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Affecting Factors Medication Adherence And Control Adherence

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Original Article

Affecting Factors Medication Adherence And Control Adherence

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Abstract

Introduction. Tuberculosis (TB) is still the leading cause of death from single infectious agents globally, caused Mycobacterium Tuberculosis which attacks the pulmonary. The purpose of the study in general was to analyze the factors that influence medication adherence and control adherence in pulmonary tuberculosis patients in Pamekasan Madura Regency.

Method. Analytical research design with a cross sectional approach. The sample size of 60 respondents consisted of two groups, namely the intervention group and the control group. Purposive sampling techniques with respondents over 20 years old, suffers from uncomplicated pulmonary Tuberculosis disease, and is undergoing treatment at the Batu Marmar Pamekasan Madura community health center. Variables of independent self-management education based on health belief model, characteristics factors (age, education, occupation, duration of treatment), While variable dependent is medication adherence and control adherence. Statistical test with bivariate and multivariate.

Result. Based on the results of the man Whitney test, the factor influencing taking medication and adherence to visiting is age with a significant p value of 0.005, Education with a significant p value of 0.023 and duration of treatment with a significant p value of 0.000, as for the work of the Man Whitney test results are in-significant. Mc Nemar test results to determine differences in medication adherence and adherence to visits in each pre- and post-interventional self-management education group based on a health belief model with a significant p value of 0.000.

Conclusion. Factors that exert an influence on adherence to taking medications and control in people with pulmonary tuberculosis are age, Education and duration of treatment. Further research on the development of smart digital-based drug adherence and control compliance models.

Keywords: Compliance, taking medications, visit, tuberculosis, self-management education, health belief model

Introduction

Tuberculosis (TB) is a chronic and infectious disease caused by Mycobacterium Tuberculosis that attacks the pulmonary (1). It usually affects the lungs and is transmitted when people who are sick with pulmonary TB through the air. There appears a high drop out rate, low motivation, in adequate treatment, and resistance to anti-tuberculosis drugs (OAT) remains an obstacle in the treatment of Pulmonary TB, likewise, stigma and discrimination against TB sufferers hinder efforts to eliminate this disease (2).

Tuberculosis (TB) is still the leading cause of death from single infectious agents globally, higher rating than HIV/AIDS (human immunodeficiency virus/acquired immunodeficiency syndrome), and even though treatment is available, there are still many patients who do not comply with treatment and control to health services such as community health centers (3).

Non-compliance with TB patient treatment is caused because there is a boredom of treatment that takes too long, lack of knowledge of patients about pulmonary tuberculosis, long distance from the patient's home to public health services, health workers who do not remind sufferers if they neglect treatment and there is an assumption that the treatment at the community health centers is not good. This can cause TB sufferers not to complete treatment. If the treatment is not completed, there will be a possibility that the patient will relapse and will certainly increase the long list of TB cases (4).

Factors that influence the non-compliance of patients in undergoing TB treatment are lack of knowledge about TB in general, job losses, economic hardships, lack of access to health services, societal stigma, Treatment Side Effects, long treatment period, lack of appetite and poor communication with health care providers (5);(6).

Patients with Pulmonary TB can have an impact not only on physical health, but also on psychic (mental) and social states that can affect different aspects of life and decrease the client's quality of life. The Health Related Quality Of Live (HRQOL) TB patients It is very important to know, especially health workers because it directly affects the adherence to Pulmonary TB treatment so it is recommended in the first two months of treatment to improve HRQOL (7);(8).

The purpose of the study in general was to analyze the factors that influence medication adherence and control adherence in pulmonary tuberculosis patients in Pamekasan Madura Regency.

Research Methods

Research Design

The research is carried out with a quantitative approach, with an interventional type of research. This study explains how independent variables relate to dependent variables, By seeing if there is a quantitative relationship of the four main dimensions of medication adherence and control adherence

Research Respondents

Participants in this study were > age group of 20 years. This study has certain characteristics on the selection of subjects; oleh therefore, researchers use purposive sampling techniques. Purposive sampling is used to obtain subjects according to the criteria namely patients with uncomplicated pulmonary tuberculosis, pulmonary patients who visit treatment regularly to the Batumarmar Pamekasan Madura health center; Therefore, the specific population number is unknown. The author succeeded in recruiting 60 participants in the BatuMarmar Pamekasan Madura Health Center area.

