

Pocket and Audio-Visual-Animated Influence to The Knowledge and Attitudes of Female-Age-Women in Prevention of Tuberculosis Transmission

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Abstract. Prevention of tuberculosis transmission in female prostitutes can be conveyed through audio-visual methods and pocket books, which can be more interesting and easy to understand, as part of health promotion, so that the target audience can learn the message for adoption. The purpose of this study was to determine the effect of using pocket books and audiovisual animation on increasing the knowledge and attitudes of female prostitutes in preventing tuberculosis transmission. Quasi-experimental research design nonrandomized pretest posttest control group design. The results of the study, there was a change in the mean of knowledge before and after being given pocketbooks and audio-visual media by 15.88 in the intervention group, changes in the mean attitude of 39.40 in the intervention group. There is an effect of giving pocket books and animated-videos on the knowledge and attitudes of women women in preventing tuberculosis transmission with p value <0.01. Pocket books and audio-visual media can be used as alternatives to provide health education to families and communities in efforts to prevent tuberculosis

Keywords: Pocket book, Audio-Visual-Animation, Prevention, Tuberculosis

1 Introduction

Tuberculosis is a disease caused by easily transmitted bacteria. Tuberculosis attacks the lungs a lot, but these bacteria can also spread to other organs such as the urinary tract and bones [1]. For women, tuberculosis can attack and spread to the uterus, causing an impact on fertility as much as 1% and 2% [2]. Curing tuberculosis takes a long time, so the role of the family in treatment is very important. The sub-optimal role of the family in providing care and prevention causes the transmission of TB disease to other family members, as a result the number of sufferers tends to increase [3]; [4]

The highest TB burden in the world, after India, is China and South Africa. The estimated prevalence of TB cases is 600,000 and the estimated incidence is 450,000 new cases per year, with the number of deaths reaching 65,000 people per year [5]. The report of the Directorate General of PP & PL shows that the 2011 Case Detection Rate (CDR) of Pulmonary TB was 82.2%, with the number of new cases of 194,780 cases, and the coverage of patients who were declared cured of 80.4% and complete treatment of 6.3%, with a success rate (SR) of 86.7% [6].

Indonesia is in the third position of TB sufferers in the world until 2019 where the number of TB sufferers is 842 thousand cases found every year [7]. Cirebon 12 April 2019. Deli Serdang Regency, North Sumatra Province, data on the number of TB sufferers from 34 Puskesmas as many as 734 per 1,050,421 (35.12%) in women in 2017 [5]. Various efforts to control pulmonary TB have been explored and promoted, various complementary and innovative activities that empower national or international resources have also been implemented [8]. For example, collaborations on pulmonary TB and HIV control, patient management strategies, drug resistance, control of marginalized groups and vulnerable, increasing access to quality and availability of drugs, expanding quality care services, empowering communities and families through i social mobilization, health education, and effective ways to carry out TB care in the community, as well as increasing the independence of patients in care activities [9][5][10][10][8]

A preliminary study conducted in the working area of the Tanjung Rejo Percut Sei Tuan Public Health Center in Deli Serdang Regency with in-depth interviews with six housewives with pulmonary TB patients who expressed disappointment with their physical condition, due to weight loss, weakness, feeling sad because of frequent coughing and embarrassment due to illness. which he suffered. Since suffering from pulmonary tuberculosis, mothers cannot complete household chores and feel a burden such as sweeping, mopping, washing clothes and even cooking for family members. Meanwhile, the other three mothers said that the disease she was suffering from was a contagious disease. When communicating coughs, they feel alienated by family members. In general, the WUS said that they were bored with their illness and felt a burden on the family, and felt that their family did not pay attention to them.

To overcome these various problems, it is necessary to increase the knowledge and attitude of WUS regarding the prevention of tuberculosis transmission to both individuals and families [11] So far, the delivery of information about tuberculosis through lecture methods by cadres and health workers, however the level of knowledge and attitudes of WUS is still low. For this reason, it is necessary to make various efforts to improve the knowledge and attitudes of WUS with health education media that make learning more interesting, allow learning outcomes to be longer lasting and provide real experiences of the process of absorbing material using sight and hearing senses such as audio-visual animation media and books. pocket [12]

Several previous studies, such as research [13], stated that audiovisuals are an interesting media, educational aids that use them to stimulate the senses of hearing and sight, which can be played over and over again. The results of the study, effective to improve attitudes with video media with a duration of 10 minutes, the duration of the video influences someone's interest and absorption of information. The longer the video plays, someone's interest will increase.[14] ;[15]

The results of the study [16] show that there is an increase in the knowledge of respondents before and after getting education from pocket books. This can be seen from the difference after providing education using illustrated pocket books and in Madurese language, the majority of respondents have a high level of knowledge. Book media has the advantage of presenting a large number of messages or information. Messages or information can be learned by respondents according to their needs, interests and speed, each can be learned anytime and anywhere because they are easy to carry [17][17] [18]

The purpose of this study was to determine the effect of using pocket books and audiovisual animation on increasing knowledge and behavior of female prostitutes in preventing TB transmission. The hypothesis of this study is: There is an influence of pocket book media and audio-visual animation media on the knowledge and attitudes of fertile aged women towards the prevention and transmission of tuberculosis.

