JOSING: Journal of Nursing and Health
Volume 4, Nomor 1, July-December 2023
e-ISSN: 2745-7877
p-ISSN: 2746-0851
DOI: https://doi.org/10.31539/josing.v4i1.8102

THE BUZZ GROUP METHOD INFLUENCES STUDENTS' KNOWLEDGE IN LEARNING CARDIAC RESUSCITATION SKILLS IN INFANTS

Padila[1], Juli Andri[2], Muhammad Bagus Andrianto[3]
Muhammadiyah University of Bengkulu[1,2,3]
padila@umb.ac.id[1]

ABSTRACT

This study aims to determine whether the Buzz Group Method affects students' knowledge in learning Cardiopulmonary Resuscitation Skills in Infants. This type of research is pre-experimental with a one-group pretest-posttest design. The research results obtained a p-value of 0.000 < 0.05, and the results of the correlation test obtained r = 0.524 with a p-value of 0.003 < alpha (0.05) and had a positive pattern. In conclusion, the Buzz Group method influences the level of cardiopulmonary resuscitation knowledge of nursing students at Muhammadiyah University of Bengkulu, and there is a relationship between the level of expertise and students' cardiopulmonary resuscitation skills.

Keywords: Buzz Method, Knowledge, Cardiopulmonary Resuscitation

INTRODUCTION

Cardiopulmonary resuscitation is a first aid measure to provide circulation to the body's vital organs. This action can help patients who experience respiratory or cardiac arrest stay alive. This action has undergone many changes and developments along with advances in technology. Management of CPR in Indonesia is guided by the American Heart Association (AHA) Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. The sequence for performing CPR begins with chest compressions followed by giving artificial respiration in a ratio of 30:2. This is different when giving CPR to a drowning victim, which still frees the airway, gives artificial respiration and then chest compressions (Aty & Blasius, 2021).

Early initiation of Cardiopulmonary Resuscitation (CPR) can increase the survival rate of OHCA victims. However, the majority of cardiac arrest victims do not receive immediate treatment from people around the victim (bystanders) (Ramadia et al., 2021). The average rate of RJP actions by bystanders in America and Europe is around 47.4%, while in Asian countries, it only ranges from 1.5% to 36.7% (Rachmawati et al., 2021). Studies in the United States showed that of 428 OHCA victims, 76.4% received CPR assistance from people around the victim with 43.7% of bystanders carrying out CPR without being guided by emergency medical services (EMS). However, the CPR compression fraction was only 59% and the average compression performed was not optimal, namely only 88 times per minute. One of the reasons bystanders do not carry out CPR is because they do not know how to start resuscitation (Chocron et al., 2021).

Cardiopulmonary resuscitation will provide the best results if carried out within the first 5 minutes when the patient is found to be unconscious using an Automated External Defibrillator (AED). High-quality CPR is an integrated part of the chain of survival and is the cornerstone of early treatment of cardiac arrest before defibrillation and advanced life support. If done correctly it will increase patient survival. Cardiovascular nurses need to

have knowledge and skills in carrying out BHD/RJP, which are obtained through training and experience found daily when carrying out this procedure. Factors that determine the quality of BHD/RJP procedures are age, gender, body mass index, fatigue, frequency of training attended (Aty et al., 2021).

The concept of intention or willingness to carry out RJP can refer to the Theory of Planned Behavior (TPB), namely that planned behavior carried out by a person is the result of attitudinal variables, subjective norms, perceived behavioral control, and intentions. A study conducted in Banyuwangi, Indonesia on a lay group regarding BHD action efforts showed that the values of all variables were in the poor category and there was a positive correlation between the variables of attitude, subjective norms, and perceived behavioral control and the intention variable. In accordance with the TPB theory, a person's intention or willingness to behave is influenced by attitudinal factors, subjective norms and behavioral control felt by a person. The low quality of these three variables will result in low intentions regarding the behavior that a person will carry out (Amin & Haswita, 2022).

Guidelines on CPR issued by the American Heart Association (AHA) 2020 encourage early action of CPR because it provides benefits that outweigh the potential risks. Providing immediate CPR may play an important role in saving cardiac arrest victims outside the hospital and improving victim survival. Lack of knowledge and skills is the main barrier to carrying out CPR, which shows the potential to increase the number of people willing to carry out CPR through public education or education of medical personnel (Liou et al., 2021).

