

IMPACT OF HEALTH EDUCATION ON THE COMPLIANCE LEVEL OF LUNG TUBERCULOSIS PATIENTS TO PREVENT THE TRANSMISSION OF *MYCOBACTERIA TUBERCULOSIS*

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Abstract

Tuberculosis is caused by bacteria (Mycobacterium Tuberculosis) which most commonly attacks the lungs. Eight countries account for two-thirds new Tuberculosis cases in the world, namely India, China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh, and South Africa. So for that, is very necessary to take precautions so as not to infect family members by increasing knowledge through health education. This study aims to analyze the impact of health education on compliance with pulmonary Tuberculosis patients in preventing transmission of Mycobacteria Tuberculosis. This study uses the design used in this study is a quasi-experimental design method with the method of one group pre and posttest design. The sample size of this research is 30 people. The health education method used is the individual method as a requirement for conducting research during the COVID 19 pandemic and the media used to provide health education is a poster. The tool used to measure compliance is a questionnaire. The results of the analysis showed that there was a significant effect on health education on the level of pulmonary Tuberculosis patients to prevent transmission of Mycobacterium Tuberculosis (p-value was 0.000). Advise nursing arrangements in implementing community and individual nursing care to implement nursing interventions, especially health education by paying attention to the methods and media used so that the health education information delivered can be accepted and implemented by patients.

Keywords: Health education, impact, pulmonary Tuberculosis, prevention

Introduction

Tuberculosis is caused by bacteria (*Mycobacterium Tuberculosis*) that attack the lungs. tuberculosis is spread from person to person through the air. when people with pulmonary tuberculosis cough, sneeze or spit, they push tuberculosis germs into the air. a person needs to inhale only a few of these germs to become infected. tuberculosis can be cured and prevented (imron, 2012). The number of tuberculosis cases in indonesia was 420,994 cases in 2017. Based on gender, the number of new tuberculosis cases in 2017 in men was 1.4 times greater than in women. Tuberculosis is one of the top 10 causes of death worldwide. multi-drug-resistant tuberculosis (*mycobacterium-tuberculosis*) remains a public health crisis and health security threat. who estimates there are 558,000 new cases with resistance to rifampin - the most effective first-line drug. eight countries account for two-thirds of new tuberculosis cases in the world, namely India, China, Indonesia, Philippines, Pakistan, Nigeria, Bangladesh, and South Africa (who, 2016).

Tuberculosis if not treated immediately or treatment is not complete can cause dangerous complications and even death. So for that, it is necessary to take precautions so as not to infect family members by increasing knowledge (permenkes, 2016). One of the efforts to increase public knowledge is health education. health education is a series of concrete efforts to change the behavior of individuals, groups, or communities. Health education is an important part as an effort to maintain the continuity of a healthy life for the community (nurmala, 2018). Health education is a top priority and is one of the effective nursing interventions to increase the level of public awareness of the importance of a correct understanding of health. through health education, the community can increase knowledge and try to prevent and treat diseases that attack

The results of the initial survey conducted by researchers on families caring for tuberculosis patients through interviews stated that they only brought tuberculosis patients to the public health service when the drugs ran

out but did not take any action at home and 1 other person said that apart from bringing tuberculosis patients to the public health service when the drugs ran out, they also supervised taking medication and separates the patients eating and drinking utensils, but does not prepare a spitting area for tuberculosis patients. Based on the description above, the researchers are interested in conducting research on the impact of health education on the level of compliance of pulmonary tuberculosis patients in preventing the transmission of mycobacteria tuberculosis.

methods

the design used in this study is a quasi-experimental design method with the one group pre and posttest design method. this research was conducted in the early stages of implementation first, a preliminary study was conducted on patients with pulmonary tuberculosis. further research will be conducted by measuring compliance, implementing the intervention, and measuring patient compliance after the intervention. the research will be conducted in the working area of the north wara health center, palopo city with a total sample of 30 people. this research was conducted by giving pre-test questionnaires in the first week. then in the second week, an intervention was carried out on respondents with individual counseling methods as a condition for researching the covid 19 pandemic. furthermore, the results were measured (post-test) in week six. the tool used to measure compliance is a questionnaire. the media used to provide health education is posters.

results

Tabel 1. Distribution Of Respondents Based On The Level Of Compliance Of Pulmonary Tuberculosis Patients To Prevent The Transmission Of *Mycobacterium Tuberculosis*

obedience	pre health education		post health education	
	frekuensi	persen (%)	frekuensi	persen (%)
good	11	36,7	25	83,3
not good	19	63,3	5	16,7

based on the data in table 4.2, it is found that the level of compliance before health education has good compliance as many as 11 people (36.7%) and poor compliance as many as 19 people (63.3%). meanwhile, after health education, there were 25 people (83.3%) good compliance data and 5 people (16.7%) with poor compliance.

