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Factors Related to the Level of Compliance with Pulmonary TB Treatment

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A R T I C L E I N F O

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A B S T R A C T

Disobedience to the treatment of tuberculosis (TB) is the most important cause of the bad results of TB treatment, and improving support for TB patients are priority of main government, however, only There is little study about the impact of policy on family, social, and national. factor supporter obedience TB treatment. Study This evaluates obedience treatment in between TB patients (1). Studies published between 201 6 and 2023 were systematically reviewed through identification in the Research Gate, Science Direct, PubMed, and Google Scholar databases. Studies that met the inclusion criteria were included for review. The results of the literature review of the articles carried out can be concluded that the factor related factors with level obedience pulmonary TB treatment.

INTRODUCTION

In 2021, Southeast Asia contributed almost half of TB cases globally, reaching 4.82 million or 45.4%. Eight countries contributed around 66% of total global cases, with Indonesia (9.2%) in the ranking second after India. In addition, there were 969,000 TB cases in Indonesia in 2021 according to the Global TB Report 2022, and 44% were found in the most populous areas, including East, West, and Central Java. Tuberculosis is the reason for death number nine worldwide caused by one agent infection.

Tuberculosis is the reason for death number nine worldwide caused by one agent infection, estimated in 95% of cases tuberculosis and 98% mortality consequence tuberculosis occurred in South Asia. Triggered by poverty, poor public health systems, and the increasing prevalence of HIV/AIDS, tuberculosis Keep going become a constant challenge for global health and development. The World Health Organization (WHO) targets a decline prevalence of tuberculosis (TB) by 20% in 2020.

However, the decline is actually only as big as not enough from 10% in 2021. Likewise with effort TB elimination in Indonesia, however persistent and organized effort still required For achieve that target. According to the Indonesian Ministry of Health, Indonesia must TB free by 2035. Based on WHO Global Tuberculosis Control 2012, Indonesia is still combined with five countries with the largest TB incidence that is occupy order to four. Countries included in 5 countries with the largest TB incidence namely India (2 million-2.4 million cases), China (900,000-1.1 million cases), South Africa (400,000-600,000 cases), Indonesia (400,000-500,000 cases), Pakistan (300,000-500,000 cases) Indonesia rose from fifth place becomes ranking to four after India, China and South Africa, of course, problem disease tuberculosis experience enhancement.

According to The 2013 Indonesian Health Profile was found amount case New BTA positive (BTA+) cases were 196,310. In 2019 the number discovery Pulmonary TB cases at the Community Health Center Urei-Faisei increase compared to 2018 pulmonary TB cases with diagnosed with TB and started treatment totaling 10 cases, then increase to 64 cases in 2019. The latest data in January 2020 found 3 patients case new Pulmonary TB. A studies field in Flores (Indonesia) shows that individuals living in the area rural areas have limited information about reason TB disease and transmission disease This creates stigma in society to TB sufferers so require intervention To overcome problem the . Knowledge of TB in the community increases after a number of activity education in the form of workshops, meetings groups, visits, and observations monthly, as well as informal discussions.

LITERATURE REVIEW

Pulmonary Tuberculosis Concept

According to Adigun and Singh (2023), Tuberculosis (TB) is a disease in humans caused by Mycobacterium tuberculosis, which attacks the lungs, and makes lung disease the most common symptom and is followed by other organs that are often affected including the respiratory system, gastrointestinal system (GI), lymphoreticular system, skin, central nervous system, musculoskeletal system, reproductive system, and liver. Tuberculosis (TB) is disease infection

infectious Which caused by the bacteria *Mycobacterium tuberculosis* most often attack network parenchyma lungs (tuberculosis lungs) And can transmitted by air (13)

H_1 : Connection drug side effects patient tuberculosis lungs by level Pulmonary TB patient treatment compliance

Compliance Concept

Compliance describes the extent to which a person behaves to carry out the rules of behavior recommended by health workers· Research conducted by Uki Susana Samory (2022) stated that There is no significant relationship between TB knowledge and TB treatment adherence, while results research conducted by Meliana 2021 about Factors Associated with Treatment Adherence to Pulmonary Tuberculosis Patients in Sorong City with results study The research results showed that 55.6% of respondents were compliant with pulmonary tuberculosis treatment (12).

