Research Article

The Effect of a Health Education Video on Self-Efficacy in Preventing Transmission of Tuberculosis

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Abstract. Indonesia is one of the countries where the number of tuberculosis cases is still high; in 2019, there were 109,463 cases. The highest number of cases is in West Java. The city of Bandung is one of the cities with the highest cases; in 2019 there were 477 cases at the UPT Garuda City Health Center in Bandung and in 2020 there were 197. Self-efficacy can influence the prevention of tuberculosis. The purpose of this study was to determine the effect of a health education video on self-efficacy in preventing transmission of tuberculosis. This was a quasi-experimental study with a two-group pretest-posttest design. The sample consisted of 60 tuberculosis patients at the UPT Garuda City Health Center in Bandung, recruited using convenience sampling. Data were collected using a self-efficacy questionnaire. The differences in the self-efficacy scores and the effect of the health education video were analyzed using the paired t-test and ANCOVA. The results of this study indicated that the health education video had an effect on increasing self-efficacy in patients with mean square = 3360,017, f = 434,840, p-value < 0.001. The video helped the tuberculosis patients to understand how to prevent tuberculosis transmission. It is hoped that there will be additional innovations in the health sector that can help nursing services to prevent tuberculosis transmission, including through health education videos.

Keywords: self-efficacy, tuberculosis, video

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1. Introduction

Tuberculosis is an infectious disease caused by the bacterium Mycobacterium [4]. In 2019, Tuberculosis cases in Indonesia increased by 109,463 cases. The highest cases are in West Java Province[3]. One of the cities with the highest cases is Bandung. information was obtained that at the Garuda Health Center there were 197 cases in 2020. The results of the preliminary study showed that a program had been carried out, namely health education about tuberculosis to patients, however, it was found that there was uncertainty in patients and their inability to prevent transmission of tuberculosis. One of the tuberculosis prevention programs is health education made by the Minister of Health of the Republic of Indonesia No. 67 of 2016. Video health education will be

more effective in implementing health education as usual, in line with research [7] who said that health education videos will have a good effect and are easier to understand.

2. Research Method

This type of research is Quasi Experimental with Two Group Pre-Post Test Design. This research was conducted in the working area of the Garuda Health Center in Bandung Indonesia, starting from May 21 to June 03, 2021. The sample in this study were tuberculosis patients at the Garuda Health Center in Bandung Indonesia. Convenience sampling technique was used to select 60 respondents, and divided into two groups. The intervention group was given video health education and the control group was not given any treatment. The intervention provided was in the form of a video explaining the prevention of tuberculosis transmission, for a video duration of approximately 10 minutes. Data were collected using a self-efficacy questionnaire adopted from Rini Novitasari's [6]. The self-efficacy questionnaire consists of 9 question items with categories: very sure (5), sure (4), quite sure (3), not sure (2), very unsure (1). Data analysis was carried out using SPSS 21. For the demographic data characteristics of the respondents using a frequency distribution and chi-square and to determine the level of self-efficacy before and after using a frequency distribution. while for the difference in the level of self-efficacy scores and the effect of video on health education using paired t-test and ANCOVA. This study has been approved from KEPK STIKep PPNI JABAR No. III/012/KEPKSLE/STIKEP/PPNI/JABAR/VI/2021.

3. Result

In this study, the average of age of respondents in the intervention group was 35.40 (SD=13,523). while in the control group it was 37.27 (SD=14.005). Most of the respondents are male (56%) and the highest educational status is high school/vocational school of all respondents (65%). Most of the respondents' marital status were married (62%) and the most occupation status was not working (33%). The results of the analysis using independent t-test and chi square showed that there was no significant difference between the intervention group and the control group in terms of age, gender, educational status, marital status and employment status.

The results above indicate that the group that was given the video education intervention was higher than the control group that was not given health education.