Health education is an effort or activity that leads to human behavior that leads to health. Promoting health in the form of empowerment, namely helping young women gain the knowledge, desire and ability to prevent or overcome health problems. There are several ways to increase knowledge. The buzz group is one of them (Pujiastuti et al., 2021).

Buzz group is a learning method by forming a team consisting of four to six participants quickly without preparation to respond to the questions given. In this method students will be asked to recall their knowledge regarding RJP in turn and then they will be asked again regarding the reasons for RJP and practice it. This method allows each student to recall and be able to practice related themes previously asked. The Buzz group method can also provide a feeling of comfort to students because health education is carried out in groups with their friends. This research also supports the results of previous research that group discussions are more effective than using booklet media (Kelvin & Halperin, 2020).

Health Education using the Buzz Group Method can increase students' knowledge. This is due to the health education method which is carried out not only by lectures but also by involving students in sharing knowledge among group members, and also in the Buzz Group, student groups only contain a maximum of 5 people, making it possible for researchers to observe and maintain discussion conditions. Based on this, the health education material given to students can be absorbed well (Jamil et al., 2021).

Several previous studies on giving CPR to babies when experiencing cardiac arrest as a comparison and the novelty in this research is the first research conducted by Nofalia (2022) which has a difference, namely the intervention used by the Brainstorming, Buzz Group, and Simulation (BBS) method, both studies conducted by Fatmawati et al., (2020) the difference is that it uses the role play method with the help of mannequins and humans. Various interventions are given to treat cardiac arrest. Despite these differences,

the research carried out both aims to increase knowledge about RJP so that The aim of this research is to find out whether the Buzz Group Method has an effect on students' knowledge in learning Cardiopulmonary Resuscitation Skills in Infants, and the benefits of this research as a form of additional insight, especially for health workers in dealing with CPR for cardiac arrest victims in reducing the death rate outside the hospital. .

RESEARCH METHOD

Research Design

This research is quantitative analytical research, a type of pre-experimental research with one group pre test-post test. The statistical test used in this study used the dependent t-test, while correlation was used to see the relationship between knowledge and cardiopulmonary resuscitation skills.

Population and Research Sample

Population

The population in the study were all nursing students at Muhammadiyah University of Bengkulu, totaling 58 students.

Sample

The number of samples in this study was 30 people. The instrument used to measure Knowledge is a questionnaire guided by the 2020 American Heart Association (AHA), while to measure Skills the SOP for cardiopulmonary resuscitation is used.

Location and Time

The research was conducted at Muhammadiyah University of Bengkulu in February 2022.

RESULT

Univariate Analysis

Table. 1
Average Value of Cardiopulmonary Resuscitation Knowledge and Skills Before and After Using the Buzz Group Method (N=30)

Variable	Mean	elementary school	S.E	p-value
Prior knowledge	44.50	14,934	2,727	0,000
Knowledge after	70.33	10,902	1,990	
Skills before	53.33	14,700	2,684	0,000
Skills after	77.67	12,507	2,284	

Based on table 1, the average level of knowledge in the previous measurement was 44.50. After using the Buzz Group method, the average level of knowledge was 70.33. The statistical test results obtained a p value of 0.000 ($p<0.05$), so it can be concluded that there is a significant difference between the level of knowledge before and after using the Buzz Group method. The average skills in the previous measurement was 55.33 after using the Buzz Group method, 77.67. The statistical test results obtained a p value of 0.000 ($p<0.05$), so it can be concluded that there is a significant difference between skills before and after using the Buzz Group method.

Bivariate Analysis

Table. 2
Correlation Analysis of Levels of Cardiopulmonary Resuscitation Knowledge and Skills Using the Buzz Group Method

		Knowledge	Skills
Knowledge	Pearson correlation	1	.524"
	Sig. (2-tailed)		,003
	N	30	30
Skills	Pearson correlation	.524"	1
	Sig. (2-tailed)	,003	
	N	30	30

From Table 2 it can be seen that the relationship between the level of knowledge and skills shows a strong relationship (r= 0.524) with a p-value of 0.003 (p < 0.05) and has a positive pattern, meaning that the higher the level of knowledge, the higher the student's skills.