H_2 Relationship PMO TB patients lungs with the level of treatment compliance pulmonary TB patients

Research result This supported by Gunawan (2017) who states patient with good motivation will influence to obedience TB treatment. This matter not appropriate with theory Notoatmojo stated that there is connection between motivation with behavior health. From the explanation on can concluded that its height motivation Can influence obedience Because obedience is behavior health.

Framework Conceptual

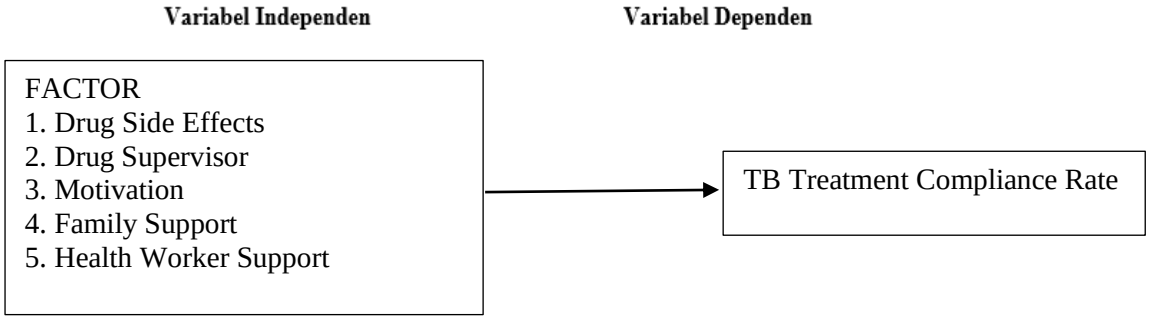


Figure 1. Framework Draft Factors influencing treatment compliance of TB patients

METHODOLOGY

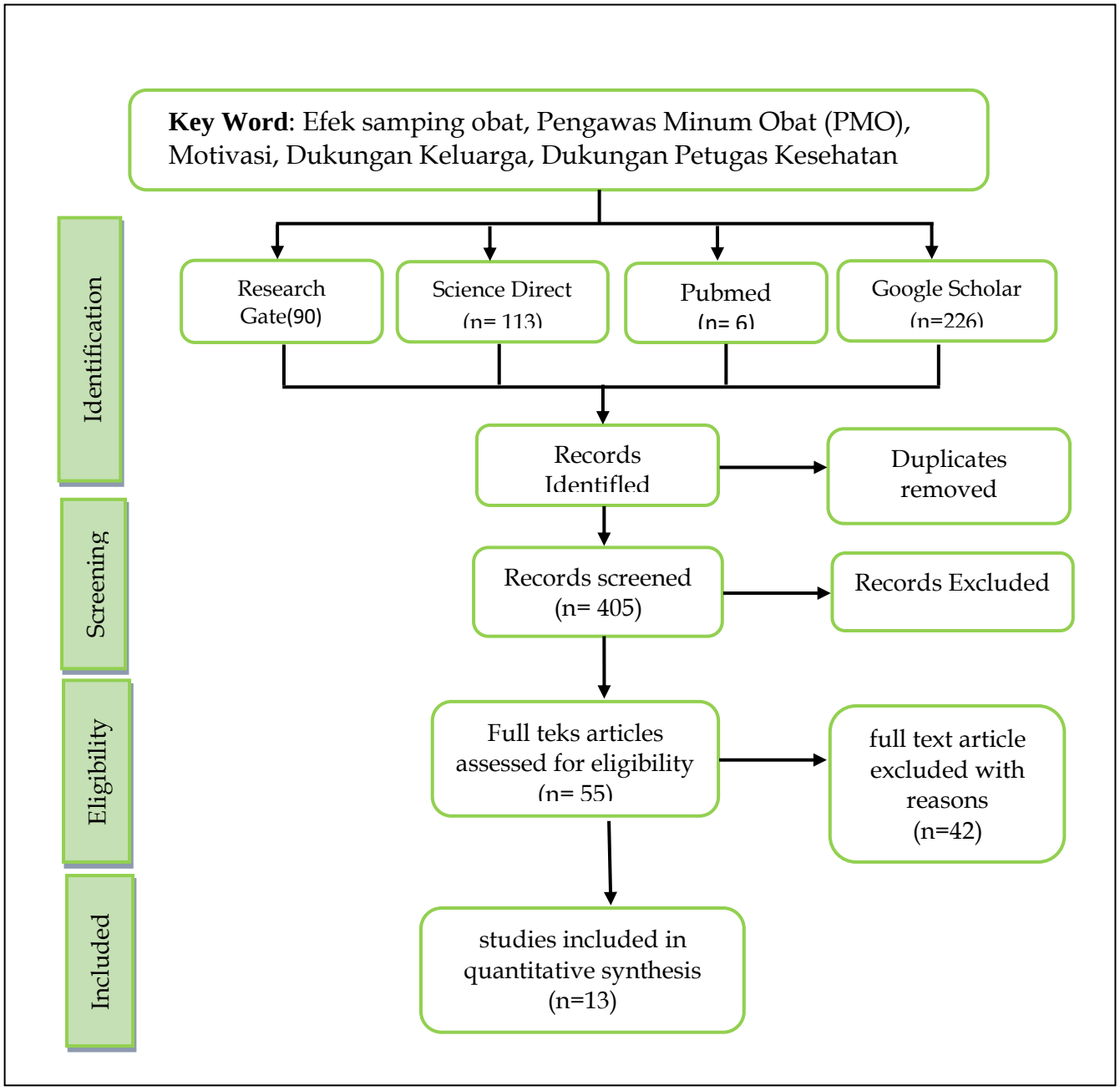
A systematic literature review was proposed at Andalas University. The search was carried out from June to August 2024. Methods and reporting were developed and conducted using systematic methodology and consistent with PRISMA reporting guidelines. Based on this search, 435 articles were obtained. After reading and tracing the contents of the articles through the abstract and adjusting the contents to the author's objectives, only 13 articles were found to be suitable.

