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Assessment of the Knowledge and Practices of Drivers/ Conductors Working in Government Buses Running Through Tricity, Chandigarh Regarding the Use of First Aid Kit

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Abstract

Background: Road safety is a shared responsibility. Reducing risk in the world's road traffic systems requires commitment and informed decision-making by all stakeholders-government, industry, non-governmental organizations and international agencies and the participation of people from all walks of life.

Methods: A cross-sectional, community-based, exploratory study was conducted for four months (Jan 2019 to Apr 2019) to assess the knowledge and practices of first aid among drivers and conductors of buses running through Tricity, Chandigarh. In this study, a total of 300 drivers and 300 conductors of buses of CTU, Haryana Roadways, Himachal Roadways and Punjab Roadways were interviewed.

Results: Five hundred and seventy five (95.8%) employees were aware of the prominent position of first aid box in buses and 197 (32.8%) employees felt safety of passenger as their foremost duty when bus meets an accident.

Conclusion: The awareness and practices of first aid among drivers/conductors in saving the lives of passengers is seen comparatively more than the other studies conducted. But they still require more awareness and better practices.

Keywords: Conductors; Drivers; First aid; First aid knowledge; First aid practice

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Introduction

According to WHO's Global Status Report on Road Safety 2018, the number of annual road traffic deaths has reached 1.35 million and road traffic injuries are the leading cause of death for children and young adults aged 5 to 29 years [1,2].

Buses take up over 90% of public transport in Indian cities and serve as a cheap and convenient mode of transport for all classes of society [3].

Services are mostly run by state government owned transport corporations and these are one of the major causes of road accidents. The number of buses owned by the public sector was 140.5 thousand (7.13%) in 2015 [3].

Vast majority of drivers are unable to provide efficient first aid to accident victims who, in turn, increase the chances of disability and loss of life. If the drivers possess knowledge regarding first aid during emergency situations, it will save many lives. All the vehicles must be having first aid kit as a requirement to get registered. Though the vehicles are equipped with the first aid kit, the drivers have little or no knowledge to use the first aid kit [4]. So, this study was designed to assess the knowledge of bus drivers and conductors regarding the use of first aid kit during emergency situations.

The basis of first aid training is "prevention". It is always better to be safe than to be sorry. Knowledge of first aid promotes the sense of safety and well being amongst people, prompting them to be more alert and safe in the surroundings they dwell in. Awareness and desire to be accident free

keeps one more safe and secure, reducing the number of casualties and accidents. Knowing that you can save your own life when required, or that of the people you know or those in trauma during some emergency, helps you relax more and be more secure. The sense of security promotes a healthy and a more confident environment around you where you and the people around you would feel more secure. The presence of such people provides reassurance to the others in the situation. Hence, knowledge of first aid promotes a healthy, secure and a safer environment, and instils confidence amongst people, their families, their colleagues and associates. Basic first aid knowledge is very helpful in dealing with trauma situations. Not just the medical help they provide, but the confidence they exhibit is very helpful. Being trained to provide first aid is useful to oneself and society [5].

Material and Methods

A cross-sectional, community-based, exploratory research methodology was adopted. The study was conducted among drivers and conductors of buses of Chandigarh Transport Undertaking (CTU), Haryana Roadways State Transport (HR), Himachal Road Transport Corporation (HRTC) and Punjab Roadways Transport Corporation (PRTC) passing through ISBT 17 and ISBT 43 of Chandigarh. Sample size was 600 (300 drivers and 300 conductors). 75 buses of each type (i.e., a total of 300 buses) were surveyed and these were selected by convenient sampling technique.

A pre-structured, pre-designed questionnaire was administered to drivers and conductors of the buses. The study was undertaken for a period of four months- from January 2019 to April 2019. After collecting the required information from the subjects, the data was entered in the coded form in Excel sheet and was further classified into simple and complex tables. Analysis was made through descriptive statistics by using Microsoft Office Excel keeping in mind the objectives of study.

Results

In the present study, survey was conducted among drivers and conductors of buses of Chandigarh Transport Undertaking (CTU), Haryana Roadways State Transport (HR), Himachal Road Transport Corporation (HRTC) and Punjab Roadways Transport Corporation (PRTC) passing through ISBT 17 and ISBT 43 of Chandigarh. Sample size was 600 (300 drivers and 300 conductors). 75 buses of each type (i.e., a total of 300 buses) were surveyed.

(I) Profile of Buses

In this study, out of total buses surveyed, 141 (47%) buses were short route buses and 159 (53%) buses were long route buses.

(II) Profile of Staff

Figure 1 shows that out of 600 employees, maximum number of employees i.e., 218 (36.3%) were in age group of 25 to 34 years, followed by 207 (34.5%) in 35 to 44 years age category.

