The Effect Of Health Education On Knowledge In The Prevention Of Congestive Heart Failure For At-Risk Groups

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ARTICLE INFO

A B S T R A C T

Congestive Heart Failure (CHF) A condition where the heart fails to pump blood to meet the nutrient and oxygen needs of the body's cells. The purpose of this study was to determine the effect of health education on knowledge in the prevention of congestive heart failure for at-risk groups. The research method used is experiment/intervention, pre- experimental design. The population in this study were all participants who were at risk of congestive heart failure in the work area of Upt.Galang District Health Center Tolitoli. The sampling used was purposive sampling so that the sample in this study was based on certain characteristics which were considered to have a relationship with previously known population characteristics. The results showed that after being given health education, p-value = $0{,}00 \geq \alpha = 0{,}05$ means that there is a significant effect on changes in the level of knowledge after health education is carried out. The conclusion is that there is a significant effect on changes in the level of knowledge after being given health education.

I. Introduction

The heart is an organ of the human body that has an important role in human life and is certainly very dangerous if our heart has problems considering that many deaths are caused by heart disease (Nugroho, 2018). Heart failure is a condition that occurs when the heart cannot respond adequately to stress to meet the body's metabolic needs. In this condition the heart fails to do its job as a pump and the result is heart failure (Reni Yuli A, 2016).

The initial cause of congestive heart failure (CHF) is a disturbance in the weakened heart muscle walls which results in heart failure in pumping and sufficient blood supply needed by the body (Purbianto & Agustiani 2015).

There are two risk factors for congestive heart failure, namely factors that cannot be controlled are heredity, age and gender, while factors that can be controlled are total cholesterol, smoking, alcohol, diabetes mellitus, hypertension, and obesity (Zulistin, 2015). CHF can cause various complications including pulmonary edema, cardiogenic shock, kidney failure, and cardiac asthma (Yasmara D. et al. 2016.).

The Government's efforts to reduce the incidence of coronary heart disease are carried out in prevention and control on promotive and preventive as well as curative and rehabilitative efforts, by carrying out a healthy living community movement, a healthy Indonesia program, promoting a healthy lifestyle, and adopting an "obedient" lifestyle (Ministry of Health RI , 2019). One of the management of congestive heart failure according to priority is health education (Reni Yuli A, 2016).

Health education is an effort or activity to create community behavior that is conducive to health.

World Halth Organization (2020) Globally, heart disease has become the highest cause of death worldwide for the last 20 years. Based on data from the 2020 global health data exchange (GHDx), the number of cases of congestive heart failure in the world reached 64.34 million cases with 9.91 million deaths and an estimated US$ 346.17 billion spent on patient care costs (Lippi & Gomar ,

2020). Congestive heart failure is the second most common cause of death in Indonesia after stroke (Ministry of Health RI, 2020). Based on basic health research data for 2018, the prevalence of congestive heart failure in Indonesia diagnosed by doctors is 1.5% or around 1,017,290 residents. Meanwhile, in Central Sulawesi Province, based on a doctor's diagnosis, the prevalence of all ages was 1.9% higher than the national prevalence. Based on the doctor's diagnosis, according to the characteristics of urban residents, more suffer from heart disease with a prevalence of 1.6% compared to rural residents, which is only 1.3%. (RI Ministry of Health, 2018). Preliminary data obtained at the Tasikmadu Health Center provides summary information in 2020 congestive heart failure patients at Galang Health Center totaling approximately

50 people and in 2021 patients with congestive heart failure numbered approximately 30 people and in 2022 starting from January until the research was carried out, there were 21 patients suffering from congestive heart failure as seen from the examination of the patient visit book for the general polyclinic at the Galang Health Center (RJTP) general polyclinic at Galang Health Center 2020-2022).

