

THE EFFECTIVENESS OF HEALTH EDUCATION BASED ON HEALTH BELIEF MODEL ON KNOWLEDGE PATIENT PULMONARY DISEASES

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ABSTRACT

Tuberculosis is still the most dangerous infectious disease in the world. Influencing Factors to increase of pulmonary tuberculosis disease are age, sex, nutritional status, diabetes mellitus, immunity status, smoking, alcohol and the environment. The purpose of this study was to determine the effectiveness of health education based on the Health Belief Model on knowledge patients of pulmonary disease. This type of research was a quasi experiment with one group design research design with pre-test and post test. The sample was 16 respondents with a total sampling technique. The results showed that there was a difference in knowledge of pre and post pulmonary tuberculosis patients who were given health education based on Health belief model (p value = 0,000). It is recommended to Puskesmas to apply Health belief model in health education in order to improve the quality of community nursing care.

Keywords: Health Belief Model, Health Education, Knowledge, Pulmonary TB

1. INTRODUCTION

Pulmonary tuberculosis (TB) is an infectious disease caused by Mycobacterium Tuberculosis. Until now, tuberculosis is still the most dangerous infectious disease in the world. The World Health Organization (WHO) reports that as many as 1.5 million people died by TB (1.1 million

HIV negative and 0.4 million HIV positive), with details of 89,000 men, 480,000 women and 140,000 children. In 2014, TB cases were estimated to occur in 9.6 million people and 12% of them were HIV-positive (WHO, 2015).

Based on the 2015 Global Tuberculosis Report released by WHO, as many as 58% of pulmonary TB cases occurred in Southeast Asia and the West Pacific region in 2014. India, Indonesia and China are the countries with the highest number of TB cases in the world, respectively 23%, 10 % and 10% of total incidence in the world, Indonesia ranked second place with 10%. One million new cases per year are estimated to occur in Indonesia (WHO, 2015).

Data from the Basic Health Research (Riskesdas) in 2018 stated that the incidence of TB was 321 per 100,000 population. The number of TB cases has increased compared to 2013, namely 135 per 100,000 population and 124 per 100,000 population in 2015 (Ministry of Health, 2016). Other data from the Ministry of Health of the Republic of Indonesia (2018), shows that the success rate of TB treatment for all types of cases at this time has only reached 77.57% with a percentage of a cure rate of 49.01%.

Based on data from the Dumai City Health Office (2019), the prevalence of TB patients in Dumai City has increased every year, it was recorded that in 2019 there were 504 cases of TB suspects who received treatment according to standards. As for the Bukit Timah Health Center, TB patient data in 2018 were recorded at 18 cases and in 2019 it increased to 28 cases. (Profile of Bukit Timah Health Center 2019).

Zein, et al. (2017) in Rahmawati (2019) states that the health behavior adopted by each individual is based on the knowledge they have. Knowledge of TB by sufferers will have an impact on disease prevention behavior. Lack of knowledge that is owned will have negative effects such

as lack of motivation to take preventive action, less opportunity to seek treatment, long delay in treatment and higher social stigma. The community began to realize that they needed to go to health care facilities when they received direction and encouragement from local health workers. The behavior and mindset of the people that are still ancient can affect the patient's attitude in undergoing treatment so that it can have an impact on the success of the patient's treatment.

One of the efforts that can be made to increase the knowledge of patients with pulmonary tuberculosis is to provide health education using the theory of the Health Belief Model (HBM). Health education and health promotion developed in the 1950s as a way of explaining medical screening programs especially for pulmonary TB patients who had used the HBM approach.

HBM has been widely used by previous studies given to various types of diseases such as Aprida (2012) regarding the effectiveness of health education based on HBM theory on the knowledge level of clients with Pulmonary Tuberculosis at Arifin Achmad Hospital Pekanbaru. The results show that there is a significant difference between the level of knowledge of pulmonary TB before and after being given health education based on HBM theory with $p \text{ value} = 0.000 < \alpha (0.05)$.

