



Audiovisual Media Health Education on Family Behavior in Caring for Tuberculosis Patients

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ABSTRAK

TBC saat ini masih menjadi masalah kesehatan dilingkungan masyarakat Indonesia. Peran keluarga pada pendampingan pasien tuberculosis diharapkan dapat membantu tercapainya angka kesembuhan sehingga penurunan angka penderita tuberculosis dapat tercapai. Tujuan dari penelitian ini untuk menganalisis pengaruh media edukasi kesehatan audiovisual terhadap perilaku keluarga dalam merawat pasien tuberculosis. Jenis penelitian ini adalah desain pra-eksperimen dengan desain one-group pretest-posttest design. Populasi dalam penelitian ini berjumlah 75 orang. Teknik pengambilan sampel adalah nonprobabilitas dengan teknik purposive sampling dan diperoleh jumlah sampel sebanyak 63 sampel. Metode pengumpulan data menggunakan tes. Instrumen penelitian yang digunakan dalam penelitian ini adalah kuesioner. Analisis data dilakukan menggunakan uji Wilcoxon. Hasil uji statistik membuktikan bahwa ada pengaruh edukasi media kesehatan audiovisual terhadap perilaku keluarga dalam merawat pasien tuberculosis. Disimpulkan bahwa edukasi media kesehatan audiovisual dapat meningkatkan perilaku keluarga dalam merawat pasien tuberculosis. Implikasi penelitian ini yaitu penerapan media kesehatan audiovisual dapat membantu keluarga dalam merawat pasien tuberculosis.

ABSTRACT

Currently, TBC is still a health problem in Indonesian society. It is hoped that the role of the family in assisting tuberculosis patients can help achieve a cure rate so that a reduction in the number of tuberculosis sufferers can be achieved. This research aims to analyze the influence of audiovisual health education media on family behaviour in caring for tuberculosis patients. This type of research is a pre-experimental design with a one-group pretest-posttest design. The population in this study was 75 people. The sampling technique was non-probability with a purposive sampling technique, and a total sample of 63 samples was obtained. The data collection method uses tests. The research instrument used in this research was a questionnaire. Data analysis was carried out using the Wilcoxon test. The results of statistical tests prove that audiovisual health media education influences family behaviour in caring for tuberculosis patients. It was concluded that audiovisual health media education can improve family behaviour in caring for tuberculosis patients. This research implies that the application of audiovisual health media can help families in caring for tuberculosis patients.

1. INTRODUCTION

Infectious diseases are diseases caused by interactions between disease agents (living microorganisms), humans and the environment. The main problem that is still faced by Indonesia in the scope of infectious diseases is tuberculosis (Achjar & Putri, 2022; Darmawan, 2017). Tuberculosis is an infectious disease caused by TB bacteria (Mycobacterium Tuberculosis) which attacks the lungs, but can also attack organs other than the lungs. Transmission can be through saliva or droplets in the air. When a TB patient sneezes and coughs, the droplets accompanied by TB bacteria will be carried into the air. TB bacteria that are in the air will enter other people's bodies through the air they breathe. TB infection usually spreads between family members who live in the same household. TB disease if left untreated or incomplete treatment can cause dangerous complications up to death (Bili, 2019; Vevi Suryenti Putri & Apriyali, 2022). Tuberculosis is the second deadliest infectious disease in the world after COVID-19 in 2021 and is ranked 13th as the main cause of death worldwide. The largest number of new TB cases, namely 43%, occurred in the WHO Southeast Asia Region, followed by the WHO Africa Region, with 25% of new cases, and the WHO West Pacific Region, with 18% of new cases. Eight countries accounted for two-thirds of new TB cases, namely India (26%), China (8.5%), Indonesia (8.4%), Philippines (6%),

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Pakistan (5.8%), Nigeria (4.6%) %, Bangladesh (3.6%), and South Africa (3.3%) (Organization, 2021; Wang et al., 2022).

