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Original Research Article

Awareness of safe transfers in ambulance drivers after road traffic accidents

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ABSTRACT

Background: Today accidents are among the leading causes of death. Deaths due to road traffic accidents are increasing at an alarming rate throughout the world. Hence, safe transfers become an important aspect to deal with. Ambulance drivers being the providers for this transfer should know about safe transfers and how is it performed.
Methods: A validated self-structured questionnaire consisting of 14 questions related to knowledge about safe transfers was prepared and circulated to ambulance drivers via Google forms. Ethical approval and informed consent were taken. A total of 102 participants were included in the study and descriptive data analysis was done.
Results: Out of 102 participants, 10.8% of drivers had attended a road trauma first aid course, 41.2% of participants had heard about safe transfers, 98% had transferred an RTA victim, 3.9% of participants knew the right way to transfer a patient with spinal injury, 37.3% of subjects knew how to transfer fracture cases, 96% of the participants knew safest way used for transferring a patient, 47.1% drivers knew about "golden hour", 80.3% participants knew the correct way to transfer a traumatic patient, 22.5% of subjects knew the importance of safe transfers and 99% of drivers felt the need to learn about safe transfers.
Conclusions: The study concludes that there is overall less awareness about safe transfers among ambulance workers. Although the willingness to learn about safe transfers is comparatively high. There is a need to increase awareness about safe transfers in ambulance drivers

Keywords: Ambulance drivers, Awareness, RTA, Safe transfers

INTRODUCTION

The term accident has been defined as a circumstance in a sequence of events that generally produces unintended injury, death, or property damage. Today accidents are among the leading causes of death. Deaths due to road traffic accidents (RTA) are increasing at an intimidating rate throughout the world. Fifty years ago, the World Health Organization (WHO) was called upon to do commodity about the heavy mortal risk of road business injuries, still, RTAs remain a veritably significant contributor to mortal morbidity and mortality. It's significant to note that the burden of RTAs has shifted to low and middle-income countries (LMICs), which despite having only about 50% of the world's motor vehicles, account for 90% of the burden of 12.5 lakh road businesses deaths and two to five crore non-fatal road business injuries. Road business losses constitute 16.6% of all deaths, making this the sixth leading cause of death in India, and a major contributor to socio-economic losses, the disability burden, and hospitalization. The financial burden is particularly high for poorer homes in pastoral areas and those seeking treatment at private health installations with no health insurance.

Road accidents are frequent in circumstance and a leading cause of death in India.

Amongst all business accidents, road business accidents claim the largest risk of mortal life and tend to be the most serious problem worldwide. Worldwide, the number of people killed in road business accidents (RTA) each time is estimated at nearly 1.2 million, while the number of injured could be as high as 50 million. In India, road business injuries were the third leading cause of death by 2020. These numbers will increase by as much as 80 per cent over the coming 20 times in low- and middle-income countries unless there's a new commitment to prevention (WHO, 2004). By 2020, road deaths and injuries are prognosticated to be the third leading contributor to the global burden of complaints and injuries.[1] Hence, these RTAs should be prevented so that we reduce the number.

Also, safe transfers after RTA are an important aspect to deal with. Patient care transfer can be defined as moving a patient from one flat surface to another. The most common patient transfers are from a bed to a stretcher and from a bed to a wheelchair. Patient care transfers are an essential yet frequently neglected aspect of patient care.

Patient care transfers are a necessary aspect of patient care, taking rigorous adherence to clinical guidelines. Proper transfers are grounded on the concept of focusing on maintaining care both during and after the transfer. Providers who help in patient transfers should be trained, competent, and endure. Patient transfers induce multitudinous physiologic changes that may be associated with increased trouble for the patient. Adverse events that should be considered include losing the patient's wristband/identification, disconnected/dammed lines, dropped increased systolic blood pressure, loosened/ kinked tubes, fractures, and change in internal status.

Numerous guidelines live to help providers transfer the victims with the utmost care and specific training is constantly recommended. Depending on the setting, babysitters are constantly involved in patient transfers. Transferring a victim may be considered a high-trouble action because of the implicit detriment posed to the victim and the provider. While there is no harmonious system used to educate proper transfer ways, simulation-predicated or hands-on training is encouraged in training these advanced patient handling techniques.[2]

Patient-transfer situations involve the acquisition of knowledge and ergonomic skills. Practice is culturally and socially incorporated and reflects both workplace culture and service conditions, as well as individual and inter-professional capabilities. Changing from patient lifting to the "no lifting" policy is described as a new way of allowing patient transfer.

Hence, the aim of the study was to assess the current level of knowledge of safe transfers in ambulance drivers after road traffic accidents.