The above figure shows that maximum staff i.e., 370 (61.7%) had work experience of <10 years, followed by 94 (15.7%) who had work experience of 11 to 15 years.

In this study, the maximum number of employees i.e., 303 (50.5%) had obtained secondary education, followed by 198 (33%) who were diploma holders or graduates. Seventy-two (12%) employees were post graduates and only 27 (4.5%) employees were under matric (Figure 2).

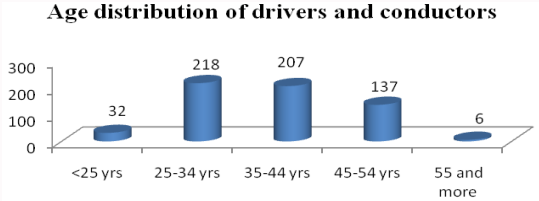

Figure 1: Gives age distribution of drivers and conductors of interstate buses. Figure 1 shows that out of 600 employees, maximum number of employees i.e., 218 (36.3%) were in age group of 25-34 years, followed by 207 (34.5%) in 35-44 years age category

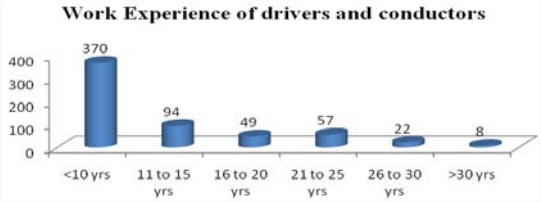

Figure 2: Gives work experience of drivers and conductors of buses.
The above figure shows that maximum staff i.e., 370 (61.7%) had work experience of <10 years, followed by 94 (15.7%) who had work experience of 11 to 15 years

Table 1: Opinion regarding the foremost duty of drivers/conductors after bus meets an accident (N=600).

Practices/Opinions	Number of employees (%)
Safety of passenger	197 (32.8%)
Send injured person to safest place or hospital	116 (19.3%)
Provide first aid and then call police (100)	85 (14.2%)
Provide first aid	83 (13.8%)
Call ambulance (108)	57 (9.5%)
Save themselves first and then passengers	51 (8.5%)
Don't know	11 (1.8%)

The table depicts that maximum number of employees i.e., 197 (32.8%) felt safety of passenger as their foremost duty, followed by 116 (19.3%) who opined to send injured person to hospital when bus meets an accident

(I) Awareness of Drivers and Conductors Regarding First Aid Box.

In this study, 596 (99.3%) employees opined that there is a requirement of first aid box in buses while only 04 (0.7%) employees of Haryana Roadways weren't aware about necessity of first aid box in buses.

Five hundred and seventy five (95.8%) employees were aware of the accessible and prominent position of first aid box.

Five hundred and seventy one (95.2%) drivers and conductors were ready for orientation program related to use of first aid box and its practices while 29 (4.8%) employees didn't show willingness in attending any kind of orientation program.

When asked about repetition of first aid training within subsequent years of their job, 314 (52.3%) employees said that training of first aid had never been repeated, while 278 (46.4%) employees replied that it had been repeated but not more than 5 times in their working years and 08 (1.3%) employees didn't remember at all whether training was repeated or not (Table 1).

(II) Opinion Regarding Practice of First Aid by Drivers and

Table 2: Opinion regarding the best way to carry a person to hospital who has got fracture (s) (N=600).

Practices/Opinions	Number of employees (%)
Call ambulance	170 (28.3%)
Avoid making movements	160 (26.7%)
Through stretcher	76 (12.7%)
Take passenger to hospital via bus	63 (10.5%)
Giving counselling to the passenger	35 (5.8%)
Dressing & splint	31 (5.2%)
Those who gave multiple options	42 (7.0%)
Don't know	23 (3.8%)

The above table shows that maximum number of employees i.e., 170 (28.3%) opined to call ambulance when a passenger got fracture, followed by 160 (26.7%) who opined avoid making movements at the injured site

Conductors

Discussion

The discussion of this study has been divided into four parts: Information about interstate buses, demographic profile of staff, and awareness of drivers/conductors regarding first aid box and practice of first aid by drivers/conductors (Table 2).

Information about Interstate Buses

In this study, all Roadways i.e., 25% Chandigarh Transport Undertaking (CTU), 25% Punjab Roadways Transport Corporation (PRTC), 25% Haryana Roadways State Transport (HR) and 25% Himachal Road Transport Corporation (HRTC) buses were surveyed.

