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Research Article

Barriers and facilitators to learning and using first aid skills for road traffic crash victims in Nepal: a qualitative study

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Abstract

Background: Road traffic injuries are a major global public health problem despite being avoidable and preventable. In many low- and middle-income countries, the victims of road traffic crashes do not receive care at the scene and may die before reaching hospital. In low- and middle-income countries where prehospital emergency medical services are not well established, bystanders have the potential to save lives by providing first aid. Nepal has rising rates of road traffic injuries and emergency medical services are early in development. There is limited evidence on the factors that influence people in Nepal to become trained in first aid and to use their first aid skills.

Objectives: To understand the barriers and facilitators to learning first aid and to applying those skills to help road traffic crash victims in Nepal.

Design: Qualitative study using semistructured interviews.

Setting: Kathmandu, Lalitpur, Bhaktapur, Kaski and Makwanpur districts in Nepal.

Participants: We interviewed three groups of participants: (1) members of the public who had never been trained in first aid, (2) members of the public who had been trained in first aid and (3) first aid trainers.

Data sources: Interviews explored reasons why people may be interested in being trained and factors that would inhibit being trained or applying their first aid skills. Interviews were transcribed, translated into English and analysed thematically.

Results: Respect from the public, a desire to help those in need and confidence to apply skills were important factors in encouraging people to learn and apply first aid. Barriers included lack of time and financial implications of providing first aid. The fear of social and legal consequences if the patient had a poor outcome, a lack of confidence to apply skills and lack of trust shown to first aiders by some members of the community discouraged learning and using first aid skills.

Limitations: Participants were mostly from urban and semiurban areas. People with more difficult access to health care may have held different views. People who were untrained in first aid and agreed to participate may hold different views to those who were not recruited, as they had interest in the topic.

Conclusions: Members of the public can be encouraged to learn and apply first aid skills to help road traffic crash victims, but there are multiple barriers to engagement in first aid. Providing legal protection from prosecution for first aiders, raising public awareness of the value of first aid, addressing financial constraints and provision of refresher training may address these barriers.

Future work: Research to address the barriers to the creation of a Good Samaritan law appears warranted. The perspectives of other groups often involved in the care and/or transport of road traffic crash victims, such as taxi drivers, would add to our understanding of factors affecting the application of first aid. The gendered stereotypes reported by female first aiders warrant further exploration.

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Background and introduction

Deaths and disabilities occur every year due to injuries sustained during road traffic crashes (RTCs). Largely preventable, road traffic injuries (RTIs) present a major public health problem worldwide. In 2020, injury was the 12th most common cause of death globally,[1] with an estimated 1.3 million people dying and over 50 million people injured in RTCs every year. Most (90%) RTIs occur in low- and middle-income countries (LMICs).[2] In Nepal, RTIs mostly occur in adults (15–40 years) and men, the main demographic group contributing to the economy.[3,4] Banstola *et al.* found that in 2017 the total cost of RTIs in Nepal was USD 122.88 million/year, a threefold increase from 2007.[5] In many LMICs such as Nepal, victims of RTCs may die before reaching hospital. To save the lives of such victims, the World Health Organization (WHO) recommends the implementation of post-crash care.[6] Prehospital emergency medical services (EMS) have been estimated to reduce 45% of deaths and 36% of disease burden from all causes.[7] Ideally, prehospital emergency care is provided by trained professionals; however, in LMICs such as Nepal, where prehospital EMS are not well established,[8] bystanders applying first aid could save lives.[9]

First aid is a crucial part of a chain of survival in trauma care. Members of the public can help a RTC victim by stopping, assessing the victim and calling for help, and by applying first aid.[10] Road traffic victims have a greater chance of survival if prehospital care is provided promptly and effectively, that is, within an hour of the event happening.[10] A systematic review of studies evaluating the first aid provided by laypeople to trauma victims found that the aid provided was frequently incorrect, and argued for greater access to training.[11]

