

Original Article

The Effect of Health Education towards the Level Knowledge of Youth Red Cross Members about First Aid of Syncope in Senior High School Bengkulu

Ida Rahmawati

Lecturer of Nursing Program Study, STIKES Tri Mandiri Sakti, Bengkulu, Indonesia

Pawiliyah Pawiliyah

Lecturer of Nursing Program Study, STIKES Tri Mandiri Sakti, Bengkulu, Indonesia

Loren Juksen

Lecturer of Nursing Program Study, STIKES Tri Mandiri Sakti, Bengkulu, Indonesia

Lira Mesti

Student of Nursing Program Study, STIKES Tri Mandiri Sakti, Bengkulu, Indonesia

Correspondence: Ida Rahmawati. Leturer, Nursing Program Study, STIKES Tri Mandiri Sakti Bengkulu, Indonesia Email : idarahmawati1608@gmail.com

Abstract

Introduction : Syncope is loss of someone's consciousness that caused by decrease in bloodstream to the brain. Syncope cases are often experienced by students. The first aid of syncope is aimed to reduce injury. The importance of health education for youth red cross members is expected to increase their knowledge about the first aid of syncope and save someone's life. This research was aimed to determine the effect of health education toward youth red cross students' knowledge level in conducting the first aid of syncope cases in Senior High School.

Method : The design of this research was pre-experimental research by using one group pretest- posttest design, where there is no comparison group (controls) who already performed the first observation (pre-test) which allows researchers to examine the changes that occurred after the experiment (treatment). Location of this research was conducted at SMKN 1 Bengkulu. The population was 40 the youth red cross members. The sampling technique in this research is total sampling method in which sampling is equal to the number of population.

Results : The result of this research based on the Wilcoxon signed rank test obtained a significance p-value = $0.000 < 0.05$ where there were the differences in knowledge before and after health treatment of health education.

Conclusion : There is an effect of health education toward youth red cross students' knowledge level in conducting the first aid of syncope cases.

Keywords: Health Education, Syncope, Knowledge

Introduction

Syncope is an important clinical problem because it is a common, costly, and often disturbing (Calkins *et al.*, 1995). Syncope is loss of consciousness and muscle control for a moment until a few seconds to minutes that causes a person falls away suddenly (Hidayat, 2007). Fainting can occur due to lack of blood flow to the brain, resulting in decreased cerebral

perfusion. Prior to the onset fainting episode will be pre syncope. Signs of unconscious patients reported as cramping, dizzy eyes, headache, gaze drifting, pale, feel claustrophobic (respiratory stress) and ringing in the ears (Crain and Gershel, 2009).

Zahra et al (2014) argued that 50% of the population of people on earth had experienced syncope (fainting) in their lives, whether the

cause of the syncope is known or unknown (Rad *et al.*, 2015). Research Gaggioli *et al.* (2014) has showed that a prevalence of syncope in children aged 5-14 years was 4.14%, ages 5-44 was 44.8%, ages 45-64 years was 31% and age 65 years and over was 20% (Gaggioli *et al.*, 2014). About 20% of people have experienced syncope at least one in their lives and 10% of them have experienced it more than once (Sheldon *et al.*, 2002). According to data obtained from Emergency YES 118 Syncope cases in Indonesia 76.6% of syncope cases are caused physical injury (Rad *et al.*, 2015).

Based on a preliminary survey conducted at SMKN 1 (Sekolah Menengah Kejuruan Negeri) Bengkulu or called Senior High School by interviewing and documenting health unit room teachers, counseling teachers and some students that had been obtained from syncope cases interviews data at SMKN 1 Bengkulu, there were 15-30 cases per week, and even increased sometimes. The case of syncope at school did not only occur during flag ceremonies at school, but also in several events such as when the process of teaching and learning in the classroom.

Method : The design of this research was pre-experimental research by using one group pretest- posttest design, where there is no comparison group (controls) that were already performed the first observation (pre-test) which allows researchers to examine the changes that occurred after the experiment (treatment). This research was conducted at SMKN 1 Bengkulu. The population in this study was 40 the youth red cross students in the academic year 2018/2019. The sampling technique in this research is total sampling method in which sampling is equal to the number of population. Samples were taken from all the youth red cross students SMKN 1 Kota Bengkulu, which numbered 40 people. Total of 40 respondents who were members of youth red cross academic year 2018/2019 were studied for their feasibility on this study, where all the 40 respondents agreed to participate. Participants who agreed to become respondents filled out and signed informed consent, filled out the pretest and posttest questionnaires that were given honestly, and followed the health education process until the activity was finished.