Both (short & long) route kinds of buses were included and their staff was interviewed. Of the total 300 buses, 141 (47%) buses were of short route while 159 (53%) buses took the long route of travel. Seventy nine (26.3%) buses were 52 seater while only 13 (4.3%) buses had 42 numbers of seats (Table 3).

Two hundred and fifty four (84.7%) and two hundred and forty nine (83%) buses had good windows and seats conditions respectively while some of seats in 04 (1.3%) buses were in very bad condition. Previous study [6] concluded that out of total 200 buses surveyed, only 70 (35%) had good windows condition, while 62 (31%) buses had good seats condition.

In the present study, of the total 300 buses, 292 (97.3%) and 287 (95.7%) buses had seats reserved for handicapped persons and for senior citizens respectively while just 12 (4%) buses did not have seats reserved for women. The number of buses with reserved seats has increased within 9 years. As reported in the previous study [6], only 25 (12%) buses had seats for handicapped persons, while 175 (88%) buses did not have seats for senior citizens and only 25 (12%) buses had seats for women (Table 4).

Table 3: Opinion regarding the best way to carry an unconscious person to hospital (N=600).

Practices/Opinions	Number of employees (%)
Call ambulance	160 (26.7%)
Make conditions normal for unconscious person	109 (18.2%)
Take lift from other vehicles	104 (17.3%)
Give water	99 (16.5%)
Through car	68 (11.3%)
Those who gave multiple options	31 (5.2%)
Didn't know	29 (4.8%)

The table depicts that maximum employees i.e., 160 (26.7%) would call ambulance in such a situation, followed by 109 (18.2%) who opined to provide normal conditions to unconscious person

Table 4: Opinion regarding how they would give first aid to a person who has got injury due to window/door glass (N=600).

Practices/Opinions	Number of employees (%)
Remove glass, clean wound with dettol, dressing	241 (40.2%)
Give first aid with whatever content is available	128 (21.3%)
Make efforts to stop bleeding	78 (13%)
If still bleeding doesn't stop, send to hospital	70 (11.7%)
Not remove glass but clean and wipe	33 (5.5%)
Others	50 (8.4%)

The above table shows that maximum number of employees i.e., 241 (40.2%) would remove glass and clean the wound with antiseptic when a passenger meets injury due to glass, followed by 128 (21.3%) employees who would give first aid with whatever content is available with them

Profile of Staff

Same number i.e. 150 (25%) drivers and conductors from all the four roadways were interviewed. It was found that maximum staff i.e. 218 (36.3%) were in age group of 25 to 34 years and least number of employees i.e. 06 (1%) belonged to 55 years and above age group. Similar study [6] concluded that of the total 246 employees, 111 (45%) were in the 41 to 50 age group and 59 (24%) were between 31 to 40 age group. In the study, undertaken in Sonipat, maximum number of drivers and conductors i.e. 21 (34.4%) were from the age group of 21 to 30 years followed by 19 (31.2%) in the age group of 31 to 40 years [7]. The mean age of taxi drivers was 33 ± 6.6 years in the study undertaken in Ethiopia [8].

In the present study, the maximum staff i.e. 370 (61.7%) had work experience of <10 years and only 08 (1.3%) employees had gained work experience of >30 years. Earlier study [6] reported that 60 (24.4%) employees had work experience of 21 to 25 years. In the study undertaken in Sonipat [7], the distribution of samples on the basis of work experience depicted that maximum number of drivers and conductors i.e. 16 (26.2%) had the work experience of 6 to 15 years. The mean year of driving experiences of taxi drivers was 8.3 ± 5.7 as reported by study undertaken in Ethiopia [8].

The maximum employees i.e., 303 (50.5%) had obtained secondary education while only 27 (4.5%) were under matric. In previous study [6], maximum staff i.e. 96 (39%) had educational qualification up to 10th. As per the finding of the study undertaken in Sonipat [7], the maximum number of drivers and conductors i.e. 19 (31.2%) had obtained education up to 10+2 followed by 16 (26.2%) and 15 (24.6%) who attained education up to matric and graduation respectively. In the Ethiopian study [8], 411 (52.4%) had obtained secondary education while 278 (25.4%) had obtained primary education only.

Awareness of Drivers and Conductors Regarding First Aid Box

In the present study, maximum employees i.e. 596 (99.3%) opined that there is requirement of first aid box in buses while 04 (0.7%) employees still weren't aware about the necessity of first aid box in buses. Also, maximum employees i.e., 575 (95.8%) were aware of the accessible and prominent position of first aid box in buses. In a study undertaken in Sonipat [7], out of 28 drivers, maximum number i.e. 14 (50%) of drivers had average knowledge while only 06

(21%) drivers had very good knowledge regarding first aid kit in buses running in Sonipat whereas out of 33 conductors, maximum numbers of conductors 12 (37%) had average knowledge and very less i.e., only 03 (10%) conductors had below average knowledge. In the Ethiopian study [8], about half (50.3%) of respondents had first aid knowledge; more than 80% had appropriate attitude towards first aid knowledge. As per the results of study undertaken in Chandigarh previously [6], out of 246 number of employees, maximum employees i.e., 38 (19%) of Haryana roadways were aware of the location of the first aid box.

