



Effect of Peer Group Support on the Self-Efficacy of Multi Drug Resistant Tuberculosis Patients in Underwent Compliance Treatment

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ABSTRACT

MDR TB disease occurs due to treatment failure, non-compliance in maintaining treatment so as to cause treatment interruption, improper treatment resulting in primary resistance. MDR TB treatment requires a longer treatment time, so the treatment time will cause various kinds of effects of symptoms of physical and even mental disorders. Because this treatment requires a very strong belief or self-efficacy so that people with MDR TB can recover. One effort to improve self-efficacy is through *vicarious experience* or a person's experience by means of activities *Peer Group Support*.

The purpose of the study is to determine the effect of *Peer Group Support* on the self-efficacy of patients *Multi Drug Resistant Tuberculosis* in undergoing medication adherence.

The method of the study This type of research uses *true experimental randomized pre-post test control group design*. Samples were taken using simple random sampling consisting of 17 respondents each, both from the intervention group and the control group. *Peer Group Support* is carried out in 4 stages for 4 weeks with a duration of 45-60 minutes. The independent variable in this study is *Peer Group Support*, while the dependent variable is self-efficacy and adherence to undergo treatment. Data were analyzed with the *Mann-Whitney Test* and *Wilcoxon signed*.

The conclusion of finding research conclusions from study this indicate that there is an effect of peer group support on patient self-efficacy and adherence to treatment.

Keywords: TB MDR, *Peer Group Support*, Self-Efficacy, Treatment Compliance.

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Introduction

Multi Drug Resistant Tuberculosis is a tuberculosis (TB) disease that has experienced resistance to isoniazid (INH) and rifampicin as well as one or more anti tuberculosis drugs (OAT).

According to the Global TB Report (WHO, 2019) there were 10 million people in the world fell ill due to tuberculosis in 2018. 8% of them are Indonesians, meaning that 845,000 people fell ill due to tuberculosis in Indonesia in 2018. The estimated incidence has increased by 3000 from the previous year. In 2018 there were 563,979 people with TB who were notified to the information system at the Ministry of Health. This achievement increased significantly compared to Indonesia's notifications which ranged below 55% in the previous year. In 2017 around 1 million people died of tuberculosis. And 230,000 in between are cases of TB resistant to TB drugs. This disease is increasingly difficult to treat. And the treatment time will also be longer. One way to prevent more drug resistant TB from occurring is to take the medicine until it has recovered. So we need a strong patient confidence or self-efficacy so that these patients can be obedient in undergoing treatment. Preliminary study of researchers in August 2019 in the MDR TB outpatient hospital Dr. Moewardi Surakarta Number of MDR TB Patients undergoing treatment at Dr. Moewardi in 2018 as many as 88 patients, was declared cured 10 people, died 10 people, failed 5 people. The average number of MDR TB patients who fail treatment due to not being able to withstand the impact of the treatment itself and due to the length of treatment, some feel unsure of healing in the treatment.

Self-efficacy is a cognitive process related to individual comfort in doing things, so that it will affect one's motivation, thought processes, emotional conditions and social environment that shows a specific habit. Bandura states that everyone can have strong self-efficacy, if there is no significant obstacle to overcome.

Method

The design of this study used a *true experimental randomized pre-post test control group design*. The study population was MDR TB patients who treated at the MDR TB poly Dr. Moewardi Surakarta, who has met the criteria for homogeneity as many as 17 people. The research sample of 34 people were divided into intervention groups and control groups of 17 respondents each. The sampling technique used in this study was consecutive sampling

The independent variable of this study is *Peer Group Support*, while the dependent variable is self-efficacy and compliance in maintaining treatment. The instrument used for the independent variable is the Event Activity Unit (SAK). While the dependent variable uses closed questionnaire. The self-efficacy questionnaire is related to the question of beliefs about patients'



self-confidence in undergoing treatment which includes confidence in getting information sources, confidence in getting social support and confidence in being able to overcome physical and emotional disorders caused by the effects or effects of treatment. Contains 22 question items with answer choices strongly agree, agree, doubt, disagree and strongly disagree. The measuring instrument that will be used to measure self-efficacy is the modification of the *Beliefs and Behavior Questionnaire*.⁷ This questionnaire has been translated into Indonesian and has been tested for validity and reliability with ascore of *Cronbach alpha* 0.753. The compliance questionnaire uses the *Morisky Medication Adherence Scale (MMAS) questionnaire version 8 item* and has been translated into Indonesian. The MMAS questionnaire consisted of 8 questions using the scale *Guttman* with a score of 0 (no) and 1 (yes) so that a minimum score of 0 and a maximum score of 8 was obtained, the higher the score the more non-compliant.

