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The Effect of Assertive Commitment Therapy on Medication Adherence and Quality of Life of Pulmonary Tuberculosis (TB) Patients in the Buhit Health Center Area, Samosir Regency, Indonesia

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A B S T R A C T

Medication adherence is the extent to which a person's behavior in taking medication is in accordance with agreed recommendations from a health care provider. The long duration of TB treatment causes many sufferers to be disobedient because they feel they are healthy and feel bored and fed up. Assertive commitment therapy is a therapy that aims to improve flexible psychological aspects or the ability to better undergo current changes. This study aimed to determine the effect of assertive commitment therapy on medication adherence and quality of life of pulmonary TB patients in the Buhit Health Center area, Samosir Regency, in 2023. Type of quantitative research with research design quasi-experimental two group pre-test posttest design. Research in Buhit Health Center, Samosir Regency, in December 2022 – June 2023. The study population was 60 pulmonary TB patients, sampling technique used consecutive sampling. The sample was divided into 2 groups, namely 30 people in the intervention group and 30 people in the control group. Data collection using MMAS-8 and WHOQOL-BREF questionnaires. Data analysis with independent t-tests. The results of the study showed that the average value of medication adherence in the intervention group was higher after participating in the ACT program (Mean=20.54, SD=4.13) compared to the value before receiving treatment ((Mean=47.37, SD=3.68). These results indicate a difference between the mean value of medication adherence in the intervention group before and after treatment (t = -193, 09; p = 0.00). The mean value of quality of life in the intervention group was higher after participating in the ACT program (Mean=78.20, SD=11.17) compared to the value before receiving treatment (Mean=42.86, SD=7.61). These results show a difference between the mean value of quality of life in the intervention group before and after treatment (t = -55,42; p = 0,00).

1. Introduction

Pulmonary tuberculosis remains a public health burden worldwide and is a major global health problem responsible for poor health among millions of people every year. Until now, no country has been free of pulmonary TB, even though the rate of pulmonary TB in several countries has decreased. The world distribution of TB cases is uneven. For example, in 2018, Asia was responsible for 44% of all new cases, Africa 24%, America 3%, and Europe 3%. This geographic distribution illustrates that tuberculosis is a socially mediated disease. The number of TB cases in Indonesia in 2018 was found to be 566,623 cases, an increase compared to all TB cases found in 2017, which was 446,732 cases. The highest number of cases reported were in provinces with large populations, namely West Java, East Java, and Central Java. TB cases in these three provinces account for 44% of the total number of TB cases in Indonesia.[1-3]

The number of new cases of pulmonary TB in Indonesia was 420,994 cases in 2017. Based on gender, the number of new TB cases in 2017 in men was 1.4 times greater than in women. In fact, based on the tuberculosis prevalence survey, the prevalence in men is 3 times higher than in women. Likewise, what happens in other countries. This may occur because men are more exposed to TB risk factors such as smoking and lack of compliance with taking medication. This survey found that 68.5% of all male participants smoked, and only 3.7% of female participants smoked. Pulmonary TB cases in Medan reported from 2013 to 2016 were 7431 cases. Meanwhile, currently, there are 299 cases of drug-resistant TB patients in Medan, which is, of course, a concern and increases everyone's awareness.[4,5]

Medication adherence is the extent to which a person's behavior in taking medication is in accordance with agreed recommendations from a health care provider. Adherence to treatment determines individual health outcomes and has far-reaching consequences for health expenditure. Tuberculosis (pulmonary TB) has been known to rapidly develop drug-resistant strains of the disease, especially when medication is not adhered to as required. Efforts to improve compliance have focused primarily on the therapies involved in the treatment of pulmonary TB. The long duration of TB treatment causes many sufferers to be disobedient because they feel they are healthy and feel bored and fed up. Apart from that, there is no family support that plays a role in carrying out care and treatment for sick members, so in the absence of family support and motivation, especially the PMO (drug taking supervisor) in the family, many TB patients fail to carry out the treatment they are still undergoing at home. Medical facility.[6,7]

