to rapid motorization associated with economic growth, for every death attributable to trauma, three patients survive but are left permanently disabled. From mild to severe injuries, a road traffic crash can have a significant social and economic impact on the individual, family and the society [18].

Road traffic crashes cost most countries 3 per cent of their gross domestic product (GDP). Without sustained action, road traffic crashes are predicted to become the seventh leading cause of death by 2030. The newly adopted 2030 Agenda for Sustainable Development has set an ambitious target of halving the global number of deaths and injuries from road traffic crashes by 2020 [19] in 2015 an average of 1.8 people died daily and 59 people had their life or health affected. The consequences of road traffic accidents primarily affect the direct participants of road traffic accidents and their families. The direct participants of road traffic accidents particularly suffer health consequences. Due to the fact that road traffic accidents lead to a large number of fatal incapacitating injuries, the consequences of these accidents are fundamentally reflected in the social sphere. This concerns job losses and the related financial hardships, loss of amenity and

a fatal impact on the functioning of the whole family. We should not forget that the psychological impact of the consequences of road traffic accidents do not only affect the direct participants, but also their families. The costs associated with road traffic accidents are shouldered by the whole society [20].

2.5 Response to Post-crash

As road traffic crashes are so common, many doctors will give roadside treatment at some time during their career. A third of prehospital deaths may be preventable,² so doctors have a duty to offer assistance at a crash scene, but this can be a frightening and distressing experience for those not trained to work in the prehospital environment. This article is based on our synthesis of best practice, but there is often controversy about optimal prehospital care because good evidence is lacking. A recent survey of the prehospital literature on behalf of the World Health Organization found only 24 randomized controlled trials and concluded there was insufficient data to provide a secure evidence base for many of the common prehospital interventions [3, 21, 22].

The study findings characterize an environment in which the police first responders have no knowledge or skills and no equipment and supplies to provide care to RTA victims at the scene before rushing them to definitive care. The results suggest a favorable climate for training and equipping officers so that they can deliver competent post-crash care at the scene while emergency medical services are yet to be established [23, 24].

3. METHODOLOGY

3.1 Objective

To determination of perception of civilians on the importance of pre hospital emergence care of post-crash incidents in Nyamagana district Mwanza and their willingness to cooperate in providing the necessary first aid to victims.

3.2 Study Design

This study undertook an analytical cross sectional study design and the data was collected through interview and questionnaire of the respective study population within my area of study and all results were incorporated into my study so as to check for the perception of civilians on RTA and percentage of those willing to take part in prehospitalization care.

3.3 Study area

The study was conducted at Nyamagana district in Mwanza region. Nyamagana District is one of the seven districts of the Mwanza Region of Tanzania. It is bordered to the north by Ilemela District, to the east by Magu District, to the south by Misungwi District and to the west by the Mwanza Bay of Lake Victoria [25].

3.5 Study population

This study population involved the entire population of those residing in Nyamagana district from the age of above 18 years.

3.6 Criteria for inclusion and exclusion

3.6.1 Inclusion criteria

All residents in Nyamagana district who were above 18 years of age.

3.6.2 Exclusion criteria

All residents who were below 18 years of age
All residents who didn't consent into participating in the study

3.7.1 Sample size

The sample size was estimated from the formula below
The modified Leslie and Kish formula -1965

$$N = \frac{Z^2 P(1-P)}{D^2}$$

Where by

N= Sample size

Z= Confidence interval (1.96 or 95%)

D= standard error (5%)

P=Prevalence of road traffic injuries in similar cross sectional study done in (10%)

By substituting the statistics on formula; then sample size becomes 138.29

Therefore, a total of 138 participants will be required; but in order to increase the Statistical power of the study, 140 participants will be recruited

Sample size (N) = 140.

3.7.2 Sampling technique

The sample was obtained by simple random sampling method

3.7.3 Data collection

A structured questionnaire was used to collect information from the participant through interview of participants in my study within the study population. The questionnaire included both closed and open ended questions. All interviews were face to face and the questionnaires maintained anonymity for confidentiality.

3.7.4 Data analysis

All results and data obtained were analyzed, some data were coded analyzed electronically through the SPSS computer program while others were analyzed into percentage or proportion depending on whether it was an answer to an open ended or closed ended question.