Access to training does not guarantee that RTC victims will receive first aid. Of 413 RTC victims in a study in Vietnam, only 48% received first aid and patients with multiple injuries were less likely to be treated.[12] There is little qualitative evidence to explore why RTC victims do not receive first aid, and there are no studies from Nepal. Khorasani-Zavareh *et al.* in a study in Iran found that raising public awareness of the benefits of first aid was important.[13] In Tanzania, a qualitative study exploring the factors influencing whether traffic police trained in first aid used their skills[14] found that factors external to training, such as public pressure to move the victim to hospital and inadequate equipment, inhibited the application of first aid skills. This evidence suggests that contextually relevant knowledge is necessary to understand the factors affecting the uptake of, and application of, first aid training. This manuscript describes a qualitative study that was designed to provide such contextual understanding for Nepal by describing the perceptions and experiences of participants and to support the development of recommendations to address any barriers reported. The study was part of a broader body of research to improve injury prevention and prehospital injury care in Nepal, funded through a National Institute for Health and Care Research (NIHR) Global Health Research Group award to establish the Nepal Injury Research Centre in Kathmandu (NIHR award reference: 16/137/49).

Aims and objectives

This study was designed to explore the factors that encourage or discourage people from participating in first aid training and using their acquired skills to support the victims of RTCs in Nepal.

Methods

Study design

This was a qualitative study, using semistructured key informant interviews.

Participants

We recruited participants from three different groups: (1) members of the public who had never been trained in first aid; (2) members of the public who had previously been trained in first aid and (3) first-aid trainers. We recruited participants from communities living close to busy roads known to have a high incidence of RTCs. All study participants were aged 18 years or older. Our initial sample was 10 participants in each group.

Study setting

Members of the public who had never been trained in first aid were from Makwanpur district. Members of the public who were previously trained in first aid were recruited from Lalitpur and Kaski districts. First aid trainers were recruited from Kathmandu, Lalitpur, Bhaktapur and Kaski districts. Makwanpur and Kaski are semiurban areas, while Kathmandu, Lalitpur and Bhaktapur are urban areas.

Recruitment and data collection

We identified potential participants using purposive sampling. We used snowballing, where those recruited to the study were asked if they knew of other people who may be interested to participate. We actively sought to recruit male and female participants, and participants from diverse backgrounds and occupations. Members of the public who had never been trained in first aid were recruited via local mothers' groups, neighbourhood development committees, co-operative associations, local leaders and shopkeepers in Makwanpur district. A non-governmental organisation with established links with the community facilitated access to potential participants. We sought help from a first aid training organisation (the Nepal Red Cross Society, NRCS) to identify people previously trained by them and asked the society to inform them about the aims of the study. People who expressed an interest provided their contact details and were contacted to provide further information. First aid trainers were identified through existing networks and contacts. A known individual in each first aid training organisation acted as a gatekeeper and informed colleagues about the study. All potentially eligible participants invited to join the study agreed to take part. Potential participants were provided with a study information sheet and given time to ask questions and have them satisfactorily answered. COVID-19 restrictions required most interviews to be conducted by phone. In these circumstances, consent was taken verbally and audio-recorded. Easing of restrictions allowed face-to-face interviews with some first aid trainers; these participants provided written consent. Interviews with all participants were conducted in Nepali language by the first author. We interviewed members of the public not trained in first aid first, then those who had received first aid training and finally we interviewed first aid trainers. We used a topic guide for each group to guide the conversation (see *Appendix 1*). Topic guides were developed by the research team informed by the literature and the expertise of team members. We purposefully included questions relating to a fear of blame/prosecution in the event of poor outcomes as this issue was raised with the research team in previous studies conducted through the Nepal Injury Research Centre but had not been previously reported in Nepal. With consent, all interviews were audio-recorded and observational notes were taken. We did not recruit beyond our initial sample as responses from participants reached a point where they failed to identify new information.

Data analysis

Audio files were transcribed verbatim and translated into English. One author (BP) listened to and checked the English transcripts against the Nepali recordings for accuracy. Participants' names were replaced with a unique identifying code. We uploaded the transcriptions into data analysis software (NVivo-12, QSR International, Warrington, UK) and conducted thematic analysis, using the six steps described by Braun and Clarke[15] and using a data-driven inductive approach. Two authors (BP and AB) double-coded two transcripts in each of the three groups of participants, to develop a coding framework, and then applied this to the remaining transcripts. We explored patterns within the data, collating codes into broader categories to develop subthemes which were developed into themes for each participant group. Data were then combined to identify themes that cut across all three groups of participants.

Patient and public involvement

This project was part of a programme of research on first response that was supported by a stakeholder advisory group. Patients and the public were not directly involved in the design, delivery or analysis of this study.

