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Experiences of First Responders Regarding the Provision of Prehospital Care of Road Traffic Victims in Malawi: An Interpretative Phenomenological Analysis

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Research Article

Keywords: Lived experience, Interpretative Phenomenological Analysis, Informal First Responders, Emergency Medical Services, Road Traffic Injuries, Low-resource Settings

Posted Date: November 23rd, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11496134/v1

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Additional Declarations: No competing interests reported.

Abstract

Background

Road traffic accidents are a major health problem and a concern to health institutions, with nearly 1.35 million people being killed or disabled every year. Despite this, little is known about the experiences of first responders in providing prehospital care to road traffic accident victims in Malawi. This study aimed to explore the experiences of first responders providing prehospital care to road traffic accident victims across four sites in Mzimba District, northern Malawi.

Methods

The study employed a phenomenological design. Purposive and snowball sampling were used to select 20 taxi and minibus drivers. In-depth interviews were conducted using a semi-structured interview guide. Data were organised, coded and analysed using Interpretative Phenomenological Analysis (IPA) to identify and interpret patterns of meaning within participants' lived experiences.

Results

The emerging themes from experiences were sequence of events, consequences, actions taken by first responders, challenges experienced, and recommendations for improvement. The sequences of events were collisions and speeding, while consequences included the severity of the crash scene, life-threatening injuries and mortality of the victims. The actions taken by first responders included applying the incident command system at the scene, providing first aid, and communicating with appropriate personnel. The challenges experienced included: delays in transporting the victims to the hospital, limited human and material resources, unfounded accusations against first responders, and disruption to the daily business plan.

Conclusion

Basic first aid training is highly recommended to equip first responders with the knowledge and skills they need. A multisectoral collaboration among stakeholders, including the Ministry of Health, the traffic police, Road Safety of Malawi, chiefs, and non-governmental organisations, needs to be considered to ensure an effective and sustainable prehospital care programme. There is also a need to establish enabling open communication channels and consider equitable resource allocation.

Introduction

Road traffic accidents are a major public health problem, with nearly 1.35 million people being killed or disabled every year [1]. Globally, road injury deaths increased from approximately 1.1 million in 1990 to

1.2 million in 2017[2]. The burden of road injuries remains substantial globally, with marked variation across regions and countries [3]. One third of potentially preventable deaths occur before arrival at hospital, while more than half occur during the hospital reception and resuscitation phase of care [4]. Providing prehospital care to road traffic injury victims is particularly challenging in settings where organised prehospital care systems are inadequately developed [5]. Evidence from a resource-constrained setting indicates that inadequate trauma care may also have substantial health and financial consequences for affected victims and their families [6].

Prehospital care is a critical aspect of emergency care, involving the provision of medical assistance to patients before they arrive at the hospital [7]. The provision of initial care is vital to improving patient care, particularly in time-sensitive emergencies. In settings where prehospital care is fully established, it has been shown to play a significant role in improving patient survival [8]. Further, trauma outcomes are considered to be optimised when patients receive definitive care within 60 minutes of injury, commonly referred to as the “golden hour” [9]. Furthermore, prehospital care has been associated with improved survival [7]. Prompt interventions reduce the need for long-term hospitalisation among surviving victims, thereby lowering costs for families and reducing the burden of care on healthcare providers [6].

Prevention of road traffic accidents is the most effective intervention to reduce road traffic-related deaths [10]. Despite the abundance of interventions being implemented, a continued increase in road traffic crashes is being reported, with devastating effects [11]. The World Health Organisation recommends training first responders in basic first aid techniques as the first and most basic tier of prehospital care in low-income countries [12]. The inclusion of first responders in prehospital care has been extensively studied and evaluated [13], with much focus on programme development and implementation [14] and programme evaluation [15].

First responders, including drivers, bystanders, and volunteers, provide prehospital care to victims in settings where emergency medical services are not well established [14]. The roles of first responders have been extensively studied and include the provision of emergency healthcare services, for which timely access can be a challenge [16]. In low-income countries, where the prohibitive cost of prehospital healthcare services is a barrier, informal networks comprising police, firefighters, bystanders, and commercial drivers serve as substitutes for professional prehospital care services [17]. Involving first responders is a cost-effective alternative to formal emergency medical services in resource-limited settings [18]. However, various challenges in implementing prehospital care services by first responders have been reported, including organisational, human resource, social and cultural challenges, and a lack of training [19, 20]. Therefore, a sustainable approach to the provision of prehospital care services by first responders is needed to ensure programme sustainability.

