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BEING A FIRST RESPONDER: CHALLENGES IN DEALING WITH MOTORCYCLE ACCIDENTS

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Abstract

This study deals with the challenges encountered by first responders in responding to motorcycle accidents. A descriptive qualitative design was utilized which allowed the participants to describe the challenges undertaken when dealing with motorcycle accidents in Tabuk City, Kalinga. The study was participated by thirty-eight (38) Bureau of Fire personnel, forty-seven (47) Philippine National Police personnel, and thirteen (13) Regional Health Unit personnel. As to the findings of the study, the common challenges encountered by the first responders are unclear and interrupted communication; lack of mobility and emergency vehicles; lack of medical equipment; weather conditions, and uncooperative motorists and bystanders.

Keywords: Motorcycle Accidents, Challenges, Experiences, First Responder

INTRODUCTION

The theme *"Maintain safety while saving injured victims' lives and facilitating access to a health facility"* was comprised of safety, sorting, initial help, and assisting access to hospital care. "Overwhelmed working with limited resources and support" included limited care and transport resources, police fatigue, and little or no support. "Improving supportive system and empowering front-line personnel" included the need for an emergency care system, availability of resources and an emergency medical support system, and training for police and drivers regarding victims' first-aid care, and road safety (Lukamay, 2019).

First responders, first aid training, and relevant education stand at the forefront of the chain of casualty management and medical attention. People well-trained in first response can provide lifesaving assistance at the scene of a road crash (WHO 2004). First aid is the factor that reduces damage to health and loss of life in traffic accidents. It is therefore necessary to make even the lay population ready to give at least basic first aid (Kureckova, Zamecnik, Rezac, & Gabrhel, 2017).

With the lack of knowledge and skill over time, staying current on the latest education, best practices, and technologies, first responders are tasked with retaining all the detailed training we've gained over years of practice and experience. "In moments of high stress, the body's heart rate increases, as does peripheral vasoconstriction. This causes a loss in fine motor movement. This leaves us to rely on muscle memory during stressful situations. This alone should be enough reason to not only prepare but train" as stated by the Emergency Medical Services (EMS).

According to Timmons (2007), the principal challenges most often include the lack of radio interoperability and other forms of communication. Clear, uninterrupted communication is essential in the field of emergency management where firefighters and law enforcement rely heavily on radio interoperability (Burroughs 2017). Communicating with dispatchers, and locating routes, which are characterized by or affected by time pressure, prognostic failure, personal protective ensembles, long shift hours, and driving under emotion (Hongwei, Chang & Simionov, 2018). Furthermore, in the study of Valente & Perez (2020), the participants were experiencing difficulties related to lack of or inaccuracies in information, interactions with traffic, incompatibility in communication technology, scene safety, resource management, and obtaining timely notifications of motor vehicle collisions.

The problems in emergency vehicles are also recognized in different countries. Lack of motor vehicles involving emergency vehicles, such as police cars, fire trucks, and ambulances, has been recognized as a serious problem nationwide, most especially in third-world countries (Savolainen, Dey, Ghosh, Karra, & Lamb, 2009). Likewise, the problem of lack of medical equipment is existing in other countries which was exposed by Moyimane, Matlala & Kekana in 2017 where access to functioning medical equipment is a challenge in low and middle-income countries. The World Health Organization estimated that 50 to 80 percent of medical equipment in developing countries is not working, creating a barrier to the ability of the health system to deliver health services to patients.

According to Larsson (2003), without prompt life-saving assistance and cooperation of the bystanders and motorists, an injured person may die for several reasons, such as delay in medical assistance caused by an uncooperative motorist and bystanders, or other causes correlated to pre-hospital death following trauma.

Looking forward, the number of motorcycle accidents in the Philippines is increasing but studies have not been done to assess its causes(Flore, 2011). Emergency care for injury is central to the post-crash response. Effectiveness in caring for the injured needs a series of time-sensitive actions, beginning with activation of the emergency care system, and continuing with care at the scene, transport, and facility-based emergency care.