Systematic Literature Review (SLR) using secondary data obtained from article databases namely Google Scholar, PubMed, Elsevier, and Science Direct which can be downloaded for free, with a period of 7 years published no later than 2016. Based on the literature review, research results were selected that showed several research variables related to factors related factors with level obedience pulmonary TB treatment.

Table 2. Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Articles published in Google Scholar, IEEE Xplore, MDPI, Science Direct, IOP Science, PubMed, and Elsevier	Books, reviews, short articles, and journal editorial statements,
Published between June 2024 and August 2024	Published outside June 2024 and August 202 4
Available in full text	Unavailable in full text
Papers not written in English	Papers not written in English.
Articles must address a certain combination of words, ie, (sensor/wearable/device) + (stress/pregnant women) + (PPG/ECG/GSR/HR)+ (monitoring/measurement)	Articles not included wearable sensors.

Selection And Data Extraction



Data extraction was carried out after reviewing the quality of research in six publications that were considered good. Data were extracted by evaluating the title, author's name, year, research site, intervention, and research results. Table 1 shows the results of data extraction. After going through filtering and selecting articles based on inclusion, exclusion and eligibility criteria determined by the author based on the Preferred Reporting Items for Systematic Reviews And Meta-Analyses (PRISMA) Guidelines format, there were 13 articles in this review. Studies were conducted in various countries, including Gondar Ethiopia, Northeast China, Nepal, South Ethiopia, Urei-Faisei, Sorong (Indonesia), Kerinci (Indonesia) , Bengkayang (Indonesia), Tuban (Indonesia), Surabaya (Indonesia), Waena, Malingping, which was published from 2016 to 2023. Majority

participant opinion that policy routine visit facility health for drink drug become constraint in obedience treatment because public feel difficulty for visit facility health Because must Work every day for DOTS, especially for patient the weak, the sick, and the elderly age. and people with ability different. Apart from that, just a little participant reporting that public even Possible No drink drug or leave treatment because how difficult it is visit facility health in a way routine because people should too do work they. Provider service health found experience constraint in implementation of the DOTS program because public feel difficult for visit facility health every day. A number of TB patients during the FGD also revealed that they get drug for a number of day addition based on request·

