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# Effectiveness of a Capacity Building Program on Basic Cardiopulmonary Resuscitation (CPR) Upon the Level of Knowledge and Skill among Taxi Drivers at Selected Areas in Tamil Nadu and Assam

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***ABSTRACT***

***Background:*** *The initial few minutes following an emergency – be it a heart attack, stroke, accident or fits – are known as the 'Golden Hour' and truly so because, the quality of care provided during this period has a direct bearing on the final outcome in an emergency.* ***Aims:*** *This study was done to assess the effectiveness of a Capacity Building Program regarding Basic Cardiopulmonary Resuscitation (CPR) upon the level of knowledge and skill among taxi drivers.* ***Materials and methods:*** *A pre-experimental study was carried out among 140 taxi drivers working at selected areas of Tamil Nadu and Assam for a period of 6 weeks. The results were assessed using paired t test, Pearson's correlation and chi square.* ***Results:*** *The study results revealed that there was a significant improvement in the post knowledge score of the taxi drivers in Tamil Nadu and Assam compared to the pretest, with 't' value of 18.912 and 13.84 respectively at $p<0.001$ level. There was also a significant improvement in the posttest skill score of the taxi drivers in Tamil Nadu and Assam compared to the pretest, with 't' value of 49.36 and 73.47 respectively at $p<0.001$ level. There was a significant association between the level of knowledge regarding Basic CPR and previous information acquired regarding Basic CPR ($x^2=10.03$) among taxi drivers in Tamil Nadu at $p<0.05$ level.* ***Conclusion:*** *Capacity building Program regarding Basic CPR enhanced the knowledge and skill among taxi drivers.*

***Key words:*** *Capacity Building Program, Cardiopulmonary resuscitation, Taxi Drivers*

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# I. INTRODUCTION

The most important factor in an emergency is the amount of time lost before a patient reaches the hospital. It is not just how quickly a patient is shifted to the hospital, the manner of initial resuscitation in which the victim has undergone before shifting to healthcare setup also makes a big difference. CPR or Cardiopulmonary Resuscitation is an emergency life saving procedure performed when the heart stops beating. It is a critical step in the American Heart Association's (AHA) [(1)] Chain of Survival.

Cardiopulmonary resuscitation (CPR) that is performed by a layperson who is not part of the organized emergency response system in a community is known as bystander CPR. Layperson training and attitude to actually performing CPR in a given cardiac arrest situation are both important factors in order to increase bystander contribution to out – side hospital cardiac arrest (OHCA) survival.

Layperson training and attitude to actually performing CPR in a given cardiac arrest situation are both important factors in order to increase bystander contribution to OHCA survival. CPR training programs are helpful to provide knowledge regarding CPR and to increase contribution to OHCA survival for taxi drivers.

### STATEMENT OF THE PROBLEM

A Pre Experimental Study to Assess the Effectiveness of a Capacity Building Program regarding Basic Cardiopulmonary Resuscitation Upon the Level of Knowledge and Skill among Taxi Drivers at Selected Areas in Tamil Nadu and Assam.

### OBJECTIVES

1. To evaluate the effectiveness of a Capacity building programme regarding Basic CPR by comparing the pre-test and post-test scores of knowledge and skill among taxi drivers.
2. To determine the level of acceptability of taxi drivers regarding Capacity building programme on Basic CPR.
3. To find out the association between the level of knowledge and skill regarding Basic CPR and the selected demographic variables of the taxi drivers.

# II. MATERIAL AND METHODS

This pre-experimental study was carried out among 140 taxi drivers (70 in Chennai and 70 in Assam) working at UBER and Fast Track Call Taxi office, Chennai and Hojai Driver's Association, Assam. The study was conducted exclusively for 15 days for the Taxi drivers working in Chennai and Assam. After getting institutional ethical committee clearance and setting permission the taxi drivers were selected through purposive sampling technique. After giving a brief introduction the data regarding demographic variables were collected and were assessed for pre test knowledge using structured knowledge questionnaire and skills through structured observation

checklist developed by the investigator. The validity and reliability of the study instruments were established. Capacity building programme on Basic CPR was conducted for participants by using power point presentation, demonstration and return demonstration regarding steps of Basic CPR. A post-test was again conducted after 1 week to assess the level of knowledge and skill.