Table 1: Description of the level of self-efficacy Before and after the intervention was given to the control and intervention groups

Variabel	Range Min-Max Intervensi	Intervensi group N = 30 Mean ± SD	Range Min-Max Kontrol	Control group N = 30 Mean ± SD
Tingkat *Self Efficacy*				
Pretest	18-27	23.67 ± 1.971	17-27	23.13 ± 2.315
Posttest	27-45	37.77 ± 3.380	27-28	22.80 ± 2.007

Table 2: Differences in pre and post self-efficacy scores in the intervention group and the control group

Variabel	Pretest (Mean±Sd)	Post-Test (Mean±Sd)	*T*	Mean Difference	P-Value
Total Skor Self Efficacy					
Intervensi group	23.67 ±1.971	37.77±3.380	-17.820	-14.100	0.000
Control group	23.13±2.315	22.80±2.007	.616	0.333	0.543

The intervention group scored self-efficacy levels before and after being given a video-based health education intervention, there was a significant difference with p-value = 0.000. Therefore there is a significant difference between the mean value before the intervention and the mean value after the intervention. While in the control group there was no difference with p-value = 0.543, there was no significant difference between the average pretest and posttest scores.

After the ANCOVA statistical test was carried out, it was found that there was a difference in the level of self-efficacy scores after video health education was carried out which showed that the level of self-efficacy in preventing transmission in tuberculosis patients who received video health education interventions had a significant difference with the group who did not receive video health education.

Table 3: Ancova Test Results

Tests Of Between-Subjects Effects						
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3360.017[a]	1	3360.017	434.840	.000	.882
Intercept	55024.817	1	55024.817	7121.099	.000	.992
Group	3360.017	1	3360.017	434.840	.000	.882
Error	448.167	58	7.727			
Total	58833.000	60				
Corrected Total	3808.183	59				

4. Discussion

The results of this study indicate that most of the respondents were male and the age of respondents in the intervention and control groups were in the age range of 18-39 years, most of the respondents are married with the most education being SMA/SMK and most of the respondents were not working. In accordance with the theory that the incidence of tuberculosis is more in men than women because most men have bad habits such as smoking, so it is easy to transmit tuberculosis [9]. respondents with higher education will have the ability to understand better and faster than those with low education because education is an effort to develop personality and self-ability. Education will affect the learning process, the higher a person's education, the easier it is for that person to receive clear information [2]. In the intervention group, the level of self-efficacy after being given the intervention became high from 23.13 (SD = 2.315) to 37.77 (SD = 3.380). While the pretest and posttest control groups with low results did not experience a difference in the average value. Therefore, health education videos have a good effect on increasing self-efficacy in tuberculosis patients. The results of this study are in line with research by Rizana (2016) [8], that the provision of health education will provide a good understanding. and in line with the existing theory that health education will be more effective with the media, according to Nursalam (2008) [7] health education media is a communication channel used to convey health messages, one of which is video media which is a learning medium aimed at facilitating in understanding the material [9]. The results of the paired t-test for the pre-test and post-test of the intervention group show that there were a significant difference between the mean score before and after intervention. Meanwhile, in the control group, a p-value of 0.0543 0.05 was obtained, so H0 was accepted so that there was no significant difference between the mean values of the pretest and posttest. The results of the ANCOVA calculation obtained a p-value of 0.000, mean the video-based health education interventions can be considered as one way to increase self-efficacy in tuberculosis patients, especially at UPT Puskesmas Garuda City Bandung. The results of this study are in line with Hartiningsih's research (2018) [1], that by providing health education videos will provide a good understanding. And in line with other studies which show that after being given health education there is an increase in good self-efficacy [5].

5. Conclusions and Suggestions

The research conducted showed that there were differences in the level of self-efficacy before and after the intervention was given to the intervention group. Health education videos have proven to be effective in increasing respondents' self-efficacy regarding the prevention of TB transmission. It is hoped that this research can be an alternative for educational institutions and health services in providing education about tuberculosis so that it will be better in understanding. For health services, it is hoped that there will be additional innovations in the health sector that can help nursing services make one way of holding a tuberculosis transmission prevention program by using health education videos.

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