Results

Ten participants in each group were interviewed between January 2021 and April 2021. The sociodemographic profile of the participants is presented in *Table 1*. The interviews lasted 30–40 minutes. Analysis led to the identification of themes within two overarching categories: 'Facilitators to learning first aid and using skills' and 'Barriers to learning first aid and using skills' (*Table 2*).

Facilitators to learning first aid and using skills

Participants who had never received first aid training were motivated and interested to receive first aid training. This interest was driven by the fact that they lived near the highway and had witnessed frequent RTCs and the fact that often there were no members of the community to provide first aid to crash victims. Themes facilitating the learning and application of first aid, identified from participants in all three groups, included (1) respect from the public given to those providing first aid, (2) a desire to help those in need, (3) having the knowledge and confidence to apply first aid and (4) public awareness of the need for first aiders.

Respect from the public towards first aiders

Most of the participants who had not been trained in first aid reported that society largely viewed first aiders positively and some participants also stated that the trained first aiders were trusted to help RTC victims at

TABLE 1 Profile of the study participants

People never trained in first aid [Group 1 (G1)]			People previously trained in first aid [Group 2 (G2)]				First aid trainers [Group 3 (G3)]		
Participant no.	Age (years)/ sex	Occupation/ role	Participant no.	Age (years)/ sex	Period since first aid training received	Occupation/ role	Participant no.	Age (years)/ sex	Occupation/ role
P1	39/F	Shopkeeper	P11	26/F	2 and half years	Volunteer, NRCS	P21	45/M	Emergency medical technician
P2	45/F	Housewife	P12	25/F	3 years	Volunteer, NRCS	P22	34/M	Emergency medical technician
P3	61/M	Farmer	P13	24/M	4 years	Volunteer, NRCS	P23	30/M	First aid trainer
P4	49/M	Social leader	P14	34/M	1 year	Craftsman	P24	49/M	Secretary
P5	45/F	Co-operative manager	P15	23/F	7 months	Student	P25	28/M	Office assistant
P6	55/M	Shopkeeper	P16	25/M	7 years	Businessman	P26	44/M	First aid programme co-ordinator
P7	45/M	Member of a Community Development Group	P17	25/F	1 year	Volunteer, NRCS	P27	37/M	Senior accountant
P8	36/F	Mothers group member	P18	25/F	3 years	Trekking guide	P28	30/F	First aid trainer (consultant)
P9	43/M	Shopkeeper	P19	25/M	5–6 years	Student	P29	27/F	Public health inspector (government employee)
P10	60/M	Shopkeeper	P20	23/M	6–7 years	Student	P30	45/M	Medical doctor

TABLE 2 Facilitators and barriers perceived or experienced by participants

Facilitators	Barriers
• Positive responses from the public	• Lack of legal protection for those providing first aid to RTC victims.
• A desire to help those in need.	• Fear of being blamed by the victim, the victim's family, the public or the police if the patient had a poor outcome.
• Having the knowledge and confidence to apply first aid skills	• Lack of public trust in first aiders' abilities.
• Awareness of the need for first aiders	• Practical barriers such as time and the financial costs incurred by first aiders

the crash scene. One of them described first aiders as 'life savers'. Another said:

> *They will be seen in a positive way. If there is a person who has received first aid training, then he may examine the patients and only after that will take them to the hospital. They will be recognized. If someone has taken training and has knowledge, then, people will call him not only for the road crashes but also for other reasons. . . . There will be the feeling of doing what we have learnt to help others.*
>
> *G1, P7, male, 45 years*

Participants who had been trained also reported positive responses from community members which encouraged them to use their first aid skills. One participant shared his experience of how a doctor at the hospital appreciated his first aid skills and how they helped prevent further

complications. Participants also had experienced the gratitude and thankfulness of crash victims for providing first aid and helping them.

> *One of the men had . . . bleeding. I told them that I had taken first aid training and I had been taught about first aid, and asked their permission to use my skill. I took him to the hospital after providing first aid. The doctor said that it was good to bring [him] after providing first aid. The doctor appreciated my work.*
>
> *G2, P20, male, 23 years*

A desire to help those in need

Participants from all study groups said they would consider learning first aid and using those skills to save lives because they felt compassion and empathy towards victims. Some participants felt that helping RTC victims was their responsibility.

