Review

Does The Education Influence Self Efficacy in Tuberculosis Patients? : Systematic Review

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ARTICLE INFO **ABSTRACT** Article History **Background:** Tuberculosis is still a health problem in the world, one of which Submit : Apr 28, 2024 is in Indonesia, which is ranked third after India and China. Tuberculosis is Revised : May 19, 2024 transmitted through the air and is caused by the bacteria Mycobacterium Accepted: Jun 24, 2024 tuberculosis. This research aims to determine the effect of health education on self-efficacy in pulmonary tuberculosis patients. **Keywords:** Methods: The method used in this research is a systematic review with a Health Education, Selfsystematic review (PRISMA) using several journal databases from Google efficacy, Tuberculosis Scholar, Science Direct, and Pubmed from 2019-2024 with the keywords "tuberculosis," "health education," or "self-management," or "self-efficacy." 10 articles ready for review 10 articles obtained with PRISMA Results: The results of a systematic review study show that providing health education influences self-efficacy in pulmonary tuberculosis patients. **Conclusion:** It is hoped that health education will increase knowledge so that it will change individuals' mindsets so that they have high selfconfidence and good health behavior to control their disease, one of which is by obediently taking medication Corresponding Author : Chilyatiz Zahroh 闘 Affiliation : Faculty of Nursing and Midwifery, Nahdlatul Ulama University Surabaya 🖄 Email chilyatiz@unusa.ac.id Fauziah, A., Zahroh, C., Nadatien, I., & Hidaayah, N. . (2024). Does The "Cite this as Education Influence Self Efficacy in Tuberculosis Patients? : Systematic Review. Journal of Applied Nursing and Health, 6(1), 128-138.

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Introduction

Tuberculosis is an infectious disease caused by the bacteria Mycobacterium tuberculosis, which is transmitted through droplets through the air and has a high number of cases and deaths. Control efforts using the Directly Observed Treatment Short Course (DOTS) strategy have been carried out to date, but pulmonary tuberculosis is still a health problem in the world (Kurniyawan et al., 2022; Tuesday et al., 2020). In Indonesia,

tuberculosis is ranked third (8%) after India (27%) and China (9%) (Setiyowati et al., 2021). In 2021, the number of tuberculosis cases will increase by 18% (2020: 819,000, 2021: 969,000 per 100,000 population) with the death rate increasing by 55% (2020: 93,000, 2021: 144,000) (Sulistyo et al., 2023).

Tuberculosis treatment is carried out with treatment that requires a long time (at least 6-9 months) consistently (Haskas et al., 2023). Apart from physical factors,

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psychological and mental factors also need to be considered in tuberculosis individual treatment, namely which understanding influence can perceptions of the disease and the treatment process. Self-efficacy in the of treatment effectiveness to tuberculosis is very important (Fintiya & Wulandari, 2019; Kurniyawan et al., 2022). Self-efficacy self-confidence is managing certain behaviors in achieving healing(Herawati & Purwanti, 2018). In this case, self-efficacy refers to a person's ability to make decisions that show effort in achieving progress and show resilience in completing various life tasks (Nilasari et al., 2022).

This is influenced by personal experience, observation of other people's experiences, verbal support in the form of emotional and informational support, as well as physical and emotional conditions. Treatment of pulmonary tuberculosis which requires a relatively long time with regular medication administration can cause boredom in sufferers, and less than optimal information and emotional support can also play a role in reducing the client's self-efficacy in undergoing treatment, which in turn can cause the bacteria to become resistant. to antituberculosis drugs. A person who cannot adapt to illness will result in unfavorable outcomes such as non-compliance with treatment, because self-efficacy has a role in increasing healthy behavior so that in the disease, increasing self-efficacy will improve health behavior (Kurniyawan et al., 2022). Self-efficacy influences the perceptions of tuberculosis patients to form positive behavior during treatment period (Fintiya & Wulandari, 2019). Therefore, efforts are needed to increase self-efficacy, namely

providing health education (Mamiri et al., 2020).

Health education an effort to provide health information to the community, groups, individuals with the aim of providing better knowledge about health, providing motivation and changing individual or community behavior in terms of health (Erwinsyah et al., 2023; Subai'ah, 2016).Health & education given to tuberculosis patients is to related five aspects, namely, with taking medication, compliance physical activity, nutritional management prevention tuberculosis of and transmission.

Apart from being given health good self-management education, needed by tuberculosis patients. Because self-management is one of the successful factors in controlling tuberculosis, which is an individual's ability to regulate and control themselves in the healing process, preventing complications and disease transmission. So that individuals can hone problem-solving skills, increase selfconfidence and apply knowledge in controlling a disease (Tuesday et al., 2020).