2 Method

The nonrandomized pretest posttest control group design quasi-experimental research design, by doing a pre-test before giving pocketbooks and audio-visual animation on prevention of tuberculosis transmission, then given treatment using pocketbooks and audio-visual animation, then post-test. The research location is in the working area of Tanjung Rejo Health Center, Percut Sei Tuan District, Deliserdang Regency. The population in this study were women who had tuberculosis in the working area of the Tanjung Rejo Health Center and the sample in this study was the entire population as a sample of 50 respondents. The sample criteria are: Women of childbearing age diagnosed with tuberculosis, who are undergoing tuberculosis treatment, WUS who use pocket books and audio-visual animation on prevention of tuberculosis transmission, have not read books and don't watch television related to the prevention of tuberculosis transmission, are willing to be respondents, Women of childbearing age aged 20-40 years, and domiciled in the working area of the Tanjung Rejo Community Health Center, Percut Sei Tuan District, Deliserdang Regency.

Collecting data on knowledge and attitudes by using a questionnaire through interviews, by first testing the validity and reliability. The questionnaire was compiled about the knowledge and attitudes of WUS in preventing the transmission of tuberculosis in WUS. The research implementation stage was by conducting a pre-test before the intervention and post-test after the intervention by providing pocket books and audio-visual animations about the prevention of tuberculosis transmission.

Data analysis was performed by statistical tests with a significance degree of 95%. The analysis was carried out, namely: 1) Univariate analysis to determine the frequency distribution and the average score of knowledge, the attitudes of WUS about the prevention of tuberculosis transmission. 2) Bivariate analysis was used to determine the effect of giving pocket books and audio-visual animation media on knowledge and attitudes of female prostitutes regarding the prevention of tuberculosis transmission. To see the increase in knowledge and attitudes of WUS about tuberculosis prevention infection, it was analyzed using the Paired T test, if the data were normally distributed and if the data were not normally distributed, the Wilcoxon test was used. To assess the effect of the Pocket Book and Animated Audio Visual on the Knowledge and Attitudes of Women of Fertile Age (WUS) regarding the prevention of tuberculosis transmission in the intervention group and the control group, the analysis was carried out using the Independent T test statistical test if the data were normally distributed and the Mann Whithney test if the data were not distributed. normal.

3 Results

The Tanjung Rejo Community Health Center in Deli Serdang Regency has a working area of nine villages. Data from the Puskesmas report in 2019, the number of new cases of tuberculosis sufferers was 188 people, 92 male and female 86 sufferers but 50 respondents became the research respondents.

3.1 Characteristics of Respondents

Research that has been conducted on 50 fertile aged female respondents (WUS) on the effect of pocket books and audio visual animation on knowledge and attitudes in preventing tuberculosis can be seen in table 1.

Table 1. Characteristics of Fertile Age Women in providing pocket books and audio-visual- animation in the Tanjung Rejo Health Center working area

No	Characteristics	n	%
1	Age		
	20-30 year	26	52
	31-40 year	13	26
	41-50 year	11	22
2	Education		
	Primary School	21	42
	Junior high school	15	30
	Senior High School	13	26
	College / Bachelor	1	2
3	Profession		
	Housewife	29	58
	Entrepreneur	3	6
	Private Employees	8	16
	Government Employees	2	4
	Farmer	8	16

3.2 Knowledge and Attitude

The knowledge and attitudes of WUS in preventing TB transmission can be seen in table 2.

Table 2. Distribution of WUS Knowledge and Attitudes before and after giving the Pocket Book and audio-visual animation in the Tanjung Rejo Community Health Center working area

Category	Intervention			
	Before		after	
	f	%	f	%
Knowledge				
Good	3	6	14	28
Enough	22	44	27	54
Less	25	50	9	18
Attitude				
Positive	20	40	32	64
Negative	30	60	18	36
amount	50	100	50	100

3.3 Effect of pocket books and animated audio-visuals

The effect of pocket books and audio-visual animation on the prevention of tuberculosis transmission in the Tanjung Rejo Community Health Center can be seen in table 3.