3.8 Ethical consideration

This study maintained all ethical procedure including seeking consent and, maintaining

confidentiality hence ethical clearance was obtained from the Catholic university of health and Allied Sciences.

4.0 RESULTS

4.1: Data analysis and data interpretation

The research was conducted at Nyamagana district. In the process of completing data collection a number of participants shared their time and knowledge. A total of 151 participants were enrolled in the research. Questionnaires in Swahili were given to the participants and those who were unable to read or write were given help by the researcher.

The data was entered into the SPSS software where data was scientifically and systematically analyzed to produce relevant results. In this study we were interested in the perception of civilians on emergency care of victims during road traffic accidents prior to hospitalization in Nyamagana district. To determine the association between variables frequency tables and cross tabulations were used, while categorical data (ordinal and nominal) was analyzed using chi-square test for the purpose of testing statistical significance between these variable associations. The P-value of <0.05 was considered significant association.

4.2: Social demographic characteristics of the study population

Among the 151 participants enrolled, 82 participants (54.3%) were females and 69 participants (45.7%) were males. The largest age group was between 18-30 years with the prevalence of 53% and followed by that of 31-45 years with prevalence of 32.5% , the rest were those above 45 years with prevalence of 14.6% .Of the 151 participants 87 participants (57.6%) were employed, while the rest 64 participants (42.4%) were not employed.

Upon questioning about the education level of the participants 57 participants (75.8%) had completed primary level education, 7 patients (5.8%) had not completed their secondary education, 7 patients (5.8%) had completed secondary education and the rest 12.5 % had reached university level and tertiary education.

Among the participants 86.1% were Christians, 11.9% were muslims, 1.3% had traditional religion while the rest 0.7% had other religions.

Table 1: Social demographic data

	Frequency	Percent
age of participants		
18 - 30 years	80	53
31 - 45 years	49	32.5
above 45 years	22	14.6
sex of participant		
Female	82	54.3
Male	69	45.7

marital status		
Single	79	52.3
Married	64	42.4
Divorced	6	4
Widowed	2	1.3
occupation of participant		
not employed	64	42.4
Employed	87	57.6
education level of participant		
no education	6	4
primary education	10	6.6
secondary education	57	37.7
university education	78	51.7

4.3: Personal experience with road traffic accidents

Among 151 participants 111 (73.5%) had witnessed an accident while the rest 40 participants (26.5%) had never witnessed a road traffic accident. And the overall participants 120 participants (79.5%) had seen victims of post-crash accidents, while 31 participants (20.5%) had never seen victims of crash accidents. Among all participants only 45 participants (29.8%) had ever provided first aid to post-crash victims while the rest 106 participants (70.2%) had never done so, however 142 participants (94%) were willing to provide first aid in other circumstances if faced with post-crash victims, while 9 of the participants 6% were not willing to provide first aid in case of a post-crash accident.

Table 2: Personal experience of Road traffic accident

	Frequency	Percent
witnessed accident		
No	40	26.5
Yes	111	73.5
ever seen victims		
n0	31	20.5
Yes	120	79.5
provision of first aid		
No	106	70.2
Yes	45	29.8
willing to provide		
No	9	6
Yes	142	94
responsibility of participants		
No	4	2.6
Yes	147	97.4

4.4: Attitude towards provision of first aid by civilians

Among 151 participants 147(97.4%) participants thought that it was their responsibility to give first aid at a crash scene and 4(2.6%) participants didn't think it was their responsibility to give first aid at a crash scene.148(98%) participants thought that anyone with the right knowledge on the first aid should provide it to crash victims and 149(98.7%) were willing to provide if they were to be given the right knowledge and would recommend civilians to be educated on

recommended safe methods of ensuing first aid while 3(2%) participants didn't think that anyone with the right knowledge should provide first aid at a crash scene and 2(1.3%) participants would neither take part in provision of first aid when given the right knowledge nor recommend education to civilians on first aid for victims of a crash accident. 144(95.4%) participants would recommend civilians to take part in provision of first aid to post crash victims and 7(4.6%) participants would not recommend provision of first aid by civilians and 149(98.7%) participants thought first aid is important prior to hospitalization while 2(1.3%) participants thought first aid prior to hospitalization isn't important.