Diverse experiences of first responders have been reported globally. Frequent exposure to traumatic events, including life-threatening circumstances and exposure to casualties and/or fatalities, has been associated with adverse physical and mental health outcomes [21]. Further, a lack of public recognition, being undervalued by others, and a lack of clarity regarding their purpose and responsibilities have been

reported [22]. Furthermore, other studies have reported adverse mental health outcomes with relevant rates of post-traumatic stress disorder, anxiety, and depression [23]. This could have devastating effects on the quality of care provided and the victims' overall health outcomes. The integrated crisis response model has been shown to offer promising approaches to delivering comprehensive patient-centred care, which is important for long-term recovery [24].

In Malawi, there is no formal system of prehospital care [25]. Well-wishers, including community members and taxi and minibus drivers, take an active role in assisting victims of road traffic accidents [26]. The mortality among road traffic accident victims and the consequences of the lack of an established prehospital care system in Malawi have been extensively explored [27]. Despite this, little is known about the experiences of first responders providing prehospital care to road traffic accident victims in Malawi. Therefore, this study aimed to explore first responders' experiences of providing prehospital care to road traffic accident victims.

Methodology

Research Design

A phenomenological design was used. The design is concerned with understanding social and psychological phenomena from the perspectives of the people involved [28]. The study explored the experiences of first responders in providing prehospital care to victims of road traffic accidents. Data were collected from December 2025 to February 2026.

Study setting

The study was conducted at four sites (two urban and two rural) in Mzimba District. Mzimba District is one of the largest districts in northern Malawi, covering 10,473 square kilometres and having an estimated population of 1,017,701 people [29]. Mzuzu City is the district administrative centre and is surrounded by the Viphya Mountains, which are home to agricultural land, forest reserves, and the Viphya plantations [30]. The population of Mzuzu City is estimated at 273, 018, and the city is considered one of Malawi's fastest-growing cities.

The selected sites were grouped into urban and rural settings based on the areas where taxi and minibus drivers operate. The urban areas were Mzuzu City and Ekwendeni taxi ranks, while the rural settings were Mzimba Urban and Jenda ranks based on the predominantly rural routes served by drivers. Drivers in urban settings operate within a 30-kilometre radius of Mzuzu Central Hospital, the main referral hospital in northern Malawi. Mzuzu City, where the study was conducted, is situated in the Northern Region and is Malawi's third-largest city. Drivers who operate in rural areas operate within a 65-kilometre radius of Mzimba District Hospital and a 146-kilometre radius of Mzuzu Central Hospital. Therefore, utilising the four sites increases the likelihood of capturing a range of drivers operating in both rural and urban settings in the district. This helps authors gain a deeper understanding of contextual complexity and compare data across distinct environments.

Study population and selection criteria

The population included taxi and minibus drivers. Participants were taxi and minibus drivers operating from the four selected sites, who were able to communicate in at least one of the following languages: Chichewa, Tumbuka or English, had provided prehospital care to victims of road traffic accidents, and were able to participate in the planned interviews. The authors excluded taxi and minibus drivers who were unavailable during the study period and could not be reached by phone.

Sample Size and Sampling

The sample size was determined by the principles of data saturation and information power rather than by a predetermined numerical target [31]. A total of 20 taxi and minibus drivers were included in this study. The authors began interviews in urban areas, followed by rural areas. In both settings, the first author began interviews with two participants to gain an in-depth understanding of their experiences in providing prehospital care to road traffic accident victims. As further information emerged, the author continued to interview participants until no new themes emerged. In rural areas, data saturation was reached at participant seven, and three additional participants were added to enhance information power. At this stage, a rich description of the prehospital care data was noted. In both settings, purposive and snowball sampling techniques were used to select participants for the study.

Data collection technique

Data were collected using a semi-structured interview guide, developed from an in-depth literature review by the authors (Supplementary file). The interview guide was structured into six sections: background information; the experience as a first responder; the roles and actions taken; the challenges faced; training and preparedness; and, lastly, improvements and suggestions. Pretesting the interview guide led to the addition of a question to understand the driver's motivations for their action. The final interview guide enabled the interviewer to ask follow-up questions that elicited participants' experiences (see supplementary materials). In-depth, face-to-face interviews were conducted to allow participants to express their experiences.