> *I think there will be some help to the patient if I have some knowledge regarding first aid to save the life of the patient. That person's life is more important than my shop. If not today, there will be a sale tomorrow but if the life of the victim is gone it's gone forever. . . . If I get a chance to save the life of that person using the training I have, then that will be a blessing to me.*
>
> *G1, P1, female, 39 years*

> *There is something called humanity (manabata). Even before the training, there was a feeling to help but we used to keep waiting for the ambulance. Now that we have learned ways, life could be saved if we know what we need to do.*
>
> *G2, P16, male, 25 years*

Knowledge and confidence to apply that knowledge

Participants from the first aid trainers' group and members of the public who had received first aid training said that the training was important both to prevent further harm to RTC victims and to avoid inappropriate care. In addition to having the necessary knowledge to know how to act, they also stressed the importance of having the confidence to apply that knowledge.

> *If the victim is on the road due to a road crash, then the local person will immediately take that person to the hospital, but the trained person will go for airway management as it is the very simple thing that needs to be done at that time.*
>
> *G3, P26, male, 44 years*

Some participants described how they were taught to provide first aid to RTC victims, but that the programme did not include all the skills they subsequently needed. One participant described how it did not include techniques for evacuating victims from a vehicle. Some participants from one first aid training organisation described how they had piloted a specific Road Safety and First Aid Course; however, the lack of funding meant that this course had been discontinued. Participants described how simulations had helped them to learn first aid skills and retain those skills over long periods of time.

> *For practical purposes, we have 'simulation' . . . We exercise as if there is . . . how we can provide first aid. We keep exercising these things in the communities and thus there is less chance that we forget the first aid skills.*
>
> *G2, P12, female, 25 years*

Having confidence in their first aid knowledge gave them greater confidence to apply those skills in practice. This view was held by both members of the public who had never been trained in first aid as well as those who had. Participants described how the training helped people to improvise first aid materials and use locally available resources rather than expect to always have access to a first aid kit.

Awareness of the need for first aiders

All of the participants who had not received first aid training reported witnessing road crashes in their community and recognised the need for first aiders in locations where RTCs commonly occur. However, participants had mixed views regarding who should provide the training. Some participants felt it was preferable for doctors to train the public, whilst others wanted to be trained by recognised first aid training organisations. Two participants from the group of first aid trainers described how, as women, they were not always trusted. They described how some people thought that female trainers were not capable of training others.

> *Sharing my experience of being female . . . the mayor from that municipality in his opening remarks mentioned that both trainer and trainees are female. He was speaking as if he didn't have trust in females and was denigrating us. . . . Most of the things we do are skill related and need to use our brain, only few things are related with physical power for which we can utilize someone else. While we were teaching about lifting the victims, they were saying it would be difficult for women.*
>
> *G3, P29, female, 27 years*

Barriers to learning first aid and using the skills

Themes describing barriers to learning and applying first aid skills, identified from participants in all three groups, included (1) a fear of adverse consequences from helping victims, (2) legal barriers to providing first aid, (3) lack of trust in first aiders' ability and (4) practical constraints.

Fear of adverse consequences from helping victims

The main reason reported by participants as to why people may be reluctant to learn and provide first aid was a fear of being blamed by the victim, the victim's family, the public or the police if the patient had a poor outcome.

One participant described their fear of being blamed by the police:

> *I tried my best and did whatever I knew. That accident on the road didn't occur because of me. . . . Police will take me away saying that from where I have come, what I have done in the case and blame me for killing the victim even though I have taken first aid training. . . . Police will blame. . . . They won't say that I have tried to save their life. . . . There will be no advantage of having first aid training. . . . What happens in Nepal is that we need to go through the police questioning . . . we may have to face a case file. It is not like in other countries where one can directly help the victims. . .*
>
> *G2, P16, male, 25 years*

The fear of the police or having their vehicle impounded after helping a crash victim inhibited some participants in Group 1 from learning first aid:

> *If I take a patient to hospital, police administration will come immediately and my vehicle will be under their surveillance. They will take my vehicle for inquiry, they will take my license, will note down my address. They will stop my vehicle and suspect that I myself have hit the owner of the motorcycle and take him to hospital to keep myself safe. So, they will keep me there for hours.*
>
> *G1, P3, male, 61 years*

The first aid trainers recognised this concern among the public they had trained and described how this fear was a barrier to applying first aid to victims:

> *I was coming from somewhere, when I saw one person dead due to a crash. However, the owner of the vehicle didn't agree to take that person, maybe he was thinking of trouble he can face due to laws. . . . If police administration could easily let go of people who help victims, then it would be easy for doing first aid and taking to hospital without waiting for police. However, due to [this fear], people turned back and were reluctant to help.*
>
> *G3, P3, male, 61 years*

Additional fears reported by participants from all three groups, but less commonly, were that some people may not wish to learn and use first aid skills because they fear being infected or fear the sight of blood. Some participants were concerned they should be wearing personal protective equipment such as gloves and goggles. Absence of this equipment was thought to discourage them from providing first aid to crash victims.