A preliminary study conducted on 3 TB patients who were undergoing control treatment at the Bukit Timah Health Center obtained the following interview results; these patients stated that they initially did not realize that they had pulmonary tuberculosis, all this time before being examined they only thought it was a normal cough and finally bled. In addition, they also do not know how TB disease is transmitted and how long it will take for treatment and what complications will occur if TB disease is not immediately handled by health workers at the health center or hospital. These patients also asked about the possibility of a cure for their disease and what they should do so that their family would not experience the same

illness and asked whether TB disease was dangerous because people immediately walked away after knowing that they were diagnosed with pulmonary TB. Patients do not know the side effects of the drugs given in large quantities and for a long time (6 months). The patient said that he had never received health education / health education about pulmonary tuberculosis directly from puskesmas officers and only received knowledge through the media of posters posted on the walls of the polyclinic waiting room.

Based on the explanation of the background of the problem that has been stated above, the research problem can be formulated, namely as follows: How is the Effectiveness of Health Education Based on the Effective Health Belief Model on Knowledge of Pulmonary TB Patients at Bukit Timah Health Center, Dumai City.

2. MATERIALS AND METHODS

This study uses the type used in this study using a quasi experiment with one group with a research design using a pretest and post-test design which only intervenes in one group without a comparison group. This research was conducted in the working area of the Bukit Timah Health Center, Dumai City.

The research activities started from the preparation of proposals to the results seminar, namely from March-August 2020. The population in this study was the population of this study were all pulmonary TB patients who were treated at the Bukit Timah Health Center as many as 16 people and a sample of 16 respondents. The data collection technique was using total sampling technique. The data collection technique used a questionnaire conducted by researchers to measure patient knowledge of pulmonary tuberculosis through health education based on the Health Belief Model.

Giving a questionnaire was carried out before and after being given treatment. Data analysis consisted of univariate analysis of respondent knowledge before and after health education was carried out based on HBM on pulmonary tuberculosis and bivariate analysis carried out on two variables that were suspected to be related or correlated (Notoatmodjo, 2010). The test used in the data analysis of the results of this study is the Two Differences Test Mean Paired t-test.

3. RESULTS

Table 1
Distribution Frequency of Knowledge responden before test in Bukit Timah Health Center Dumai City

Variable	Category	f	Percentage
Knowledge Pretest	Low	2	12,5
	Intermediate	10	62,5
	Good	4	25
Total		16	100

Based on the table. 1 above we can see that the majority of respondents have sufficient pre-test knowledge, namely as many as 10 respondents (62.5%).

Table. 2
Difference in the mean of knowledge before the test and after the test of respondents at the Bukit Timah Health Center, Dumai City

Knowledge	Mean	N	SD
Pretest	22,69	16	3,737
Posttest	28,63	16	1,857

Based on the table. 2 above, it can be seen that there was a difference in the mean level, namely before health education was carried out based on the Health Belief Model on knowledge of pulmonary tuberculosis obtained a mean value of 22.69 and after health education the mean value was 28.63. The value of Standard Deviation (SD) before health education was carried out was 3,737 and after health education the value of Standard Deviation was 1.857.

Table. 3
Mean of Knowledge Before Test and After Test of Respondents at Bukit Timah Health Center, Dumai City

Knowledge	Mean	SD	P Value
Pretest	5,938	3,087	0,000
Posttest			

Based on the results of the Paired T-Test analysis in this study with an error rate of 5%, the table above shows the mean value before and after being given health education based on the Health Belief Model about knowledge of pulmonary tuberculosis is -5,938, and p Value 0,000

4. DISCUSSION

The results of the Paired T-Test analysis in this study showed that there was a significant difference between knowledge about pulmonary tuberculosis before and after being given health education based on the Health Belief Model at the Bukit Timah Health Center, Dumai City. So it can be concluded that there is an increase in knowledge before the provision of health education and after health education.