The instrument in this research is a questionnaire and health education program as a support in the activities of conducting health education regarding of syncope first aid. The

questionnaire is used to measure the level of knowledge with the form of closed questions by choosing one answer provided and the respondent is only asked to answer the answers that are available and are believed to be correct by the respondent. The questionnaire used uses the Guttman scale, which is a scale that answers firmly with the interpretation of the assessment if the true score is 1 and false is 0 (Sugiyono, 2009). The validity and reliability of this questionnaire have been carried out and obtained 10 questions the level of knowledge about first aid syncope with details of the questions; understanding syncope numbers 1,2 and 3, questions causing syncope numbers 4, 5 and 6, first aid action questions 7,8 and 9 as well as questions about further physical examination No. 10. Ten questions have proven to be valid and reliable, representing every theme the researcher wants and no themes are lost. Thus the questionnaire can be trusted and can be used as a data collection tool.

The intervention to measure the level of their knowledge and determine the effect of health education toward the level of knowledge is done by doing health education and fill out the questionnaire before and after health education to 40 members of the youth red cross. Health education that given to the students was about first aid cases of syncope. Health education was given once in the classrooms by lecturing, discussions with PowerPoint media, syncope-related videos and brochures to get a better understanding and prevent misunderstandings. The result of the measurement of the knowledge and determine the effect of health education divided into 3, that are good level if the respondents be able to answer of the question as many as 7-10 questions, fair level if respondents be able to answer of the question as many as 4-6 questions and poor level if respondents be able to answer of the question as many as 1-3 questions.

Processing data was done by computer through several stages such as editing, coding, cleaning and processing. This data analysis was processed using the SPSS 21 computer application. To test the normality of the data, the researcher used Shapiro Wilk test due to the respondents were less than 50 people. The results of normality data test are not normally distributed, statistical tests to determine the effect of health education toward the level of students' knowledge using the Wilcoxon Signed Rank Test with a significance level of 95% ($\alpha = 0.05$).

Results

Characteristics of respondents. Based on table 1. Known that averages of respondents aged 15 years old to 18 years old. Gender known most of the respondents that are registered as youth red cross members in senior high school are female as many as 28 persons and male as many as 12 persons. Level of knowledge before treatment there were 39 persons or (97.5%) were good level, and 1 person or (2.5%) were low level. Level of knowledge after treatment occurred enhancement, there were 39 persons or (97.5%) were good level and there were 1 persons or (2.5%) were fair level.

The results of the Wilcoxon signed rank test in this study on the table 2 above shows there are

no negative rankings for all respondents. This can be interpreted that the overall knowledge of respondents to first aid of syncope has increased. There are 40 respondents with a positive ranking because of an increase in knowledge in all respondents after the treatment of health education. Wilcoxon Sign Rank Test test on respondents showed a significant effect after the treatment of health education where the p-value = 0.000 < 0.05, which indicates a difference in knowledge before and after the treatment of health education so that H_0 is rejected and H_a is accepted. From the results of the analysis of the data obtained it can be concluded that there is an effect of health education toward the knowledge level of youth red cross students in conducting first aid cases of syncope in school.

Table 1: Distribution of frequency of responden by gender, age, and level knowledge

Characteristic of Respondent	Frequency	Percentages (%)
Age		
15-16	38	95 %
17-18	2	5 %
Gender		
Male	12	30 %
Female	28	70%
Level of knowledge before treatment		
Good	39	97.5 %
Poor	1	2.5 %
Level of knowledge after treatment		
Good	39	97.5 %
Fair	1	2.5 %

Source : primary data, 2019

Table 2: Wilcoxon Signed Rank Test

	N	Z	P-Value
Knowledge before treatment- Knowledge after treatment	Negative Ranks 0a	-5.609a	0,000
	Positive Ranks 40b		
	Ties 0c		
	Total 40		

Source : primary data, 2019

Discussion

The results of studies showed that the level of knowledge from 40 respondents before health education given by the researcher that were as many as 39 or 97.5% of the respondents on

moderately knowledgeable and 1 respondent (2.5%) was not knowledgeable category. The level of knowledge of 40 respondents after health education there were 39 respondents or 97% were increasing on good category and 1

respondent (2.5%) was increasing on moderately knowledgeable. these things show there are alteration on level of knowledge after health education where education generally, all effort that were planned for society. So, they will be doing the goals of the researcher that are influencing other, individual, group.