Legal barriers to providing first aid

First aid trainers described the lack of legal protection for those providing first aid to RTC victims. They also felt that provision of a law that protects bystanders and first aiders would encourage people to help others at the scene of emergency. Recognising the lack of legal protection for first aiders, participants described changing their behaviour around crash victims – not providing first aid directly but seeking help for the victim in a way that did not expose them to adverse consequences.

> *If [the] law would not help us and we will be punished in case of death of victims, we would feel scared to help, and will be afraid of touching the victim. In that case, we may not touch the victims. So, the government should make laws such that it will be easy for us to provide first aid. . . . So, first we need to feel safe.*
>
> *G2, P17, female, 25 years*

> *The main concern of community people is that we don't have any laws related to first aid in Nepal. . . . in the case of this road traffic accident, they would send them directly to the hospital or inform the ambulance or the police, but they would not want to touch the person directly. . . . They would choose to play the role of communicator or mediator.*
>
> *G3, P28, female, 30 years*

Lack of public trust in first aiders' ability

Although participants in Group 1 and Group 2 described respect from the community as a motivator for learning and using first aid, participants in Group 3 described instances where, despite training, they were not trusted

by the public to provide support at a crash scene. These participants saw a lack of trust for first aiders by the public as a potential barrier to learning and applying first aid.

> *Even if I say that I am trained and I have given first aid treatment, they won't believe me. They will say that I may not be able to provide care or an ambulance has already arrived. . . . They trust more to ambulances than to first aiders. They think that things are done once victims are transferred to ambulances.*
>
> *G3, P23, male, 30 years*

Practical constraints

Participants from all three groups described how helping RTC victims required time and money, and therefore, it was not always feasible or practical to help. Participants who had not been trained in first aid described how other commitments may stop them from helping victims. They described concerns about having to pay the hospital expenses if they take the victim to hospital, transportation fares and the need to buy first aid materials themselves. Those who had been trained in first aid confirmed these fears, describing how they had bought first aid materials and paid for hospital and travel costs for some victims.

> *One of my friends had seen a motorbike accident at [name of location] in which both (mother and son) people riding the motorbike were injured. He didn't have a first aid box as it is not possible every time to go everywhere with the first aid box. He bought necessary materials from a nearby medical shop and performed first aid.*
>
> *G2, P12, female, 25 years*

Both first aid trainers and those previously trained in first aid described the need to provide refresher training to first aiders in order to maintain knowledge and confidence. However, trainers described how a lack of funding for refresher training, and strategic decisions to prioritise training for new trainees, meant that refresher training did not occur. One participant suggested that if first aid trained volunteers could also be involved in providing first aid training, this would cut down on the requirement for bespoke refresher courses.

> *If that person is continuously involved in any first aid camps or workshops or small kind of orientations or any of the activities regularly then there is no need for refresher also as they are updated about the training during those activities only.*
>
> *G3, P27, male, 37 years*

Discussion

We found people were, in general, willing to learn and use first aid skills to help RTC victims. The respect received from the public and the feeling of compassion when helping others were factors that motivated them to learn and use first aid skills. However, we also found significant barriers that discouraged people from becoming first aiders, specifically the fear of being blamed if an injured patient had a poor outcome, the lack of legal protection, time and financial constraints, lack of knowledge and/or confidence, and mixed responses from the public to providing first aid. Two female first aid trainers described gender stereotypes that resulted in them not feeling valued as first aid trainers.

