Effectiveness on Simulation Teaching Regarding Cardio Pulmonary Resuscitation among Workers of State Transport Depot

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Study Protocol

ABSTRACT

Introduction: Cardiopulmonary resuscitation is the technique of life-saving procedure in that artificial ventilation uses external chest compressions to maintain circulation flow of the heart and oxygenation during cardiac arrest. Many peoples in the developed and developing countries have taken known education of Cardiopulmonary resuscitation training which was launched jointly by Universal Medical Assistance International Center.

Objectives: 1. To evaluate the previous knowledge and skill regarding CPR among workers of ST Depot. 2. To evaluate effectiveness and correlation the post-test knowledge and skill score regarding CPR among workers of ST Depot. 3. To identify the association with the post-test skill score regarding CPR among workers of ST Depot.

Methodology: In this study, will the effectiveness of simulation teaching regarding cardiopulmonary resuscitation the sample will be the 100 ST depot workers. The workers will select according to inclusion and exclusion criteria as well as the Purposive sampling technique. One group pre-test and post-test design. It will be conducted at State Transport Depot. Wardha Maharashtra, India respectively. The data will be collected by using questionnaires and an observational checklist for simulation teaching on cardiopulmonary resuscitation.

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Conclusion: It is concluded that the effectiveness of simulation teaching on CPR was found to be effective in improving the knowledge and skill of workers of ST depot.

1. INTRODUCTION

Cardiopulmonary resuscitation is the technique of life-saving procedure in that artificial ventilation uses external chest compressions to maintain circulation flow of the heart and oxygenation during cardiac arrest. Many peoples in the developed and developing countries have taken known education of Cardiopulmonary resuscitation training which was launched jointly by Universal Medical Assistance International Center[1].

The heart is the center of the circular system and its most important part is transferring oxygen and blood to perform all the functions of the body. The heart is about the size of a fleshy body placed back and little left side of the breastbone. They need to impure blood by the body's arteries and send it to the lungs for purification before being injected into the various arteries [2].

Dysfunction of the heart is mainly due to the sudden death of cardiac function in today's developed countries. Most commonly seen in patients, advanced emergency care support is not available. The specialists would arrive at the position directly within 10 minutes in developing countries. At that time patient was dependent on CPR given by professionals or trained persons. Because of authority put on in structure, It should give their experience and skilfulness about Cardiopulmonary resuscitation to their learner in such a way that it maybe shows that well carry out by observer, Cardiopulmonary resuscitation might be emphatically effective on the small duration and brief duration of staying alive of cardiac arrest person [3].

Cardiopulmonary resuscitation is the most essential and efficient means of performing CPR within 6-7 minutes of insufficient blood supply through the patient's body. The medical team will arrive for help within 6-7 min. During that time someone should start the CPR while waiting for medical put Once the medical professional arrives then they will start their medical procedures like giving Electrical shock defibrillation on the heart which will save the life of the patient. CPR is the most critical step in restarting the heart's rhythm because it helps to recover from the normal lifestyle [4].

This study was supported to my study that, at most 15.2% of educators have existing experience of CPR instruction and that was in contrast to the look over in the city of Flemish educator and which showed that 59% of educators have to get CPR experience in the learners to get the existent experience in the above research studies, no one register in doubled direction to recreate the situation and developed the skilfulness in carrying out CPR. In adding the objects in such a way that the no. of crisis that the position of the nearby medical center's even after the position of the emergency assistance at school was not well known to the degree of the educator and despite the judgment of existing revive recommend that the learning the CPR techniques in schools must be considered as a main educational master plan to get general idea of CPR [5].

1.1 Need of Study

Whenever these kinds of medical emergencies come up in the state transport depot among passengers. They are not ready to face it on their own. Cardiopulmonary resuscitation is also called CPR. This is the emergency cardiac procedure it includes compression, airway, and breathing. Only giving CPR is not an option to restart the function of the heart but as with that medical help needs to save a life. CPR it is only the temporary emergency technique to give the time for arriving medical professionals the main purpose of giving CPR is to restore the level of blood and oxygen to the vital organs and another body part that will help to reduce the chances of death of the patient [6].