METHODS

Participants and procedure

A convenience sample of 102 ambulance drivers who have had formal education till 10th standard and who were residents of Pune were a part of the study. Participants were recruited from hospital set up in Pune. A self-structured questionnaire with the consent of the participants was used for the cross-sectional study. Permission and approval were taken from the institutional ethical committee of Sancheti Institute for Orthopedics and Rehabilitation, College of Physiotherapy before starting the research project. All the participants signed an informed consent form before filling out the questionnaire. The study was conducted from March 2023 to August 2023. The selection criteria for the study was all the ambulance drivers with a formal education of 10th standard and residents of Pune. Statistical analysis was done using Microsoft Excel 2007. Descriptive statistical methods including mean and percentage were used.

RESULTS

This study assesses the awareness among ambulance workers about safe transfers after a road traffic accident (RTA). There were total 102 participants. Most of them were in the age group of 22 to 57 years with a mean age of 36.375. 64.7% had a primary level of education and 29.4% had secondary level of education. The percentage of drivers who had transferred RTA victim was 98%.

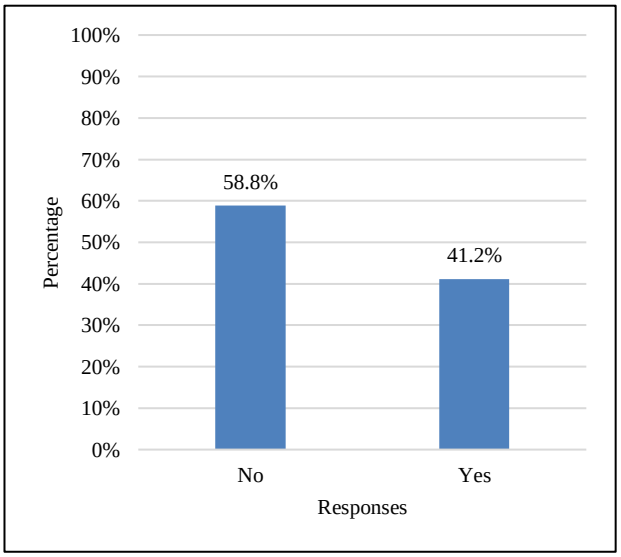

Figure 1: Participants who have heard about safe transfer.

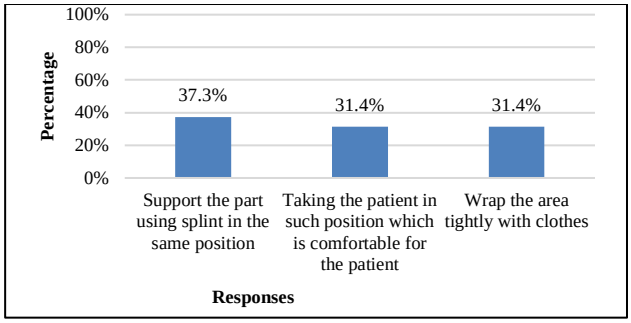

Figure 2: Knowledge about the correct way to transfer a fractured victim.

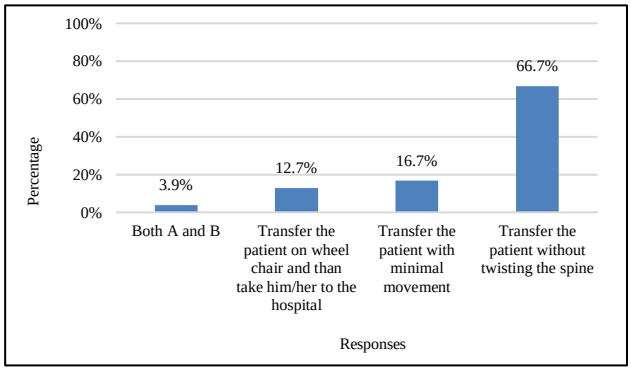

Figure 3: Depicting the percentage of drivers who are aware to transfer a person who has been hit by a car and is lying on his back.

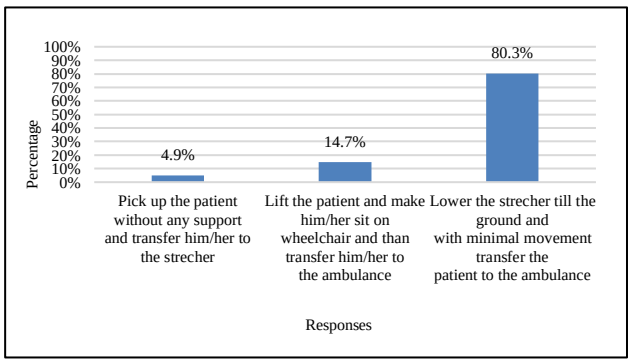

Figure 4: Percentage of drivers who knew the correct way to transfer a traumatic patient.