This research was conducted at MDR TB TB. Dr. Moewardi Surakarta. Each data will be measured using the Spearman Rho statistical test, that is if the value of $\alpha = 0.05$ and a significance value of ≤ 0.05 are obtained, H1 is accepted The questionnaire has been tested for validity and reliability with the test *Pearson correlation* and *Cronbach alpha*. The collected data was then analyzed using the test *Mann Whitney* for 2 unpaired groups and the *Wilcoxon signed test* for 2 paired groups

Results

1. Self-efficacy of TB MDR patients

Table 1.1 Analysis of differences in self-efficacy before and after

Variable	n	Mean	SD	Mean Diff	t	p	95% Diff	CI of
Control								
Self-efficacy pre	17	59,3	5,3	0,4	0,740	0,470	-0,767 - 1,6	
Self efficacy post	17	58,9	6,2					
Intervention								
Self-efficacy pre	17	58,2	5,5	-8,9	-7,274	0,0001*	-11,5 – (-6,3)	
Self-efficacy post	17	67,2	7					

The results of studies on self-efficacy variables showed no difference in self-efficacy scores of MDR TB patients before and after in the control group (*Paired T-test*, $p= 0.740$), whereas in the intervention group showed significant differences in self-efficacy scores of MDR TB patients before and after given interventions *peer group support* (*Paired T-test*, $p= 0.0001$). The results showed the intervention group had a higher mean self-efficacy value than the control group.

Table 1.2. Differences in Compliance before and after

Variable	n	Median	Min - Maks	p
Control				



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Self-efficacy pre	17	12	10 - 14	0,857
Self efficacy post	17	12	10 - 15	
Intervention				
Self-efficacy pre	17	12	10 - 13	0,0001
Self-efficacy post	17	14	14 - 16	

The results of the study on adherence variables showed no difference in compliance scores of MDR TB patients before and after in the control group (*Wilcoxon test*, $p= 0.857$), whereas in the intervention group showed significant differences in compliance scores of MDR TB patients before and after intervention *peer group support* (*Wilcoxon test*, $p= 0.0001$).

Table 1.3. Differences in Self-Efficacy between Control Groups and Interventions After Treatment

Efikasi Diri	n	Mean	SD	Mean Diff	t	p	95% CI of Diff
Kontrol	17	58,9	6,2	-8,3	-3,677	0,001*	-12,9 – (-3,7)
Intervensi	17	67,2	7				

Tabel 1.4. Differences in Compliance between Control Groups and Interventions After Treatment

Variable	n	Median	Min - Maks	p
Control	17	12	10 – 13	0,0001
Intervention	17	14	14 - 16	

The study results show that providing interventions *peer group support* to MDR TB patients can improve self-efficacy (*Independent T-test*, $p= 0.0001$) and adherence (*Mann-Whitney test*, $p= 0.0001$) MDR TB patients undergoing treatment compared with a control group.

Discussion

The results of the study stated that *peer group support* activities carried out on MDR TB patients had a positive and significant effect in increasing patient self-efficacy. This is based on the pre-test and post-test scores of the intervention group which experienced a significant increase after the carried out *Peer Group Support* was rather than the control group. In the intervention group the *pre-test* score 58.2 and after getting the intervention *Peer Group Support* increased significantly with the *post-test* score 67.2.

Treatment of MDR TB that requires a long time and causes an impact or the effects caused by the treatment itself requires a change in someone's behavior as a management effort management of this disease. With behavior change, it is expected that MDR TB patients avoid complications, so good self-efficacy is needed to help change behavior and maintain the behavior that has been formed, in this case is compliance behavior in undergoing MDR TB treatment in the advanced phase. If linked to the source of self-efficacy, there are several interventions that can be done to improve self-efficacy. Such as education, counseling, *psychosocial support*.



Self-efficacy of MDR TB patients can be improved through activities *Peer Group Support* by sharing experiences with other MDR TB sufferers, gaining experience from someone Peer / friend who has been declared cured, how a person is struggling to recover from the MDR TB disease, by various obstacles or complaints that are almost the same or even heavier than what someone has experienced. Therefore, it can be seen the response of MDR TB sufferers after participating in the activities *Peer Group Support*, where they seem enthusiastic to participate in activities by getting a lot of information about MDR TB, so that MDR TB sufferers can apply the information they get by showing through increased self-efficacy. This is in accordance with the theory put forward by *Bandura*. According to *Bandura* self-efficacy can be improved through various means or sources. One of them is through vicarious experience (*Vicarious Experience*). The experience can be obtained from the experiences of fellow MDR TB sufferers or from an experienced *Peer* who has been declared cured.