While in the province of Kalinga, City of Tabuk, it was reported that vehicular accidents in the last three years were tracked at 302 in 2017, 232 in 2018, and 208 in 2019, though there was a decreasing trend, the number of deaths due to said accidents increased from 17 to 27 to 28, respectively the city has the most cases involved motorcycles, drunk driving, no helmet and lack of driving discipline as stated by Lopez (2020). According to Lo-oy (2020), another perceived cause of accidents is road obstructions like stray animals, electric posts, illegally-parked vehicles, debris falling from delivery trucks, and palay/corn being laid for drying on the roads.

Furthermore, in connection with the traffic control devices other preliminary results that cause motorcycle accidents in Tabuk City, Kalinga include poor implementation of traffic laws due to lack of traffic enforcers, noncontinuous mobile checkpoints, too low fines & penalties for traffic violations, lack of localized traffic ordinances, and lack of traffic devices like stoplights, streetlights, CCTVs, road signage's/advisories as stated by Lo-oy in 2020.

Objective of the Study

The primary objective of this study is to determine the challenges encountered by the first responders in dealing with motorcycle accidents in Tabuk City, Kalinga.

MATERIALS AND METHODOLOGY

The descriptive qualitative design was utilized which allowed the participants to describe the challenges undertaken by the responders in dealing with motorcycle accidents in Tabuk City, Kalinga. Three groups of first responders have participated in this study namely: a) forty-seven (47) Philippine National Police (PNP); b) thirty-eight (38) Bureau of Fire Protection (BFP); and c) thirteen (13) Medical Responders of Regional Health Unit (RHU).

The data were gathered and collected through individual interviews. Further, the interview guide was devised to meet the objectives of the study to determine the challenges encountered by the responders in dealing with motorcycle accidents. The researcher used thematic analysis to analyze the data.

The research minimized the negative impacts of the risks to be identified by the respondent. The researchers made sure that the data gathered was kept confidential by not allowing any confidential information like the personal data of the respondents to be

disclosed to anyone without proper authority. The communication concerning the research was done with honesty and transparency and did not result in any negative impact on the participants. The researchers avoided any misleading information, as well as representation of the primary data findings in a biased way was avoided. In that case, the researchers presented to the participants an informed consent letter, informing the respondent that their participation will be voluntary and that the participants may withdraw from the study at anytime without adverse repercussions.

RESULTS AND DISCUSSION

Unclear and Interrupted Communication

The primary challenge that the first responders encounter in responding to motorcycle accidents in Tabuk City Kalinga is the lack of communication specifically that the callers do not specify the exact location of the accident. According to KI 1, "The number one problem is communication because some callers don't give the exact location." Further, it is supported by the similar statements of KI2: "Caller or informant cannot specify the specific area of the incident" and KI3: "Communication is the problem because some of the reporters for the case of a motorcycle accident cannot tell the complete details and exact location and identification." The responders posit that in an incident, a caller or complainant must state the complete details of the accident, especially the area of the accident for them to respond immediately to the accident.

Similarly, another challenge in communication is the weak and interrupted signal which according to KI 4, "Responding police officers immediately proceed at the area upon receiving the information but the areas where there are no cellphone signals, reports received late." Similar statements were taken from KI 3: "No signal at the scene" and KI 4: "Proper Landmark of the incident they cannot give the exact or landmark, call is not clear because of the signal." Thus, due to weak signals, responders receive the notification late which may cause a delay in delivering assistance to the accident.

Likewise, according to KI 2, "Delay in notification may cause a problem when responding to a motorcycle accident" and KI 5, "Some areas in our AOR have poor signal. That is why confirming/verifying a reported accident is sometimes impossible." The difficulty of signal in Tabuk City, Kalinga is due to its terrain and mountainous location. Signal interruption is common since the responders commonly use their mobile phones in responding to the accident whereby according to KI 2 "The communication because the radio was destroyed during a typhoon, and we don't use the radio for communication but instead we use our cellphone and group chat in messenger for communication."