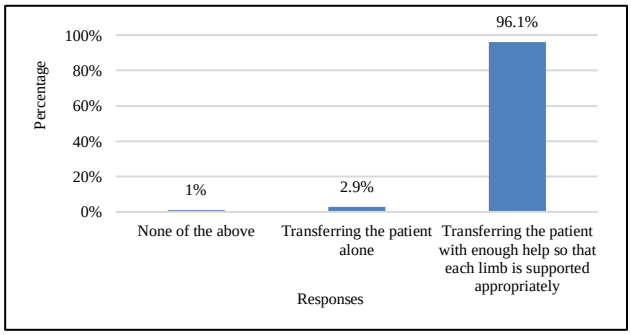

Figure 5: Percentage of drivers who knew the safest way to transfer a patient.

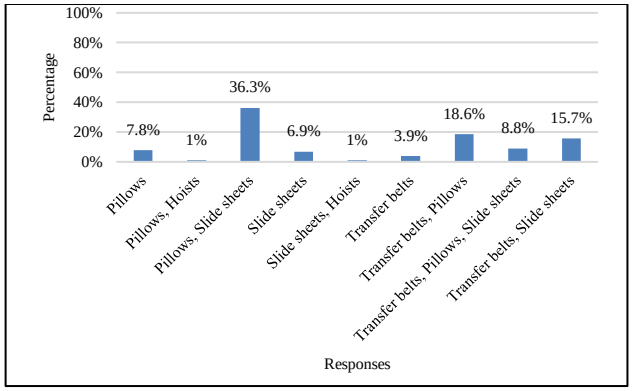

Figure 6: Illustrate the most commonly used equipments in safe transfers.

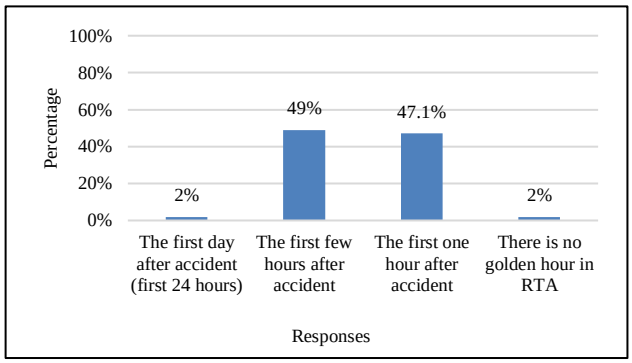

Figure 7: Percentage of participants who were aware of the term "golden hour".

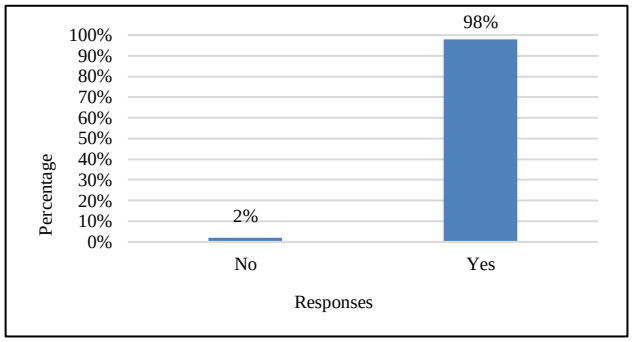

Figure 8: Percentage of participants who felt the need to transfer the patient in the golden hour.

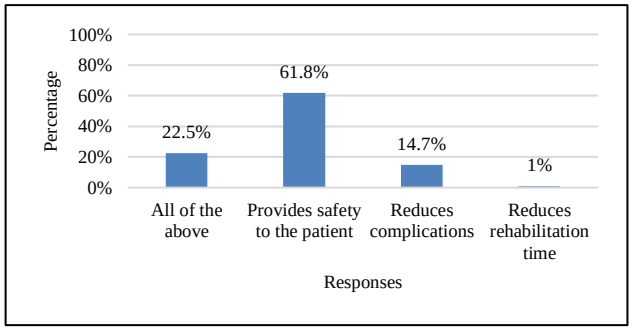

Figure 9: Awareness of importance of safe transfers in drivers.

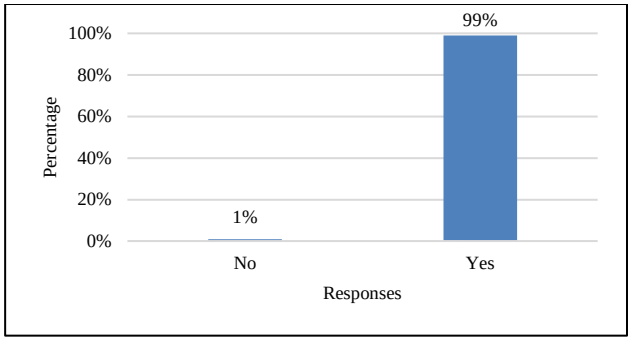

Figure 10: Percentage of participants who feel that there is a need to learn about safe transfers.