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
1.	*The Effects of Family, Society and National Policy Support on Treatment Adherence Among Newly Diagnosed Tuberculosis Patients: A Cross-Sectional Study* Xu Chen, Liang Du, Ruiheng Wu, Jia Xu, Haoqiang Ji, Yu Zhang, Xuexue Zhu and Ling Zhou 2020	To evaluate the level of adherence to anti-TB treatment among newly treated TB patients in Dalian, Liaoning province, Northeast China	*Cross-sectional*	Dalian Tuberculosis Hospital in Liaoning Province, Northeast China	The number of samples in this study was 481 patients. Inclusion criteria: 1. P patients newly diagnosed with TB 2. Patients whose medical records indicate that they refused previous anti-TB treatment or have a history of anti-TB treatment for more than 30 days 3. Age ≥ 18 years 4. Patients who have started taking anti-TB drugs 5. Patients on treatment who	1. Medication adherence questionnaire using *the Morisky Medication Adherence Scale* (MMAS-8) 2. Family support questionnaire 3. Social support questionnaire 4. Policy Support Questionnaire		• (1)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
					do not have mental disorders 6. Patients who can communicate and can understand the contents of the questionnaire, and 7. Patients who are willing to take part in the study Exclusion criteria: 1. Patients who did not follow the study from start to finish			
2.	*Barriers to Treatment Compliance of Directly Observed Treatment Short course among Pulmonary*	To explore factors influencing treatment adherence in tuberculosis patients	The research design uses *mixed methods* (quantitative research using *case control* (1:2) and quantitative research using *sequential exploratory study* .	Nepal	The number of respondents was 120 respondents with details of 40 for the intervention group and 80 for the control group	Quantitative research uses a questionnaire consisting of demographic characteristics and factors related to treatment adherence. Qualitative research uses *in-depth interviews* and *focus group discussions* (FGD).	Quantitative research results: a. Demographic characteristics are female gender *p-value* 0.008, Hindu religion *p-value* = 0.006 b. Lifestyle and disease factors related to participants: history of previous treatment *p-value* = 0.001, knowledge about HIV infection is high in tuberculosis	(16)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
	Tuberculosis Patients Sujan Babu Marahatta, Rajesh Kumar Yadav, Sushila Baral, Neeta Aryal, Srijana Poudel, Naveen Prakash Shah, Punita Yadav, Suman Chandra Gurung, Elina Khatri 2021						patients *p-value* = 0.041, TB is an infectious disease *p-value* = 0.037 c. Relationship between accessibility to health service facilities: distance traveled> 2 KM *p-value* = 0.001, time 10-30 minutes *p-value* = 0.043, long waiting time *p-value* = 0.043, and satisfaction with long journeys *p-value* = 0.029 d. The relationship between disease perception and treatment compliance: TB can be cured by taking medication regularly, those who answered no *p-value* = 0.001, those who answered were not satisfied with counseling, the value of *p-value* = 0.022, those who answered were not satisfied with the time given by health workers, the value *p-value* =0.004	
3.	*Non-Adherence to Anti-Tuberculosis Treatment, Reasons and Associated Factors Among TB Patients Attending at Gondar Town*	To assess the prevalence of non-adherence to anti-tuberculosis treatment, reasons and associated factors among TB patients attending the	*Cross-sectional*	Gondar City Health Center Ethiopia	The number of samples in the study was 314 using *simple random sampling techniques.* Research was conducted at 88 Maraki Community Health Centers,	This research uses a pre-tested structured questionnaire adopted from various literatures. The questionnaire instrument contains sociodemographic data, characteristics of TB and anti-TB treatment, reasons for discontinuing treatment, knowledge and	The research results are: 1. The mean age of participants was 35.94 years 2. Non-adherence rate to anti-TB treatment was 21.2% 3. Continuation phase of treatment (AOR = 2.27, 95% CI (1.54, 5.94)) 4. More than one comorbidity (AOR = 6.22; 95% CI (2.21, 17.48))	(19)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
	Health Centers, Northwest Ethiopia Habtamu Sewunet Mekonnen and Abere Woretaw Azagew 2018	Gondar City Health Center			110 Polly Community Health Centers and 116 Azezo Community Health Centers. Inclusion criteria: 1. All TB patients taking anti-TB drugs for at least 1 month Exclusion criteria: TB patients who are seriously ill and/or unable to hear and speak	attitudes towards TB treatment, relationship between patients and service providers and behavioral factors.	5. Poor knowledge about TB and anti-TB (AOR = 4.11; 95% CI 1.57, 10.75) 6. Poor patient and provider relationship (AOR = 4.60, 95% CI 1.63, 12.97) 7. Alcohol intake (AOR = 5.03; 95% CI 1.54, 16.40) was significantly associated with nonadherence. 8. Patients who forgot about treatment were 40 (23.1%) 9. Patients who are busy with other work 35 (20.2%), and Being away from home or out of town for 24 (13.9%) was the main reason respondents stopped taking anti-tuberculosis medication.	
4.	Level of and associated factors for nonadherence to anti-tuberculosis treatment among tuberculosis patients in Gamo Gofa zone, southern	To assess the level and factors associated with non-adherence to anti-TB therapy in tuberculosis patients in the Gamo Gofa Zone	*Cross-sectional*	Southern Ethiopia	The total sample was 289 respondents. Inclusion criteria: 1. Patients aged ≥ 15 years 2. Patients who have started anti-TB treatment and are undergoing further	The questionnaire uses a face-to-face *exit interview* which is about: 1. Demographic data 2. Health care questionnaire 3. Patient characteristics questionnaire 4. Anti-TB treatment questionnaire	a. The results showed that 16.5% were non-compliant with anti-TB treatment b. Factors associated with a higher likelihood of non-adherence to anti-TB treatment include: a. Failure to disclose TB diagnosis to family (AOR = 31.7) b. Have no information regarding treatment side effects (AOR = 31.1)	

