

The Influence of Health Education Utilizing the Transtheoretical Model on Hypertension Patients' Knowledge: A Study Conducted in the Puuwatu Health Center Work Area

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ABSTRACT

Background: High blood pressure in hypertension patients can lead to uncontrolled complications. Compliance issues commonly arise among these patients, including underestimating the importance of treatment and its benefits, particularly among those who are still productive and have no other health conditions. Patients often fear potential side effects and resist adjusting their control schedule. Therefore, effective health education using a transtheoretical model approach is needed to enhance the knowledge of hypertension sufferers. Objective: This study aimed to analyze the impact of health education, employing a transtheoretical model approach, on the understanding of hypertension patients in the Puuwatu Health Center Work Area.

Method: The study utilized an experimental design called the One-group Pretest-Posttest Design. A total of 169 participants were included in the study, with a minimum sample size of 30. The participants were selected through Accidental Sampling. The statistical analysis used the Wilcoxon test with a significance level set at 0.05.

Results: The findings revealed a significant improvement in the behavioural knowledge of hypertension patients at the Puuwatu Public Health Center following the health education intervention (p-value: 0.004).

Conclusion: The study concluded using a transtheoretical model approach, health education led to a notable increase in patients' knowledge of hypertension. These findings emphasize the importance of tailored educational interventions to improve patient understanding and enhance hypertension management.

Keywords: Hypertension, Transtheoretical Model, knowledge, counselling

Background

Hypertension is a non-communicable disease and one of the cardiovascular diseases that can cause other cardiovascular diseases. Based on the Sustainable Development Goals (SDGs) report in 2020, non-communicable diseases with the highest number of deaths were number 1, namely cardiovascular cases (UN Economic and Social Council, 2020). Hypertension is often silent because the patient does not know that his blood pressure has exceeded the standard limit (Kemenkes, 2013).

The World Health Organization (2013) states that more than 1 billion people live with high blood pressure, and the prevalence of hypertension in adults over 25 years and over is 40%. Based on data obtained from Riskesdas (2013), the incidence of hypertension in Indonesia in the last five years was 31.7%, and in 2013, it decreased by 25.8%, and

most suffer from hypertension at the age of more than 20 years. In 2018, the prevalence of hypertension increased to 34.1% (Riskesdas, 2018).

Suppose the blood pressure of people with hypertension continues to increase. It can cause complications such as hemorrhagic stroke, ischemic stroke, myocardial infarction, sudden death, heart failure, peripheral arterial disease, and end-stage kidney disease. A sustained relationship between blood pressure and risk of occurrence has been demonstrated at all ages and across all ethnic groups, from high blood pressure to relatively low values (Williams et al., 2018)

Blood pressure in patients with hypertension must be controlled so as not to cause life-threatening complications of hypertension. Blood pressure control can be done with pharmacological and non-pharmacologic therapies. According to (Rampongan, 2015; Robert 2012), non-pharmacological therapy focuses on weight loss therapy, limiting salt consumption to <100mEq/24 hours, physical activity, smoking cessation, and reducing alcohol consumption. Antihypertensive drugs are used in pharmacological treatment and have been clinically proven to reduce the risk of cardiovascular disease and death in patients with hypertension (Dpiro, 2017).

Research conducted by Nopitasarietal (2019) showed the effect of drug compliance on blood pressure in hypertension patients at the NTB Provincial Hospital. Drug adherence significantly affects changes in systolic blood pressure; however, there is no significant effect between medication adherence and diastolic blood pressure (Nopitasarietal, 2019). It is essential to take the medication in hypertension patients because hypertension sufferers must take drugs for a long time to control their blood pressure.

However, there is a phenomenon that occurs in patients with hypertension in terms of compliance, namely underestimating treatment or benefits for patients, especially for individuals who are still productive without comorbidities, then fear the possibility of experiencing side effects in treatment, do not want to adjust the control schedule that has been determined (Poulter et al., 2020)

Based on this, the researcher wanted to prove whether health education with the transtheoretical model approach affected the knowledge of hypertension sufferers in the Puuwatu Health Center Work Area.

Research methods

Research Type:

This study used an experimental design with a One-group Pretest-Posttest Design. Exploratory research is intended to determine whether there is a result of treatment on the subject under investigation. In this research design, the subject group was observed before the intervention and then observed again after the intervention. This study examines the differences in health promotion with the Transtheoretical Model approach to patients with hypertension in the Puuwatu Community Health Center working area.

Population, Sample Size, and Sample Technique

The population is 169 respondents, and the sample is 30 respondents. The accidental sampling technique was used.

Research Location

This research was conducted in the working area of Puuwatu Public Health Center, Kendari City.