From the study if the participants answered yes for more than four question then its perceived that they have a good attitude and out of the 151 participants all (100%) participants said yes to more than four questions and so are perceived to have good attitude. so the overall participants had good perception or attitude towards provision of first aid by civilians.

TABLE OF ATTITUDE TOWARDS PROVISION OF FIRST AID BY CIVILIANS

Table 3: Attitude towards provision of first aid by civilians

	Frequency	percent
Attitude on knowledge of participants		
No	3	2
Yes	148	98
willingness to knowledge of participants		
No	2	1.3
Yes	149	98.7
educational recommendation of participants		
No	2	1.3
Yes	149	98.7
provision recommendation of participants		
No	7	4.6
Yes	144	95.4
importance of first aid		
No	2	1.3
Yes	149	98.7
overall perception of participants		
	151	100

5 DISCUSSION

Road traffic accidents are among the leading causes of death and lifelong disability globally; 1.2 million people are known to die in road accidents worldwide. Millions of others sustain injuries, with some suffering permanent disabilities. The aim of this study is to determine perception of civilians on safe methods of pre hospital emergence care of post-crash incidents in Nyamagana district Mwanza and their willingness to cooperate in providing the necessary first aid to victims.

Among the 151 participants enrolled, 82 (54.3%) were females and 69 participants (45.7%) were males. The largest age group was between 18-30 years with the prevalence of 53% and followed by that of 31-45 years with prevalence of 32.5%, the rest were those above 45 years with prevalence of 14.6% (57.6%) were employed, while the rest 64 participants (42.4%) were not employed. The education level of the participants 57 participants (75.8%) had completed primary level education, 7 patients (5.8%) had not completed their secondary education, 7 patients (5.8%) had completed secondary education and the rest 12.5 % had reached university level and tertiary education. Among the participants 86.1% were Christians, 11.9% were Muslims, 1.3% had traditional religion while the rest 0.7% had other religions as shown in Table 1 these data correlate with the study done by The *Global status report on road safety 2018*, launched by WHO in December 2018, highlights that the number of annual road traffic deaths has reached 1.35 million. Road traffic injuries are now the leading killer of people aged 5-29 years. The burden is disproportionately borne by pedestrians, cyclists and motorcyclists [11].

Perception of civilians on importance of emergence care prior hospitalization at a crash scene

In this study the perception of the participants was assessed with six questions on the assessment of attitude towards provision of first aid by civilians and if the participants answered yes to more than four questions, they were considered to have good perception. So all the 151 participants answered yes to more than four questions and so the overall perception of civilians on emergence care prior hospitalization was good by 100% but only 149(98.7%) participants out of the 151 participant thought first aid is important while the rest 2(1.3%) participant thought that first aid wasn't important and so this concludes that's the greatest percentage (98.7%) of people in Nyamagana district thought first aid is important care prior hospitalization and so had a good perception on this. A similar study conducted by Jacobs LM, Burns KJ, Langer G, Kiewiet De Jonge C. The Hartford Consensus showed that when presented with a scenario of trying to stop severe bleeding in a car crash victim unknown to respondents, 92 percent of a random half sample of respondents indicated they'd be very likely (61 percent) or somewhat likely (31 percent) to enact bleeding control [26] this study shows that most participants had a good perception towards ensuing first aid to victims however contrasting results were observed with a study done by Larsson EM, Mårtensson NL, Alexanderson KAE whereby only Fourteen percent of the studied population recalled having been at the scene of at least one traffic crash in the previous five years. That rate may be even higher in countries with a greater number of traffic fatalities, but there have not been other investigations of the incidence of witnessed traffic crashes. Nonetheless, 14% is quite a substantial rate, which emphasizes the importance of extensive first-aid

training of the general public. According to the findings, a bystander at a crash site often concludes that first aid is unnecessary. This can be a correct assessment or the result of insufficient knowledge of first aid to allow an accurate judgment of the injuries of crash victims [27], the general public in that population felt that they lacked skills to use in attending victims for first aid and would rather leave it up for trained personnel.