Based on several previous studies regarding the effectiveness of providing health education about self-management to patients with chronic diseases, it provides many benefits. By providing health education about self-management, it can improve quality of life, medication adherence and self-efficacy in pulmonary tuberculosis patients (Faisal et al., 2021; Setiyowati et al., 2020; Wijaya et al., 2023; Yesayas et al., 2021). The aim of writing this article is to determine the effect of providing health education on selfin pulmonary efficacy tuberculosis patients with a systematic review.

Methods

Study Design

This research article uses a systematic review design with standard systematic review and Meta Analysis (PRISMA) used to conduct a systematic review.

Eligibility Criteria

The criteria used in writing this article use PICO (Population, Intervention, Comparison, Outcome) to develop eligibility criteria for inclusion and exclusion criteria from randomized research reviews. Here are some criteria:

Criteria	Inclusion	Exclusion
Population	Tuberculosis	Apart from
	patient	tuberculosis
		patients
Intervention	Health	-
	education	
	about self-	
	management	
Comparison	Do not use	-
	comparison	
	factors	
Outcomes	Self-efficacy	-
Study design	All research	Systematic
and type of	designs	review
publication		

Year of	2019-2024	< 2019
publication		
Language	English	other than
		English

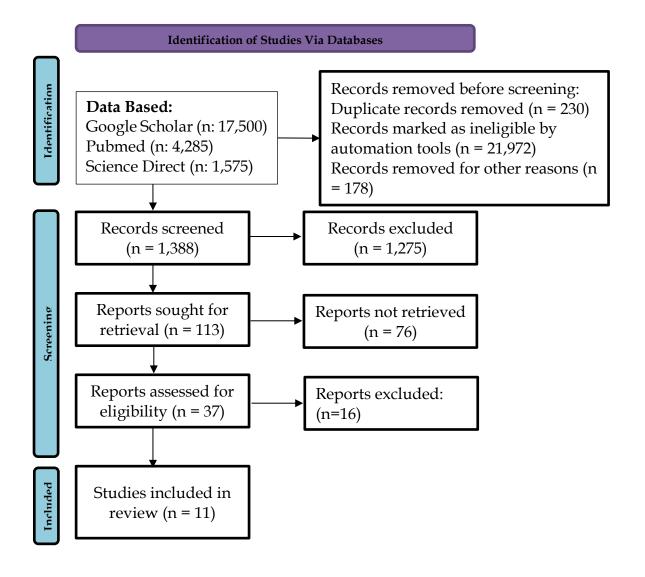
Search Strategy

The databases used in writing this systematic review are Google Scholar, Science Direct, and Pubmed. Article searches were carried out systematically from 2019-2024 using several keywords, namely "tuberculosis", or "health education", or "self-management", or "self-management education", or "self-efficacy", or "tuberculosis patients". Search for articles in English.

Study Selection and Synthesis

The article feasibility study was carried out by reviewing articles with full text. Articles deemed appropriate will be used in this literature, the process and results of selecting articles are presented in the PRISMA diagram diagram 1. Based on the journal database search results, results were obtained from Google Scholar (17,500 articles), Pubmed (4,285 articles), Science Direct (1,575 articles), then selected according to the inclusion and exclusion criteria, 11 articles were obtained.





Results

No.	Journal	Method	Results
1.	Evaluation of Impact of Self-	Design:	There was a change in self-efficacy after
	Management Counseling on Health-	Quasy experiment	the intervention with a p value of 0.001 <
	Seeking Behavior's Self-Efficacy	Sample:	0.05 in the intervention group, while in
	Pulmonary Tuberculosis	60 (30 intervention group and 30	the control group there was no
	Outpatients(Jauhar et al., 2019).	control group)	significant change with a p value of
	,	Variables:	0.0898 > 0.05.
		Independent: Self management	
		Counselling	
		Dependent: Behavior's self-efficacy	
		Instruments:	
		Self-efficacy questionnaire	
		Analysis:	
		Paired t-test and independent t test	
2.	Effect of Self Management Education	Design:	There is an effect of providing self-
	on Knowledge and Self Efficacy of	Quasy experiment	management education on increasing
	Pulmonary TB Clients in Timor	Sample:	self-efficacy (p value 0.000 < 0.05) and
	Tribal Community(Nuwa & Kiik,	30 people	knowledge (p value 0.000 < 0.05) in TB
	2021).	Variables:	patients.