Data collection procedure

After obtaining permission to collect data, the first author approached the chairperson of the taxi and minibus drivers at each rank. In collaboration with the chairperson, participants with experience of providing prehospital care to road traffic accident victims were identified. The chairperson asked the participants to meet with the first author. Detailed information about the research, written in the local languages of Tumbuka and Chichewa, was explained to participants before they signed the consent form. The participants were further allowed to ask questions, and responses were given accordingly. The

author then arranged the interview dates and times with the participants. The interviews were conducted inside a private car at the rank to minimise disturbances.

During the interviews, the first author began with general open-ended questions, followed by probing questions to prevent participants from simply agreeing or disagreeing. The participants were able to provide more detailed information about their experiences. The author took notes and audio recorded the interviews and gave the participants sufficient time to talk freely. The first author also further took field notes of observations and non-verbal communication. The interviews lasted approximately 35 to 40 minutes per participant. Participants were involved in a data verification exercise after the interviews were transcribed, which allowed them to elaborate on their accounts. All interviews were conducted in Tumbuka and Chichewa, as participants were more fluent in either of the two local languages. The data collection procedure was repeated across all four settings.

Data analysis

Data were analysed using Interpretative Phenomenological Analysis (IPA) to provide a detailed examination of personal lived experience [32]. Data analysis was conducted in six stages as follows:

Reading and re-reading

This was done to understand the data [33]. The authors read the text multiple times and listened to the recorded interviews to internalise the data. The first author took notes, reflections and initial comments and highlighted them in the left margins of the transcripts. The authors took notes on the prominent issues, contradictions, and similarities. Re-reading was then done, and notes were taken. This was followed by an in-depth discussion with the second author, during which all transcripts were reviewed again to ensure a shared understanding.

Initial Noting and Coding. This was done to generate a rich set of detailed notes capturing the participants' experiences [34]. Close reading of the transcripts generated initial notations that were descriptive, linguistic and conceptual to deepen the interpretation of the text [35]. After initial noting, the transcripts were entered into ATLAS.ti for coding. Codes were generated from first responders' experiences.

Developing emergent themes. This step involved moving beyond the descriptive level of the initial codes to identify more abstract, interpretative patterns that captured participants' experiences [36]. The two authors (CM and GC) extensively examined the initial codes and grouped them into higher-order sub-themes. The condensation involved synthesising and reducing several closely related codes into a concise statement that captured the central theme [37]. The two authors (CM and GC) continuously compared, reorganised, and clustered codes based on their relationships to one another. Lastly, the third author (LH) verified the codes and themes through a consensus among the three authors.

Searching for Connections Across the Emergent Themes. This involved mapping relationships, patterns, and connections to reduce data volume [38]. The authors looked for patterns, similarities and contrasts in the emerging themes. The related themes were grouped into superordinate themes, while those that remained distinct were retained separately. The process involved abstraction and contextualisation as it examined the relationships between themes [36]. The authors further maintained idiographic details, whereby connections between themes were first established before combining themes.

Looking for Patterns Across Cases. This step involved a detailed analysis of each case. The authors compared the emergent themes identified in each participant's account [39]. The areas of convergence and divergence were examined to identify cross-case superordinate themes that captured meaningful shared experiences. Themes that demonstrated conceptual connections across several cases were clustered into broader superordinate themes and sub-themes [40]. During this process, attention was given to the individual nuances, contradictions and unique experiences that enriched the emerging themes.

Integration and Interpretation. This involved synthesising the findings from the analysis to develop a coherent and meaningful understanding of lived experiences [41]. The process involved integrating the emergent, subordinate, and superordinate themes by examining the relationships among themes and their contributions to the overall phenomenon under study [42]. The authors further considered the shared patterns across participants and individual differences to ensure that the interpretations were grounded in participants' accounts and supported by quotations.

Trustworthiness

The trustworthiness of qualitative research data was evaluated in terms of credibility, confirmability, dependability and transferability [43]. To ensure credibility, the interviews were conducted by the first author who has the necessary expertise and research skills. Prolonged engagement with participants was used to establish rapport and gain an in-depth understanding of their experiences of providing prehospital care to victims of road traffic accidents. The number of participants was determined by data saturation. Further, regular debriefings with other members of the authors were held to discuss emerging themes generated from the data. The authors further prepared a detailed draft of the study protocol that included a comprehensive data collection method. An audit trail of notes on decisions made during data collection, team meetings, and data management was maintained. Participants were given feedback regarding the interviews (member checking), and they verified and agreed that the transcripts reflected their experiences of providing prehospital care to road traffic accident victims. These measures also contributed to the study's dependability.