It is mandatory for the state transport workers and also for the staff of the bus depot how to perform CPR in emergencies in their workplace. Because health care professionals are not able to be there at any time so they must have some knowledge and skills regarding Cardiopulmonary resuscitation for saving the life of human lives. The process of learning CPR is the practice of CPR and educates the workers and creates a real-life situation to increase awareness to help them learn more about CPR only on that they will rescue to improve cardiac arrest [7].

That's why I have conducted this research to evaluate the effectiveness on the simulation teaching on CPR in secondary educator by demonstrating and creating them real-life situation on the procedure of CPR in workers of state transport depot because workers do not have the experience and skilfulness to save the life of the person. The workers provide CPR, they can prevent brain damage that occurs due to the brain until medical help arrives.

In India, the yearly prevalence rate of sudden cardiac arrest is about 0.55 / 1000 population. The chances of saving the life of a patient that sudden cardiac arrest is nearly less than 1% and the incidence rate of sudden cardiac death is about 40 to 45% of cardiac deaths out of 80% cardiac disturbances.[8].

1.2 Aims of Study

The study aim is to effectiveness on simulation teaching regarding cardiopulmonary resuscitation among workers of a state transport depot.

1.3 Objectives of Study

1. To evaluate the previous   and skill regarding cardiopulmonary resuscitation among workers of state transport depot.
2. To evaluate the pretest and post-test knowledge score regarding cardiopulmonary resuscitation among workers of state transport depot.
3. To evaluate the effectiveness of simulation teaching regarding cardiopulmonary resuscitation among workers of state transport depot.
4. To identify correlation and association with the post-test knowledge score regarding cardiopulmonary resuscitation among workers of state transport depot.

2. METHODOLOGY

2.1 Criteria of Study

2.1.1 Inclusion criteria

The study includes:

1. Workers of state transport depot that is willing to participate.
2. Workers of state transport depot who will present at the time of data collection.

2.1.2 Exclusion criteria

The study excludes:

1. Those workers of state transport depot who have participated in the same study.

2.2 Sample Size

The sample size will be 100 samples.

2.3 Outcome Measures

2.3.1 Primary outcome

It includes assessing knowledge and skill regarding cardiopulmonary resuscitation among workers of state transport depot.

2.3.2 Secondary outcome

The workers will be implementing the knowledge and skill regarding cardiopulmonary resuscitation.

2.4 Data Management and Monitoring

Data collection will be conducted for a single month span. This research will be carried out after receiving authorization from the authorities concerned.

2.5 Tool for Data Collection

2.5.1 Section a– demographic variable

Demographic information gives baseline information obtained from patients such as age, gender, educational status, work experience, information regarding cardiopulmonary resuscitation.

Section B: A knowledge structured questionnaire are regarding cardiopulmonary resuscitation. There is a total of 20 questions. Every question has four options to respond to out of four options, only one option has been corrected. A score of one is given for every correct answer.

Section C: A structured checklist on skills regarding cardiopulmonary resuscitation. There is a total of 10 steps. Every step has two options Yes/No to response out of steps, only one option has been corrected. A score of one is given for every correct answer.

Section B. General knowledge regarding cardiopulmonary resuscitation. (CPR)

Level of knowledge	Score Range
Poor	0-25% (1-5)
Average	26-50% (6-10)
Good	51-75% (11-15)
Excellent	76-100% (16-20)

Section C –Skill regarding cardio pulmonary resuscitation

Level of knowledge	Score Range
Poor	0-25%
Average	26-50%
Good	51-75%
Excellent	76-100%

2.6 Statistical Analysis

2.6.1 Descriptive method

For analysis of demographic data will be going used frequency and mean, mean percentage, standard deviation, and Pearson correlation will be used for assessing the knowledge and skill regarding cardiopulmonary resuscitation.

