

The Effect Of Giving Education With Interactive Audio Visual Media On Compliance In Taking Medication In Pulmonary Tuberculosis Patients

La Joni, Haerudian Lahasani, Verawati Parhusip, Rari Nurhandayani, Antha Badrun Meram

Nursing Profession Program Universitas STRADA Indonesia

*Corresponding author: aza_novena20@gmail.com

ABSTRACT

The high level of mobility and population density has caused the spread and death from tuberculosis to increase. The purpose of this study was to evaluate the effectiveness of providing Health Education with Interactive AudioVisual Media on medication adherence in tuberculosis patients at Kaimana Hospital in the period of August 2024. The design of this study was a quasi-experiment with a non-randomized control group pretest-posttest design. The sampling method used purposive sampling with the specified criteria, 5 respondents in the control group and 5 respondents in the intervention group. The results of the study were tested using the Wilcoxon and Mann-Whitney tests, showing that there was a significant difference in adherence in pulmonary tuberculosis patients before and after the provision of Health Education using interactive audiovisual media. Efforts to increase medication adherence in pulmonary tuberculosis patients at Kaimana Hospital through the provision of health education interactive audiovisual media showed a significant increase.

Keywords: Audio Visual, Compliance, Interactive Media, Pulmonary TB

INTRODUCTION

According to the Minister of Health Regulation No. 67 of 2016, TB is an infectious disease caused by *Mycobacterium tuberculosis*, which can attack the lungs and other organs of the body. Tuberculosis is still a public health problem that causes high rates of morbidity, disability and death, so that efforts to overcome it are needed. Pulmonary tuberculosis is the most common type of tuberculosis (WHO, 2016). In the WHO report in 2013, it was estimated that there were 8.6 million cases of TB in 2012. Indonesia has the opportunity to achieve a decrease in the number of morbidity and deaths due to TB by half in 2015 when compared to data from 1990 (Pusdatin Kemenkes RI, 2016). One way to achieve a decrease in the number of morbidity and death due to pulmonary TB is to increase patient compliance in taking medication. Tuberculosis drugs must be taken by patients regularly for six consecutive months without stopping. Patient compliance in taking medication is one of the determining factors for the success of therapy.

According to WHO, the standard treatment success rate is 85% while the Ministry of Health has set a target of a minimum of 88% for the success rate of treatment of pulmonary TB patients in Indonesia has not reached the target. If treatment is stopped for less than six months, patients will relapse from time to time and tuberculosis germs become resistant, thus requiring large costs for treatment. Interrupted or non-standard Directly Observation Treatment, Short Course (DOTS) treatment can also result in the emergence of cases of multi-drug resistance to

anti-TB drugs which cause stronger types of TB germs, known as Multi Drug Resistant (MDR-TB) (Sari, Musbasyiroh, & Supardi, 2016).

To improve adherence to taking medication in pulmonary TB patients, it is necessary to provide TB treatment education, which can be in the form of counseling, through videos. Interactive audio-visual media, such as videos, have advantages in counseling adherence to taking tuberculosis medication in TB patients because they can convey information in a more interesting, interactive and easy-to-understand way for patients. According to the latest research by Zhang et.al (2020), this media can increase the level of information retention, accelerate the learning process, and help TB patients understand the importance of adherence to taking medication through more realistic visualizations. By using interactive audio-visual media, it is hoped that patients can be more motivated to follow treatment consistently and successfully achieve recovery.

The limited number of pharmacists and the high workload in prescribing drugs for patients in hospitals often make counseling activities unfeasible. Alternative counseling is needed to make it easier for patients to get the information they need regarding the treatment they are undergoing. One alternative is the use of audio-visual video media so that patients can watch it anywhere and anytime (Zhang et.al, 2020).

Kaimana Regional Hospital is the only hospital in Kaimana Regency which is one of the areas with a fairly high number of pulmonary TB sufferers in Kaimana Regency. This study aims to see the effect of providing Health Education using Interactive AudioVisual media on the level of knowledge and compliance in taking medication for pulmonary TB patients so as to increase the success rate of pulmonary TB treatment therapy at Kaimana Regional Hospital.

METHODS

This study used a quasi-experimental method, using a non-randomized control group pretest posttest design. The sample in this study were pulmonary TB patients who came to RUSD Kaimana who met the inclusion criteria. Sampling was carried out using purposive sampling techniques. Primary data collection was carried out by guided free interviews for the intervention group and the control group. The interview used a socio-demographic questionnaire of respondents consisting of patient name, address, telephone number, gender, age, last education, employment status and a questionnaire on the level of compliance consisting of 7 questions. Respondents were divided into two groups, namely the intervention group (with video) and the control group (without video). After the pretest was carried out, a posttest was then carried out by looking at changes in respondent compliance by asking questions again within a minimum of 7 days after the pretest was carried out.