To ensure confirmability, the authors collected relevant data from participants with lived experience of providing prehospital care to road traffic accident victims. The authors met frequently and maintained a reflective journal to ensure confirmability. Reflexive practices were used to consider how authors' prior knowledge of prehospital care for road traffic accident victims may have influenced how interviews were

conducted with first responders. Furthermore, to ensure transferability, the authors provided a detailed description of the study setting, study population and the themes that emerged from the study to enable assessment of applicability to a new situation.

Researcher reflectivity

The process of reflection is central to the construction of knowledge [44] and is crucial in upholding the moral principles and values of a qualitative study [45]. Specifically, the authors had prior knowledge of taxi and minibus drivers through their daily operational experiences, which may have led to preconceived ideas about how they provided prehospital care to road traffic accident victims. The authors kept a reflective journal to record thoughts, assumptions and decisions. In addition, a reflective statement outlining the authors' positionality and its impact on the study was composed. Furthermore, the authors participated in peer debriefing to uncover blind spots and question assumptions. The authors continuously examined how personal and contextual factors influenced the interpretation and conclusions drawn from the results. In this regard, the authors reflected on aspects of the interview observations and their subjective responses and further refrained from using complicated language to reduce its influence on the results. Throughout the research process, the authors used reflexive practices to critically consider how their perspectives and assumptions may have influenced the interpretation and presentation of the data.

Ethical consideration

Ethical internal approval was obtained from the Health Sciences Research Ethics Committee at the University of the Free State (UFS-HSD 2025/0106/2511) and the external approval was obtained from the National Committee on Research in the Social Sciences and Humanities (Protocol number P.08/25/1004) in Malawi. The study was conducted in accordance with the Declaration of Helsinki. The reporting of the study was informed by the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist. Participants' identities and personal information were protected during the study. Code numbers were used to protect participants' identities, and consent forms were stored separately from research data. The audio-recorded information and written notes were stored in a secure computer with access limited solely to the authors. Participants were guaranteed the right to participate voluntarily, with no penalties imposed for refusing to participate in the study. They were further informed of their right to withdraw from the study at any time and given detailed information about the study in their local language. Furthermore, arrangements were made with professional counsellors from Saint John of God Hospitallers Services in Mzuzu to refer any participants who experienced emotional distress related to recounting their experiences.

Results

Participants

The study included 20 participants with 5 to 20 years of driving experience. Ten participants were operating in the urban setting, while the other 10 were operating in the rural setting. All participants witnessed an accident, and 10 (four urban and six rural) were also personally involved in one.

Emerging themes

The major themes and sub-themes were generated from the data, and then narrative messages were developed. Five themes emerged from the data analysis, as depicted in Table 1: Sequence of events, consequences, actions taken by first responders, challenges experienced, and recommendations for improvement, with their respective sub-themes.

Table 1
Themes and Sub-themes

Themes	Sub-themes
Sequence of events	• Speeding • Collision
Consequences	• Severity of the crash scene • Life-threatening injuries • Mortality
Actions taken by first responders	• Motivation to react at the accident scene • Applying priority at the accident site • First aid assistance at the scene • Conveying communication to appropriate individuals
Challenges experienced	• Delay in transporting victims to the hospital • Limited human and material resources • Unfounded accusation against first responders • Disruption in the daily business plan • Difficulties in notifying families, health care providers and law enforcement about the accident • Emotions experienced by first responders • Institutional and professional barriers to emergency care
Recommendations for Improvement	• Training • Collaboration with stakeholders (Police, Health care providers, Taxi drivers' association, Road Safety, Chiefs) • Equitable resource allocation • Enabling open communication channels • Community participation

Theme 1: Sequence of events

Speeding and Collision were identified as sub-themes under the first theme, *sequence of events*. Most participants identified speeding as the primary cause of accidents. Speeding was described as causing loss of control of vehicles or motorbikes, crashing into buildings and failing to negotiate corners *"On this day, I was travelling from Mzuzu to Karonga when I observed a minibus driver losing control of the vehicle due to speeding and hit a stationary truck at Chiweta, and later fell into a ditch. Mm, this was a very sad*

situation….” (P 20). However, collisions were most reported as accidents. The collision occurred when drivers were either trying to avoid a head-on collision or hit a pedestrian *“In the other accident, I was driving a two-ton lorry, heading from Mzimba to Jenda, when I saw a person walking in the middle of the road. I tried to hoot, but he could not move away, and there was another car coming, and I avoided a head-on collision, and the mirror grass of the lorry hit his shoulder, and he fell” (P 17).*