Inferential statistics: Association of the knowledge level regarding Cardiopulmonary resuscitation among Workers of State Transport Depot with their selected demographic characteristics, and Association of skill score regarding simulation teaching on Cardiopulmonary resuscitation.

3. EXPECTED OUTCOMES/RESULT

In that present study, the output includes knowledge and skill of ST depot. The worker on CPR. I will measure knowledge and skills are in the poor, average, good, and excellent range. After given simulation teaching on CPR knowledge and skill will be increased and they can apply this knowledge and skill in a life-threatening situation.

4. DISCUSSION

In this study, will the effectiveness of simulation teaching regarding cardiopulmonary resuscitation the sample will be the 100 ST depot workers. The purposive sampling technique will be applying for collecting the sample and one group pre-test and post-test design using for assessing the knowledge regarding CPR. The study will be conducted at State Transport Depot. Wardha Maharashtra, India. The data will be collected by using questionnaires and an observational checklist for simulation teaching on cardiopulmonary resuscitation. There was a substantial gap in CPR expertise and abilities between the two classes in the comparative study findings. For both classes, CPR awareness and skills have improved significantly; however, participants within the HFS community developed more knowledge and skills in CPR than the static manikin group. These findings are consistent with the outcomes of previous research that confirmed the learning outcome of HFS training by enhancing the awareness and skills of nurses.

5. CONCLUSION

After providing all interventions may be hope to improve the skill of State transport depot. Workers, so now we the teaching about cardiopulmonary resuscitation in the future improve the knowledge and practice about cardiopulmonary resuscitation.

CONSENT AND ETHICAL APPROVAL

This study will approve by the Institutional Ethics Committee of DMIMS (DMIMS)/IEC/DEC-2019/8641). All participants will be asked to read and sign informed consent. Information about the samples will handle properly so that confidentiality and anonymity will maintain. Information will not use or release outside the terms of the agreement.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Field JM, Hazinski MF, Sayre MR, Chameides L, Schexnayder SM, Hemphill R, Samson RA, Kattwinkel J, Berg RA, Bhanji F, Cave DM. Part 1: executive summary: 2010 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. Circulation. 2010; 122(18_suppl_3):S640-56.
2. Binorkar SV, Guruprasad K. Coronary Artery Disease: Ayurveda Perspective. Education Publishing; 2017.
3. Selinger EM, Crease RP. Dreyfus on expertise: the limits of phenomenological analysis. Continental Philosophy Review. 2002;35(3):245-79.
4. Deakin CD, Nolan JP, Soar J, Sunde K, Koster RW, Smith GB, Perkins GD. European resuscitation council guidelines for resuscitation 2010 section 4. Adult advanced life support. Resuscitation. 2010;81 (10):1305.

5. Rafferty AM, Busse R, Zander-Jentsch B, Sermeus W, Bruyneel L, World Health Organization. Strengthening health systems through nursing: Evidence from 14 European countries. World Health Organization. Regional Office for Europe; 2019.

6. Vanden Hoek TL, Morrison LJ, Shuster M, Donnino M, Sinz E, Lavonas EJ, Jeejeebhoy FM, Gabrielli A. Part 12: cardiac arrest in special situations: 2010 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. Circulation. 2010;122(18_suppl_3):S829-61.

7. Greif R, Lockey AS, Conaghan P, Lippert A, De Vries W, Monsieurs KG, Ballance JH, Barelli A, Biarent D, Bossaert L, Castrén M. European resuscitation council guidelines for resuscitation 2015: section 10. Education and implementation of resuscitation. Resuscitation. 2015;95:288-301.

8. Stiell, IG, Wells, GA, Field, BJ. Improved out-of-hospital cardiac arrest survival through the inexpensive optimization of an existing defibrillation program. JAMA. 1999;281:1175-1181.

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