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Effectiveness of health coaching nursing education based on the precede-proceed model theory on medication compliance of TB Patients

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ABSTRACT

Background: *Tuberculosis is a contagious infectious disease where its control efforts are one of the world's targets, namely the Sustainable Development Goals (SDGs). Compliance with taking medication in pulmonary TB patients is an obstacle often faced by patients because they have to take medication continuously until the specified time, however in Indonesia there are still many cases of drop out for various reasons such as drug side effects, level of knowledge, habits, lack of family support, environment, socio-economic and health education strategies. The education provided is still one-way and has not touched on psychological, social, and motivational aspects, even though patients have the potential to act as facilitators of behavior change.*
Objectives: *The purpose of this study is to determine the development of health coaching nursing education based on the precede-proceed model theory on medication adherence for TB patients in the Pleret Bantul DIY Community Health Center Working Area.*
Methods: *This research design is quasi- experimental with Non Equivalent Control Group approach. The number of samples in this study refers to Non Probability Sampling type of total sampling amounting to 32, which are divided into 2 intervention and control group of 16 respondents each. The d ata analysis of this study used the Wilcoxon Signed Rank Test and Mann-Withney. Instrument for medication adherence was measured using the Medication Morisky Adherence Scale (MMAS-8).*
Results*: The results showed a significant difference between the control group and the intervention group after health coaching nursing education based on the precede-proceed model theory with a value of p= $0.049 < 0,05$.*
Conclusions: *It was concluded that health coaching nursing education based on the precede-proceed model theory influenced medication adherence of TB patients in the Pleret Bantul DIY Community Health Center Work Area.*

KEYWORD: *health coaching; medication adherence; nursing education; precede-proceed model; tuberculosis*

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INTRODUCTION

Tuberculosis is a disease caused by infection with the bacterium Mycobacterium tuberculosis, a condition also known as pulmonary tuberculosis. Tuberculosis bacteria that attack the lungs cause respiratory problems such as chronic cough and shortness of breath (1). According to data published by the World Health Organization (WHO) in 2020, approximately 10 million people worldwide, including 5.6 million men, 3.3 million women, and 1.1 million children, suffered from tuberculosis. The highest number of pulmonary tuberculosis cases in 2020 were in Southeast Asia (43%) (2). According to the 2023 Tuberculosis (TB)Report, the estimated number of TB cases has increased to 1,060,000 new cases at year (3). The success rate of TB treatment, with a target of 90%, reached 84.8%. According to the Health Service profile DIY is one of six provinces that have not yet reached the target for successful TB management. The TB treatment success rate is only 84.2%, while the WHO standard is 85% and the MDGs (Millennium Development Goals) standard is 95%. From January to November 2023, 1144 cases of tuberculosis were found in Bantul Regency has conducted 12,576 suspected TB tests out of a target of 9,477, which is 132% of the target for suspected TB tests in Bantul (4). Various strategies have been implemented in Indonesia to reduce the incidence of tuberculosis, including the DOTS program. The DOTS strategy in Indonesia emphasizes the presence of a medication supervisor (PMO) for each pulmonary tuberculosis patient, with the hope of ensuring regular medication intake throughout the treatment period. The Ministry of Health recommends that the requirements for becoming a PMO are that they are known by the patient, live not far from the patient/family, and are willing to help the patient. On the other hand, the PMO must understand the signs and symptoms, mode of transmission, treatment, and prevention. PMO should ideally be from healthcare workers, health volunteers, or family members (5) . During the treatment process, the role of the PMO is very important for the success of the TB patient's treatment process, even tho there are some obstacles such as emotional barriers like boredom, anger, and sadness. However, emotional and material support is always provided (6).Pulmonary tuberculosis is a curable disease with treatment lasting 6 months to 1 year, and the government has globally implemented the Directly Observed Treatment Short Course (DOTS) strategy since 1995. Some factors contributing to non-adherence to pulmonary TB treatment include patients' lack of knowledge about the purpose of treatment, patients' inability to understand the importance of treatment, patients' preference for seeking treatment outside the hospital, and the high cost of hospital care (7). Lack of knowledge can be addressed thru health education. Some