Assertive commitment therapy is a therapy that aims to improve flexible psychological aspects or the ability to undergo current changes. Objective assertive commitment therapy is to help clients to be able to use direct experience to get more effective responses to survive in life, be able to control the suffering they experience, realize that acceptance and awareness are alternative efforts to survive in the conditions they face, realize that acceptance will be formed because of the presence of thoughts and what is said, realizing that the goal of a life journey is to choose values in achieving a more valuable life. Based on an initial survey conducted by researchers at the Buhit Health Center for the period January-December 2022, there were 10 new pulmonary TB patients, 51 patients with no known history of previous pulmonary TB disease. In the third quarter of 2022, there were 115 women and 141 men with suspected pulmonary TB. Based on the data obtained, patients who go to the community health center do not go to the health center regularly because they are bored with taking medicine, feel cured after taking medicine for 2 months, and are busy with work, so they often miss control schedules and take routine medicine, families are not willing to help patients with treatment and family support. less to the patient.[8,9] This study aimed to find out the effect of assertive commitment therapy on medication adherence and quality of life of pulmonary TB patients in the Buhit Health Center Area, Samosir Regency, Indonesia, in 2023.

2. Methods

This type of research uses quantitative research with a research design approach quasi-experimental two-group pretest-posttest design. This research was conducted in Buhit Health Center, Samosir Regency, from December 2022 – June 2023. The population in this study were pulmonary TB patients who were undergoing outpatient treatment at Buhit Health Center, as many as 60 people. The sampling technique uses consecutive sampling. The sample was divided into 2 groups, namely 30 people in the intervention group and 30 people in the control group. Sheet for demographic data and Morisky Medication Adherence scale questionnaires consisting of 8 questions combined with using the ACT implementation module (assertive and commitment therapy), which has been modified, and the WHOQOL-BREF questionnaire. Bivariate analysis using independent t-test.

3. Results and Discussion

Based on Table 1, the results show the characteristics of pulmonary TB patients in terms of age. In the intervention group, the majority of pulmonary TB patients were 9 people aged 46-55 years, while in the control group, the majority of pulmonary TB patients were 9 people aged 36-45 years (9 people). 30%). Based on gender, the results showed that the majority of pulmonary TB patients in the intervention group were male, 18 people (60%), and in the control group, the majority of pulmonary TB patients were male, 23 people (76.7%). Based on education, the results showed that the majority of pulmonary TB patients had a junior high school education, 11 people (36.8%) in the intervention group, while in the control group, the majority of pulmonary TB patients had a junior high school education and a diploma, 9 people (30%). Based on the duration of suffering from pulmonary TB, the results showed that in the intervention group, the majority had a duration of TB > 3 years, as many as 28 people (60%), while in the control group, the duration of suffering from pulmonary TB was > 3 years, as many as 21 people (70%).

Table 1. Characteristics of respondents of pulmonary TB Patients in the Buhit Health Center Area, Samosir Regency.

Data	**Intervention group**		**Control group**	
	n	**%**	**n**	**%**
Age				
17 – 25 years	2	6,6	-	-
26 – 35 years	7	23,3	12	40
36 – 45 years	7	23,3	9	30
46 – 55 years	9	30	6	20
56 – 65 years	5	16,8	3	10
Total	**30**	**100**	**30**	**100**
Gender				
Female	12	40	7	23,3
Male	18	60	23	76,7
Total	**30**	**100**	**30**	**100**
Education				
Primary school	6	20	1	3,3
Junior high school	4	13,3	8	26,7
Senior high school	11	36,8	9	30
Diploma	7	23,3	9	30
Bachelor	2	6,6	3	10
Total	**30**	**100**	**30**	**100**
Long-suffering from pulmonary TB				
1-3 years	12	40	9	30
>3 years	28	60	21	70
Total	**30**	**100**	**30**	**100**

Table 2. The average value of adherence to taking medicine and quality of life of pulmonary TB patients before assertive commitment therapy (ACT) in the intervention group and control group (N=60).

Variable	**Intervention group**		**Control group**		**t**	**p**
	M	**SD**	**M**	**SD**		
Medication adherence	20,54	4,13	21,11	3,19	-0,65	0,52
Quality of life	42,86	7,50	42,77	7,50	0,05	0,96

Based on Table 2, the average value of medication adherence before being given the program assertive commitment therapy (act) in the intervention group was (mean=20.54; SD = 4.13) and in the control group (mean=21.11; SD = 3.19). meanwhile, the mean value of quality of life in the intervention group (mean = 42.86; SD =7.50) and the control group (mean = 42.77; SD =7.50). it can be concluded that there is no difference in the mean value of medication adherence (t = -0,65, p = 0.52) and quality of life (t = 0,05, p = 0,96).