The results of the study are in line with the research of Buang et al. (2015) which states that audio-visual health education is more effective in

increasing family knowledge about the prevention of transmission of pulmonary tuberculosis, with the statistical test results obtained with a p-value of 0,000. Likewise with the results of research by Sumiyati, et al. (2018) entitled "The Effectiveness of Health Counseling on Knowledge and Attitudes of Mothers of Toddlers About Pulmonary TB in Children in Banyumas Regency" which states that health education using guidance and counseling methods through flipcharts and leaflets has proven to be effective. towards increasing knowledge of mothers under five about pulmonary tuberculosis (p value = 0.0001).

The same opinion according to Notoatmodjo (2010) explains that knowledge is the result of "knowing" after sensing a certain object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Knowledge about health includes what a person knows about ways to maintain health. Good knowledge can motivate positive changes in attitudes, perceptions and healthy behavior of individuals or communities (Notoatmodjo, 2010).

The perception of pulmonary TB patients who think that pulmonary TB disease can be cured through traditional medicine must be changed slowly and systematically through health education based on HBM so that a significant increase in knowledge about pulmonary TB can change the behavior of pulmonary TB patients to be able to consistently consume drugs in the a long period of time, namely 6 months.

HBM provides a strong relevance between health education and behavior change. With HBM, you can maintain individual characteristics to form behaviors that can be obtained through health education in a persuasive way if you have a relatively similar social status background. Therefore, it will enable patients to improve their quality of life in a better direction than before.

Efendi & Makhfudli (2010) suggest that the main focus of community health nursing service activities is to improve nursing knowledge and skills, guide and educate individuals, families, groups, communities to instill understanding, habits and healthy living behaviors so that they are able to maintain and improve their health status. Pulmonary TB patients are an individual target in Community Health Nursing.

According to the researchers' assumptions, the difference in knowledge of pulmonary TB patients is due to several factors. These factors include external and internal. Internal factors include: level of education, gender, occupation, education. And external factors include: experience, interests, environment, and information. By providing health education based on HBM, it can shape the behavior of pulmonary TB patients to prevent disease transmission and even prevent complications that can worsen the patient's treatment prognosis.

5. CONCLUSION

Based on the results of the analysis of research that has been carried out along with a discussion of the effectiveness of health education based on the Health Belief Model on knowledge of pulmonary tuberculosis at the Bukit Timah Health Center, Dumai City, the conclusions are:

1. Most of the respondents are in the productive age group (15-64 years) as many as 11 people (68.7%)
2. The majority of respondents were male, as many as 10 people (62.5%).
3. The most recent education of respondents is elementary school (SD), amounting to 8 people (50%).
4. The respondent's occupation is evenly distributed, namely the highest is housewives as many as 4 people (25%).
5. Pre-test knowledge of respondents before being given health education based on the Health Belief Model about pulmonary tuberculosis at the Bukit

Timah Health Center, Dumai City at most, namely in the moderate category as many as 10 people (62.5%).

6. Post-test knowledge after being given health education based on the Health Belief Model on Pulmonary TB at the Bukit Timah Health Center, Dumai City in the good category, namely 15 people (93.8%).

7. There are differences in knowledge about pulmonary tuberculosis before and after health education is given based on the Health Belief Model at the Bukit Timah Health Center, Dumai City.

8. There was an increase in respondents' knowledge after being given health education based on the Health Belief Model on Pulmonary TB at the Bukit Timah Health Center, Dumai City.

6. SUGGESTION

1. For the Bukit Timah Health Center: It is hoped that the party in charge of the pulmonary TB program can apply health education methods based on the Health Belief Model to increase knowledge about pulmonary tuberculosis and other diseases.

2. For Respondents: Can be used as a reference for respondents in understanding problems related to pulmonary TB disease.

3. For Stikes Al Insyirah: So that institutions can develop health promotion through effective health education for field practice students by applying the Health Belief Model theory to the community.

4. For Further Researchers: It is hoped that the next researchers will conduct research related to the implementation of HBM health education using the two group technique.

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