Theme 2: Consequences

Consequences of the accidents were another theme that emerged from our analysis, with three subthemes: severity of the crash scene, life-threatening injuries and mortality. Participants described the severity of the crash scene in terms of the nature of the injury, including the condition of the victims at the scene “*The accident happened at Mitiyani, which is about 90 kilometres from Mzuzu City. It involved a motorbike rider and the passenger. The rider lost control of the bike and hit a building. The passenger was seriously injured, while the rider sustained minor injuries. The passenger was unconscious, and with help from one of the community members, we picked him up and put him in my car, and we rushed with him to a health centre, and he was later referred to Mzuzu Central Hospital…(P14).*

Regarding life-threatening injuries, participants most often described the consequences of road traffic accidents as haemorrhage, fractures, amputation, and loss of consciousness of the victim “*This accident happened in Chibavi. It involved a motorbike driver who was drunk, and he was riding at a very high speed. He hit an electricity pole, fell and sustained a fractured leg, and was unconscious…” (P10).* Mortality among victims was one of the most reported consequences of road traffic accidents. Some participants described death occurring at the scene of the accident and on the way to the hospital. The death of the victims was further classified as multiple or involving two to three victims **“***The accident happened on Nkhatabay Road, and I was coming from Mzuzu and heading to Nkhatabay. The accident involved the truck driver and occurred at a corner in Kaning’ína forest. But I do not know what really happened because it was very early in the morning, around 4 am. I stopped and found people stealing goods from the truck, and the driver was still trapped inside, but the door was open. I tried to call him, but he didn't answer. I removed his seat belt, and we removed him from the truck with help from a local. And put him in my car, he was still breathing slowly and had no visible injuries. He died on the way before reaching the hospital...” (P 5).*

Theme 3: Action taken by first responders

Four sub-themes emerged: motivation to respond at the accident scene, prioritising at the accident site, providing first aid at the scene, and conveying information to appropriate individuals. Regarding motivation to respond to the accident scene, participants reported various reasons for acting. Sympathy was the most reported reason *“It was out of sympathy; seeing people in urgent need of help moved me to assist.” (P12).* Other participants reported the intention to save lives *“I just wanted to help and save lives because one day I may also need help as a driver” (P20).* However, other participants reported acting because they may also need help one day: “*I just wanted to help and save lives because one day I may also need help as a driver…” (P20).*

Regarding the application of priorities at the accident scene, participants reported five priorities for the victims and their property. Assessment of the victims was the most reported priority *“I found the victim at the scene, lying down with a lot of cuts and wounds, and was bleeding. I called for help, someone came and helped me to pick the victim and put him on the chair in a lying position at the back of the car, and we took him to the hospital” (P 7).* In addition to this, the evacuation of the victims was another priority at the scene: *“We immediately stopped and helped to evacuate the passengers who were still trapped inside the minibus. We used a stone to break a window and managed to remove all the victims from the minibus…” (P20).*

The first aid interventions provided by first responders at the scene were reported. Participants mostly reported conducting a quick assessment: *“When I see the victim, I check the injury first so that I can help him better…” (P5).* In addition to this, some participants reported controlling the bleeding using local materials like ropes and cloths *“If the victim has a fracture, I put two sticks along the fractured leg and tie them using a rope to prevent the leg from moving around, which causes pain. The victim is then taken to the hospital…” (P14).* Organising transport for the victims and transporting them to the nearest hospital were among the most reported interventions: *“I immediately stopped my car, removed my passengers, and assisted in transporting the injured to the hospital” (P2).*

In conveying information to the appropriate individuals, participants reported informing the police and relatives about the accident and further making follow-up phone calls. However, police were mainly informed to obtain statements from eyewitnesses, as required by law “*I informed the police about the accident. I used the contact numbers for traffic police officers whom I have to inform about the accident. The police have a responsibility to investigate what happened, and they get this information from the driver involved in the accident and the bystanders” (P1).*

Theme 4: Challenges experienced by first responders

The seven sub-themes that emerged from this theme included delays in transporting victims to the hospital, limited human and material resources, unfounded accusations against first responders, disruptions to the daily business plan, difficulties in notifying families, health care providers, and law enforcement about the accident, the emotions experienced by first responders and institutional and professional barriers to emergency care. Most participants reported delays due to a lack of transportation **“***Sometimes the police do not come to help, even if you call them in time. They complain of a lack of transport and sometimes of fuel…” (P 10)*. The major reasons for the delay were: demand for a statement by the police before getting the victim to the hospital, delay in response by police officers, lack of support at the scene, and being overwhelmed with severe injuries *“Sometimes we encounter very severe injuries, and we become afraid to further help the victim “ (P8)*, delayed getting help from fellow drivers and a lack of fuel.