Measurement

The study used an online survey containing medication adherence and control adherence questionnaires. The survey is conducted through a digital platform, Google Forms, which contains informed consent, biodata-related information that includes the demographics of participants, as well as a Likert scale field that measures the measured variables. Stuffing items are taken from the scale of medication adherence and control adherence to independent variables. The survey is disseminated by attracting participants through social media and instant messaging apps, including links to the survey. Intervention Researchers provide treatment in the form of self-management education based on health belief models and related demonstrations on the prevention and cessation of pulmonary TB transmission through serial video media installed in WhatsApp groups, The duration of education for $\pm$1 hour is played repeatedly for 2 weeks. The supporting instrument in this study was a leaflet that was distributed to respondents.

Questionnaires are given at the time of pre-test and post-test. The research process lasts for 3 months from July to September 2022 at one Community Health Center in Pamekasan Madura regency, East Java, with a time division of 1 month for the control group and 1 month for the treatment group. The collected data were then analyzed using chi square statistical tests for work, while man Whitney for age statistical tests, Education and duration of treatment with a significance level of $\alpha = 0.05$. That is, if it produces (p) = 0.05, then H1 is accepted, this means that there is an age relationship, Education, employment and length of treatment withn adherence to taking medications and adherence control. To see the differences in control adherence and medication adherence in the control and treatment groups was the McNemar Test (with a significance level of $\alpha = 0.05$.

Results and Discussion

The results of the study included characteristic data of respondents including age, gender, education, occupation, and length of treatment (Table 1).

Table 1 Characteristics of respondents (N=30

Variable	**Group**				**P (value)**
	Treatment		**Control**		
	Obedient (%)	Disobedient (%)	Obedient (%)	Disobedient (%)	
Age:					
36-45 year	14.3	46.7	-	-	0.005
46-55 year	13.5	43.3	-	-	
56-65 year	3.4	10.0	-	-	
36-45 year	-	-	1.3	3.3	
46-55 year	-	-	29 .3	96.7	
Gender:					0.543
Man	14.5	46.7	6.0	20	
Woman	16.6	53.3	24.0	80	
Education					
Primary school	27.5	86.7	29.3	96.7	0.023
Junior High School	1.3	3.3	-	-	
High School	3.9	1.0	1.7	3.3	
Work					
Not working	-	-	2.3	6.7	0.488
Farmer	26.3	86.7	19.0	63.3	
Self employed	1.3	3.3	9.4	30	
Civil servants	3.3	10.7	-	-	
Duration of Treatment					
1 moon	2.3	6.7	2.3	6.7	0.000
2 moon	20.3	66.7	6.0	20.0	
3 moon	8.3	26.7	6.0	20.0	
4 moon			9.0	30.0	
5 moon			7.7	23.3	

Some of the factors that influence adherence to taking medications and adherence to visiting are age, education, length of treatment, through the Man Whitney test with a significant value of P value < 0.05 thus there is a relationship between length of treatment and adherence to taking medications and adherence to visits to Community Health Centers (Table 1). As for the gender with the chi square test, a significant value of p value = 0.543 was obtained, this shows that there is no relationship between sex and adherence to taking medications and adherence to visiting public health centers.

The adherence of a person with pulmonary tuberculosis to take medication regularly according to the drug drink schedule largely determines the success of recovery (9). Because if you fail or forget to take medicine a day, people with pulmonary tuberculosis will repeat starting from the beginning of treatment. This can cause pulmonary mycobacterium tuberculosis to become resistant by extending the treatment period (10).

Adherence to taking medications and adherence to visiting community health centers in people with pulmonary tuberculosis (11), It is also influenced by the existence of self-management education interventions based on the health belief model. As stated in table 2 and table 3. Self-management based on health belief model is education about one's ability to understand disease and treatment based on beliefs (12). Because the strong belief of the sufferer in a disease will provide positive energy to accept the condition of illness and illness suffered. Thus a person will easily self-introspect and immediately wake up from the slump caused by the disease suffered.

Self-management education based on the health belief model gives confidence that a person has the motivation to recover(13), with a belief that has been ingrained in the soul, it will be motivated to always carry out compliance with orders from doctors or other health workers (14). This form of compliance in patients with pulmonary tuberculosis is an effort so that the patient recovers from the disease immediately, adherence to taking medications and adherence to visiting community health centers according to a regular schedule.