## III. RESULTS

The study findings revealed that all the selected taxi drivers in both Tamil Nadu and Assam were male (100%), nearly half of the taxi drivers in Tamil Nadu and Assam belonged to the age group of 31-40 years (48.6% and 58.6%), 37.1% of the taxi drivers in Tamil Nadu were graduate and most of the taxi drivers in Assam had primary level of education (85.7%). More than half of them in Tamil Nadu had more than 7 years of experience in taxi driving (55.7%) and less than half of them in Assam had 4-6 years of experience in taxi driving in Assam (40.0%), 32.9% of the selected taxi drivers in Tamil Nadu had received previous information on CPR from special training and majority of the selected taxi drivers in Assam had not received any previous information regarding Basic CPR (62.9%).

**Table.1. Comparison of Mean and Standard Deviation between Pre-Test And Post-Test Knowledge and Skill Scores on Basic Cardiopulmonary Resuscitation (CPR) among Taxi Drivers.**

**N= 140**

| Knowledge and Skill | Tamil Nadu (n=70) | | | | Assam (n=70) | | | |
|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean difference | Paired t-value | Mean | SD | Mean difference | Paired t-value |
| **Pre-test knowledge** | 8.02 | 3.25 | 11.39 | **18.912 p=0.000** | 8.27 | 2.52 | 8.43 | **13.841 p=0.000** |
| **Post-test Knowledge** | 19.41 | 3.67 | | | 16.7 | 4.88 | | |
| **Pre-test Skill** | 1.5 | 1.01 | 24.74 | **49.366 p=0.000** | 1.14 | 1.09 | 21.36 | **73.477 p=0.000** |
| **Post-test Skill** | 26.24 | 4.04 | | | 22.5 | 2.11 | | |

The mean and standard deviation of post-test knowledge and skill scores on Basic CPR among taxi drivers among both Tamil Nadu and Assam was high in comparison with their pre-test knowledge and skill scores which was significant at $p<0.001$ level.(Table 1). The results of the study showed that majority of the taxi drivers in both Tamil Nadu and Assam had high acceptability (92.85% and 91.42% respectively) towards Capacity Building Programme regarding Basic Cardiopulmonary Resuscitation (CPR). There was also a significant association between the pre-test level of knowledge regarding Basic CPR and previous information acquired regarding Basic CPR ($x^2$=10.03) among taxi drivers in Tamil Nadu at $p<0.05$ level.

## IV. DISCUSSION

In this study nearly half of the drivers were belonging to the age group between 31and40 yrs and they showed interested in gaining more knowledge as they were more active in learning. As most of the taxi drivers were not aware of Basic CPR, it is necessary for the taxi drivers to gain knowledge and skill regarding Basic CPR through Capacity building programme. The knowledge and skill were significant pre requisite to perform CPR. The study findings was supported by Shams et al[(2)] who reported relatively good knowledge about OHCA but a major deficiency in CPR training (79.7%) and poor confidence (33.7%) in performing bystander CPR on cardiac arrest victims. Due to lack of accessibility or availability of CPR training programme there was a lack of knowledge and skill on Basic CPR among taxi drivers. Thereby, it is evident from this study based on the pre-test scores of taxi drivers on knowledge and skills on Basic CPR that everyone was in need of further training, both in terms of gaining additional knowledge and skill. The improved post-test knowledge and skills scores of taxi drivers attributed to the effectiveness of Capacity building programme on Basic CPR in improving the level of knowledge and skill among taxi drivers.

While making a plan for any intervention, it is important to consider the participants' acceptability to ensure their co-operation and to continue the intervention even after completion of the study. The high acceptability level of taxi drivers interpret that Capacity building programme was simple, easy and highly effective method in improving their knowledge and skill regarding Basic CPR among the taxi drivers.

The study findings also revealed that there was a significant association between the pre-test level of knowledge regarding Basic CPR and previous information acquired regarding Basic CPR. These findings are supported by Cheng-Yu et al[(3)] who reported that previous CPR training was significantly associated with willingness to perform bystander CPR. The results of this study depicted that previous information regarding a particular topic helps in easy understanding which triggers interest and intuition.

## V. CONCLUSION

It could be concluded from the study results that equal positive response to the demonstration and teaching was found really useful to them, which will help them to take prompt decisions, perform cardiopulmonary

resuscitation and save many lives of out-of-hospitals cardiac arrest victims. The Capacity building programme regarding Basic CPR enhanced the knowledge and skill among taxi drivers. It was a suitable method to educate and demonstrate the steps of Basic CPR. Most people who experience cardiac arrest at home, work or in a public location die because they don't receive immediate CPR from someone on the scene. Interventions should focus on public awareness campaign regarding importance of initiating CPR while activating emergency medical service and on making CPR training more available. The researcher concluded that simplified learning of CPR could lead to better acquisition and retention of CPR algorithms.[4]

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