Another study done emphasizing on the community role in reducing fatalities associated with crash incidents showed that the value and outcomes of first aid training programs were examined by Peterson and Russell (1999) who found that both immediately and six months after some type of first aid training, people are more likely to stop and provide assistance at a motor vehicle crash. Both Hussain (1994) and Khangure (1998) argue that at least 7% of road fatalities could be saved as a result of basic first aid measures taken at the scene and argue that this presents a great opportunity for the community to actively participate in reducing the road toll both in terms of road traffic related deaths and disabling injury [28].

The overall perception of civilians is good as showed by the studies above and can even be improved with provision of first aid training to civilians to make them more willing and competent to be able to provide it whenever required.

Willingness of civilians to take part in provision of first aid at crash scene

Among all participants only 45 participants (29.8%) had ever provided first aid to post-crash victims while the rest 106 participants (70.2%) had never done so, however 142 participants (94%) were willing to provide first aid in other circumstances if faced with post-crash victims, while 9 of the participants (6%) were not willing to provide first aid in case of a crash scene. These data are slightly similar with the study done by Lukumay GG, Outwater AH, Mkoka DA, Ndile ML, Saveman BI. Traffic police officers' experience of post-crash care to road traffic injury victims: A qualitative study in Tanzania [5]. A total of 340 traffic police officers were surveyed. Nearly two thirds (65.3%) reported having had post-crash first aid on-the job training; a slightly larger proportion (70.9%) reported that they had cared for RTI victims in the previous year [8].

In this study 147(97.4%) participants thought that it was their responsibility to give first aid at a crash scene while only 4(2.6%) participants didn't think it was their responsibility to give first aid at a crash scene and 144(95.4%) participants would recommend civilians to take part in provision of first aid to post crash victims, so overall most participant (94%) are willing to take part in provision of first aid prior hospitalization in Nyamagana district, similar results

were observed with a study done by Pallavisarji U, Gururaj G, Nagaraja Girish R showed a Significant number (81.4%) of respondents reported that they did not have adequate skills to manage an emergency and were willing to acquire knowledge and skills in first aid to help victims [29], their only limitation was the adequate skills but were ready to acquire them so they were willing to participate if presented with such circumstances in future.

A study done by Larsson EM, Mártensson NL, Alexanderson KAE. The finding that the respondents with a higher level of education were more willing to participate in first-aid training might be related to a generally more positive attitude towards education. This study positive attitude and willingness were found to be associated with education level and on the same study Barely half of the subjects expressed a desire to participate in first-aid training in the near future; this is rather discouraging. A majority of those who were interested in training had a higher education and were relatively young. Older people may be more negative towards first-aid training, because they are less active and do not expect to have much use of such skills [27]. A difference in perception was seen between the younger and older generation because young people were more open minded about the idea of acquiring skills and were willing to use them in the future to provide first aid.

A study by Jelinek *et al.*, (2001) found that with more training and more knowledge of correct procedures, people were more likely to perform basic life support in an event such as a RTA. It seems that often people do stop at the scene of an accident to render assistance [28].

Accidents happen every day unexpectedly and most of the time lay responders are the ones closer to the scene and most are willing to help if only they knew how to and some take it as their responsibility to do so if they were to be given the necessary skills.

6.0 CONCLUSION

The overall perception of civilians among the 151 participants in our study on emergence care prior hospitalization was largely acceptable in terms of attitude, willingness and importance of first aid. Majority of participants in this study were willing to provide first aid if they were to be given the right knowledge. Training and equipping officers is recommended so that they can deliver competent post-crash care at the scene. Finally we recommend health officials to consider providing training to civilians on recommendable safe first aid methods at a crash scene so as to decrease the mortality and morbidity associated with road traffic accidents.

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APPENDIX 1: QUESTIONNAIRES QUESTIONNAIRE (ENGLISH VERSION)

PART 1: DEMOGRAPHIC DATA

	QUESTION	ANSWER	CODE
1	Name		
2.	Sex	1. male 2. female	
3.	Age		
4.	Marital status	Single 1 married 2 separated 3 divorced 4 widowed 5	
5	Occupation	cultivation 1 businessman 2 medical personnel 3 government employee 4 student 5 others 6	
6.	Level of education	Illiterate 1 Primary education 2 Secondary education 3 University education 4	
7.	Religion	Christian 1 Muslim 2 Traditional 3 Others 4	

