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ASSOCIATION BETWEEN POST-TEST KNOWLEDGE AND ATTITUDE REGARDING CARDIOPULMONARY RESUSCITATION TECHNIQUES WITH SELECTED SOCIO DEMOGRAPHIC VARIABLES AMONG HIGH SCHOOL STUDENTS IN A SELECTED SCHOOL, IN KERALA.

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ABSTRACT

Excellent cardiopulmonary resuscitation (CPR) and early use of an automated external defibrillator (AED) can make a substantial difference in a person's likelihood of surviving sudden cardiac arrest. A quantitative research approach was used as an appropriate research approach for the present to evaluate the effectiveness of hands-on training on knowledge and skills regarding Cardiopulmonary resuscitation among high school students in a selected school in Kerala. A one-group pretest-posttest experimental study design was adopted in the study. This study will be conducted in a selected higher secondary school. There are almost 250 students Population. The population of the study includes students in the 11th and 12th grades. The sample size for the present study is 100. The investigator used a non-probability convenient sampling technique to draw 100 samples from the study population.

Key Words: *cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), hands-on training, high school students.*

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INTRODUCTION

(Cave et al., 2011) The benefit of CPR training in high schools is understood as a long-term investment to ensure that multiple generations are trained and ready to act. However, a more immediate effect of school-centered training may be the expansion of CPR training and literacy in the community as students become CPR instructors for their families and social circles. Students can be requested to "pay it forward" by sending them home with CPR training materials and assigning them the responsibility of training family and friends.

(Del Rios et al., 2018) A high school-centered CPR educational intervention with a “pay-it-forward” component can disseminate CPR knowledge beyond the classroom. Because schools are centrally organized settings to which all children and their families have access, school-based interventions allow for a broad reach that encompasses all segments of the population and have the potential to decrease disparities in bystander CPR provision.

RESEARCH METHODOLOGY

A quantitative research approach was used as an appropriate research approach for the present to evaluate the effectiveness of hands-on training on knowledge and skills regarding Cardiopulmonary resuscitation among high school students in a selected school in Kerala. A one-group pretest-posttest experimental study design was adopted in the study. This study will be conducted in a selected higher secondary school. There are almost 250 students Population. The population of the study includes students in the 11th and 12th grades. The sample size for the present study is 100. The investigator used a non-probability convenient sampling technique to draw 100 samples from the study population. An experimental approach, a subtype of a quantitative approach, was used for the present study.

DATA ANALYSIS AND INTERPRETATION

To Find Out the Association Between the Pretest Knowledge Score with Selected Demographic Variables.

Chi-Square Results for Demographic Variables

Demographic Variable	Chi-Square Value (χ^2)	Degrees of Freedom (df)	Critical Value (χ^2 critical)	P-Value	Significance
Previous Source of Information Regarding CPR	6.22	2	5.991	0.04	Significant
Student’s Interest in Emergency Care	12.05	2	5.991	0.002	Significant
Had Previous CPR Training	8.44	1	3.841	0.004	Significant

Interpretation of Chi-Square Results (Continued)

From the chi-square analysis, we can conclude the following about the association between pretest knowledge scores and selected demographic variables:

1. **Previous Source of Information Regarding CPR**: A significant association exists between where students received prior information about CPR and their pretest knowledge scores. With a chi-square value of 6.22, which is greater than the critical value of 5.991 for 2 degrees of freedom, it shows that the source of CPR information influences knowledge levels.
2. **Student’s Interest in Emergency Care**: There is a significant association between students' interest in emergency care and their pretest knowledge scores. The chi-square value of 12.05 exceeds the critical value of 5.991 for 2 degrees of freedom, suggesting that students with a higher interest in emergency care have better pretest knowledge of CPR techniques.
3. **Had Previous CPR Training**: A significant association is observed between having previous CPR training and pretest knowledge scores. The chi-square value of 8.44 exceeds the critical value of 3.841 for 1 degree of freedom, indicating that previous CPR training significantly improves pretest knowledge scores.
4. **AEDs Available in School**: A significant association exists between the availability of AEDs in schools and pretest knowledge scores. The chi-square value of 7.39 is greater than the critical value of 5.991 for 2 degrees

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of freedom, suggesting that schools with AEDs have students with better pretest knowledge of CPR techniques.

To Find Out the Association between the Pretest Attitude Score with Selected Demographic Variables.

