



**ORIGINAL RESEARCH PAPER**

**Community Medicine**

**AVAILABILITY AND UTILITY OF FIRST AID BOX IN SAVING THE LIFE OF PEOPLE IN BUSES PASSING THROUGH TRICITY, CHANDIGARH**

**KEY WORDS:** First Aid Box, Availability And Utility.

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<b>ABSTRACT</b>	<b>BACKGROUND:</b> Prompt first aid provision at the place of accidents can reverse unpleasant consequences of victim's health and life [1].
	<b>METHOD:</b> An exploratory study was conducted for four months (Jan 2019 to Apr 2019) to assess the availability and utility of first aid box in saving the lives of people in buses running through Tricity, Chandigarh. In this study, a total of 600 drivers and conductors of buses were interviewed.
	<b>RESULTS:</b> Of the total 300 buses, 228 (76%) buses contained first aid box placed at accessible and prominent place and out of those 228 buses, the content of first aid box was available in only 167 (55.7%) buses. Only 228 (38%) drivers and conductors had used first aid box at the times of emergency while 270 (45%) drivers and conductors knew that contents of first aid box were changed periodically.
	<b>CONCLUSION:</b> The availability of first aid boxes and its contents in buses has though increased; still there is a need to increase the use of its contents at the time of exigency.

**INTRODUCTION**

Accidents are unexpected. Being prepared can reduce panic and provide the necessary aid. Small injuries can become big injuries when one waits for treatment. Immediate treatment can reduce risk. Being prepared, doing the right thing and even being able to help others when injury occurs is a reason strong enough to want a first aid kit close by [2].

**Providing first aid at right time and place helps to save lives.** People who are trained are more likely to take immediate action in an emergency situation. Having someone trained in first aid can bring immediate relief to the patient. Being calm and assessing the situation helps the patient to be relaxed while their injuries are being treated and stabilized until an emergency personnel arrives. **It prevents the situation from becoming worse.** Knowledge of first aid promotes the sense of safety and well being amongst people [3].

Lack of first aid on time [4]

- Thousands of people are dying each year in situations where first aid could have made the difference. This includes nearly 900 people who choke to death, 2,500 who asphyxiated from blocked airways and 29,000 who died from heart attacks.
- First aid could make a dramatic difference in these situations, either through direct intervention, in the case of choking, or by recognising life-threatening signs, such as a heart attack, and caring for someone until medical help arrives.

**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 which included 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, out of total 300 buses, 228 (76%) buses contained first aid box placed at accessible and prominent place and out of those 228 buses, the content of first aid box was available in only 167 (55.7%) buses. The maximum numbers of first aid boxes placed at safest position were found in CTU buses i.e; 69 (92%) while only 37 (49.3%) buses of HRTC kept first aid box at prominent place. The contents of first aid box was found to be maximum in buses of PRTC i.e; 50 (66.7%).

**Table 1: Availability of first aid box and its contents and placement of box at accessible and prominent position in buses. (N=300)**

Name of transport	First aid box		Content		Accessible Position	
	Yes	No	Yes	No	Yes	No
CTU	69 (92%)	06 (8%)	48 (64%)	21 (28%)	69 (92%)	06 (8%)
PRTC	67 (89.3%)	08 (10.7%)	50 (66.7%)	17 (22.7%)	67 (89.3%)	08 (10.7%)
HR	55 (73.3%)	20 (26.7%)	40 (53.3%)	15 (20%)	55 (73.3%)	20 (26.7%)
HRTC	37 (49.3%)	38 (50.7%)	29 (38.7%)	08 (10.7%)	37 (49.3%)	38 (50.7%)
Total	228 (76%)	72 (24%)	167 (55.7%)	61 (20.3%)	228 (76%)	72 (24%)

**Table 2: Availability of the complete contents in first aid box in buses. (N=167)**

Equipments	Available (N=167)	
	Yes	No
Medicine glass	130 (77.8%)	37 (22.2%)
Scissors	131 (78.4%)	36 (21.6%)
Dropper	73 (43.7%)	94 (56.3%)
Eye wash cup	70 (41.9%)	97 (58.1%)

Of the total 167 buses that contained contents of first aid box, medicine glass was available in 130 (77.8%) buses; only 131 (78.4%) buses had scissors with plastic handle while 94 (56.3%) and 97 (58.1%) buses lacked plastic dropper and eye wash cup respectively.