The most consistent finding across all three groups of participants was the concern regarding the lack of legal protection and how this leads to a fear of helping others. A recent review of policies and legislation supporting injury prevention and first aid in Nepal reported that there are no policies providing legal support to first aiders or first responders in Nepal.[16]

The WHO has recommended that in low-income settings such as Nepal, bystanders could save lives where there is no established prehospital EMS.[6] Progress towards protecting bystanders who help crash victims in India was initiated by the Ministry of Road Transport and Highways and the judiciary in 2012,[17] supported by advocacy organisations such as the Save LIFE Foundation. This resulted in the implementation of a Good Samaritan Law in 2016.[18] The law has now been promulgated across several states and has been extended to include medical professionals in some states.[17] We found that reluctance to provide first aid for RTC victims was also increased for the most seriously injured patients. Therefore, to develop the confidence of first aiders and gain public trust, there is a need for regular refresher training. Avau *et al.*[19] conducted a randomised control trial to assess the retention of first aid knowledge and skills in lay responders in two districts in Nepal. The intervention group received a 1-day refresher training 1 year after receiving their first aid training. The study found that the refresher training improved the retention of first aid skills.[20]

Participants from the trainers' group said that they teach first aiders to improvise and use local resources when providing first aid to RTC victims, rather than requiring them to use any specific equipment or purchase first aid materials. A review of publications reporting first responder training in LMICs found that one of the principles of the

first aid curriculum is to enable participants to utilise locally available resources.[21] Participants in Groups 1 and 2 of our study described the lack of first aid materials (and personal protective equipment) as a barrier to providing care. Similar findings were reported in a qualitative study in Iran[13] where participants said that a lack of safety equipment such as gloves was one of the barriers to providing first aid to RTC victims.[14] This illustrates how improvisation is an important element of training.

The government of Nepal is in the process of establishing a universal single emergency number to summon EMS and is developing better-equipped ambulances, with trained emergency medical technicians.[22] This study suggests that there also needs to be an awareness campaign to encourage the public to allow first aiders and first responders to treat patients at the scene, prior to transfer to a healthcare facility.

Future research

Research to address the barriers to the creation of a Good Samaritan law appears warranted. The perspectives of other groups often involved in the care and/or transport of RTC victims, such as taxi drivers, would add to our understanding of factors affecting the application of first aid. Further research needs to be conducted to explore the experience of female first aid trainers and find solutions to mitigate problems arising from gender stereotypes.

Lessons learnt

This study has illustrated how the public are willing to learn first aid but are inhibited from doing so, or from applying first aid knowledge, by a variety of factors. Some factors, such as a lack of confidence, or an assumption that expensive first aid materials need to be provided could be addressed through training and the provision of refresher training. The study adds weight to the argument for the development and implementation of a Good Samaritan Law in Nepal, thereby having implications for the government and law makers.

Limitations

To our knowledge, this is the first study which has explored the views of diverse groups on the barriers and facilitators to providing first aid to RTC victims in Nepal. The inclusion of three groups of participants yielded rich complementary data and the consistency of views synthesised across the groups adds validity to our findings. We recruited trainers from four different training organisations and recruited trained first aiders from different districts to gain a broad perspective of views. The first aiders had different educational backgrounds and included both male and female participants from different age groups. We did not specifically recruit untrained members of the public from both urban and rural areas. Those living in urban areas experience easier access to hospital facilities and may therefore perceive the value of first aid at a crash scene differently to those living in rural areas or a long distance from hospital services. Among the participants untrained in first aid, people were probably more likely to take part in the study if they already had an interest in first aid, or were aware of the potential to be trained in first aid. This may have been different from those who chose not to participate. Other groups, such as the traffic police and taxi drivers, both of whom often transfer victims to hospital in their vehicles if an ambulance is not available, may have relevant views but were outside the scope of our study.

Conclusions

This study set out to understand the views and experiences of those involved in learning and using first aid skills to save the lives of the victims of RTCs. We found that people are willing to learn and use first aid skills primarily because of the desire to help others who are in need. However, the fear of being blamed for poor outcomes and particularly the lack of legal protection from blame need to be addressed if the public are to be expected to offer first aid at the scene of a RTC.

Key learning points

- A desire to help others, an awareness of the need for first aiders, and a perception that first aiders are respected in the community are factors that encourage the public to learn first aid.
- Fear of being blamed and a fear of legal prosecution if the patient has a poor outcome are substantial barriers to members of the public learning first aid and applying first aid skills.
- Lack of public awareness of the importance of providing first aid prior to transfer to a healthcare facility and lack of time and equipment are further barriers to learning and using first aid skills.

Additional information

Equality, diversity and inclusion

Road traffic injuries are one of the most significant public health problems in Nepal and affect all members of society. As in many LMICs, young men are the most likely population group to be killed or seriously injured in RTCs in Nepal. In our

study, we have included three different groups of people: first aid trainers, people trained with first aid skills and people not trained with first aid skills. We have included both male and female participants and people with different educational and occupational backgrounds in each group. Our study highlighted the challenges faced by female first aid trainers to be given the same respect as male trainers.