studies have found a significant relationship between knowledge, attitudes, and health information-seeking behavior regarding pulmonary TB. Several health education media such as posters, fliers, booklets, leaflets, billboards, and flip charts have been developed to facilitate the delivery of health education (8). In today's digital age, delivering information using audiovisual media is very easy and can be satisfying for everyone who receives it (9). One way to improve compliance behavior is to provide health education. Health coaching is a pat ient-centered health education and promotion that focuses on actively setting goals determined by the patient, thereby increasing patient involvement in activities. Health coaching using the Precede-Proceed approach is expected to improve treatment adherence behavior in TB patients. Health coaching is the practice of health education and health promotion aimed at improving individual health and facilitating the achievement of health goals that effectively motivate structured behavioral change thru a supportive relationship between participants and the coach (10). The focus of health coaching includes factors influencing motivation, overcoming barriers, addressing patients' feelings of inadequacy, encouraging patients not to limit themselves, generating solutions (independently/realistically), taking small steps, reviewing, reflecting, providing support, building self-esteem and confidence (self-acceptance, self-efficacy), and how to become more involved and make decisions (11).

MATERIALS AND METHODS

This research is a quasi-experimental study with a Non-Equivalent Control Group approach. The sample size for this study refers to Non-Probability Sampling, specifically total sampling, which includes 32 participants divided into 2 groups: an intervention group and a control group, each with 16 respondents. The data analysis for this study used the Wilcoxon Signed Rank Test to assess the significance of pre and post medication adherence values and the Mann-Whitney statistical test to evaluate the effect of developing health coaching nursing education based on the precede-proceed model theory on medication adherence in tuberculosis patients in the Pleret Bantul DIY Public Health Center Work Area (12).

The health coaching procedure is conducted four times. The first meeting conducts an initial assessment, consisting of social and epidemiological assessments, supporting and inhibiting factors, and health facility regulations and policies. The second meeting develops the health education plan and implementation. The third meeting provides motivation and self-reflection. The fourth meeting conducts an evaluation. Each meeting lasts 30-45 minutes..The medication adherence instrument is the Medication Morisky Adherence Scale (MMAS-8), which consists of 8 questions. If

the answer is correct, the score is 1, and if incorrect, the score is 0. The categories are: High: 8, Moderate: 6-7, Low: < 6. The results of validity testing of the questionnaire Morisky Medication Adherence Scale-8 (MMAS-8) is r value of the product moment table was 0.21. The results of the reliability test showed a Cronbach's Alpha value of 0.622 (13).

The inclusion criteria in this study were active TB patients in the Pleret Community Health Center work area. Bias control techniques in this study included the presence of a control group and the existence of SOPs during data collection. This study has passed the ethical review by the ethics committee. STIKES Surya Global with number 4.27/KEPK/S SG/VIII/2025.

Table 1. Respondent characteristics (N=32)

Respondent characteristics	f	%
Gender		
Male	13	40.6
Female	19	59.4
Age		
< 18 th	6	18.8
18 th – 35 th	5	15.6
36 th – 45 th	8	25.0
46 th – 60 th	6	18.8
> 60 th	7	21.8
Education		
No School	1	3.1
Elementary School	4	12.5
Junior High School	10	31.2
Senior High School	15	46.9
Colleges	2	6.3
Occupation		
Student	8	25.0
Housewife	11	34.3
Entrepreneur	4	12.5
Laborer	3	9.4
Private Employe	4	12.5
Civil Servant	2	6.3
Duration of Medication		
1 month	1	3.1
2 months	5	15.6
3 months	3	9.4
4 months	3	9.4
5 months	9	28.2
6 months	11	34.3
Total	**32**	**100.0**

RESULTS AND DISSCUSION

Respondent Characteristics

Based on the research conducted in the Pleret Bantul DIY Health Center's Work Area from August to September 2025, with a total of 32 TB patients as respondents, the following respondent characteristic data were obtained.