Tabel 2. Testing The Impact Of Health Education On The Compliance Level Of Pulmonary Tuberculosis Patients In Preventing The Transmission Of *Mycobacterium Tuberculosis*

	Mean	Std. Deviation	Correlation	Sig.	Sig. (2-Tailed)
Tuberculosis Patient Adherence To Prevention	13,0333	3,37826			
Pre-Intervention Tuberculosis Patient Adherence To Prevention	16,6333	2,73525	0,274	0,143	0,000
Post Intervention					

based on the data in table 4.3, it is found that the adherence of tuberculosis patients to prevention before the intervention obtained a mean value of 13.0333 and a standard deviation of 3.37826. while the adherence of tuberculosis patients to prevention after the intervention obtained a mean value of 16.6333 and a standard deviation of 2.73525. the correlation value obtained is 0.274 with a sig value of 0.143, which means that there is no relationship between adherence before and after the intervention.

based on the analysis of the paired samples test t-test, the p-value of 0.000 is smaller than the value of $\alpha = 0.05$, which means H_0 is rejected and H_a is accepted or there is a significant influence on health education on the level of pulmonary tuberculosis patients in preventing transmission of *Mycobacterium Tuberculosis* in palopo city

Discussion

The results of the analysis showed that there was a significant effect on health education on the level of pulmonary tuberculosis patients in preventing the transmission of *Mycobacterium Tuberculosis* in palopo city. This happened because of the health education intervention given to the respondents. Providing information to the public using appropriate media and health methods can assist in conveying information and help people understand the information provided. Health education is carried out to influence people's lifestyles or health behaviors (who, 2012).

The results of this study are in line with the results of research conducted by (gusneli, 2020b) which concluded that there was an effect of health education on family behavior in efforts to control pulmonary tuberculosis. influencing public health behavior through health education is carried out to improve or improve public health behavior. Therefore, health education is needed which is expected to have a positive impact on health behavior. health education is carried out as an effort to promote health behavior (widayati, 2020). pulmonary tuberculosis patients are patients who require long-term treatment so it is necessary to prevent the failure of healthy living behavior and medication adherence. Preventing failure of handling and preventing transmission of *Mycobacterium Tuberculosis* bacteria needs to be updated and recalled knowledge and information on tuberculosis patients.

In this study, health education provided to pulmonary tuberculosis patients was able to change the health behavior of pulmonary tuberculosis patients to increase compliance in preventing the transmission of *Mycobacterium Tuberculosis* bacteria as the cause of pulmonary tuberculosis disease. health education that is carried out using the health education method directly to individuals is due to the consideration of the covid-19 pandemic. health education methods that are direct to individuals are effective in increasing the compliance of pulmonary tuberculosis patients because providing information through heart-to-heart discussions makes pulmonary tuberculosis patients more open days to ask questions is not shy or doubtful and dares to express what is a question to the material giver. Nurmala (2018) said that one method of health education that can be used to provide health information to the public is to use individual health education.

During the study, researchers encountered several advantages and disadvantages during the implementation of health education using individual methods. the advantages that can be obtained include the information submitted can be accepted and understood by the respondent as the recipient of the information, the respondent can ask freely about the things that the respondent questions that have been hesitant to disclose, and the respondent's family member can participate in following the information provided so that indirectly, health education in the family is implemented. In a study conducted by (lolo & sumiati, 2019) which used counseling and lecture methods, the results showed that there was a significant change in the knowledge and attitudes of respondents. the drawbacks of implementing this individual method are that the presenters require more time and energy and the information obtained by the respondents is limited to the information submitted by the presenters and those asked by the individual respondents (when in a large forum there will be many different questions so that information is given and received by respondents are increasingly diverse). Nurmala (2018) conveyed that various information would appear in the discussion lecture method.

In this study, health education was conducted using health education media. Various health education media can be used to provide information to the public to increase knowledge and improve compliance with pulmonary tuberculosis disease prevention efforts including using print media, audiovisual media and social media. the use of print media in the implementation of health education using print media is of several types, including using flipcharts (gusneli, 2020a), flipchart (shinta, 2019), leaflets (lolo & sumiati, 2019), booklet (shinta, 2019), and the use of audiovisual video media (shinta, 2019). Meanwhile, social media is mostly used by accounts of health institutions such as the indonesian ministry of health, the management of hospitals and

health centers. In addition to these health education media, there are also various other health education media that can be used in the implementation of health education including posters, banners, banners,s, and others. in this study, researchers used poster media in conveying health education information. nurmala (2018) said that poster media is a visual aid that can be used as a tool to convey information in health education.

compliance is a behavior that can be improved individually by the presence of external stimuli and from the individual himself. community compliance with health procedures can be changed or improved, one of which is through health education. Through public health education, people will obtain health information from health workers or health workers so that the information obtained is accurate and easily accepted. Nurmala (2018) said that health education is carried out as an effort to provide information and also provide learning experiences for individuals so that they can make changes in behavior for the better. with the health education given to a person, then their puppies get learning. the lessons given emphasize the importance of repetition which is perhaps the oldest as suggested by the theory of power psychology. according to this theory, learning is training the powers that exist in humans which consist of the power to observe, capture, remember, imagine, feel, think and so on. sa'ud us (2008 in ummah, 2021). By doing repetition, one's memory, thinking, and knowledge will develop.

Researchers assume that pulmonary tuberculosis patients need information updates and knowledge recall through health education to remain obedient in making efforts to prevent the spread of *Mycobacterium Tuberculosis* bacteria from sufferers to family members or other people who are in contact with patients. health education given to respondents needs to pay attention to the method of delivering the information provided and the information media used. the individual method of health education is more appropriate for pulmonary tuberculosis patients because it is able to significantly change patient knowledge and compliance with an intense conversation between patients and researchers through a question and answer process related to the material presented or answers to questions from patients. likewise in the use of media, poster media is very appropriate to be used by presenters because it is easy to use, provides information clearly through pictures, and makes it easy to read the information because of large writing so that it can be read clearly.

Conclusion

Based on the results of the analysis, it was concluded that there was a significant influence on health education on the level of pulmonary tuberculosis patients in preventing the transmission of *Mycobacterium Tuberculosis* in palopo city.

Suggest the nursing order in carrying out community and individual nursing care to implement nursing interventions, especially health education by paying attention to the methods and media used so that the health education information conveyed can be accepted and implemented by the patient.

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