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ANALYSIS OF PREVENTION BEHAVIORS OF PULMONARY TUBERCULOSIS TRANSMISSION QUESTIONNAIRE (PBPTTQ)

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Abstract

Background: Prevention of pulmonary tuberculosis transmission behavior is also one of the keys to the increased incidence of pulmonary tuberculosis. Unhealthy behavior in patients with pulmonary tuberculosis can be caused due to lack of information about TB in the community so that they lack responsibility for the tuberculosis transmission.

Objectives: This study aimed to analyze the Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire (PBPTTQ) to see whether this questionnaire can be used to assess habits in preventing pulmonary tuberculosis transmission in the community.

Methods: The design used in this study was cross-sectional design. This study was conducted in the Public Health Center of Medokan Ayu, Surabaya. The sample in this study were 30 people with positive smear pulmonary tuberculosis who are in the working area of Public Health Center of Medokan Ayu, Surabaya. This study used Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire (PBPTTQ). PBPTTQ consists of 15 items with 11 items that are positive questions and 4 items that are negative questions. PBPTTQ using Likert Scale with 5-point rating scale. Data analysis of Prevention Behavior of Pulmonary Tuberculosis Transmission Questionnaire used statistical analysis using SPSS 21. Data analysis performed was mean, standard deviation, I-CVI, and Cronbach Alpha.

Results: Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire (PBPTTQ) has a high enough reliability value marked by a Cronbach Alpha value of .639. In addition, the validity test of this questionnaire found that I-CVI = .84.

Conclusion: Based on the results of the study, Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire (PBPTTQ) can be used to assess pulmonary transmission prevention behavior in the community.

Keywords: Prevention behavior, pulmonary tuberculosis transmission, public health center, questionnaire

INTRODUCTION

Pulmonary tuberculosis is one of the global health problems caused by unhealthy habits. One of the causes of the increased incidence of pulmonary tuberculosis is economic factors, smoking habits, the presence of an HIV pandemic, and the availability of adequate services (Ismawati, Pebriyanti, & Proverawati, 2010; Putra, 2019). In addition, prevention of pulmonary tuberculosis transmission behavior is also one of the keys to the increased incidence of pulmonary tuberculosis. Unhealthy behavior in patients with pulmonary tuberculosis can be caused due to lack of information about TB in the community so that they lack responsibility for the tuberculosis transmission. In order to assess habits in preventing pulmonary tuberculosis transmission, a research tool is needed that can be used to assess these habits. With this basis, the researcher wants to analyze the Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire (PBPTTQ) to see whether this questionnaire can be used to assess habits in preventing pulmonary tuberculosis transmission in the community.

METHODS

Methodology

The design used in this study was cross-sectional design. This study was conducted in the Public Health Center of Medokan Ayu, Surabaya. During the preparatory phase, a survey of the research site was conducted and the research permit was arranged in the Surabaya City Health Office to conduct research at the Public Health Center of Medokan Ayu, Surabaya. Before giving questionnaires to prospective respondents, researchers first explain the objectives and procedures of this study. After that, the researcher asked for willingness to become a respondent in the form of informed consent. After the respondent stated their willingness in the informed consent form, the researcher gave the questionnaire to the respondents to fill out. After the data is collected, the researcher sorts out the research data and does the coding. Data

analysis of Prevention Behavior of Pulmonary Tuberculosis Transmission Questionnaire used statistical analysis using SPSS 21. Data analysis performed was mean, standard deviation, I-CVI, and Cronbach Alpha.

Sample/ Participants

The population in this study were all positive smear tuberculosis pulmonary patients in the Public Health Center of Medokan Ayu area of 34 patients. In determining the sample in this study, researchers set several inclusion criteria and exclusion criteria. The inclusion criteria set by the researchers included: 1) Patients with positive smear pulmonary tuberculosis; 2) Able to communicate actively; and 3) Patients who are not currently treating other diseases. Exclusion criteria set by the researchers, among others 1) Patients who have not visited tuberculosis treatment; 2) Patients who experience mental and physical disorders; and 3) Sufferers who are blind and deaf. The sample in this study were 30 people with positive smear pulmonary tuberculosis who are in the working area of Public Health Center of Medokan Ayu, Surabaya.