Respondent Characteristics

Based on **Table 1**, the research findings indicate that the respondents' gender characteristics are predominantly female, with 19 respondents (59.4%). The majority of respondents were aged 36-45 years, with 8 respondents (25%). The productive age group is characterized by high activity levels and most individuals are already employed, making them susceptible to decreased immunity due to stress and heavy workloads (14). This condition makes it easy for someone to be infected with the Mycobacterium tuberculosis germ. The highest level of education for most respondents is high school (46.9%), with 15 respondents. This aligns with research conducted by Hasnia, where the majority of respondents had a high school education (38.6%). This indicates that a person's knowledge is supported by their educational background, leading to a better level of knowledge (15). Education is one of the most important factors in accessing information, in this case, knowledge related to treatment that affects patient adherence. The higher the education level, the easier it will be for someone to access information related to pulmonary tuberculosis treatment (16). This is also supported by the theory stating that a person's knowledge is influenced by their level of e ducation; generally, the higher a person's level of education, the easier it is for them to receive information (17). Work determines the risk factors that each individual must face. When workers work in a dusty environment, exposure to dust particles will affect the occurrence of respiratory disorders. Chronic exposure to polluted air can increase morbidity, especially the occurrence of respiratory diseases and particularly pulmonary tuberculosis (18).

Table 2. Differences in medication adherence of tuberculosis patients before and after intervention using the wilcoxon signed rank test (N=32)

Variables	n	Group	High (%)	Medium (%)	Low (%	*p*
Pretest	16	Intervention	7 (43,8%)	7 (43,8%)	2 (12,4%)	0.008
Postest		Intervention	12 (75%)	4 (25%)	0	
Pretest	16	Control	8 (50%)	5 (31,3%)	3 (18,7%)	0.046
Postest		Control	9 (56,3%)	7 (43,7%)	0	

Data source: primary data, processed

Medication Adherence of TB Patients Before Intervention

Based on **Table 2**, the research results show that the level of medication adherence among patients before the intervention was high in 7 respondents (43.8%), moderate in 7 respondents (43.8%), and low in 2 respondents (12.4%). This is consistent with the re sults of a study previously conducted in the working area of Puskesmas I and III Denpasar Utara, where out of 42 respondents, 29 (69%) had high adherence, 9 (21.4%) had moderate adherence, and 4 (9.5%) had low adherence. High adherence levels can be influe nced by motivation. Motivation in increasing awareness and the desire to seek treatment is very influential on the success of TB treatment. Sometimes, even if the symptoms of the disease begin to worsen, if the patient doesn't feel very sick, they tend not to seek treatment (16). The results of this study are also in line with research conducted showing similar results: 57.8% have high adherence levels, 24.4% have moderate adherence, and 8 respondents have low adherence. This study still found respondents with low adherence levels, namely 2 respondents (12.4%). Respondents had low medication adherence because they were too busy with activities/work outside the home and education is also one of the factors influencing non-adherence to medication, along with a lack of knowledge and information about the importance of pulmonary TB treatment and the effects of non-adherence (14). This aligns with the statement that self-care- based health promotion activities are needed to address non-adherence in TB patients, improve adherence to the treatment program, and improve the health status of pulmonary tuberculosis patients (15). High adherence levels can be influenced by motivation. Motivation in increasing awareness and the desire to seek treatment is very influential on the success of TB treatment. This is supported by previous studies showing that behavioral interventions and patient-centered approaches significantly improve medication adherence among patients with chronic diseases, including tuberculosis (19).

Table 3. Differences in medication adherence of tb patients in the intervention and control group before and after intervention using the mann-whitney test (N=32)

Variables	n	Group	r	*P*
Pretest	16	Intervention Control	0.102	0.685
Postest	16	Intervention Control	0.30	0.049