Table 2 Test results Differences in medication adherence, pre and post self-management education based on health belief model

Group	adherence to taking medications (pre)				adherence to taking medications (post)				P
	Obedient	%	Disobedient	%	Obedient	%	Disobedient	%	
Treatment	19	63.3	11	36.7	23	76.7	7	23.3	0.000
Control	18	60	12	40	15	50	15	50	

Based on table 2 shows that the adherence rate of taking medications from 30 treatment respondents was 63.3%, After the self-management education intervention based on the Health Belief Model, the rate of adherence to taking medications was increased to 76.7%. McNemar test result value ρ value < α = 0.05, which is 0.000, which shows that there are differences in adherence to taking medications before and after self-management education interventions based on the health belief model.

In the control group did not get intervention but continued to standardize treatment, by 60% and post-service according to community health center standards obtained 50% medication adherence. The result of the McNemar test value ρ value > α = 0.05, which is 0. 000 indicating that there is differences in adherence to taking medications before and after the intervention is carried out according to the standards of the Center for Public Health.

Self-management education interventions based on the health belief model can provide changes to medication adherence. This shows that through education carried out in accordance with beliefs, it is able to change knowledge about the treatment of tuberculosis (12);(15). Improving adherence to taking medications is inseparable from respondents' experiences during the treatment period and changes in the body that are felt by people with pulmonary tuberculosis (16). Such changes in the body include increased appetite, with increased appetite, it can improve the quality of pulmonary tuberculosis sufferers in carrying out daily activities (17).

Patients with pulmonary tuberculosis who do treatment regularly will reduce everything such as temperature rise at night because with regular consumption of the drug in accordance with the instructions of the community health center services regularly the symptoms of pulmonary tuberculosis disease will decrease.

Table 3 Test results Differences in control compliance, pre and post self-management education based on health belief model

Group	Adherence to taking medications (pre)				Adherence to taking medications (post)				P
	Obedient	%	Disobedient	%	Obedient		Disobedient		
Treatment	11	36.6	19	63	27	90	3	10	0.000
Control	6	19.9	24	80.1	22	73.3	8	26.7	

Based on table 3 shows that the level of compliance of visits to community health centers, 30 Respondents from the intervention group before being given a Health Belief Model-based Self-Management Education bases on health belief model intervention were 36.6% after being given a self-management education intervention based on the health belief model , there was an increase in the percentage of compliance visits to community health centers to 90%. Hasil uji McNemar test ρ value < α = 0,05, yaitu 0.000. Thing it shows there is a change in the level of compliance with visits to community health centers In patients with pulmonary tuberculosis before and after self-management education interventions based on the Health Belief Model.

In the control group that received the intervention according to the standards of the community health center, there was a percentage value of compliance before the19.9 % and after being given action according to

the standards of the public health center, the percentage of compliance with visits is obtained 73.3 %. McNemar test results obtained significant values with ρ value > α = 0.05, which is 0.000, this shows that there is a difference compliance visiting the community Health center before and after the intervention is carried out according to the standards of the Health Center.

Compliance with visits to community health centers on a regular basis according to the schedule in patients with pulmonary tuberculosis is a form of awareness possessed by the sufferers of pulmonary tuberculosis (18); (19). This is inseparable from the role of families and health workers who always provide motivation and education related to the causes and transmission of Pulmonary Tuberculosis (20).

The awareness of pulmonary tuberculosis sufferers to always control regularly is inseparable from the officers who always remind, motivate and home visit (21);(22). The role of health workers who often visit home gives its own meaning to people with pulmonary tuberculosis. Because they feel respected and supported in carrying out the treatment process which needs to take a very long time (23);(24).

The role of the family is also very high in increasing the understanding of people with pulmonary tuberculosis towards diseases and the impact on his family if health protocols are not implemented properly (20). The family always motivates their family who suffers from pulmonary tuberculosis not to spit in any place, always wear a mask, always maintain a safe distance from others, and social distancing (25);(26).

Conclusion

Factors that exert an influence on adherence to taking medications and control in people with pulmonary tuberculosis are age, Education and duration of treatment. Further research on the development of smart digital-based drug adherence and control compliance models.

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