Table 3. The average value of adherence to taking medication and quality of life of pulmonary TB patients after assertive commitment therapy (ACT) in the intervention group and control group (n=60).

Variable	Intervention group		Control group		t	p
	M	SD	M	SD		
Medication adherence	47,37	3,67	36,11	4,27	13,24	0,00
Quality of life	78,20	11,17	47,71	5,19	14,63	0,00

Based on Table 3, the results of the analysis of the average value of adherence to taking medication after being given the assertive commitment therapy (ACT) program in the intervention group was higher (Mean = 47.37; SD = 3.67) compared to the mean value of medication adherence in the control group (Mean = 36.11; SD = 4.27) with a value t = 13,24; p = 0.00. The mean value for the quality of life of pulmonary TB patients in the intervention group was higher (Mean = 78.20; SD = 11.17), while in the control group (Mean= 47.71; SD= 5.19) the value t = 14,63; p = 0,00.

Table 4. Differences in mean values of medication adherence in patients with pulmonary TB pre-test and post-test in the intervention group (n=30).

Medication adherence	Intervention group		t	p
	M	SD		
Pre-test	20,54	4,13	-193,09	0,00
Post-test	47,37	3,68		

Table 4 shows that the mean value of medication adherence in the intervention group was higher after participating in the ACT program (Mean=20.54, SD=4.13) compared to the value before receiving treatment (Mean=47.37, SD=3.68). These results indicate that there is a difference between the mean value of medication adherence in the intervention group before and after treatment (t = -193, 09; p = 0,00).

Table 5. Mean value of quality of life in patients with pulmonary TB pre-test and post-test in the intervention group (n=30).

Quality of life	Intervention group		t	p
	M	SD		
Pre-test	42,86	7,61	-55,42	0,00
Post-test	78,20	11,17		

Table 5 shows that the mean quality of life score in the intervention group was higher after participating in the ACT program (Mean=78.20, SD=11.17) compared to the score before receiving treatment (Mean=42.86, SD=7.61). These results show that there is a difference between the mean value of quality of life in the intervention group before and after treatment (t = -55,42; p = 0,00).

Assertive commitment therapy (ACT) is a form of therapy that aims to increase patient commitment to their medical care, including adherence to treatment and improving their quality of life. The use of ACT in the context of pulmonary tuberculosis (TB) patients can have a significant positive impact on medication adherence and patient quality of life. ACT helps patients understand the importance of taking TB medication according to the schedule determined by the doctor. This therapy can motivate patients to follow their treatment plan with more discipline. ACT can also help patients identify and overcome obstacles or discomfort they may experience during treatment, such as medication side effects. This can reduce the possibility of delays or omissions in taking medication.[10-13]

ACT helps patients understand in-depth about TB disease and the consequences of non-adherence to treatment. With a better understanding of the disease, patients tend to be more motivated to take medication as directed. This therapy helps patients identify their personal values and goals, including health and recovery. By emphasizing how TB treatment can help them achieve these goals, ACT can increase patient motivation. Pulmonary TB patients often experience uncertainty and anxiety related to treatment and prognosis. ACT can help them overcome this anxiety and plan ways to better deal with uncertainty, which in turn can improve compliance. ACT involves forming concrete commitments to specific actions, including taking medication on schedule. This therapy helps patients plan concrete strategies to overcome obstacles that may arise in carrying out these commitments. ACT teaches adaptation skills that can help patients overcome the temptation to stop their medications or abandon treatment plans.[14-16]

ACT helps pulmonary TB patients overcome the stress, anxiety, and depression that are often associated with their condition. This can improve the patient's overall quality of life. This therapy can also help patients identify and plan activities that can improve their quality of life, such as maintaining a healthy diet, exercising, and establishing positive social relationships. ACT helps patients formulate a long-term commitment to their care. This can include a commitment to completing all TB treatments, having regular check-ups, and maintaining a healthy lifestyle to prevent disease recurrence. By establishing a long-term commitment, patients tend to be more focused on their recovery and more likely to maintain compliance with TB treatment. ACT teaches patients adaptation skills that can help them deal with changes in their health condition and overcome challenges that may arise during treatment. This helps Pulmonary TB patients to become more independent and can reduce the level of uncertainty or anxiety they may experience.[17-20]

4. Conclusion

There is an influence of assertive commitment therapy on medication adherence and quality of life of pulmonary tuberculosis **(**TB) patients in the Buhit Health Center Area, Samosir Regency, Indonesia.

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