Data source: primary data, processed

Medication Adherence of TB Patients After Intervention

Based on **Table 3**, the research results show an increase in medication adherence after the health coaching nursing education intervention based on the precede-proceed model was implemented. This means that the medication adherence level of patients in the high category was 12 respondents (75%) and in the moderate category was 4 respondents (25%). This is in line with research conducted by Mantouw, which found that health education based on health coaching increased medication adherence in pulmonary tuberculosis patients (53.34%). The health coaching process goes thru several stages: Goal, Reality, Options, and Will. A clear step-by-step process provides patients with an understanding of how to follow the coaching process until they consciously adopt the desired healthy behaviors. In the initial stage, the patient determines the goals of health coaching, where the patient's goal is to achieve recovery thru the adoption of healthy behaviors. In the second stage, the patient adjusts to their health status and condition in order to achieve the target of recovery and the healthy behaviors they are implementing. In the next stage, the patient determines the positive things that need to be implemented and avoids behaviors that are less suitable for their health. In the final stage, the patient with self-awareness implements behaviors that support their health (11). The Precede-Proceed model is a health education model that can be used to improve health status, based on the identified priority problems. It consists of several phases including social, environmental, epidemiological, behavioral, educational, and policy (20). Similar findings were obtained from previous research showing that the application of the Precede -Proceed model to patients with diabetes mellitus living in urban areas was effective in increasing patients' knowledge, thereby lowering blood glucose levels, improving self-efficacy, and enhancing patients' quality of life. The Precede-Proceed model is a framework that can be used to determine health interventions, helping to identify appropriate health screening, understanding, and knowledge enhancement (20).

Differences in Medication Adherence Between Intervention and Control Groups

The research results indicate a significant difference in medication adherence between the intervention and control groups, with a p-value of <0.05. The development of health education using the health coaching nursing education development method based on the precede-proceed model theory to improve medication adherence in tuberculosis patients within the working area of Pleret Bantul Health Center, DIY, is one alternative to increase tuberculosis patients' knowledge in a more structured and

systematic way. The health coaching process goes thru several stages: Goal, Reality, Options, and Will. The focus of health coaching includes factors that influence motivation, overcoming barriers, addressing patients' feelings of inadequacy, influencing patients not to limit themselves, generating solutions (independently/realistically), taking small steps, reviewing, reflecting, providing support, building self-confidence and belief (self-acceptance, self-efficacy), and how to become more involved and make decisions (10) .

A clear step-by-step process provides patients with an understanding of how to follow the coaching process until they consciously adopt the desired healthy behaviors. In the initial stage, the patient determines the goals of participating in health coaching, where the patient's goal is to achieve recovery thru the adoption of healthy behaviors. In the second stage, the patient adjusts to their health status and condition in order to achieve the recovery target and implement healthy behaviors. In the next stage, the patient identifies positive things to implement and avoids behaviors that are less conducive to health. In the final stage, the patient consciously adopts behaviors that support their health. The Precede-Proceed model is a health education model that can be used to improve health status, based on the identified priority problems. It consists of several phases including social, environmental, epidemiological, behavioral, educational, and policy (21). This finding is supported by studies indicating that interventions based on the Precede-Proceed model are effective in improving health behaviors and treatment adherence (20). In addition, health coaching has been proven to significantly improve medication adherence by enhancing patient motivation, self-efficacy, and behavioral commitment (22). The tuberculosis treatment and care program, and the associated health education interventions enabled migrants to complete the treatment regimen and achieve treatment success (23). It could also help TB staff develop an appropriate program and clear understanding of TB control among migrants. It is recommended that this type of information and health education program be used in other hospitals and healthcare settings providing TB services for migrants throughout the nation (24).

However, to maximize its benefits, it needs to be integrated with other approaches, such as direct mentoring, community engagement, and provision of adequate access to technology (25). Based on the results of this study, health workers can apply guidance and counseling methods to improve knowledge and skills and maximize the role of health workers in the provision of health education in the context of plenary service and support the recovery of TB patients by increasing patient self-efficacy (26).

CONCLUSION AND RECOMMENDATION

The study's conclusion indicates an increase in medication adherence among TB patients in the Pleret Bantul Health Center's Working Area following the implementation of a health coaching nursing education development intervention based on the precede -proceed model. Furthermore, a nursing intervention model can be developed as a form of promotional step to improve adherence to pulmonary TB treatment and prevent drug resistance.

The results of this study can be used as a basis for the development of nursing science related to treatment adherence in pulmonary TB patients and can be further developed in research related to the development of nursing intervention models as a form of promotive steps to improve treatment adherence in pulmonary TB and prevent drug resistance.