Table 3. Distribution of WUS knowledge and attitudes in providing pocket books and audio-visual animation before and after the intervention in the Tanjung Rejo Community Health Center Work Area

Variable	Intervention				Control			
	Mean	Std	Min	Max	Mean	Std	Min	Max
Knowledge								
Before	51.12	19.09	10.00	93.00	51.28	15.49	10.00	80.00
After	67.00	10.74	50.00	80.00	52.76	14.86	20.00	100.00
Delta	15.88	22.17			1.48	5.22		
Attitude								
Before	50.00	24.74	30.00	80.00	46.90	26.10	15.00	100.00
After	89.40	41.21	35.00	120.00	58.40	27.76	10.00	100.00
Delta	39.40	47.71			11.50	12.05		

Table 3 shows that there was a change in the mean of knowledge before and after being given a pocket book and audio-visual animation of 15.88 in the intervention group, and changes in the mean attitude in the intervention group 39.40.

The effect of providing pocket books and audio-visual animation on the prevention of TB transmission in the Tanjung Rejo Community Health Center

Table 4 Effect Of Pocket Books And Audio-Visual Animation On Wus' Knowledge And Attitudes In Preventing Tuberculosis Transmission

Variabes	Intervention Med (25 th -75 th Percentile)	Control Med (25 th -75 th Percentile)	p value ^{b)} between group
Knowledge			
Before	54.00 (40.00-66.00)	50.00 (40.00-66.00)	0.947
After	70.00 (60.00-80.00)	55.00 (40.00-66.00)	<0.01
Change	10.00 (0.00-34.00)	0.00 (0.00 – 5.00)	<0.01
p value ^{a)} within group	< 0.01 ^{a)}	<0.06 ^{a)}	
Sikap			
Before	30.00 (30.00-80.00)	30.00 (23.75-72.50)	0.05
After	120.00 (35.00-120.00)	60.00 (32.50-80.00)	<0.01
Change	40.00 (5.00-90.00)	40.00 (5.00 – 90.00)	<0.01
p value ^{a)} within group	< 0.01 ^{a)}	< 0.01 ^{a)}	

a. Difference within the groups (before & after) using wilcoxon test, at significant level of 5%

b. Difference between the groups (intervention & comparison) using Mann whitney test, at significant level of 5%

From table 4 it can be seen that in the intervention and control groups there was no difference in the mean knowledge through pocket books and audio-visual animation about the prevention of tuberculosis transmission, with a p value of 0.947. After the intervention there was an influence of knowledge through pocket books and audio-visual animation with p value <0.01. Likewise with attitudes, there is a difference in the mean knowledge of the intervention and control groups about the prevention of tuberculosis transmission with a p value <0.01 and there is also a difference in the mean knowledge of the intervention and control groups.

There was an effect of giving pocket books and audio-visual animation on attitudes in the intervention group with p value <0.01 , while in the control group there was no difference in the mean attitude in the intervention group and the control group with p value 0.05. After being given the pocket book and video intervention in the intervention group, there was a difference in the mean knowledge of the intervention group and the control group with p value <0.01

4 Discussion

Characteristics of respondents based on table 1, the majority of respondents aged 20-30 years 52%. Age is one of the factors that can describe a person's maturity, both physical, psychological and social maturity. Age will affect a person's mindset, so that as a person ages, the more experience and information they have, so that later it will affect a person's attitude and behavior. The emotions of a person above 20 years of age have begun to stabilize and are able to solve problems and accept responsibility [19][20]; [21].

The majority of respondents' education is elementary schools as much as 42%, only two percent have high education. Low education generally has low abilities compared to those with higher education, has the ability to understand more quickly. Education is an effort to develop personality and abilities inside and outside of school and lasts a lifetime. Education will affect the learning process, the higher a person's education, the easier it is to receive clearer information [19]; [13].

Respondents' occupations are generally IRT (housewives) 58%, civil servants two percent. The results of this study are in line with [22] research, that WUS with the work of the IRT has a lot of free time so that the supervision becomes more optimal. Research by [23], the work of WUS does not affect compliance with tuberculosis treatment.

Based on table 2, the majority of WUS knowledge before being given a pocket book was less (50%) and sufficient (44%). This is in line with [24] research that education, occupation, age of a person greatly affects knowledge, to get information, for example things that support health so that it can improve the quality of life. The characteristics of the majority of respondents are primary school education, their occupation is a housewife, and the majority are 21-30 years old. Work also affects working mothers' knowledge which will have an influence on family life. According to Huclok, the more mature a person's level of maturity and strength will be in thinking and working. Age is one of the factors that can describe a person's maturity, both physical, psychological and social maturity. Age will affect a person's mindset, so that as a person ages, the more experience and information they have, so that later it will affect a person's attitude and behavior. [11].