PART 2: PERSONAL EXPERIENCE WITH ROAD TRAFFIC ACCIDENTS

	QUESTIONS	ANSWER	CODE
1.	Have you ever witnessed a road crash accident	yes 1 no 2	
2	Have ever seen the victims of a road crash accidents	yes 1 no 2 (if no go to number 4)	
3	Have you ever provided first aid to the victims of an accident at the scene	Yes 1 No 2	
4	In other circumstances are you willing to provide first aid to victims of road crash accidents	yes 1 no 2	

PART 3: ASSESMENT OF ATTITUDE TOWARDS PROVISION OF FIRST AID BY CIVILIANS

NO	QUESTION	ANSWER	CODE
1.	Do you think its your responsibility to give first aid to victims at a crash scene	Yes 1 No 2	
2.	Do you think anyone with the right knowledge on first aid should provide it to crash victims	Yes 1 No 2	
3.	With the right knowledge on first aid would you be willing to offer it to crash victims	Yes 1 No 2	
4.	Would you recommend civilians to be educated on recommended safe methods of ensuing first aid	Yes 1 No 2	
5.	Would you recommend civilians to take part in provision of first aid to post crash victims	Yes 1 No 2	
6.	Do you think first aid is important prior to hospitalization	Yes 1 No 2	

QUESTIONNAIRE (SWAHILI VERSION)
DODOSO LA KISWAHILI

HATUA 1: MAELEZO YA DEMOGRAFIA

	MASWALI	JIBU	CODE
1.	Jina		
2.	Jinsia	1. Mume 2. Mke	
3.	Una miaka mingapi?	Miaka	
4.	Hali ya ndoa?	Sijawahi kuoa/kuolewa 1 Nimeoa/nimeolewa 2 Tumetengana 3 Mtalaka 4 Mgane/Mjane 5 Tunaishi pamoja bila 6 Ndoa	
5.	Unafanya kazi gani?	Mkulima 1 Mjasiriamali 2 Mfanyakazi wa afya 3 Mwanafunzi 4 Nyingine 5	
6.	Ni kiwango gani cha Elimu cha juu zaidi ulichofikia?	Sijasoma 1 Nimemaliza elimu ya msingi 2 Nimemaliza elimu ya sekondari 3 Nimemaliza chuo/chuo kikuu 4	
7.	Je, wewe ni dini gani?	Mkristo 1 Muislamu 2 Traditional 3 Nyingine 4	

HATUA 2: UZOEFU BINAFSI WA AJALI ZA BARABARANI

	MASWALI	JIBU	CODE
1.	Umeshawahi kushuhudia ajali ya Barabarani?	Ndio 1 Hapana 2	
2.	Umeshawahi kuwaona majeruhi wa ajali za barabarani?	Ndio 1 Hapana 2 (kama hapana nenda namba 4)	
3.	Je, umeshawahi kutoa huduma ya kwanza Kwa majeruhi, katika eneo husika la ajali?	Ndio 1 Hapana 2	
4.	Je, katika mazingira tofauti uko tayari kutoa Huduma ya kwanza kwa wahanga wa ajali Za barabarani	Ndio 1 Hapana 2	

HATUA 3: TATHMINI YA MTAZAMO WA RAIA JUU YA UTOAJI WA HUDUMA YA KWANZA

NO	SWALI	JIBU	KODI
1.	Je unahisi ni wajibu wako kutoa huduma ya kwanza kwa majeruhi kwenye eneo la tukio.	Ndio 1 Hapana 2	
2.	Je unadhani mtu yoyote mwenye uelewa sahihi juu ya huduma ya kwanza anabidi kumuhudumia majeruhi	Ndio 1 Hapana 2	
3.	Je utakua tayari kutoa huduma ya kwanza kwa majeruhi ukipewa uelewa sahihi wa huduma ya kwanza	Ndio 1 Hapana 2	
4.	Je unapendekeza raia wa kawaida kuelekezwa njia sahihi za kutoa huduma ya kwanza?	Ndio 1 Hapana 2	
5.	Je unapendekeza raia kushiriki kwenye utoaji wa huduma ya kwanza kwa majeruhi	Ndio 1 Hapana 2	
6.	Je unahisi huduma ya kwanza ni muhimu kabla ya kupelekwa hospitali.	Ndio 1 Hapana 2	

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