From the above graphs, we understand that only 41.2% of the drivers had heard the term safe transfers, only 3.9% of the drivers knew the right way to transfer a spinal cord injury patient, only 47.1% of the drivers knew about golden hour and 22.5% of the drivers knew the importance of safe transfers.

DISCUSSION

The current study aimed to find awareness among ambulance workers about safe transfers after road traffic accidents (RTA). The study was conducted amongst 102 ambulance drivers. The ambulance drivers ranged in age from 22 to 57 years with a mean age of 36.375, median of 38, and SD of 17.3. 64.7% had a primary level of education and 29.4% had d secondary level of education. Also, the mean of years of profession was 10.2875.

We also found that only a few of them i.e. 10.8% of drivers had completed their first aid trauma course and the rest all were practicing without the course, this is because there is no specific certified course taught to the drivers for safe transfers. A study conducted in 2015 in the n UK tells us that there are a number of courses that are recognized nationally and internationally for safe transfers for paramedics and consultants.[10] Hence, due to the lack of availability of courses drivers don't have much knowledge about safe transfers. This is in contrast with the study which was done in April 2023 which shows that 58.5% of EHCPs had good knowledge regarding pre-hospital emergency medical care.[13] This contrast would be due to the difference in the education levels of both population sizes.

So overall knowledge scores of the study in Ethiopia were better than those found in our study. The differences could be due to the availability of relative training resources and practical demonstrations given to these healthcare providers.

Also, 41.2% of the drivers had heard the term "safe transfers". Almost 98% of the drivers had transferred an RTA victim as one of the studies done in Karachi reports that 98% of ambulance drivers take solo emergency calls.[12] Also when the drivers were asked the question what if they suspect a fracture what would they do? 37.3% answered it right by choosing the option of they will use a splint to support the limb. So this is of significance that they knew the right thing to be done. In contrast to this, a study which was conducted in Thailand in the year 2017 tells us that 95% of traffic police knew the right way to transfer fracture cases. Hence, the knowledge scores of the study in Thailand were better than those found in our study.

Also, a study which was conducted in India in Kumaon region in 2019 tells us that 73% of commercial drivers knew that a splint is applied in bone fractures.[8] This discrepancy could be because of the emphasis given on practical demonstration of the skills to the traffic police officers and also the focus given on spreading awareness amongst traffic police officers about first responder care. When they were asked how they transfer a person who got hit by a car and is lying on the back almost 66.7% of drivers answered that they would transfer the person without twisting the spine, but there was one more option of transferring the patient with minimal movement. Only 16.7% of drivers chose this but no one chose both options, this could be because of a lack of knowledge about safe transfers, or misconceptions about safe transfers. 96% of the drivers knew the safest way of transferring the patient which is transferring the patient with enough help so that each limb is supported. This is of significance because drivers knew the right way to handle this situation and the complications that would have arisen due to insufficient support would have been avoided.

In a study conducted in India on commercial drivers, the knowledge of safe positions was 80%. Another finding which we found is that the frequently used equipments for patient transfer are pillows and slide sheets. The awareness among ambulance drivers about the correct way to transfer the traumatic patient was 80.4%. According to them, the stretcher should be lowered to the ground, and with minimal movement, the patient should be shifted. Hence, it helps in preventing complications related to unsafe transfers. Also, another significant finding we found was drivers were not aware of the term "golden hour". In contrast, they were aware that transferring the patient is important in golden hour as it will cause fewer complications to occur.

Another finding that we could find out was according to drivers, safe transfers only provide safety to the patient despite it not only helping in safety but also reducing complications and rehab time. Only 22.5% of drivers knew all 3. After all this when they were asked if there is a need to learn safe transfer, everyone answered yes. Another variable, found in the study of Ethiopia the respondent's educational status, was found to be significantly associated with EHCPs knowledge. As EHCPs had a master's degree and the drivers in our study merely had secondary education which creates the difference between the knowledge. Hence, the drivers

knew how to transfer a patient who is fractured, the safest way of transfer but did not know much about golden hour, safe transfers, and its importance. So, it becomes important to provide the ambulance drivers with proper structured skills and training about safe transfers and also educate them about the same. More emphasis should be given to their role in safe transfer so that they become more competent in providing proper help to the victim.

Limitation

The limitation of the study is that this study could not recruit large number of samples. Also the participants could not be recruited from outside of Pune.

CONCLUSION

The parent study concludes that there was overall less awareness about safe transfers in ambulance drivers. Although they had knowledge about a few things such as the safest way to transfer a patient, the correct way to transfer a traumatic patient, and transferring the patient to the hospital in the golden hour but it was not adequate. Despite the fact that they could handle and safely transfer the road traffic accident victims even with their lack of skills formal training has to be emphasized for them so that they work more efficiently to help the victims.

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