Chi-Square Results for Demographic Variables.

Demographic Variable	Chi-Square Value (χ^2)	Degrees of Freedom (df)	Critical Value (χ^2 critical)	P-Value	Significance
Previous Source of Information Regarding CPR	7.89	2	5.991	0.019	Significant
Student's Interest in Emergency Care	14.23	2	5.991	0.001	Significant
Present During a Collapse Situation	4.11	1	3.841	0.043	Significant
Had Previous CPR Training	9.56	1	3.841	0.002	Significant
AEDs Available in School	6.14	2	5.991	0.046	Significant

Interpretation of Chi-Square Results

1. **Previous Source of Information Regarding CPR**: The chi-square value of 7.89 with a p-value of 0.019 indicates a significant association between the previous source of information and pretest attitude scores. The critical value for 2 degrees of freedom is 5.991, and since 7.89 > 5.991, the association is significant.
2. **Student's Interest in Emergency Care**: The chi-square value of 14.23 with a p-value of 0.001 shows a significant association between interest in emergency care and pretest attitude scores. The critical value for 2 degrees of freedom is 5.991, and since 14.23 > 5.991, the association is significant.
3. **Present During a Collapse Situation**: The chi-square value of 4.11 with a p-value of 0.043 indicates a significant association between being present during a collapse situation and pretest attitude scores. The critical value for 1 degree of freedom is 3.841, and since 4.11 > 3.841, the association is significant.
4. **Had Previous CPR Training**: The chi-square value of 9.56 with a p-value of 0.002 indicates a significant association between having previous CPR training and pretest attitude scores. The critical value for 1 degree of freedom is 3.841, and since 9.56 > 3.841, the association is significant.
5. **AEDs Available in School**: The chi-square value of 6.14 with a p-value of 0.046 indicates a significant association between the availability of AEDs in schools and pretest attitude scores. The critical value for 2 degrees of freedom is 5.991, and since 6.14 > 5.991, the association is significant.

DISCUSSION

The chi-square analysis revealed several significant associations between pretest knowledge scores on CPR techniques and selected demographic variables among the students. Gender, previous source of CPR information, student's interest in emergency care, previous CPR training, and the availability of AEDs in school were found to significantly impact pretest knowledge scores. However, variables such as witnessing a situation requiring CPR, being present during a collapse situation, recommending CPR training to others, school enrollment size, and the medium of instruction in school did not show significant associations.

In contrast, a study by **Suwanpairoj et al. (2020)** examined the outcome of basic life support (BLS) training among primary school students in Southeast Asia and reported different findings. Their study found no significant association between gender and pretest knowledge scores, which contradicts our results. Additionally, Suwanpairoj et al. (2020) found a significant association between previous CPR training and pretest knowledge scores, in line with our findings. These discrepancies may be attributed to differences in the study populations, educational systems, and cultural contexts between Southeast Asia and our study location.

The chi-square analysis revealed several significant associations between pretest attitude scores regarding CPR

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techniques and selected demographic variables among the students. Previous source of CPR information, student's interest in emergency care, being present during a collapse situation, having previous CPR training, and the availability of AEDs in school were found to significantly impact pretest attitude scores. However, variables such as gender, witnessing a situation requiring CPR, recommending CPR training to others, school enrollment size, and the medium of instruction in school did not show significant associations.

These findings suggest that factors such as previous CPR training, interest in emergency care, and the availability of AEDs in school play a crucial role in determining students' pretest attitude towards CPR techniques. These results highlight the importance of targeted CPR education programs and the presence of AEDs in educational settings to improve attitudes towards CPR among students.

Aaberg et al. (2014) conducted a prospective cohort study in Danish high school students to assess basic life support knowledge, self-reported skills, and fears related to CPR. They also investigated the effect of a single 45-minute training session run by junior doctors on these parameters. While our study focused on demographic variables, Aaberg et al. (2014) examined the impact of training sessions on CPR knowledge and skills. Their findings indicated that a single training session led by junior doctors significantly improved CPR knowledge and self-reported skills among high school students. This study provides valuable insights into the effectiveness of short-term training interventions in improving CPR-related outcomes among students.

CONCLUSION

These findings will serve as a baseline to evaluate the effectiveness of the video-assisted teaching program on knowledge and attitude regarding cardiopulmonary resuscitation techniques among high school students in a selected school, in Kerala.

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