RESULTS AND DISCUSSION

1. Respondents' Sociodemographic Data

The results of the study of patient sociodemographic data can be seen in table 1 below. Based on the research results, male gender is the category that is most infected with Mycobacterium Tuberculosis bacteria with 50% of patients and 40% of female patients suffering from tuberculosis. Men do more activities outside the home than women. In addition, unhealthy lifestyles such as alcohol consumption and smoking habits will make patients more susceptible to TB infection. This opinion is supported by Dotulong, Sapulete, and Kandouw (2015) which shows that men are more at risk of developing pulmonary TB than women. Where men smoke and drink more alcohol than women, smoking and alcohol can reduce immunity so that they are more susceptible to pulmonary TB.

For the age range, the results of the study showed that the young adult age range is the age range category with the highest number of Mycobacterium tuberculosis bacterial infections

(60%), followed by patients in the middle adult category at 40%. TB attacks many productive ages and increases mortality rates in society, especially in developing countries (Wijaya, 2012). Based on the level of education of patients infected with the bacteria *Mycobacterium Tuberculosis*, the highest is patients with secondary education level (80%) patients infected with *Mycobacterium Tuberculosis* bacteria. Education level is one of the factors related to the incidence of TB (Oktavia, Mutahar, and Destriatania, 2016). Based on the research that has been done, it was found that the highest employment status infected with *Mycobacterium Tuberculosis* bacteria is patients with working status (60%). People who work are at risk of getting TB. Because people who work will have the opportunity to communicate more directly with many people. Research conducted by Retnaningsih (2010) revealed that people who work have relatively less time to live at home compared to groups who do not work. If you spend more time outside the home, the intensity of contact with pulmonary TB sufferers will increase, thus increasing the risk of being infected with *Mycobacterium Tuberculosis*.

No.	Characteristics Sociodemographics	Information	Number (N = 10)	Percentage (%)
1	Gender	Man	5	(50%)
		Woman	4	(40%)
2	Age Range	Young Adult	6	(60%)
		Middle Adult	4	(40%)
3	Education Level	basic education	2	(20%)
		Secondary Education	8	(80%)
4	Work	Doesn't work	4	(40%)
		Work	6	(60%)

2. Results of Analysis of Changes in Medication Compliance of Pulmonary Tuberculosis Patients at Kaimana Regional Hospital.

The results of data analysis to see changes in the scores of tuberculosis patient adherence to taking medication can be seen in table 2.

No	Information	P Value	Results
1	Changes in compliance scores between pretest and posttest of control group patients (without providing health education through interactive audio-visual media)	0.955	Not significant
2	Changes in compliance scores between pretest and posttest of treatment group patients (with the	0,000	Significant

provision of health education through interactive audio-visual media)

3	Changes in adherence scores between control and treatment group patients	0,000	Significant
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Based on the results of the data analysis, a significance value of 0.957 ($p > 0.05$) was obtained, so it can be concluded that there was no significant change in the compliance of taking medication in control patients undergoing OAT therapy at Kaimana Regional Hospital. This result is in line with research conducted by et. al, (2012) that there was no difference in the control group regarding changes in the average respondent's answers in the pretest and posttest.

Based on data analysis, a significance value (p value) of 0.000 ($p < 0.05$) was obtained, so it can be concluded that there is a significant change in medication adherence in intervention patients between before and after health education using interactive audio-visual media in patients undergoing OAT therapy at Kaimana Hospital. This is in line with research conducted by Dewanti et al, (2025) that providing health education using interactive media can increase medication adherence in patients seeking treatment at health facilities. This opinion is supported by previous research by Murtantiningsih & Wahyono (2010) which stated that there is a relationship between medication adherence and healing of Pulmonary TB. The same results were stated by Muniroh et al, (2023) that there is a relationship between medication adherence and healing of pulmonary TB in health services.

From this study, the results of the differences in changes in the level of adherence to taking medication between the control group and the intervention group were also found, with a p value of 0.000 which states that there is a significant increase in the level of adherence to taking medication in the intervention group when compared to the control group. Based on these data, it can be concluded that there is a significant difference in changes in patient adherence scores between patients who are given education with interactive audio-visual media. This is in line with the research of Lorianana et al, (2014) patients undergoing pulmonary TB treatment need information or health counseling about TB care and treatment.

CONCLUSION

Based on the research results, it can be concluded that providing education through interactive audio-visual media can contribute to increasing medication adherence in pulmonary tuberculosis patients at Kaimana Regional Hospital ($p < 0.05$).

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