Furthermore, participants reported a lack of resources when assisting victims. The frequently mentioned resources included gloves, bandages, spirits, and aprons *“There is also a lack of resources like gloves and bandages, and Mmmm, I just use whatever is available, like plastic bags, to cover my hand when helping the*

victims" (P 13). The other reported challenges at the scene included delays in receiving help from community members, a lack of help from bystanders, and a lack of incentives. The incentives were described as a fuel refund and general recognition for their work.

However, participants reported being accused of stealing by hospital staff, relatives, and police officers. Further, participants reported being accused of stealing the victims' belongings *"We face a lot of challenges, most of the time with the relatives of the victim; sometimes they report us to the police and accuse us of stealing from the victim" (P8).* In addition, some participants reported being accused of the violence that occurred at the scene and being blamed for the accident "*Eish, we face problems. Sometimes, people from the community may come and destroy your car, thinking that you are the one who hit the victim. That is why some drivers do not stop and help…" (P1).* Regarding daily business operations, participants reported disruptions. Losses in business were reported "*Due to a change in the program, we were unable to continue our daily operations to help the victims. This causes delays for our passengers and results in lost business, as sometimes other passengers refuse to wait and request a transport refund…" (P 2).*

Regarding communication, participants reported difficulty notifying families, healthcare providers, and law enforcement about the accident. Most participants reported difficulty reaching the police and health care providers due to a lack of emergency contact lines and an unfunctional emergency call line (997). "*It is again difficult to reach authorities like the police and health personnel for urgent help. There are no known emergency contact numbers for health personnel, and the known 997 for police is no longer functioning…" (P 13).* Similarly, participants reported having difficulties reaching relatives of the victims in cases where the victim was seriously injured *"There are a lot of challenges, like a lack of communication between the victim and relatives. We face problems in finding contact numbers for relatives, especially when the victim is unable to talk…" (P 14).*

Institutional and professional barriers to emergency care reported by most participants included delays in receiving help at the hospital and unwelcoming behaviour from health professionals. It was reported that, at times, health professionals ask for a police report before helping the victim, and at other times, victims are even sent back to obtain one *"There are mainly delays at the hospital when we bring the victims.* Sometimes they send us back to get a police report without even helping the *victim… "(P 18).* Further, it was revealed that police officers do not come, or at times, delay in coming due to a lack of transport *"Lack of support from health professionals, including the police. Police delay to come, and sometimes they do not even come, and complain of lack of transport and health professionals, they do not come at all" (P13).*

Participants experienced and expressed a range of emotions. The majority of the participants reported feeling sad: *"I feel sad when helping the victim; I always think of death; I feel like the victim is going to die, and this pushes me to even help the victim quickly…" (P17).* Other participants expressed feeling anxious and confused about the situation: *"I feel sad when helping the victim, especially when I hear the victim has died, and I blame myself, thinking maybe I could have done better or maybe I delayed helping the victim"*

(P5). In contrast, other participants reported feeling good after helping the victims *"I feel good when helping the victims, but at times I feel very sad, especially when the victim is seriously injured. That is why I just quickly take him to the hospital..". (P11).*

Theme 5: Recommendations for improvement

Five sub-themes emerged: training, collaboration with stakeholders (Police, Health care providers, Taxi drivers' association, Road Safety, Chiefs), equitable resource allocation, and enabling open communication channels and community participation. Most participants recommended training on first aid, controlling bleeding, lifting the victim, assessment of the victim and management of the unconscious victim *"We may need training on first aid, especially on how to tie a bandage when the victim is bleeding. Most of the time, I do not tie properly, and the victim continues to bleed…" (P12).*

Participants identified various stakeholders who could collaborate to improve the care provided by first responders. The stakeholders included: the police, healthcare providers, Road Safety of Malawi, the Minibus Association of Malawi, and local chiefs. The collaboration could improve on-time care, access to both material and human resources, and the victim's transportation. *Health professionals need to collaborate well with local private facilities, such as drug stores, where we can easily access resources like gloves. Organisations like Road Safety need to participate in driver training and provide resources…" (P2).*