The 2014 Margaretha study explained in the *Peer Group Support*, respondents or sufferers would discuss with each other about the understanding of leprosy so that they could increase knowledge and confidence in these patients. Another study conducted by Taufan Arif explained that Peer Support and Empowerment education can influence the knowledge, attitudes, actions and prevention of leprosy defects in leprosy clients in outpatients at the Cyst Sumber Glagah Hospital.

The research of *Kurnakech et al* explained that *Peer Support* is very useful for sufferers of chronic diseases, including MDR TB, because it is proven to be effective in improving mental health for sufferers, reducing anxiety and emotional stress levels. This is in accordance with the impact of MDR TB treatment which can lead to health problems mental, causing stress and emotions. It is also in accordance with the theory of social comparison put forward by *Festinger*. *Festinger* states that individuals will be motivated to compare themselves with others who are specific to assessing their own social situation.

The findings in this study are also supported by the results of previous studies, namely research conducted by *Sil and Whee* (2011) and *Naghib, Saeedi, Ezzati and Zayeri* (2012) who explain that self-efficacy significantly influences TB treatment compliance.

CONCLUSION

Analysis of this study shows that Peer Group Support affects patient self-efficacy and patient compliance in maintaining treatment

REFERENCES

- Ahmad S, Mokaddas E. (2014) Current status and future trends in the diagnosis and treatment of drug-susceptible and multidrug-resistant tuberculosis. *J Infect Public Health*.
- Dahlan, M. Sopiudin (2010) Statistik untuk kedokteran dan kesehatan. edisi 3 Jakarta: Salemba Medika
- Balabanova Y, et al. (2011) Survival of drug resistant tuberculosis patients in Lithuania: retrospective national cohort study. *BMJ Open*.



Getachew Tet al (2013). Survival and predictors of mortality among patient under multi-drug resistant tuberculosis treatment in Ethiopia. *Int J Pharm Sci Res.* ;4(2):776–87.

Holmes EAFet al (2014). Predicting Adherence to Medications Using Health Psychology Theories : A Systematic Review of 20 Years of Empirical Research. *Value Heal.* 2014

Kaliakbarova Get al (2013). Psychosocial Support Improves Treatment Adherence Among MDR-TB Patients : Experience from East Kazakhstan.

Kaplan, HB & Stiles, BL 2004. Adverse Social Comparasion Processes and Negative Self Feelings: A Test of Alternative Models. *Social Behaviour and Personality*

Kemenkes RI (2018). InfoDATIN Pusat Data dan Informasi Kementrian Kesehatan RI. Jakarta

Kemenkes RI. (2011) Rencana Aksi Nasional Programmatic Management of Drug resistance Tuberculosis Pengendalian Tuberkulosis Indonesia : 2011-2014. Jakarta

Kemenkes RI (2014). Petunjuk Teknis Manajemen Terpadu Pengendalian Tuberkulosis Resistan Obat. Jakarta

Murdaugh (2018) Health Promotion in Nursing Practice, 8th Edition, University of South California, College of Nursing. California

Notoatmojo s (2010) Ilmu Perilaku Kesehatan. Rineka Cipta Jakarta

Sarwani D et al. (2012) Risk Factors of Multidrug Resistant Tuberculosis (MDR-TB). *J Kesehat Masy.*

Septimar ZM. (2015) Pengalaman pasien yang menjalani pengobatan MDR-TB. Universitas Indonesia;

Sun Y, Harley D, Vally H, Sleight A. Comparison of characteristics and mortality in multidrug resistant (MDR) and non-MDR tuberculosis patients in China. 2015;1–9.

Sharma Ret al (2014) Quality of life of multi drug resistant tuberculosis patients: A study of North India. *Acta Med Iran.* ;52(6):448–53.

Tirtana BT. (2011) Faktor-faktor yang mempengaruhi keberhasilan pengobatan pada pasien tuberkulosis paru dengan resistensi obat tuberkulosis di wilayah Jawa Tengah. Universitas Diponegoro; 2011.

Weiss et al (2014) Treatment outcomes from community-based drug resistant tuberculosis treatment programs : a systematic review and meta-analysis. *BMC Infect*

World Health Organization. (2018) Global TB Report. Geneva

Yin J, Yuan J, Hu Y, Wei X. Association between Directly Observed Therapy and Treatment Outcomes in Multidrug-Resistant Tuberculosis : A Systematic Review and Meta-Analysis. 2016;1–15.