According to data from the Indonesian Ministry of Health (2021), there were 397,377 cases of tuberculosis (TB) throughout Indonesia. Indonesia is ranked 3rd with the highest number of TB sufferers in the world after India and China. In 2021, the most TB cases were found in West Java, with a total (of 91,338 cases). Bali is ranked 24th in the order of data for regions with the most tuberculosis. According to the Bali Provincial Health Office (2020), Denpasar City is in first place with the largest number of tuberculosis cases in Bali Province, namely (1,054 cases). The results of a preliminary study conducted by the author at the Denpasar City Health Office found that the highest tuberculosis cases occurred in West Denpasar, namely in the working area of the UPTD Puskesmas II West Denpasar with a total 353 cases (Budiana et al., 2021; Fitriana & Maryati, 2021). The role of the family in assisting tuberculosis patients is expected to help achieve the recovery rate so that the reduction in the number of tuberculosis patients can be achieved (Manik et al., 2020; Zakariya et al., 2017). According to the Indonesian Ministry of Health, there are five family health tasks that are included in the focus of the implementation approach of the Healthy Indonesia Program with a Family Approach (PIS-PK), including when a family member is sick, one of the most important is family behaviour in providing care to ill family members. Maximizing family behaviour in delivering care to family members suffering from TB can be done by providing health education (Khairunnisa et al., 2023; Suardana et al., 2021). Health education for family members suffering from TB is essential to ensure adequate recovery and prevent the spread of the disease. By providing clear and accurate information on modes of transmission, symptoms, treatment, and preventive measures, family members can better understand how to support TB patients and protect themselves (Harefa et al., 2023; Jatmika et al., 2019).

Unfortunately, the importance of health education is still inversely proportional to the facts in the field. Based on the results of observations and interviews with the head of the room at the TB Poli UPTD Puskesmas II West Denpasar, health education is still rarely given. The media used is still limited, health education about tuberculosis using audiovisual media in TB Poly has never been done. The educational media used in the TB clinic of the West Denpasar Health Center II UPTD are only in the form of flip sheets, leaflets and posters. Knowing that audiovisual health education has never been conducted for patients and their families in the working area of the UPTD Puskesmas II West Denpasar, this research is important. The success of health education can be seen from the use of methods that will influence the behaviour of the target group (Vevi Suryenti Putri & Apriyali, 2022; Yuniar & Lestari, 2017). The use of innovative media can support the success of health education. One of them is through educational methods that use educational aids that involve many senses, such as audiovisual media; this media will affect success in terms of understanding the target group. Audiovisual media is considered more interesting because it combines audio, visual, and animation so that the audience will understand it more easily and is not boring and more dynamic. The development of video displays using an animated video approach will be more interesting because they have funny, colourful, and friendly characters that make the audience feel closer and more comfortable listening to the information provided (Jatmika et al., 2019; Mardila et al., 2023). This study is supported by previous research related to the effect of the use of Audiovisual Media on the Behavior of Patients with Pulmonary TB in Preventing COVID-19 nosocomial Infection. The results of the research showed that health education with audiovisual media had an effect on the behaviour of pulmonary TB patients in preventing nosocomial infections of COVID-19 (Khairunnisa et al., 2023; Suardana et al., 2021). In addition, this study is also supported by research related to the impact of health education on preventing disease transmission to patients. This study states that the implementation of health education has an effect on transmission-prevention behaviour in the patient's family (Budiana et al., 2021; Mardila et al., 2023). The advantage of this study is that it uses audiovisual media that supports the implementation of health education for families caring for TB patients. Based on this explanation, this study was conducted with the aim of analyzing the effect of audiovisual media health education on family behaviour in caring for tuberculosis patients in the work area of UPTD Puskesmas II West Denpasar.