CRediT contribution statement

Bidhya Pandey (https://orcid.org/0000-0002-6222-9383): Data curation, Formal analysis, Investigation, Methodology, Visualisation, Writing – original draft, Writing – reviewing and editing.

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Julie Mytton (https://orcid.org/0000-0002-0306-4750): Conceptualisation, Formal analysis, Funding acquisition, Methodology, Supervision, Validation, Writing – reviewing and editing.

All authors read and approved the final manuscript.

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Data-sharing statement

The anonymised data for the study is available from the corresponding author on request.

Ethics statement

We obtained ethical approval from the Ethical Review Board of the Nepal Health Research Council (Ref no. 1562) on 16 December 2020, which was ratified by the Research Ethics Committee of the Faculty of Health and Applied Sciences at the University of the West of England (Ref no. HAS. 21.01.070) on 5 January 2021.

Information governance statement

A data governance plan was developed for this study which described the research context in which the study was conducted and specific details of the processes for ensuring good data governance. The strategic approach for this study was the 'Five Safes' framework, considering the degree to which the study included Safe Projects, Safe People, Safe Settings, Safe Data and Safe Outputs. The data governance risks at each level were explored and the controls necessary at each level were specified.

Disclosure of interests

Full disclosure of interests: Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at https://doi.org/10.3310/UTKW7640.

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This article was published based on current knowledge at the time and date of publication. NIHR is committed to being inclusive and will continually monitor best practice and guidance in relation to terminology and language to ensure that we remain relevant to our stakeholders.

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List of abbreviations

EMS	emergency medical services
LMICS	low- and middle-income countries
NIHR	National Institute for Health and Care Research
NRCS	Nepal Red Cross Society
RTC	road traffic crash
RTI	road traffic injury
WHO	World Health Organization

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Appendix

Appendix 1 Interview schedule

Topic guide: Group 1

Group 1 members will be the community people who have never received first aid training.

Many die on the roads in Nepal every year having been involved in a road traffic crash. People who are trained in first aid can stop people from dying after a road crash and people recover better from a road crash if they get first aid.

We are interested in the possibility of training people to provide first aid to road crash victims.

Introduction (duration: 10 minutes)

- Firstly, thank participants for joining focus group.
- Give a brief introduction of yourself, and the purpose of the study.
- Explain approximate time (audio-recording, handwritten notes).
- Encourage participants to speak clearly and only one at a time.
- Explain that there will be no right or wrong views but in line with the topic.
- Assure anonymity and confidentiality of participants and their views.
- Explain how participants will not be identifiable from any record or report arising from the interview or group discussion.

- Explain that participant does not have to talk about anything they feel uncomfortable with and can stop at any time for any reason.
- Sign consent form (check that all participants have signed that they are happy for the interview to be audio-recorded).

Warm-up
Introduction by participants with a brief background.

For reference if definition needed
First aid: First aid is the immediate assistance provided to a sick or injured person until professional help arrives.

Discussion
Now we shall begin our discussion in an organised way.

(To organise the group discussion, use the following questions):

1. Are you aware of people injured or dying in road crashes in your community?
2. Are you aware of other people in your community who are trained in first aid?
    a. If yes, how is that person viewed in your community?
    b. If no, how do you think such people are viewed in your community?

3. Would you consider being trained in first aid?
    a. If no, why not?
    b. If yes, why are you interested?

        i. Who should train you?
        ii. If you were trained in first aid, what would encourage you to use your first aid skills?
        iii. Would anything discourage you from using your first aid skills?

4. Would you be concerned about being blamed if someone you gave first aid to then didn't survive or had a poor outcome?

Wrap-up (duration: 10 minutes)
(At the end, there will be a short session for summarising on a flip chart and recapping the whole discussion, thanking the participants and serving refreshments. This will be followed immediately by a meeting between the facilitator and note-taker.)

Ending the discussion by saying: We have been discussing for about an hour. Do you think we missed anything that needs to be discussed?

Topic guide: Group 2
Group 2 members are those who have received first aid training previously.

We are interested to understand the importance of providing first aid to community people from their perspective.