Nevertheless, another facet of communication is properly informing the responders without delay of what is the progress of the accidents which is another problem when there is no proper communication. According to KI7, "We are not being informed ahead of time that the parties already settled immediately". This is likewise

expressed by KI8: "Miscommunication with the caller because the caller did not specify that victims are already at the hospital".

Clear and uninterrupted communication is important in the field of emergencies and accidents especially when the lives of victims are at stake, and it requires immediate actions to prevent the death of victims and possible worst scenario. Thus, it could only be prevented if there is clear and uninterrupted communication. Communication is one of the problems in quick response to motorcycle accidents, in some places, there is no signal and the terrain is not easy to ask for help because the main road is far from the community.

This problem is also encountered in other countries and according to Timmons (2007), the principal challenges most often include the lack of radio interoperability and other forms of communication. Clear, uninterrupted communication is essential in the field of emergency management where firefighters and law enforcement rely heavily on radio interoperability (Burroughs 2017). Communicating with dispatchers, and locating routes, which are characterized by or affected by time pressure, prognostic failure, personal protective ensembles, long shift hours, and driving under emotion (Hongwei, Chang & Simionov, 2018).

Lack of Mobility and Emergency Vehicles

The responders also recognized the lack of mobility and emergency vehicle in responding to motorcycle accidents which is a crucial problem especially since the victims need medical assistance as much as possible. According to KI 3, "No availability of rescue vehicle on standby and readiness of rescue equipment's like stretcher etc". KI 4 also said, "No standby vehicle for victim transport and victims already transported." Due to the non-availability of the emergency vehicle which resulted in to delay in arrival time, it is the discretion and initiative of the concerned bystanders and witnesses to use their private car to transport the injured to the nearest hospital which according to KI 9 "a lot of people in the area and some concern citizens rush the victim immediately to a hospital without waiting for the ambulance or rescuers".

Inadequate transportation is identified as a challenge to responders' capacity to reach the accident area on time and provide first aid. Not all responders have vehicles; they often depend on getting a lift from other people or paying for private vehicles to get them to the accident area. The lack of appropriate vehicles to transport victims to the hospital is also a challenge to their ability to apply first aid during transport because of the confined space. Despite their success in getting a vehicle, they are not appropriate to transport victims because the responders use private cars and find it difficult to accommodate serious victims.

Although there is an emergency vehicle at some stations, but in cases that there are two or more incidents, the existing number of emergency vehicles is not enough to cover all the incidents at the same time. This is expressed by KI 5: "Unavailable mobility if there are 2 or more incidents to be responded."

It has also been noted that the problem also is the distance of the accident area. According to KI 8, "Distance of place of incident from the responders that may cause late

respond to the victim." The ability of police officers to reach the accident in time and provide initial interventions to victims is often limited by lack of mobility. When the accident is far away from the police station, getting to the scene becomes a challenge, which means they are routinely late in reaching the accident area.

One of the facets that influence the success of medical assistance and saving lives is the number of existing emergency vehicles and their location since this significantly impacts the time; it takes for assistance to arrive at emergency occurrences. This arrival time is a very essential factor for the success of the health support provided since the health status of the victims of medical emergencies often tends to worsen over time if assistance is delayed. Emergency vehicles are designated and authorized to respond to an emergency that is defined as"a situation that poses an immediate risk to health, life, property, or environment" (Wikipedia, 2017). Three primary groups of emergency vehicles are recognized: police and law enforcement, fire and rescue, and medical. Approximately 410,000 police vehicles, 160,000 fire apparatus and supporting vehicles, and 48,000 ambulances are in use in the United States (Gaines & Weikersheimer, 2015; Haynes & Stein, 2016). However, immediate medical assistance is being denied due to a lack of emergency vehicles.

Emergency vehicles can affect the survival rate of the victims or persons involved in the motorcycle accident. In addition, the arrival time of medical assistance can directly influence the health condition of the victim in the motorcycle accident, and can also have other indirect impacts, like the costs associated with longer recovery and hospitalization times or the occurrence of secondary health situations resulting from this assistance delay (Nelas & Dias in 2021).