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No.	Journal	Method	Results
		Independent: Self management education Dependent: Knowledge and self-efficacy Instruments: Questionnaire Analysis: Paired t-test	
3.	Health Education In Increasing Self- Efficacy In The Treatment Of Tuberculosis Patients At Tamalanrea Makassar Health Center(Haskas et al., 2023).	Design: Pre-experiment Sample: 36 people Variables: Independent: Health education Dependent: Self-efficacy Instrument: Questionnaire Analysis: Wilcoxon test	There is an effect of providing health education on increasing self-efficacy in TB patients who are undergoing treatment with a p value of 0.02 < 0.05.
4.	Self-Efficacy and Self-Management Mediate The Association of Health Literacy and Quality of Life among Patients with TB in Tibet, China: a Cross-Sectional Study(Liu et al., 2023).	Design: Cross-sectional Sample: 271 cases Variables: Independent: Health literacy Mediation: Self efficacy and self management Dependent: Quality of life Instruments: Questionnaire Analysis: One sample t-test	Research shows that TB patients in Tibetan China have a lower quality of life compared to patients with other chronic diseases (p value < 0.01). The variables self-efficacy and self-management have a relationship with health literacy and quality of life (p value < 0.05).
5.	The Effect of a Health Education Video on Self-Efficacy in Preventing Transmission of Tuberculosis(Lucya & Nuryanti, 2022).	Design: Quasy experiment Sample: 60 people Variables: Independent: Health education Dependent: Self-efficacy Instruments: Questionnaire Analysis: Paired t-test and ANOVA	There is an effect of providing health education via video on changes in self-efficacy with a p value <0.05.
6.	Educational Intervention in Improving Tuberculosis Patient's Adherence Based on the Theory of Planned Behavior(Adiutama & Fauzi, 2020)	Design: Quasy experiment Sample: 100 people Variables: Independent: Health education Dependent: Self-efficacy Instruments: MMAS-8 questionnaire Analysis: Independent t-test, Paired t-test and Chi square	There is an influence of providing education on improving behavior, subjective norms (SN), perceived behavioral control (PBC), medication compliance, prevention and transmission as well as nutritional management compliance.
7.	Health Education In Increasing Self- Efficacy In The Treatment Of Tuberculosis Patients At Tamalanrea Makassar Health Center(Haskas et	Design: Pre-experimental Sample: 36 people	Based on the results of the Wilcoxon test, it was found that the p value was 0.02 < 0.05, which means that there was an influence of providing health education

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al., 2023).

on increasing self-efficacy in tuberculosis

patients.

 $Independent: Health\ education$

Dependent: Self-efficacy

Variables:

No.	Journal	Method	Results
		Instruments: Questionnaire Analysis: Wilcoxon	
8.	Medication Adherence and Visiting Compliance: Interventions Self-Management Education Based on Health Belief Model(Iskandar et al., 2023).	Design: Experiment Sample: 125 people Variables: Independent: self-management education Dependent: Medication adherence and control compliance Instruments: Questionnaire Analysis: Independent T-test	There is an influence of providing self- care management education on compliance with taking medication and compliance with control in tuberculosis patients
9.	Effects of an mHealth Intervention for Pulmonary Tuberculosis Selfmanagement Based on the Integrated Theory of Health Behavior Change: Randomized Controlled Trial(Bao et al., 2022).	Design: Prospective randomized controlled study Sample: 114 people Variables: Independent: mHealth Dependent: self-care management Instruments: Questionnaire Analysis: Mann Whitney U test and Wilcoxon test:	After the intervention, statistically significant improvements were noted in the scores of each self-care management behavior item compared with scores at baseline (P<.001) in the intervention group. The scores of all self-care management behaviors of the control group were lower than those of all self-care management behaviors in the intervention group (all P<.05), except for the item "cover your mouth and nose when coughing or sneezing" (P = .23) and the item "wash hands properly" (P = 0.60), which did not have a statistically significant difference from those in the intervention group.
10.	The Effect of Audiovisual Health-Based Education on Medication Compliance among Tuberculosis Patients(Endah Kurniasih et al., 2020).	Design: Quasi experiment Sample: 70 people Variables: Independent: Audiovisual health education based on the health belief model Dependent: Medication compliance Instruments: MMAS-8 Questionnaire Analysis: Paired t-test	There is an effect of providing audiovisual education based on the health belief model on treatment compliance in tuberculosis patients with a p value <0.05
11.	The Effect of a Health Education Video on Self-Efficacy in Preventing Transmission of Tuberculosis (Lucya & Nuryanti, 2022).	Design: Quasi experiment Sample: 60 people Variables: Independent: Health education Dependent: Self-efficacy Instruments: Self-efficacy questionnaire Analysis: Paired t-test and ANOVA	There is an effect of providing health education with videos on self-efficacy with p value (0.00) < 0.05