II. Methods

The data obtained from this study are quantitative in nature and based on this research the validity and reliability tests were carried out as statistical tests. The validity test was carried out to find out the data from the variables studied correctly and whether the instrument used was reliable. Before analyzing the data, the validity of the questionnaire was tested. At the 95% confidence level using SPSS. Reliability test results greater than r table (0.60) and declared realiabe. The Wilcoxon statistical test was carried out with a degree of significance $\alpha = 0.05$ meaning that if the statistical test results show $p \leq \alpha$ then there is a significant relationship between variables.

III. Results and Discussion

Table 1. **Knowledge levels before being given a health (n=20)**

Knowledge	Frequency	Percentage(%)
Good	14	12,2
Enough	26	22,6
Less	75	65,2
Total	**115**	**100**

Data source: Primer, 2022

Before being given health education, the respondent's knowledge was in the less category. As many as 75 respondents did not know the definition of congestive heart failure, explained the causes, signs & symptoms, risk factors, complications, management and prevention of congestive heart failure. As many as 26 respondents were able to briefly review the definition and signs & symptoms, but were not able to explain the causes, factors risks, complications, management and prevention of congestive heart failure. As many as 14 respondents already knew about congestive heart failure according to the explanation of the respondents they knew from the families who experienced it. Some of the factors that influence a person's level of knowledge are internal factors in the form of age, experience and external factors in the form of education, information, social, cultural, economic and environmental (Budiman and Riyanto, 2013).

Table 2. Knowledge level after being given a health education (n=20)

Knowledge	Frequency	Percentage(%)
Good	74	64,3
Enough	27	23,5
Less	14	12,2
Total	**115**	**100**

Data source: Data Primer, 2022

Based on the table above, most of the respondents after being educated about the risk of congestive heart failure turned out to be good. As many as 74 respondents already understood the

definition of congestive heart failure, causes, signs & symptoms, risk factors, complications, management and prevention. 27 respondents partially understood, stated definitions and signs & symptoms, explained causes, risk factors, complications, management and prevention of congestive heart failure but not yet perfectly & 14 other respondents aged > 60 years, most did not understand because the ability to focus had diminished to accept brief explanation. Information obtained from both formal and non-formal education can have a short-term effect resulting in a change or increase in knowledge. As a means of communication various forms of mass media such as television, radio, newspapers, magazines and others have a major influence in forming people's opinions and people's beliefs (Budiman & Riyanto, 2013). Health education is a learning process which means that in education there is a process of growth, development or change towards a more mature, better and more mature individual, group or community. In a short time health education will result in a change or increase in public knowledge (Notoatmodjo, 2011).

Table 3. *Wilcoxon test* to determine changes in knowledge before and after health education on the level of knowledge in groups at risk of congestive heart failure (n = 30*)*

	Mean	Min.	Max.	P value
Pre-test	20.00	1	85	0.000
Post-test	43.78	29		

Based on the table showing the results of the Wilcoxon test to find out the results of the comparison between the pre-test and post-test knowledge levels in CHF participants. significantly to changes in the level of knowledge after health education. Wilcoxon test results to determine changes in knowledge before and after health education on the level of knowledge in groups at risk of congestive heart failure. This is in line with research (Reni Yuli A, 2016), that one of the management of congestive heart failure according to priorities is health education. The importance of good knowledge for the community to know the various factors that can cause congestive heart failure so that the prevalence of coronary heart disease increases, so in an effort to control the increase in the prevalence of coronary heart disease in this case the need for public awareness to live healthy and increase public knowledge about the risk factors that cause congestive heart failure so that the increase in the prevalence of congestive heart failure can be suppressed as early as possible through various educations that can increase public knowledge, but when this problem has not been resolved, the impact that will be caused is extraordinary (Widodo, 2017). Some factors that affect a person's level of knowledge are internal factors in the form of age, experience and external factors in the form of education, information, social, cultural, economic and environmental. Increased knowledge is not absolutely obtained in formal education, but can also be obtained in non-formal education. The developed learning experience at work will provide professional knowledge and skills (Budiman and Riyanto, 2013).

IV. Conclusion

Based on the results of statistical tests, the researchers concluded that there was a significant effect on changes in the level of knowledge after health education was carried out.

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