The problems in emergency vehicles are also recognized in different countries. Lack of motor vehicles involving emergency vehicles, such as police cars, fire trucks, and ambulances, has been recognized as a serious problem nationwide, most especially in third-world countries(Savolainen, Dey, Ghosh, Karra, & Lamb in 2009).

Lack of Medical Equipment

It is not only the lack of emergency vehicles that is the existing problem but the availability of medical equipment which according to KI 6, "Availability of rescue vehicle on standby and readiness of rescue equipment like stretcher is another concern". Similar with KI 2, "Lack of some emergency equipment needed to a specific incident is a problem." Medical equipment is an essential health intervention tool used by responders in accidents, emergencies, and disasters for the prevention, diagnosis, and treatment of disease and rehabilitation of patients. However, access to functioning medical equipment is a challenge in Tabuk City, Kalinga.

Furthermore, the survival rate of the victims depends not only on the arrival time of the assistance but also on the level of care that the victims need depending on the emergency that occurred. Thus, the level of care can only be administered with enough medical equipment. Lack of medical equipment is reported by responders as a barrier to using their first aid skills. Police officers mentioned the lack of stretchers and boards for lifting and carrying injured victims as a big challenge. Responders explained that they

often found themselves in difficult situations, especially with victims who are bleeding. Responders may go to the scene and find the victim injured and have dislocated bones however there are no stretchers and boards. So, it is difficult to proceed with care.

Lack of, or inadequate, resources may also prevent police officers from providing first aid care. For example, a lack of gloves may prevent bleeding control out of the provider's fear of becoming infected. A similar finding was reported in a study involving participants who are not police officers. The lack of first aid resources creates a dilemma in the management of trauma victims as the intention to intervene conflicts with personal safety concerns. This may ultimately lead to withholding care. The lack of reliable and appropriate transport to and from the crash scene was another barrier that affected timely and proper first aid care. Due to inadequate ambulances, the vehicles of passing motorists are often expropriated, complicating victim care because the vehicles lack adequate space and basic equipment. Similar transportation concerns have been previously reported (Ndile in 2020).

This problem is also existing in other countries and according to Moyimane et al. (2017), access to functioning medical equipment is a challenge in low- and middle-income countries. The World Health Organization estimated that 50 to 80 percent of medical equipment in developing countries is not working, creating a barrier to the ability of the health system to deliver health services to patients.

Weather Conditions

Another problem that responders encountered in responding to motor vehicle accidents is adverse weather. It was reasonable to believe that driving in rainy conditions is more challenging than in clear weather due to low visibility and slippery roads. According to KI 5, "Bad weather, road conditions, safety, and well-being of everyone involved". Similarly, according to KI 6, "During the rainy season, responders can't respond immediately because of slippery roads most especially to the place where still rough road." It is observed that when there is heavy rain, drivers tend to slow down as it increases the occurrence of an accident which delays the arrival time to respond to an accident, and sometimes the driver tends to stop near the road when there is no visibility due to heavy rains. Although the responders tend to arrive immediately to provide medical assistance however due to heavy rains and adverse weather conditions, they do not also put themselves into jeopardy.

The study of Majdzadeh (2008) supports also the negative contributions of adverse weather to driving conditions according to his study, he considered weather conditions specifically its association with severe injuries due to motorcycle accidents. As such, there is a greater chance of accidents during fair weather because rivers tend to speed up. Furthermore, there was a study conducted in Iran and has used statistical tests and multiple logistic regression analysis to relate and analyze the risk factors of injury. Along with several collisions, the weather condition was found to be significant with the occurrence of road traffic injury in severe cases. Results show that rain increases the risk of occurrence of injury. However, in a study by Shankar and Mannering (1996), wet pavement conditions make drivers more cautious in driving. Thus, it is found that wet roads permit less severe crashes.

Uncooperative Motorists and Bystanders

The informants recognized another problem that they encountered in responding to motor vehicle accidents. According to KI 1, "Uncooperative motorist during transit, scene security, and ground control. The bystanders do not know how to give space to the scene for the responders to arrive". Also, KI 3 said "Intoxicated, uncooperative patients." Similarly, there are responders who encountered bystanders with different attitudes that include drunkards and uncooperative patients which hampers control and assistance in the accident area.