2. METHODS

This type of research is pre-experiment design with one-group pretest-posttest design. The population in this study were families who had family members with tuberculosis in the working area of the UPTD Puskesmas II West Denpasar, Denpasar City with a specified population of 75 people. Technique sampling used in this study are non-probability with technique purposive sampling and obtained a sample size of 63 family members with tuberculosis who met the inclusion and exclusion criteria. The research instrument used in this study was a questionnaire. Questionnaires are used to determine knowledge, attitudes, and actions regarding family behavior in caring for tuberculosis patients. This questionnaire

was made by the researchers themselves and validity test and reliability test. formula used to validity test items from family behavior questionnaire statements in caring for tuberculosis patients is the correlation formula product moment person. Results of the validity test questionnaire on knowledge, attitude, and action items shows the value of r count is greater than r table (r count $>$ 0.374). with a significant level test of 5%, which means the questionnaire is declared valid. A variable is said reliable if it gives a value of r cronbach alpha $>$ r table. Results of the reliability test questionnaire on knowledge, attitude, and action items shows the value of r cronbach alpha bigger than r table (r cronbach alpha $>$ 0.6) which means the questionnaire is stated reliable. The pre-test questionnaire was given before the intervention was given, after which an intervention was carried out in the form of health education through audiovisual media according to material related to family behavior in caring for tuberculosis patients for 1 x 20 minutes, then the questionnaire was given again to find out the results of the post-test. After the data was collected, it was then analyzed using the Wilcoxon test (Nursalam, 2017; Siyoto & Sodik, 2015).

3. RESULT AND DISCUSSION

Results

An The results of research on the effect of audiovisual media health education on family behavior in caring for tuberculosis patients in the working area of the UPTD Puskesmas II Denpasar Barat, Denpasar City in 2023 are show in Table 1.

Table 1. Characteristics of Respondents

Characteristics		F	%
Age	25-31 years	32	50.8
	32-38 years	14	22.2
	39-45 years	17	27.0
Gender	Male	28	44.4
	Female	35	55.6
Last Education	Junior High School	3	4.8
	Senior High School/Vocational High School	44	69.8
	Diploma	3	4.8
	Bachelor	13	20.6
Work	Private employees	32	50.8
	Housewife	14	22.2
	Self-employed	14	22.2
	Doesn't work	3	4.8
Income	< IDR.1.500.000	4	6.3
	IDR.1.500.000- IDR.3.000.000	35	55.6
	>IDR.3.000.000	7	11.1
	No Income	17	27.0

Based on Table 1 shows that the characteristics of the respondents based on the age can be seen mostly aged 25-31 years as many as 32 respondents (50,8%). Characteristics of respondents based on gender shows that the majority of respondents are female as many as 35 respondents (55.6%). Characteristics based on recent education shows that most of them have graduated from high school and vocational high school as many as 44 respondents (69.8%). Characteristics of respondents based on work that the majority of respondents work as private employees as many as 32 respondents (50.8%). Characteristics based on income show that the majority of respondents earn Rp.1,500,000-Rp. 3,000,000 as many as 35 respondents (55.6%). The normality test of the data used is *Kolmogorov-Smirnov* because the number of samples $>$ 50. The test results obtained are presented in Table 2.

Table 2. Normality Test

Variable	Kolmogorov Smirnov (Sig)	Wilcoxon Sig. (2- tailed)
Pre-Test	0.200	
Post-Test	0.000	0.000

After doing the normality *Kolmogorof Smirnov test*, value is obtained them sig. 0,200 (p -value $>$ 0.05) on *pre-test* so that it can be said to be normally distributed. However value them sig.0,000 (p -value $<$

0.05) on *post-test* so that the data is not normally distributed so that it is continued with the Non-Parametric alternative hypothesis *Wilcoxon test*. A bivariate analysis of the effect of audiovisual media health education on family behaviour in caring for tuberculosis patients is presented in [Table 3](#).