REFERENCES

1. Kementerian Kesehatan Republik Indonesia. Profil Kesehatan Indonesia 2021. 2022.https://kemkes.go.id/id/profil-kesehatan-indonesia-2022
2. World Health Organization. Global Tuberculosis Report 2020. https://www.who.int/publications/i/item/9789240013131
3. Kementerian Kesehatan Republik Indonesia. Profil Kesehatan Indonesia 2021. 2022.https://kemkes.go.id/id/profil-kesehatan-indonesia-2022
4. Dinas Kesehatan Kabupaten Bantul. Pofil Dinas Kesehatan Kabupaten Bantul. Yogyakarta; 2023. Tersedia pada : https://dinkes.bantulkab.go.id/
5. Nizar M. Pemberantasan dan Penanggulangan Tuberculosis. Yogyakarta: Gosyen; 2017.
6. Hikmawati, Anna Nur dan Riyadi ME. The Family Experience as A Supervisor of Ingesting Drugs to the Adherence to Treatment of Tuberculosis Patients. Jurnal Keperawatan. 2020;12(3):789–98. https://doi.org/10.32583/keperawatan.v12i4.971
7. Agustina AH, Purnama A, Koto Y. Pengaruh edukasi berbasis media audiovisual terhadap kepatuhan minum obat pada pasien tuberkulosis. Journal of Management Nursing. 2024 May 15;3(3): 376-84. https://doi.org/10.53801/jmn.v3i3.1889
8. Khairunnisa DM, Kadri H, Pebrianti DK, Yesni M, Yanti RD, Armina A, Rahmadhani DY. Hubungan Pengetahuan dan Sikap Masyarakat dengan Upaya Pencegahan Tuberkulosis Paru. Jurnal Akademika Baiturrahim Jambi. 2023 Sep 19; 12(2): 337-43.https://doi.org/10.36565/jab.v12i2.675
9. Hikmawati AN, Hartiningsih SN, Setyawan A, Adkhanasari DN. Pendidikan kesehatan dengan media audio visual berpengaruh terhadap dukungan keluarga pada pasien tbc. Jurnal Ilmiah Permas: Jurnal Ilmiah

STIKES Kendal. 2021 Jan 11;11(1):63-70.https://doi.org/10.32583/pskm.v11i1.1082

10. Evi Supriatun, Insani U. Pengaruh Health Coaching terhadap Peningkatan Perilaku Pencegahan Tuberkulosis di Kabupaten Tegal. Jurnal Kesehatan Komunitas. 2021 Apr. 30;7(1):97–105. https://doi.org/10.25311/keskom.Vol7.Iss1.870
11. Wahyudin D, Supriyatna N, Mulyono S. Pengaruh Health Coaching Pada Self Help Group terhadap efikasi diri dan kepatuhan program pengobatan pasien tuberkulosis paru di kota sukabumi. Jurnal Penelitian Kesehatan,(12).http://doi.org/10.33846/sf12nk214. 2021 Feb 6.
12. Notoatmodjo S. Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta; 2018.
13. Ambas J, Atssam Mappanyukki A, Anggraeni Rachman D. Analisis Kepatuhan Minum Obat pada Penderita Diabetes Mellitus Berdasarkan Instrumen MMAS-8 di RSUP Dr. Wahidin Sudirohusodo Makassar. Analysis of Medication Adherence Among Patients with Diabetes Mellitus Based on the MMAS-8 Instrument at Dr. Wahidin Sudirohusodo Hospital, Makassar. Jurnal Kolaboratif Sains. 2025; 8(11): 7156–64.http://doi:10.56338/jks.v8i11.9292
14. Afilla Christy B, Susanti R, Nurmainah N. Hubungan Tingkat Kepatuhan Minum Obat Pasien Tuberkulosis Terhadap Efek Samping Obat Anti Tuberkulosis (OAT). Journal Syifa Sciences and Clinical Research. 2022 Jun 14;4(1).http://doi:10.37311/jsscr.v4i2.14830
15. Hasina SN, Rahmawati A, Faizah I, Sari RY, Rohmawati R. Hubungan tingkat pengetahuan dengan kepatuhan minum obat anti tuberkulosis (OAT) pada pasien tuberkulosis paru. Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal. 2023; 13(2): 453-62. http://journal.stikeskendal.ac.id/index.php/PSKM
16. Luh N, Dewi KF, Dewi Puspawati P, Sumberartawan IM. Gambaran Kepatuhan Minum Obat pada Penderita Tuberkulosis Paru Description of Medication Adherence in Pulmonary Tuberculosis Patients. Vol. 3, CARING. 2019. https://doi.org/10.32668/jkep.v9i1.1201
17. Hamsi AM, Kartini, Wijaya I, Ariani. Analisis Determinan Perilaku Pencegahan Penularan Tuberkulosis. Sehat Rakyat: Jurnal Kesehatan Masyarakat. 2026 Feb 15; 5(1): 504–15.http://doi:10.54259/sehatrakyat.v5i1.6492
18. Gusneli. Pengaruh Pendidikan Kesehatan terhadap Perilaku Keluarga Penderita TB dalam Upaya Penanggulangan TB Dewasa di