DISCUSSION

Average Level of Knowledge and Skills of Students

The average level of knowledge in the previous measurement was 44.50. After using the Buzz Group method, the average level of knowledge was 70.33. The statistical test results obtained a p value of 0.000 (p<0.05), so it can be concluded that there is a significant difference between the level of knowledge before and after using the Buzz Group method. The average skills in the previous measurement was 55.33 after using the Buzz Group method, 77.67. The statistical test results obtained a p-value of 0.000 (p<0.05), so it can be concluded that there is a significant difference between skills before and after using the Buzz Group method. This is in line with Pamungkas et al., (2022) there is a very strong significant relationship between knowledge about cardiopulmonary resuscitation and the results of this study also show that nurses who have a sufficient level of knowledge also have good self-efficacy.

According to Millizia et al., (2020) efforts to increase the life expectancy of victims experiencing cardiac arrest are first aid measures. The form of first aid that can be given is CPR or Cardiopulmonary Resuscitation. CPR is a collection of interventions performed to provide oxygenation and circulation to the body during cardiac arrest. High-quality CPR has been shown to improve survival outcomes after cardiac arrest. Standards that evaluate the quality of CPR are measures of the CPR process, for example, chest compression rate, depth, and fraction. The quality of good RJP is influenced by certain factors. The factors that influence the success of good quality CPR in cardiac and respiratory arrest patients are influenced by the level of knowledge, age, education, length of service, information, culture, economy and environment. A high level of knowledge can help successful resuscitation which can effectively prevent disability or death.

Research by Yasin et al., (2020) shows that the level of RJP knowledge is low in cities in East Java, so training for teenagers or students needs to be carried out. Limanan & Lontoh (2021) adding CPR training to students who have studied nursing material is expected to increase their knowledge and motivate them to carry out CPR on cardiac arrest victims on the street or near their homes. According to Pujianto et al., (2022) the high rate of out-of-hospital deaths due to cardiac arrest may be due to hospital delays in responding and picking up patients at the scene. Local community knowledge about Cardiopulmonary Resuscitation (CPR) is also still lacking, and the critical time for

carrying out CPR is limited, only 10 minutes.

Relationship between Knowledge and CPR Skills

The level of knowledge and skills shows a strong relationship (r= 0.524) with a p-value of 0.003 (p < 0.05) and has a positive pattern, meaning that the higher the level of knowledge, the higher the student's skills. According to Pranata et al., (2020) many similar service activities have also been carried out with various backgrounds, including high school students, fishing communities, university students and health cadres. The results of this activity were deemed effective in increasing knowledge and skills related to RJP. Various methods can be used to improve RJP knowledge and skills. One study states that ordinary people consider RJP knowledge and skills important, especially if they are in conditions that require providing this assistance.

Research result Ruwayda & Herawati (2021) stated that there was a difference in knowledge between the Brainstorming and Buzz Group groups with 0.000 (< α 0.05), meaning there was a difference in the mean knowledge score for the Buzz Group method of 3.13 compared to the brainstorming method with an average score of 1.23. It can be concluded that both methods equally increase respondents' knowledge about reproductive health, but there is a difference in the mean knowledge score of respondents in the Buzz Group of 1.9 compared to the group using the Brainstorming method.

This is also in line with Risky et al., (2022) there was an increase in knowledge before and after being given Health Education using the Buzz Group Discussion method. Health education using the group Buzz Discussion method is effective in improving the practice of its participants, this method does not only contain lectures but involves the practice and experience of the participants so that it can be a lesson for other participants. The approach carried out in groups is able to increase children's self-confidence, attitudes and emotional intelligence so that it has an impact on children's ability to practice the steps for washing pliers properly and correctly as taught.

The buzz group discussion method is a tool for dividing large discussion groups into small groups. There are two types of discussions that are often used in applying the buzz group method, namely: first, the technique most often used is dividing the original group into buzz groups consisting of 10 to 15 people, if the original group has 30 or more members. The secretary makes notes about ideas suggested by group members and prepares conclusions that will be presented to the large group after the Buzz group discussion is finished. Then the secretary of each group was asked to report the results before opening the general group discussion. The time required for a Buzz group discussion ranges from 10-20 minutes depending on the topic discussed (Cardona, 2021).

CONCLUSION

There is an influence of the Buzz Group method on the level of Cardiopulmonary Resuscitation Knowledge of Nursing students at Muhammadiyah University of Bengkulu and there is a correlation between the level of knowledge and the students' cardiopulmonary resuscitation skills.

SUGGESTION

Suggestions that can be given are that training regarding CPR should not only be carried out for students and health workers but also for ordinary people to help victims reduce the number of deaths outside of hospital due to cardiac arrest by applying the Buzz Group method or using other methods such as the brainstorming method and simulation.

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