Instrument

Instrument in this study used Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire (PBPTTQ), which aims to assess the behavior of patients with pulmonary tuberculosis in the transmission prevention of pulmonary tuberculosis. This instrument developed by researcher themselves. PBPTTQ consists of 15 items with 11 items that are positive questions and 4 items that are negative questions. PBPTTQ using Likert Scale with 5-point rating scale from never to routinely with scoring for never = "1", seldom = "2", sometimes = "3", often = "4", and routinely = "5" for positive questions. In contrast to the negative statements to never = "5", seldom = "4", sometimes = "3", often = "2", and routinely = "1". Which include positive questions are number 1, 4, 6, 7, and 9-15. As for the negative questions are numbers 2, 3, 5, and 8. In this study, PBPTTQ classified

by number of scores into three levels, namely good behavior (57-75), sufficient behavior (45-56), and bad behavior (15-44).

Ethical Consideration

During the preparatory phase, a survey of the research site was conducted and the research permit was arranged in the Surabaya City Health Office to conduct research at the Public Health Center of Medokan Ayu, Surabaya. This study was approved by the Surabaya City Health Office with permission

number 072/7044/436.72/2018. Before giving questionnaires to prospective respondents, researchers first explain the objectives and procedures of this study. Researchers explained to prospective respondents that the data collection of this study was only using a questionnaire filled out by respondents and no treatment would harm the respondent. The researcher also explained that all respondents' personal data obtained in this study would be guaranteed confidentiality, for example the name and address of the respondent.

RESULTS

Description of Pulmonary Tuberculosis Patients' Characteristics

Table 1. Description of Pulmonary Tuberculosis Patients' Characteristics in the Public Health Center of Medokan Ayu, Surabaya on April until May 2018.

Characteristics	Number (n)	Percentage (%)
Age	M = 44.70, SD = 16.73	Min = 14, Max = 71
≤ 20	2	6.7
21-30	5	16.7
31-40	7	23.3
41-50	3	10.0
51-60	6	20.0
≥ 61	7	23.3
Gender		
Male	13	43.3
Female	17	56.7
Months of Treatment		
One month	5	16.7
Two months	6	20.0
Three months	7	23.3
Four months	2	6.7
Five months	5	16.7
Six months	5	16.7
Occupational		
Not work	7	23.3
Student	2	6.7
Private sector worker	19	63.3
Pension	2	6.7
Educational Levels		
Elementary school	3	10
Junior high school	11	36.7
Senior high school	15	50.0
Diploma/ bachelor	1	3.3

Sources: Primary Data of Questionnaire, 2018.

Based on the results of the study, it was found that the majority of respondents in this study were 31-40 years old and more than or equal to 61 years, each of which were 7 respondents (23.3%). The majority of respondents were female as many as 17 respondents (56.7%). The majority of respondents had undergone treatment for 3 months totaling 7 respondents (23.3%). The majority of respondents work as private sector workers as many as 19 respondents (63.3%). Half of the respondents had a senior high school education of 15 respondents (50.0%).

Description of Items of Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire

Table 2. Description of Items of Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire in the Public Health Center of Medokan Ayu, Surabaya on April until May 2018.

	Item	Mean	SD	Range = 1 - 5
1.	Do families and tuberculosis sufferers wear masks	3.77	.935	
2.	Do people with tuberculosis get rid of phlegm	3.67	1.061	
3.	Do people with tuberculosis use cutlery	3.90	.885	
4.	Do family members supervise tuberculosis sufferers to take medicine	4.27	.828	
5.	Is the window in the house of people with tuberculosis closed	4.23	.935	
6.	Do you keep the house clean everyday	4.57	.728	
7.	Do you and your family routinely do health checks	4.37	.718	
8.	Do tuberculosis sufferers sleep in the same room	4.13	.937	
9.	Have you wash your hands	4.27	.828	
10.	Do you put the mattress in the sun	3.47	.860	
11.	Do you serve healthy and nutritious food	4.03	.928	
12.	Do tuberculosis sufferers separate the bed	3.97	.928	
13.	Do people with tuberculosis open ventilation to light the house	4.33	.959	
14.	Do you regularly take medicine	4.97	.183	
15.	Do people with tuberculosis check their family members	3.37	1.299	

Sources: Primary Data of Questionnaire, 2018.

Description of the items from the Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire obtained the lowest Mean value of 3.37 and the highest Mean of 4.97.