Kabupaten ABC Sumatera Barat. Jurnal Ilmiah Universitas Batanghari Jambi,. 2020; 20(2): 630–6. http://doi.org/10.33087/jiubj.v20i2.1001

19. Khatib R, Schwalm JD, Yusuf S, Haynes RB, McKee M, Khan M, Nieuwlaat R. Patient and healthcare provider barriers to hypertension awareness, treatment and follow up: a systematic review and meta-analysis of qualitative and quantitative studies. PLoS One. 2014 Jan 15;9(1):e84238. doi: 10.1371/journal.pone.0084238. PMID: 24454721; PMCID: PMC3893097.https://pubmed.ncbi.nlm.nih.gov/24454721/
20. Ghaffari M et al. Effect of Precede-Proceed Model on Health Program: A Systematic Review. Syst Rev. 2022;11(1):1–15.https://doi.org/10.1186/s13643-022-02092-2
21. Yusransyah Y, Stiani S, Chairani F, Adini S, Subchan M, Ferdiyansyah F, et al. Effectiveness of TB-Reminder Application in Improving Medication Adherence and Quality of Life of Lung Tuberculosis Patients in Indonesia. Sciences of Pharmacy. 2025 Jul 4;4(3):117–0.http://doi:10.58920/sciphar0403358
22. Rahardjo SS, Murti B. Health Belief Model and PRECEDE PROCEED on the Risk Factors of Multidrug Resistant Tuberculosis in Surakarta, Central Java. Journal of Epidemiology and Public Health. 2017;2(3):241-54. https://doi.org/10.26911/jepublichealth.2017.02.03.06
23. Humaidi F, Ratna Anggarini D. Kepatuhan Minum Obat Anti Tuberkulosisi Pada Pasien TBC regimen Kategori I di Puskesmas Palengan. JIFA : Jurnal Ilmiah Farmasi ATTAMRU.2020;01:1.https://journal.uim.ac.id/index.php/Attamru/article/download/917/598
24. Khortwong P, Kaewkungwal J. Thai health education program for improving TB migrant's compliance. J Med Assoc Thai. 2013 Mar;96(3):365-73. PMID: 23539943. https://pubmed.ncbi.nlm.nih.gov/23539943/
25. Mustopa R, Damris D, Syamsurizal S, Guspianto G. Video Intervention In Health Education Use Case Study To Improve Understanding Of Tuberculosis. Jurnal Kesehatan Manarang. 2025 Aug 23;11(2):262–8. http://doi:10.33490/jkm.v11i2.1794
26. Mamiri ED, Fata UH, Nurmawati T. Pengaruh Pendidikan Kesehatan Metode Guidance and Counseling terhadap peningkatan Efikasi Diri (Self Efficacy) pada Pasien TBC di wilayah kerja Puskesmas Boro. Jurnal Ners dan Kebidanan (Journal of Ners and Midwifery). 2020 Aug 5;7(2):190–5. http://doi:10.26699/jnk.v7i2.art.p190-195