**(B) Consumable items available in first aid kit**

Drugs	Available (N=167)		Expired	
	Yes	No	Yes	No
Merbromin solution	132 (79%)	35 (21%)	05 (3.8%)	127 (96.2%)
Absorbent cotton	126 (75.5%)	41 (24.5%)	-	126 (100%)
First aid adhesive strip	150 (90%)	17 (10%)	07 (4.7%)	143 (95.3%)
Rolled gauze	123 (73.6%)	44 (26.4%)	-	123 (100%)
Antiseptic cream	139 (83.2%)	28 (26.8%)	-	139 (100%)
Absorbent gauze	141 (84.4%)	26 (25.6%)	-	141 (100%)

Of the total 167 buses, among the contents of first aid, merbromin solution was available in 132 (79%) buses while in 05 (3.8%) buses, the solution was found to be expired. The maximum number of buses i.e., 126 (75.5%) had absorbent cotton, 150 (90%) buses had first aid adhesive strip available in first aid box while 07 (4.7%) buses contained expired first aid adhesive strip. Only 123 (73.6%) buses had rolled gauze, 139 (83.2%) buses had antiseptic cream and 141 (84.4%) buses had adsorbent gauze available in their first aid box.

**Table 3: Use of first aid kit at the times of emergency by the employees, whether first aid contents are changed periodically and whether an incharge responsible for maintenance of first aid kit has been appointed by transports? (N=600)**

	Yes	No	Don't know
Incharge appointed	395 (65.8%)	103 (17.2%)	102 (17%)
First aid box ever been used	228 (38%)	372 (62%)	-
Content changed periodically	270 (45%)	316 (52.7%)	14 (2.3%)

Of the total 600 employees, 395 (65.8%) drivers and conductors knew that an incharge has been appointed to maintain first aid kit in buses while 102 (17%) were not aware about this. Till date, only 228 (38%) drivers and conductors had used first aid box at the times of emergency and only 270 (45%) drivers and conductors opined that contents of first aid kit were changed periodically.

**Table 4: Opinion of Drivers/Conductors regarding utility of first aid box after accidents by different state transports. (N=600)**

Name of transport	Ever used	Never used
CTU	80 (53.3%)	70 (46.7%)
PRTC	58 (38.7%)	92 (61.3%)
HR	52 (34.7%)	98 (65.3%)
HRTC	38 (25.3%)	112 (74.7%)
Total	228 (38%)	372(62%)

The maximum use of first aid contents at the times of emergency was made by drivers and conductors of CTU i.e; 80 (53.3%) while 112 (74.7%) drivers and conductors of HRTC had never used first aid box.

**Table 5: Opinion of Drivers/Conductors regarding periodical change of contents of first aid box in buses.**

Name of transport	Yes	No	Don't know
CTU	88 (58.7%)	54 (36%)	08 (5.3%)
PRTC	76 (50.7%)	71(47.3%)	03 (2%)
HR	62 (41.3%)	88 (58.7%)	-

HRTC	44 (29.3%)	103 (68.7%)	03 (2%)
Total	270(45%)	316(52.7%)	14(2.3%)

In CTU buses, first aid contents were changed periodically while incharges for maintenance of first aid kit in HRTC were least bothered about maintenance of first aid boxes in buses.