Discussion

Self-efficacy is an individual's selfconfidence in making decisions for the expected goals, this is important for pulmonary tuberculosis patients to have because it increases compliance treatment and prevents transmission of pulmonary tuberculosis (Kurniyawan et 2022). Compliance with taking medication is an action taken by a patient to take medication according to their drinking schedule or according to the rules prescribed by the doctor. When patients show non-compliance with their treatment, the risk of drug resistance will increase. Many factors can influence nonadherence to taking medication, including the length of tuberculosis treatment, understanding of instructions, quality of interaction, family support. Treatment for tuberculosis patients takes a relatively long time, namely 6-9 months, so there is non-compliance often with taking medication because of discomfort with the side effects of the medication, boredom with the treatment and a bad stigma in society (Nurmalisa, 2022; Suptya et al., 2022).

On research (Jauhar et al., 2019) The results showed that there was a change in self-efficacy after the intervention with a p value of 0.001 < 0.05 in the intervention group, while in the control group there was no significant change with a p value of 0.898 > 0.05. Study (Nuwa & Kiik, 2021) The results show that there is an effect of providing self-management education on increasing self-efficacy (p value 0.000 < 0.05) and knowledge (p value 0.000 < 0.05) in tuberculosis patients. Research from (Haskas et al., 2023) The results show that there is an influence of providing health education on increasing self-efficacy in

tuberculosis patients with a p value of 0.02 < 0.05.

Research from (Liu et al., 2023) The results show that there is a relationship self-efficacy selfbetween and management with quality of life and health literacy. Research from(Lucya & Nuryanti, 2022)The results show that there is an effect of providing health education via video on changes in self-efficacy with a p value <0.05. Research from (Adiutama & Fauzi, 2020) The results show that there is an effect of providing education on improving behavior, subjective norms, perceived behavioral control, treatment compliance, prevention and transmission as well as nutritional management compliance. Research from (Haskas et al., 2023) The results show that there is an influence of providing health education on increasing self-efficacy in tuberculosis patients.

dominant factor influencing The compliance with TB sufferers knowledge (Zahroh et al., 2023), therefore health education is needed. Research from(Iskandar et al., 2023)The results show that there is an influence of providing self-care management education on medication adherence and control compliance in tuberculosis patients. Research from(Bao 2022)The results showed that there was an increase in self-management behavior after being given intervention in the intervention group. Research from (Endah Kurniasih et al., 2020) The results show that there is an influence of providing audiovisual education based on the health belief model on treatment compliance in tuberculosis patients with a p value <0.05. Research from (Lucya & Nuryanti, 2022) The results show that there is an influence

of providing health education on selfefficacy in tuberculosis patients.

Providing education is an important aspect in management programs for patients with chronic diseases such as hypertension diabetes mellitus, pulmonary tuberculosis. The goal is to have good self-management skills and be responsible in managing the disease (Nuwa & Kiik, 2021). The education provided is tailored to overcome problems with the five pillars of pulmonary management, tuberculosis medication adherence, physical activity, nutritional management, and prevention of tuberculosis transmission.

It is hoped that providing health education to pulmonary tuberculosis patients will increase self-efficacy because they have gained a comprehensive understanding of pulmonary tuberculosis and its treatment. Apart from that, it is important to provide support from family and community during treatment. They need to be empowered to address psychological well-being to improve coping mechanisms and reduce stress or depression during treatment. supportive environment facilitates pulmonary tuberculosis patients complying with and completing pulmonary tuberculosis treatment.

Conclusion

Systematic reviews a method used to identify, evaluate and interpret research evidence in order to answer certain research problems. Based on the systematic review study that has been carried out, it can be concluded that tuberculosis self-management education has an effect on self-efficacy and medication adherence in pulmonary tuberculosis patients.

Authors Contributions

In this literature review endeavor, each author's role was instrumental in the research direction scholarly contribution: one formulated the research questions. designed search strategies, and conducted comprehensive literature searches; another author critically analyzed the selected literature, synthesized key findings, and identified theoretical insights and practical implications; while a third meticulously crafted the manuscript, clarified conceptual ambiguities. ensured alignment with academic conventions and standards.

Conflicts of Interest

I declare that the research was carried out with complete impartiality, free from any financial, personal, or professional conflicts of interest, thus maintaining the credibility and trustworthiness of the study's conclusions.

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