Before health education there was 1 respondent on not knowledgeable category and after health education increasing on moderately category, this is because on health education process, this respondent was not focus on educator. This is in accordance with (Notoadmojo, 2012) that, knowledge is the result of know and occurred after individual conduct sensing towards an object. Behavior alteration of individual is the product of health education based on knowledge and awareness after education process (Notoadmojo, 2014).

The result of *Wilcoxon Signed Rank Test* was known that there were 40 respondents meaning the level of knowledge all of respondent were having increasing level. This thing was showed by the ability of the respondent in answering by correct answer after health education. There is knowledge level alteration after health education showed that there is the influence of health education toward junior of the Red Cross (PMR) knowledge level in conducting the first aid of syncope case in senior high school (SMKN1) Bengkulu city.

From the result Wilcoxon signed rank test was obtained the value of $P\text{-Value} = 0.000 < 0.005$ where there was difference before and after health education. this research in accordance with the result of Tumigolung, Wungouw and Onibala (2013) that showed there is the influence of health education toward the knowledge level of the students about the dangerous of smoking. Giving health education used lecture and discussion method and health education media that were power point, video, and leaflet to increase the understanding of the respondents about first aid on syncope cases and not cause misperception (Wina Sanjaya, 2015). Factors that influencing the success of health education that are education, curriculum, the condition of participant, process of health education, educator, media and method were used.

One's knowledge is an effect by several factors, one of them is information. New information about something can provide a new cognitive foundation for the formation of attitudes and

knowledge of new things. Good information can increase one's knowledge (Saifuddin Azwar, 2000). Health education occurs because of there are changing in self-awareness and the individual himself to increase knowledge and abilities through learning practice techniques with the aim to remember facts or real conditions by providing encouragement to self-direction (Mubarak *et al.*, 2007). Knowledge is the result of knowing and this happens after someone senses a certain object. Knowledge is strongly affected by the intensity of attention to the perception of an object (Wawan and Dewi M, 2011).

The provision of health education, the researcher used lecture and discussion methods as well as health education media by playing videos and giving leaflets to improve the understanding of youth red cross members in the first aid of syncope case to make the students are easier to understand and do not cause misperceptions (Wina Sanjaya, 2015). Media is a tool to convey health information, according to research experts, the eye is the senses that deliver the knowledge the most into the brain about 75% to 87%. Media can be in the form of print out (booklets, leaflets, flipcharts, posters and writings), electronic media in the form of (television, radio, slides, films, and videos), billboard or media (Nies and Melanie McEwen, 2018). In line with Ramadhanti's research (2017), there are differences in skills before and after health education is provided with audiovisual methods and simulation methods (Ramadhanti, 2017).

The tools used in this study are laptop, Light Emitting Diode (LCD), loudspeakers, projector screens, and lecture and discussion or question and answer method to deliver the material. Researchers display health education material through power point media using text, images and video animation. The use of audio visual in the provision of health education will attract and facilitate participants to understand the material presented so that it can increase student knowledge in conducting first-aid of syncope cases in SMKN1 Bengkulu City. This has been proven by Palupi research (2012) that there is an increase in knowledge before and after the provision of health education about the use of audio-visual and power points on learning outcomes about first aid measures in Bantul, Yogyakarta (Ria Rizki Palupi, 2012). Kurniati (2015) shows that there is an effect of health education on a person's knowledge level after

being given health education, so that health education has an influence in changing and increasing knowledge (Kurniati, 2015).

Conclusion: Based on the result analysis by using on Wilcoxon signed-rank test there is an effect of health education toward the youth red cross members knowledge level in conducting first aid of syncope cases in senior high school. The suggestion given is the need to improve health facilities and schedule health education in schools, so students can improve their health status.