Data collection

Preparation Stage

Implementation Stage

The implementation stage occurs when all the research samples have been met. The research was conducted covering three steps, namely:

Pre-test stage

Before the pre-test stage, the researcher explains how to fill out the questionnaire in the first step. Respondents in both groups were asked to fill in data on the characteristics of respondents with hypertension

and fill out statements related to hypertension. This pre-test stage was carried out at the first meeting of the study.

Intervention stage

After filling in the respondent's characteristic data and the physical activity questionnaire in the first week, an educational intervention was given based on the transtheoretical model. In the second week, a behaviour change test was conducted.

Post-test Stage

The Stage Post-test was conducted at the end of the second week of the study. The activities carried out were home visits to each respondent to ask all respondents to fill out the questionnaire. The post-test stage is intended to evaluate the previously formed interventions and continue documenting them in tabulated data.

Results

Distribution of patients according to Gender. The frequency distribution of respondents' characteristics by Gender can be seen in the following table:

Table 3. Distribution of respondents by Gender

Gender	n	%
Men	11	36,7
Women	19	63,3
Amount	30	100,0

Based on research on Gender, there are more women than men. Women are more at risk of developing hypertension than men before menopause. Women tend to be protected by the hormone estrogen, where estrogen levels decrease after menopause. In women, it is often triggered by unhealthy behaviour (consumption of excessive amounts of food, overweight/overweight), depression, and work status that causes a lack of movement.

Age:

The frequency distribution of respondents' characteristics by age can be seen in the following table:

Table 4. Distribution of respondents by age

Age	n	%
25-44	19	63,3
45-64	9	30,0
>=65	2	6,7
Amount	30	100,0

Most subjects who become hypertension patients are in the age group of 25-44 years. It is consistent with the fact that the older a person gets, the higher the risk for various diseases. Biologically, ageing makes humans susceptible to various diseases due to the decreased function of different body organs.

Address

The frequency distribution of respondents' characteristics by address can be seen in the following table:

Table 5. Distribution of respondents by address

Address	n	%
Puuwatu Village	4	13,03
Watulondo Village	4	13,03
Punggolaka Village	4	13,03
Tobuha Village	6	20,00
Lalodati Village	6	20,00
Abeli Dalam Village	6	20,00
Amount	30	100,00

Each village has respondents, where each village has respondents, respectively 4 out of 30 respondents and 6 out of 30 respondents each to determine the level of health knowledge—analysis of the effect of health education on knowledge of hypertension patients at Puuwatu Public Health Center.

Table 6. Analysis of the effect of health education on knowledge of hypertension patients at Puuwatu Public Health Center

Pre-test Knowledge Level	n	%
Good	28	93,3
Not good	2	6,7
Amount	30	100,0

Table 7. Distribution of respondents based on behavioural knowledge after being given health education about hypertension.

Post-Test Knowledge Level	n	%
Good	29	96,7
Not Good	1	3,3
Amount	30	100,0

Table 8. Analysis of the effect of health education on knowledge of Hypertension client behaviour at the Puuwatu Public Health Center

Variable	Behavioural Knowledge		Mean	□
	Not Good	Good		
Pre-Test	2	28	40,60	0,004
Post Test	1	29	43,53	

□□ < 0.05 = significance

The level of knowledge of patients about hypertension varies. Some sufferers already know about hypertension, but it is still challenging to leave habits that exacerbate the disease in their actions. After being given health education, all respondents already know good behaviour (100%).

Knowledge is a learning process using a person's five senses on particular objects to produce knowledge and skills. Knowledge is closely related to education so that the person will be more knowledgeable.

The effect of health education on behavioural knowledge of hypertension sufferers at Puuwatu Health Center using the Wilcoxon Signed Ranks Test at a significance level of 95% (α 0.05) found an effect of health education on behavioural knowledge of hypertension sufferers. Statistically, the value of $p = 0.004$ ($p < 0.05$) H_0 is rejected when the significance value is < 0.05 . H_0 results are dismissed because the significant value obtained is less than 0.005, namely 0.004. so that there is a substantial effect on the difference in treatment given to each variable. The treatment given after the pre-test on the post-test can be seen with a significance of less than 0.05, which can be an effect of the treatment given.

DISCUSSION

Health education cannot be separated from the media, and the messages are easily understood and more exciting. The press can also avoid misperceptions, clarify information, facilitate understanding, reduce verbalized communication, and facilitate communication. Thus, the target can learn the message and adopt a behaviour per the messages conveyed.

Health education for the community or the wider community can be done through mass media. For smaller communities, for example, brochures or leaflets can be made in hospitals, health centres, or private practice doctors. The study results obtained differences in the knowledge of respondents' behaviour before giving health counselling and after being given health counselling. It indicates that providing health education will increase a person's understanding of behaviour in intervening with his disease by controlling and preventing an increase in blood pressure that exceeds normal limits.

The study results above show that people with hypertension who are given counselling will improve their lifestyle. They can control blood pressure well while reminding that health education will be more effective if health workers know the level of knowledge of clients' behaviour and daily habits.⁷

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