The majority of respondents' attitudes before the intervention were negative (60%) and after the intervention the majority are positive (64%). Research [25] said that attitudes are influenced by personal experience to be the basis for the formation of attitudes, personal experiences must leave a strong impression, therefore attitudes will be easier to form if personal experiences occur in situations involving emotional factors, in addition to personal experiences. attitudes are also influenced by the mass media, in conveying information, pocket book media and audio-visual animation are needed [26] ; [27]. The advantages of pocket book media according to [28], can provide more information, It can be learned anytime and anywhere because it is easy to carry. Meanwhile, animation media has the benefit of making learning more interesting, allowing longer and lasting learning outcomes, providing real experiences [25].

Table 3 shows a change in the mean knowledge before and after being given pocketbooks and audio-visual animation in the intervention group of 15.88, and the control group at 1.48.

Changes in the mean attitude also occurred in the intervention group and the control group, namely 39.40 for the intervention group and 11.50 in the control group. Edgar Dale's cone, in (Nursalam and Efendi 2009) reading will remember (print media) 10% of the material read is the material being read, hearing will remember 20% of what is heard, seeing will remember 30% of what was seen, heard and seen will remember (audio-visual) 50% of what was heard and seen. In this study using a pocket book (printed media) and listening and seeing will remember (audio visual) will make it easier for respondents to know and remember about the prevention of tuberculosis transmission, good knowledge of 28% and sufficient knowledge of 54% and positive attitude of 64%. [29]. In delivering the material, it may not be optimal considering the limited time the respondent has in providing pocket books and audio-visual media.

Many factors influence the success of health promotion, including: education level, socioeconomic, customs, community trust, the availability of time from the community, especially female women who may have to take care of their children and families. This means that it is not absolutely just discussing the prevention of tuberculosis transmission but there are other activities [30].

From table 4 it can be seen, Before the intervention with pocket books and audio-visual animation, there was no difference in the mean knowledge in the intervention group and the control group with a p value of 0.947. After the intervention, there was an effect of giving pocket books and audio-visual animation on knowledge in the intervention group with p value <0.01. Before being given the pocket book intervention and audio visual animation, there was no difference in the mean attitude in the intervention group and the control group with p value 0.05. There is an effect of giving pocket books and audio-visual animation on attitudes in the intervention group and the control group with p value <0.01.

This is in accordance with several research results which state that providing pocketbooks and audio-visual animation can increase the knowledge and attitudes and behavior of WUS, so that prevention of tuberculosis transmission can be prevented through health education and awareness of WUS [31]; [32]. Health education can determine the success of the tuberculosis treatment program so that it does not spread to other family members [33][33][32]. The benefits of pocket books according to [34], can present messages or information in large numbers, messages or information can be learned by respondents according to their needs and interests, can be learned anytime and anywhere because they are easy to carry, pocket books are a learning media that convey health messages in the form of books containing text and pictures. The pocket book consists of several pages, is an interesting medium because it can stimulate the sense of sight so that it is easier to convey information and can be read at any time and easy to carry everywhere [14].

Audiovisual is an interesting medium, an educational aid whose use is to stimulate the senses of hearing and sight, which can be played over and over again [14]; [35]. In this study, the existence of animated audio-visual media with a duration of 10 minutes is effective for increasing knowledge and attitudes, the duration of the video will affect someone's interest and absorbing information. The longer the video is shown, one's interest will decrease [36]. Media that is no less interesting is the media booklet [13]). The results of this study are consistent with research conducted by [37] on the difference in the effect of counseling using print media and audiovisual media on increasing knowledge in tuberculosis sufferers. Research conducted by [38] on health education using the same media, namely poster and video print media, can increase maternal knowledge about tuberculosis and its prevention.

Based on the results of this study, health education can improve attitudes and behavior. Attitudes clearly show reactions to the suitability of stimuli in everyday life, attitudes are the willingness to act

and not the implementation of actions. The higher the knowledge, the higher the good attitude and will be formed, but attitude is a predisposition for the emergence of action [39].

5 Conclusion

The use of pocket books and animated audio-visuals on the prevention of tuberculosis transmission can increase knowledge and attitudes, there is a change in the mean knowledge and attitudes of women before and after being given pocketbooks and audio-visual animation to the intervention group and there is an effect of providing pocket books and audio-visual animation on knowledge and the attitude of WUS in the intervention group with p value <0.01 . Pocket books and animated audio-visuals can be used as alternatives to provide health education to families and communities in an effort to prevent tuberculosis transmission.

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