In the current study, all of the drivers and conductors i.e. 600 (100%) had got training regarding use of first aid kit at the time of joining. Most of the drivers and conductors i.e. 571 (95.2%) were ready for further orientation program related to use of first aid while 29 (4.8%) employees didn't show willingness. Also, as far as drivers/conductors remembered about number of times first aid training had been repeated within their years of job, 314 (52.3%) employees said that training about first aid had never been repeated, while 278 (46.4%) employees replied that they were re-oriented within previous years of their job but it wasn't more than 5 times. In Ethiopian study [8], less than one third of the participants i.e. 210 (26.8%) had attended some form of first aid training at some stage in their lifetime. In the previous study [6], out of 50 number of employees of Punjab Roadways buses, only 27 (13.5%) had got the training regarding use of first aid kit. Similarly, from Haryana roadways- 38 (19%) employees, from CTU- only 33 (16.5%) employees and from Himachal roadways- 25 (12.5%) had got the training. Total 123 (61.5%) employees had got the training before joining. Out of 246 employees who were asked for orientation program, 47 (23.5%) from Haryana roadways, 40 (20%) from Punjab roadways were willing to participate.

Opinion Regarding Practice of First Aid Box by Drivers and Conductors

When asked about the practices of first aid box during an emergency, it was found that maximum employees i.e. 197 (32.8%) opined safety of passenger as their foremost duty when bus meets an accident, 116 (19.3%) drivers and conductors said they would send injured person to the safest place or to the hospital while 83 (13.8%) employees would give first aid to injured persons. The maximum number of employees i.e. 170 (28.3%) suggested to call ambulance when a passenger gets fracture (s) while 160 (26.7%) employees would avoid making movements at the injured site, 31 (5.2%) drivers and conductors suggested to use splints to immobilize the entire injured structure of the body. One hundred and sixty (26.7%) employees would call ambulance when a passenger becomes unconscious, 109 (18.2%) employees would try to make conditions normal for unconscious person and still 29 (4.8%) employees didn't know what to do in such condition. Maximum employees i.e. 241 (40.2%) would remove glass and clean the wound with antiseptic when a passenger gets injury due to glass, 78 (13%) employees opined that they would make efforts to stop bleeding.

In a similar study conducted in Ethiopia, 86% of respondents did not know what the first step to be taken at the accident scene. Six hundred and twenty seven (80%) participants did not know what the first step to be taken during evaluation of an injured person. Likewise, 567 (72.2%) participants were not able to identify the best first aid management of mechanically obstructed airway. Three hundred and ninety eight (50.7%) respondents identified tying the bleeding site with cloth or bandage was the best and safest way to stop bleeding, whereas 189 (24.1%) participants mentioned elevation of the affected wound was the best and safest way to stop bleeding. On the contrary, 102 (13%) participants indicated that washing the wound site with water was the best and safest to stop bleeding. Ninety six (12.2%) respondents said applying direct pressure and elevation of the limp was the best and safest way to stop bleeding while 291 (37%) respondents did not know how to stop bleeding. Out of the total 785 respondents, 321 (40%) knew about the appropriate and safest way to stabilize fracture. Moreover, 456 (58%) participants correctly identified the best position for transporting an unconscious patient after an accident.

Conclusion

Following conclusions could be drawn from the results of this study:

- It was found that the orientation program or training of drivers/conductors regarding the use of first aid is mandatory now and was given to all the employees at the time of joining of their job whereas this condition was not there earlier.
- The awareness of drivers/conductors regarding importance of first aid in saving the lives of passengers was also found to be comparatively more than the other studies conducted in India and abroad earlier.
- It was found that the practices of first aid by drivers/conductors at the times of emergency had increased in last few years.

Limitations

The main limitation faced while conducting the study was- although, the availability of the required subjects i.e.; drivers and conductors was much adequate but they could not spare much time as they could devote at most 10 min to 15 min for the interview or for filling up the questionnaire, which was, sometimes, felt to be insufficient to obtain complete information regarding the study.

Recommendations

The knowledge and practices of drivers and conductors is still inadequate so orientation and re-orientation programs regarding the use of first aid box should be organized for drivers/conductors of all state transports, especially, for drivers and conductors of Himachal Road Transport Corporation to sharpen their skills at a regular interval.

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