Introduction (duration: 10 minutes)
- Firstly, thank participants for joining interview.
- Give a brief introduction of yourself and the purpose of the study.
- Explain approximate time (audio-recording, handwritten notes).
- Encourage participants to speak clearly and only one at a time.
- Explain that there will be no right or wrong views but in line with the topic.
- Assure anonymity and confidentiality of participants and their views.
- Explain how participants will not be identifiable from any record or report arising from the discussion.
- Explain that participant does not have to talk about anything they feel uncomfortable with and can stop at any time for any reason.
- Sign consent form (check that all participants have signed that they are happy for the interview to be audio-recorded).

Warm-up
Introduction by participants with a brief background.

For reference if definition needed
First aid: First aid is the immediate assistance provided to a sick or injured person until professional help arrives.

Discussion
Now we shall begin our discussion in an organised way. For this, please think about the experience; what encouraged or what will encourage you to save the life of a road traffic victim? Please start with an example you know about. In addition, please share your experiences of response to injured.

(To organise the group discussion, use the following questions to guide the discussion):

1. Why did you train in first aid? What motivated you to receive training?
2. Can you tell me about the training you received?
    a. Who trained you or from where did you receive training? What were included in the training that you received?

   b. Costs included?
   c. How long was the training?
   d. Have you/should you have refresher training?

3. When do you think people trained in first aid should use their skills?
   a. How about somebody involving in RTC?
4. Have you ever used your first aid skills? If so, can you tell me about that?
   a. If yes, in which scenario did you apply first aid or what type of emergency was that?
   b. What helped you to decide to apply first aid?

5. How confident are you to provide first aid to RTC victims?
6. What encourages or discourages you to apply first aid skills?
7. Have you had any difficulties applying first aid at the scene? If yes, can you tell me about that?
   a. Has anything stopped you from providing first aid to RTC victims?
8. Is there anything that can be improved to make it easier for you to provide first aid?
   a. Who could support community people to apply first aid at a crash scene?
9. Have you heard of anybody being prosecuted for providing first aid at the scene?
   a. If yes, can you tell me about that? What happened?
   b. How would that make you feel about providing first aid?

Wrap-up (duration: 10 minutes)

(At the end, there will be a short session for summarising on a flip chart and recapping the whole discussion, thanking the participants and serving refreshments. This will be followed immediately by a meeting between the facilitator and note-taker.)

Ending the discussion by saying: We have been discussing for about an hour. Do you think we missed anything that needs to be discussed?

Topic guide: Group 3

Group 3 members will be first aid trainers.

There are few organisations that are providing first aid training to community people. We wanted to know what challenges and opportunities they face while providing the training. We particularly want to understand if there is any barrier for them to provide first aid to the RTC victims.

Introduction (duration: 10 minutes)

- Firstly, thank participant for joining interview.
- Give a brief introduction of yourself and the purpose of the study.
- Explain approximate time (audio-recording, handwritten notes).
- Encourage participant to speak clearly.
- Explain that there will be no right or wrong views but in line with the topic.
- Assure anonymity and confidentiality of participant and his/her views.
- Explain how participants will not be identifiable from any record or report arising from the interview.
- Explain that participant does not have to talk about anything they feel uncomfortable with and can stop at any time for any reason.
- Sign consent form (check that interviewee has signed that he/she is happy for the interview to be audio-recorded).

Warm-up

Introduction by participant with a brief background.

For reference if definition needed

First aid: First aid is the immediate assistance provided to a sick or injured person until professional help arrives.

Discussion

Now we shall begin our interview in an organised way. For this, we will be asking you about your experience as a first aid trainer and whether you have any feedback from your trainees about their experiences. We will also be interested in your views on why people become first aiders or why they do not.

(To organise the interview, use the following questions):

1. Can you tell me about why and how you become a first aid trainer?
2. What is your experience providing first aid training to people in the community?
3. What do you teach them? What is in the curriculum? Who designed the curriculum?
4. How long is the course?
5. Is there anything not taught that you think should be included or are there any things that should be different from now?
6. Do you have a way of finding out if your students have used their first aid skills?
7. What do you think motivates people to become first aiders?

8. What do you think encourages or discourages people for applying their first aid skills in the community at RTCs?
9. Do you think they are worried about being prosecuted if the patient gets worse or dies after providing first aid?
10. Do you think there is a need for a law that protects first aiders from being prosecuted?
11. Do you think there is a need for Community First Responders to be available to respond when there is a road traffic collision?

Wrap-up (duration: 10 minutes)

Ending the discussion by saying: We have been discussing for about an hour. Do you think we missed anything that needs to be discussed?