Ethics: This Research has passed the DPMPTSP (Dinas Penanaman Modal dan Pelayanan Terpadu satu pintu) Bengkulu, Indonesia, with letter number 503/82.650/360/DPMPTSP-P.1/2019, and DIKBUD (Dinas Pendidikan dan Kebudayaan) Provinsi Bengkulu, Indonesia, with letter number : 040/BP.SMK/Dikbud/2019

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References

- Calkins, H., Shyr, Y., Frumin, H., Schork, A. and Morady, F. (1995) 'The value of the clinical history in the differentiation of syncope due to ventricular tachycardia, atrioventricular block, and neurocardiogenic syncope', *The American Journal of Medicine*, 98(4), pp. 365–373.
- Crain, E. F. and Gershel, J. C. (2009) *Clinical Manual of Emergency Pediatrics (Cambridge Medicine)*. 5th edn. USA.
- Gaggioli, G., Laffi, M., Montemanni, M., Mocini, A., Rubartelli, P. and Brignole, M. (2014) 'Risk of syncope during work', *Europace*, 16(2), pp. 289–292..
- Hidayat, A. A. (2007) *Nursing Research Methods and Data Analysis Techniques*. Jakarta: Salemba Medika.
- Kurniati, Q. (2015) *The Effect of Health Education on Teachers' Knowledge Levels in Providing First Aid in Cases of Fainting (Sinkop) at SD Muhammadiyah Tamantirto Yogyakarta*. Muhammadiyah University of Yogyakarta.
- Mubarak, W. I., Chayatin, N., Rozikin, K. and Supardi (2007) *Health Promotion: an introduction to the teaching and learning process in education*. First, Graha Ilmu. First. Yogyakarta. Available at: <https://samoke2012.files.wordpress.com/2017/02/concept-dasar-Pendidikan-kesehatan.pdf>. Nies, M. and Melanie McEwen (2018) *Community/Public Health Nursing*. 7th edn. Elsevier.
- Notoatmodjo, S. (2012) *Health promotion and health behavior*. Jakarta: Rineka Cipta.
- Notoadmojo, S. (2014) *Behavioral Health Sciences*. 2nd edn. Jakarta: Rineka Cipta.
- Rad, M. A., Farahani, M., Emkanjoo, Z., Moladoust, H. and Alizadeh, A. (2015) 'Predicting the outcome in patients with unexplained syncope and suspected cardiac cause: Role of electrophysiologic studies', *Anadolu Kardiyoloji Dergisi*, 15(3), pp. 213–217.
- Ramadhanti, P. (2017) Comparison of health education with audiovisual and simulation methods on students' skills in performing first aid for fainting victims. 'Aisyiyah University Yogyakarta.
- Ria Rizki Palupi (2012) Comparison of audiovisual media and power point on student learning outcomes in the fourth semester of helping children at AKBID Umami Khasanah Bantul Yogyakarta, STIKes 'Aisyiyah Yogyakarta. STIKes 'Aisyiyah Yogyakarta.
- Saifuddin Azwar (2000) *Human Attitude Theory and Its Measurement*. Yogyakarta: Liberty.Sheldon, R., Rose, S., Ritchie, D., Connolly, S. J., Koshman, M. Lou, Lee, M. A., Frenneaux, M., Fisher, M. and Murphy, W. (2002) 'Historical criteria that distinguish syncope from seizures', *Journal of the American College of Cardiology*. Elsevier Masson SAS, 40(1), pp. 142–148.
- Sugiyono (2009) *Statistics for Quantitative Research*. 10th edn. Edited by Endang Mulyaningsih. Bandung: CV Alfabeta.
- Tumigolung, H., Wungouw, H. and Onibala, F. (2013) 'The Effect of Health Education on Students' Knowledge Levels About the Dangers of Smoking in SMA Negeri 1 Manado', *Journal of Nursing UNSRAT*, 1(1), p. 110250.
- Wawan, A. and Dewi M (2011) *Theory & Measurement of Knowledge, Attitudes, and Human Behavior*. 2nd edn. Yogyakarta: Nuha Medika.
- Wina Sanjaya (2015) *Planning and design of learning systems*. Jakarta: Kencana.