Table 3. Bivariate Analysis of the Effect of Audiovisual Media Health Education on Family Behavior in Caring for Tuberculosis Patients in the Working Area of the UPTD Puskesmas II Denpasar Barat, Denpasar City in 2023

Variable	N	Mean	SD	Difference Mean	p-value
Cognitive					
Pre-test	63	55.08	14.466	43.97	0.000
Post-Test		99.055	3.461		
Affective					
Pre-test	63	21.52	7.068	18.02	0.000
Post-test		39.54	0.858		
Psychomotor					
Pre-test	63	53.65	11.402	45.87	0.000
Post-test		99.52	2.799		
Behavior					
Pre-test	63	54.74	8.773	44.46	0.000
Post-test		99.21	2.304		

Based on [Table 3](#), data is obtained that there is an influence of audiovisual media health education on knowledge, attitudes, and family actions in caring for tuberculosis patients with p-value 0.000. There is an increase in the value of knowledge after being given media health education audiovisual of 43.97. In attitude there is an increase in value of 18.02. In the action there is an increase in value of 45.87, and there is an increase in the value of family behavior in caring for tuberculosis patients after being given media health education audiovisual of 44.46.

Discussion

The results of family cognitive measurement research before being given audiovisual media health education from 63 respondents obtained an average value of pre-test knowledge of 55.08 with a poor category, while after being given audiovisual media health education from 63 respondents obtained an average value of post-test knowledge of 99.055 with a good category. This research is in line with research on the Effectiveness of Health Education with Audiovisual Knowledge and Family Healthy Living Behavior About Prevention of Pulmonary Tuberculosis Transmission ([Buang et al., 2017](#); [Mardila et al., 2023](#)). The researcher's analysis based on the research above shows that there are similarities with this study, namely, the results of the post-test after being given health education with audiovisual media show an increase in knowledge in respondents because respondents understand what is conveyed when providing health education and seeing videos that display images and sound makes it easier for respondents to understand. The results of family affective measurement research before being given audiovisual media health education from 63 respondents obtained an average pre-test attitude value of 21.52 in the moderate category, and after being given audiovisual media health education from 63 respondents obtained an average post-test attitude value of 39.54 in the good category. This study aligns with research on the Effect of Health Education with Audiovisual Media on Maternal Attitudes About Early Breastfeeding Initiation ([Maria, 2020](#); [Zakariya et al., 2017](#)). Researcher analysis based on the research above shows that there are similarities with this study, namely, the results of the post-test after being given health education with audiovisual media show an increase in the attitude of respondents because respondents understand the educational material presented. The results of family psychomotor measurement research before being given audiovisual media health education from 63 respondents obtained an average value of pre-test action of 53.65 with a category of less, and after being given audiovisual media health education from 63 respondents obtained an average value of post-test action of 99.52 with a good category. This research is in line with research on Health Education with Audiovisual Media ([Masriwati & Pongdatu, 2022](#); [Wea et al., 2018](#)). The researcher's analysis based on the research above shows that there are similarities with this study; namely, the results of the post-test after being given health education with audiovisual media show an increase in the actions of the respondents because the respondents have understood the educational material provided. Action is the result of a person's knowledge and attitude, so if a person's knowledge and attitude are good, the actions (practices) applied

will also tend to be good. The results of the study measuring family behaviour before being given audiovisual media health education from 63 respondents obtained an average pre-test behaviour value of 54.74 with a poor category, and a category after being given audiovisual media health education from 63 respondents obtained an average post-test behaviour value of 99.21 with a good category. This research is in line with research related to the Effect of Health Education with Audiovisual Media on Handwashing with Soap Behavior (CTPS) in Students (Fitriana & Maryati, 2021; Minarti, 2023). The researcher's analysis based on the research above shows that there are similarities with this study, namely, the results of the post-test after being given health education with audiovisual media show an increase in respondent behaviour because respondents understand and can practice the health education provided well as well as the ease of information received from animated video shows containing images and sounds that are easy to understand.