Cooperation and assistance gave during the initial period after a motorcycle accident often is of great essential for those who are injured, especially in terms of quality of life and future health. A considerable amount of time may lapse before an ambulance arrives and professional help can be provided. Thus, it is urgent and essential that bystanders, who often are laypersons, have both the confidence and the knowledge to correctly administer first aid to the victims, assist in securing the scene and control the crowd for effective and organized medical assistance once the expert responders appear. This is supported by Larsson (2003), according to without prompt life-saving assistance and cooperation of the bystanders and motorists, an injured person may die for several reasons, such as delay in medical assistance caused by the uncooperative motorist and bystanders, or other causes correlated to re-hospital death following trauma.

Another problem in responding to motorcycle accidents is the cooperation of relatives who is supposedly the first people to cooperate with the authority. According to KI 5, "Relatives insist to carry the victim to the hospital without being treated with first aid and brought to the hospital on their own". KI 6 also mentioned that "Relatives and friends of the victims who are present are arguing."

Further, the first bystander to arrive at the scene of a crash initially should protect the affected person from further injury, send for more help, and assure that an ambulance has been summoned. Subsequent measures that are provided are referred to as first aid which also has been defined as the immediate help given by a bystander for all types of emergencies while awaiting the arrival of expert medical care. However, bystanders are not knowledgeable in delivering first aid and medical assistance thus they decided not to interfere. As stated by KI 7, "Most bystanders were not knowledgeable in providing distance most especially to the injured victims. What if they moved the victim and it may sustain more injuries to the victim". KI 8 also said, "Most of the crowd were not prepared to assist the victim." The presence of people around the accident area is considered to facilitate and helpful provision of first aid by police officers. People near the accident area are described as support in the forms of materials, manpower, and moral support. The thing that helped the responders to use their skills is the readiness of people around the accident area to help the victim. Furthermore, people's misconceptions and ignorance about the care of victims create interference and mistrust with care in the accident area. This can be a hindrance in the care process.

According to one study sometimes bystanders may hesitate to offer first aid due to insufficient knowledge or the fear of making things worse and believing that an ambulance will arrive soon (Larsson, 2003). The cooperation and assistance of

bystanders and witnesses are of great help to the responders in saving lives and preventing the worst possible scenarios. However, during transit, it is sometimes the bystanders and motorists who are the ones that hamper the operation and delay the medical assistance to the injured and victims of motor vehicle accidents.

According to K12, "The motorist doesn't know how to go to the outer lane when they hear the "wang-wang" of the ambulance". KI 10 also said that some drivers are not oriented to traffic regulations. They don't give way for the ambulance and watch out for emergency vehicles going to the scene of the incident. Upon arrival, the responders often encounter too many bystanders which interfere also in delivering immediate medical assistance. As shared by KI 10, "Too many bystanders may delay the transportation of the victim." Social and physical environments may negatively or positively influence engagement in first aid care and responding to the incident. Difficulty in accessing an accident area is described as a hindrance to the responders trying to provide immediate care. Furthermore, the anxiety and tension from crowds and bystanders in the accident area make the environment uncomfortable for those providing care. On the other hand, however, people around the accident area could sometimes be helpful to first responders when there was good communication on both sides.

One of the cooperation that motorists must consider is to give way to emergency vehicles when they respond to a motorcycle accident. However, one of the problems encountered by one of the KIs is that motorists don't immediately give way to the emergency vehicle. This problem also exists in other countries according to Saunders & Heye (1994) lack of recognition of emergency vehicles by other drivers have attributed to emergency vehicle crashes.

CONCLUSION AND RECOMMENDATIONS

Conclusion

First responders are the first on the scene of an emergency and may face challenging situations. Circumstances of the accident, weather conditions, radio signals, and assistance from the bystanders and other motorists may determine when and how the first responding officers can address the victims and their needs. Other factors cause the delay in their response to the accident such as insufficient number of emergency vehicles and other medical equipment.

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