Analysis of Item Level Content Validity Index (I-CVI) of Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire

Based on the results of the Item Level Content Validity Index test (Table 3) that was tested on 6 reviewers who were considered experts in their fields, it was found that the Mean of I-CVI = 0.84. Based on the table above, it is also found that there are some Items that get low values. For example, Item no. 8 (I-CVI = 0.17) and Item no. 6 (I-CVI = 0.33).

Analysis of Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire

Based on the results of the study in the table 4, it was found that the Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire has a high enough reliability value marked by a Cronbach Alpha value of .639. The questionnaire was also tested for Content Validity using the I-CVI method. Content Validity test results found that the I-CVI from this questionnaire was .84. From the results of the study, it is also known that the Prevention Behaviors of Pulmonary Tuberculosis Transmission of the respondents are at the level of good behavior (M = 61.3; SD = 5.46557; Min = 50.0; Max = 72.0).

Table 3. Analysis of Item Content Validity Index (I-CVI) of Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire.

Item	Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Total	I-CVI
1	1	1	1	1	1	1	6	1
2	1	1	1	1	1	1	6	1
3	1	1	1	1	1	1	6	1
4	1	0	0	1	1	1	4	0.67
5	0	1	1	1	1	1	5	0.83
6	0	0	1	0	1	0	2	0.33
7	1	0	1	1	1	1	5	0.83
8	0	0	0	1	0	0	1	0.17
9	1	1	1	1	1	1	6	1
10	1	0	1	1	1	1	5	0.83
11	1	1	1	1	1	1	6	1
12	1	1	1	1	1	1	6	1
13	1	1	1	1	1	1	6	1
14	1	1	1	1	1	1	6	1
15	1	1	1	1	1	1	6	1
Total	12	10	13	14	14	13	Mean I-CVI	0.84

Information:
 0 : No Need
 1 : Need

Sources: Primary Data of Questionnaire, 2018.

Table 4. Analysis of Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire in the Public Health Center of Medokan Ayu, Surabaya on April until May 2018.

Variable	Min	Max	Mean	SD	Cronbach Alpha	I-CVI	Level
Prevention Behaviors of Pulmonary Tuberculosis Transmission	50.0	72.0	61.3	5.46557	.639	.84	Good Behaviors

Sources: Primary Data of Questionnaire, 2018.

DISCUSSION

The description of items obtained the lowest Mean value of 3.37 and the highest Mean of 4.97. The lowest mean value (M = 3.37) is found in the question of patients with tuberculosis with family members doing examinations when there are other family members who cough for more than 2 weeks. While the highest Mean value (M = 4.97) is found in the question regarding the compliance of tuberculosis patients in taking medicine. This can illustrate that the respondents in this study were aware of the importance of taking anti-tuberculosis drugs. However, on the other hand they are a little less concerned if there are other family members who have coughed for more than 2 weeks because they most likely assume that they are just ordinary coughs and are only

given medicines that are bought at the pharmacy.

Based on the results of the validity test using the I-CVI method, it was found that this questionnaire could be said to be valid and could be used in research. This statement is based on Lynn (1986) who recommends a standard value of I-CVI not lower than .78, when using six or more expert assessors. But there are some items that get a low value from I-CVI because reviewers consider that these items have similarities with other items. However, there are also reviewers who consider these items not in accordance with the objectives of this study.

According the results of this study, the Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire had a

high enough reliability value with Cronbach Alpha .639. According to Guilford, J. P., & Fruchter, (1956), the reliability test coefficient .60 to .79 is categorized as having a high level of reliability. This shows that a questionnaire with a reliability value of .60 to .79 can be used as a measurement tool in a study. Based on Guilford's categorization, the Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire can be used as a measuring instrument/ measurement instrument of prevention behaviors of pulmonary tuberculosis transmission in a study.

CONCLUSION

Based on the results of this study, the Prevention Behaviors of Pulmonary Tuberculosis Transmission Questionnaire can be used in assessing the habits of tuberculosis patients in preventing the transmission of pulmonary tuberculosis in the community.

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DECLARATION OF CONFLICTING INTEREST

There is no conflict of interest in this research.

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AUTHOR CONTRIBUTION

Kusuma Wijaya Ridi Putra: Compile article and analyze research data.

Pipit Festi Wiliyanarti: Perform data collection and compile article.

Faida Annisa: Assist in the interpretation of the results of data analysis.

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