In Cognitive, based on the results of the Wilcoxon test, they obtained a p-value of 0.000, indicating that there was a significant increase in family knowledge before and after being given audiovisual media health education with a difference in the rise in knowledge value of 43.97. The results of this study are in line with research related to the Effect of Health Education with Audiovisual Media on Elderly Behavior in Strengthening and Implementing Health Protocols (Achjar & Putri, 2022; Novalia et al., 2023). The results of the researcher's analysis show that there is an increase in knowledge before and after being given health education because respondents pay attention and understand health education material well and use audiovisual media by displaying exciting images and sounds so that respondents more easily understand the information provided. In affective based on the results of the Wilcoxon test obtained a p-value of 0.000, indicating that there was a significant increase in family attitudes before and after being given audiovisual media health education with a difference in the rise in attitude value of 18.02. The results of this study are in line with research on the Effect of Education with Audiovisual Media on Elderly Behavior About Personal Hygiene (Nursalam, 2017; Wiliyanarti et al., 2023). The results showed that before being given health education with audiovisual media. The results of the researcher's analysis showed an increase in attitudes before and after being given health education with audiovisual media due to an increase in family understanding of the behaviour of caring for tuberculosis patients through the provision of audiovisual media health education that supports respondents in receiving information. In Psychomotor, based on the results of the Wilcoxon test obtained, a p-value of 0.000 indicates that there is a significant increase in family action before and after being given audiovisual media health education with a difference in the increase in action value of 45.87. The results of this study are supported by research on the Effectiveness of Audiovisual Media and Leaflets to Improve Knowledge, Attitudes, and Actions About the Prevention of Gastritis Disease (A. T. Putri et al., 2017; V S Putri et al., 2022). The results of the researcher's analysis show an increase in action before and after being given audiovisual media health education because the information conveyed through audiovisual media is easier to understand, and respondents can see and listen to information simultaneously so if the respondent has understood how to care for tuberculosis patients, the actions that will be practised later will be better.

Behaviour based on the results of the Wilcoxon test obtained a p-value of 0.000, indicating that there is a significant increase in family behaviour before and after being given audiovisual media health education with a difference in the increase in behaviour value of 44.46. The results of this study are in line with research related to the Effect of Health Education Using Audiovisual Methods on Knowledge, Attitudes, and Personal Hygiene Behavior in the Prevention of Vaginal Discharge (Saputra et al., 2020; Saranani et al., 2019). The results of the researcher's analysis showed an increase in behaviour before and after being given audiovisual media health education. Information conveyed through audiovisual media is packaged in an interesting way so that it is easily remembered by viewers and provides a realistic picture so that there is an increase in respondents' better behaviour. This study has several advantages, such as audiovisual media that can increase family understanding and engagement more excitingly and understandably than conventional methods (Aisah, 2021; Trisetianingsih & Nursanti, 2021). This study implies that audiovisual media can be an effective tool in improving correct care behaviours and treatment adherence, which in turn can improve the health outcomes of TB patients and prevent the spread of the disease. However, this study still has some shortcomings, including limited access to technology in some remote areas or families' lack of ability to use technological devices. Suggestions for future research include expanding the scope of the study to include more participants from different socio-economic backgrounds and regions, as well as developing audiovisual content that can be accessed offline or through simple media that is more accessible to all levels of society.

4. CONCLUSION

Based on the results of the study, it can be concluded that 1). The characteristics of families of tuberculosis patients in the working area of UPTD Puskesmas II West Denpasar, Denpasar City, are mostly 25-31 years old, female, the last education is SMA / SMK, working as a private employee, and earning Rp1,500,000.00-Rp3,000,000.00; 2). There is an increase in cognitive, affective, and psychomotor after being given audiovisual health education media; 3). Audiovisual health education media affects family behaviour in caring for tuberculosis patients in the working area of UPTD Puskesmas II West Denpasar City in 2023.

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