Furthermore, the participants reported the need for equitable resource allocation to improve prehospital care. The most reported resources were gloves, bandages, a first-aid kit, and transport. Regarding the role of stakeholders, such as police officers, participants reported that they should be involved in ensuring that emergency kits are available to drivers and that drivers are permitted to use their taxis to transport victims to the hospital *"The law enforcers, like traffic police officers, should enforce drivers to have a first aid kit in their cars. The first aid kit should contain gloves, bandages and spirit so that we can easily help the victim in time and take him to the hospital without delay. Sometimes we delay when looking for latex gloves or cloths to cover our hands…" (P5).* It was further reported that health care providers should be able to assist first responders by providing the necessary resources "*Health care professionals need to assist with resources like gloves, masks and also take part in training on how to help the victims. Other organisations, like the Minibus Association of Malawi, should also take part to help drivers by distributing resources like gloves and participating in training..." (P 1).*

Regarding communication, participants reported the need for a free line to easily communicate with the police, health care providers, the fire department, and ambulance drivers. Some participants reported that the existing free emergency line (997) is no longer functional. Most participants who reported needing emergency call lines for police and health care providers "*We need to have known emergency contact numbers for hospital personnel so that we can easily reach them and prevent delays or call them for help". P18*

The roles of community members, as described by participants, included assisting victims whenever an accident occurs, helping first responders, and informing the police about the accident. Some participants

reported the need for community leaders to sensitise the community on how to assist victims in the event of an accident and on the importance of having a first-aid box that first responders can easily access "*The chiefs or block leaders should be involved in conducting awareness on the importance of helping the victims. Most of the time, people just come to steal, which is not good. They should also help organise community members to take the victims to the hospital on time, using their own resources. This could help to prevent deaths…"(P 5).*

Discussion

This study examined the experiences of taxi and minibus drivers when providing prehospital care to road traffic accident victims. Minibus-taxis are the oldest and most prevalent mode of transport in Africa, Latin America and Asia [46]. In this study, most traffic accidents were attributed to speeding and collisions. Speeding has been reported as the major cause of road traffic accidents [47]. Similarly, collisions have been widely reported as a type of road traffic accident [48]. The consequences of road traffic accidents, as revealed by this study, were severe crash scenes, life-threatening injuries and mortality among the victims. In support of this, injuries and deaths are among the consequences of road traffic accidents [1]. However, the socioeconomic and societal impacts of road traffic accidents have been widely reported and significantly affect individuals, families, and the healthcare delivery system.uij

This study identified significant actions taken by taxi and minibus drivers at the scene, including setting priorities, providing first aid and conveying information to the appropriate individuals. These actions are highly significant for the general health outcomes of the victims [14]. When prioritising at the scene, drivers in this study assessed the victims' situation and maintained safety. Setting priorities at the scene improves outcomes for victims [49]. Furthermore, drivers were able to provide first aid to the victims, including organising and transporting them to the hospital, controlling bleeding, and managing fractures. This affirms the findings of a study conducted in Uganda, where trained motorcycle taxi drivers effectively provided first aid to road traffic accident victims, including organising transport, controlling bleeding, and maintaining safety at the scene [50]. Therefore, taxi and minibus drivers should be trained in first aid to provide effective prehospital care services [51].

Furthermore, the present study found that drivers were able to convey information about the accidents to police and health care providers. Establishing communication enables a faster prehospital care response and reduces delays [52]. However, the lack of a functioning emergency call line and contact details for both police and healthcare providers was a major setback in communication. Lack of integrated emergency operations among first responders has been reported to cause confusion and disruption during the response phase, which has been shown to be fatal [53]. However, one important aspect of providing effective prehospital care services is understanding the motives behind first responders' actions at the scene. The current study found that drivers were motivated to act by sympathy, a sense of responsibility for the accident, and agreement within the driver association.

Taxi and minibus drivers faced multifaceted challenges that affected the care provided to victims of road traffic accidents. Delay in transporting the victims to the hospital was one of the reported challenges. Several factors caused this delay, including a lack of transport, a lack of urgent help from the police and the overwhelming nature of the injuries encountered by the victims. Similarly, delays in transporting victims have been reported in prior studies, caused by prolonged time at the scene [54], conditions on intercity roads, and a lack of emergency medical services [55]. However, a lack of resources, such as funds and transportation, has also been reported to delay the seeking of urgent in-hospital care [56]. Limited resources, including materials and transport, have been extensively reported and are a major problem in prehospital care services [14, 57, 58]. In the present study, limited human and material resources, such as gloves, bandages, and aprons, were identified. In addition, drivers reported delays in receiving help from the community and bystanders, as well as a lack of incentive, as further causes of the delay. Lack of resources contributes to delays in transporting victims to the hospital and leads to poor health outcomes for the victims [59].