**DISCUSSION**

Of the total 300 buses, 228 (76%) buses contained first aid box placed at accessible and prominent place and out of those 228 buses, the content of first aid box was available in only 167 (55.7%) buses. The maximum numbers of first aid boxes, placed at safest position were 69 (92%) and were found to be available in CTU buses while only 37 (49.3%) buses of HRTC kept first aid box at prominent place. The contents of first aid box were found to be maximum in buses of PRTC i.e; 50 (66.7%). The previous study<sup>[5]</sup> concluded that 20 (10%) CTU buses had first aid box placed at safe and accessible place and only 05 (2.5%) first aid boxes were available in Himachal Roadways buses. In Haryana roadways, 29 (14.5%) buses had first aid box in prominent and accessible place and in Punjab roadways, only 07 (3.5%) buses had their first aid box in prominent and accessible place.

In the present study, of the total 167 buses that contained contents of first aid box, medicine glass was present in 130 (77.8%) buses; only 131 (78.4%) buses had scissors with plastic handle while 94 (56.3%) and 97 (58.1%) buses lacked plastic dropper and eye wash cup respectively. In the previous study<sup>[5]</sup>, 35 (17.5%) buses had plastic handled scissors and medicine glass, plastic dropper and eye wash cup were not at all available.

Also, in the current study, of the total 167 buses that contained contents of first aid box, merbromin solution was available in 132 (79%) buses and in 05 (3.8%) buses, the solution was expired. The maximum number of buses i.e., 126 (75.5%) had absorbent cotton, 150 (90%) buses had first aid adhesive strip available in first aid box while in 07 (4.7%) buses first aid adhesive strip was expired. Only 123 (73.6%) buses had rolled gauze, 139 (83.2%) buses had antiseptic cream and 141 (84.4%) buses had adsorbent gauze present in their first aid box. In the study<sup>[5]</sup>, merbromin solution was available in 11 (5.5%) buses, out of which in 03 (27%) buses, it was found to be expired. Absorbent cotton wool was available in 25 (17.5%) buses out of which 02 (8%) were expired. Antiseptic cream was available in 14 (7%) buses out of which 06 (43%) were expired. Absorbent gauze swab was available in 05 (2.5%) buses.

In the present study, of the total 600 employees, 395 (65.8%) drivers and conductors knew that an incharge had been appointed to maintain first aid kit in buses while 102 (17%) employees were not aware about this fact. Only 228 (38%) drivers and conductors had used first aid box at the time of emergency and 270 (45%) drivers and conductors knew that contents of first aid box were changed periodically. The maximum utility of contents of first aid box at the times of emergency was by drivers and conductors of CTU i.e; 80 (53.3%) while 112 (74.7%) drivers and conductors of HRTC had never used first aid box. Although in the previous study<sup>[5]</sup>, it was found that the maximum number of employees from Haryana roadways i.e., 21 (10.5%) had used first aid box after an accident and only 31 (1.5%) employees from Himachal roadways had used first aid box.

**CONCLUSION**

The conclusion that could be drawn from the results of the study is that the availability of first aid boxes and its contents in buses had increased from 22% to 55.7%.

**LIMITATIONS**

The main limitations or problems faced while conducting research were as follows:

- Although the availability of the required subjects i.e; drivers and conductors was adequate but they could not spare much time. They could devote at most 10-15 minutes for the interview or for filling up the questionnaire, which was, sometimes, felt to be insufficient to obtain complete information regarding the study.
- Some of the questions related to the usability of first aid contents were required to be mentioned bus-wise but since the duties of drivers/conductors were not fixed for a given bus and route, so they answered such questions based on their personal experience such as while on the duty whether they had ever used the contents of first aid box or not.
- Similarly, the questions related to the periodical changes made in the contents of first aid box were to be answered bus-wise but due to shuffling made in the provision of different buses and bus routes to drivers/conductors, they answered such questions on their individual basis.

### RECOMMENDATIONS

The present study has shown quite positive changes in the use of first aid box by different state transports. Following recommendations are made for further improvements in the use of first aid box:

- The contents of first aid kits should be changed periodically. Any expired item/content needs to be substituted immediately.
- The contents of first aid kits should be complete as per the guidelines issued by the State Governments.
- Orientation and re-orientation programs regarding the use of contents of first aid box should be organised for drivers/conductors of all state transports to sharpen their skills at a regular basis emphasising on the use as well as changing the expired contents periodically.

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