More concerning, however, were difficulties in notifying families, healthcare providers and law enforcement about the accidents. Communication during emergencies is crucial as it fosters effective collaboration among relevant stakeholders [60]. Lack of effective communication hinders timely and effective emergency care for the survivors [61]. This could lead to delays in obtaining timely support at the scene and further delays in receiving emergency in-hospital care at the health facility. Equally important is the disruption to daily business activities. The drivers in the present study complained of a loss of business and disruption to their daily routines. In support of this, socioeconomic factors were found to incentivise long-term voluntary involvement [18]. This emphasises the need for appropriate socioeconomic measures to enhance driver participation, thereby promoting effective prehospital care services.

Beyond these challenges are the emotions experienced by drivers when providing prehospital care to road traffic accident victims. The present study found that drivers experienced sadness, anxiety, confusion and at times a fear of getting into trouble. However, a similar study reported feelings of anger and stress [62]. The negative emotions experienced by drivers may lead to decreased performance and long-lasting discomfort. This increases the risks of physical and psychological ill-health [63]. Therefore, ongoing psychological interventions and follow-up would equip drivers with courage, self-confidence, and positive attitudes [64].

Drawing on the findings of this study, the following measures may strengthen first responders' capacity and improve the provision of prehospital care for victims of road traffic accidents. Firstly, a standardised training package on basic prehospital trauma care for first responders should be developed. The package would be used during initial and follow-up training. Secondly, multisectoral collaboration should be promoted among stakeholders, including the Ministry of Health, the Malawi Police, Road Safety of Malawi, the association of taxi and minibus drivers, community leaders and other non-governmental organisations. Collaboration would establish clear roles among stakeholders and establish effective communication pathways, which are essential in prehospital care. Further, collaboration would ensure

the sustainability of prehospital care programmes. In addition, there is a need to enhance equitable resource allocation to ensure effective, timely care at the scene. Furthermore, there is a need to establish a formal emergency communication system to improve communication during emergencies.

Strengths and limitations of the study

The participants in the current study were recruited from the four sites and included those operating in both urban and rural settings, thereby improving the transferability of the current findings in Malawi. The authors further described the participants and the research process, thereby enabling the reader to make a transferability judgement about the study's findings. The face-to-face method of data collection enabled participants to provide more information than they would have in other methods. Despite these strengths, the study had some potential limitations. There was a high possibility of recall bias, as participants were asked to recall and share their personal experiences of prehospital care for road traffic accidents. Further, researcher bias stemming from preconceived ideas about the prehospital care of road traffic accident victims may have occurred, leading to misinterpretation of the information. However, the authors addressed these limitations by ensuring the credibility, dependability, confirmability, and transferability of the findings, as presented in the methodological section.

Conclusion

There is no formal prehospital care for victims of road traffic accidents in Malawi. The care is hindered by a lack of established structures, resources, communication, and collaboration among stakeholders. Taxi and minibus drivers are highly motivated to provide care; however, they lack basic training and skills needed to deliver quality care to victims. Training in basic first aid skills is highly recommended to equip them with the necessary knowledge and skills. Furthermore, multisectoral collaboration among stakeholders, including the Ministry of Health, the traffic police, Road Safety of Malawi, chiefs, and non-governmental organisations, is highly recommended to ensure an effective and sustainable programme.

Declarations

Ethics approval and Consent to participate

Ethical approval was obtained from the Health Sciences Research Ethics Committee at the University of the Free State (UFS-HSD 2025/0106/2511), and approval from the National Committee on Research in the Social Sciences and Humanities (Protocol number P.08/25/1004). The study was conducted in accordance with the Declaration of Helsinki. The clinical trial number is not applicable. Informed consent was obtained from all participants through physical signing.

Consent for publication

Not applicable.

Availability of data and materials

The data generated in this study are available from the corresponding author upon reasonable request.

Competing interest

The authors declare no competing interests.

Funding

There was no funding for this study.

Authors' contribution

Conceptualisation: CM, GC, LH; Data collection: CM; Data analysis: CM, GC, LH; Writing original draft: CM, GC, LH; Writing-review and editing: CM, GC, LH; Supervision: CM, GC, LH.

Acknowledgement

The authors would like to acknowledge all participants who took part in this study.

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