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
	Ethiopia: cross-sectional study Dessalegn Ajema, Tamiru Shibru, Temesgen Endalew and Selamatwit Gebeyehu 2020				treatment at a health facility		c. History of previous TB treatment (AOR = 5.3) d. Smoking (AOR = 11.7)	
5.		To determine the factors associated with patient compliance with pulmonary tuberculosis treatment at the Urei-Faisei Health Center (Urfas) in 2020	Cross *sectional*	Urei-Faisei Health Center (Urfas)	The number of respondents was 23 respondents	The research instrument consists of: 1. Knowledge questionnaire 2. Educational Questionnaire 3. Motivational questionnaire 4. Questionnaire on distance to health services 5. Family support questionnaire 6. Attitude questionnaire during medication therapy	1. There was no significant relationship between TB knowledge and TB treatment adherence 2. There is no significant relationship between education and TB treatment compliance 3. There is a significant relationship between motivation to take medication and TB treatment compliance 4. There was no significant relationship between distance traveled to health services and TB treatment compliance 5. There was no significant relationship between family	(21)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
							support and TB treatment compliance 6. There was no significant relationship between attitudes during TB treatment therapy and TB treatment compliance	
6.	Factors Associated with Treatment Adherence to Pulmonary Tuberculosis Patients in Sorong City Meliana Depo 2021	To determine the factors associated with treatment compliance in patients pulmonary tuberculosis in Sorong City	*Cross-sectional*	Sorong Regional Hospital	The number of respondents was 72 respondents. Inclusion criteria: 1. Patients who are positive for pulmonary TB 2. Patients who have been on TB treatment for at least 2 months 3. Patients who are domiciled and reside in the Sorong City area Exclusion criteria: 1. Patients who were not at the location where the study was conducted	The research instruments used interviews and structured questionnaires. The questionnaire consists of: 1. Demographic characteristics 2. Medication adherence questionnaire consisting of drug side effects, role of PMO, and patient disease history	The results showed that 55.6% of respondents were compliant with pulmonary tuberculosis treatment. Variables related to compliance with treatment for pulmonary tuberculosis sufferers in Sorong City, namely 1. Drug side effects (*p-value* = 0.013) 2. Support for supervisors taking medication (p-value=0.000)	(22)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
					were carried out 2. Patients who are not willing to be respondents or have died			
7.	Level of Compliance with Medication Use in Tuberculosis Patients at the Mayjen HA Talib Hospital, Kerinci Regency Puspa Pameswari, Auzal Halim and Lisa Yustika 2016	To determine the level of compliance with drug use in patients	*Cross-sectional*	Mayen AH Talib Hospital Kerinci	The number of respondents was 27 respondents	The questionnaire was created based on a combination of MMAS methods	The level of compliance of the 27 respondents was found to be quite compliant in undergoing pulmonary TB treatment, with a percentage of 75.18%	(23)
8.	The Relationship between the Level of Adherence in Taking	To evaluate the relationship between OAT side effects and patient medication	*Cross-sectional*	Sungai Betung District Health Center,	The number of samples is 35 people	The instrument in the research uses a questionnaire that has been tested for validity and reliability. The questionnaire consists of:	There is a significant relationship between the side effects of OAT and compliance with taking medication in pulmonary tuberculosis patients at the Sungai Betung District Health	(24)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
	Medication in Tuberculosis Patients and the Side Effects of Anti-Tuberculosis Drugs (OAT) Berly Afilla Christy, Ressi Susanti, Nurmainah 2022	adherence at the Sungai Betung District Health Center, Bengkayang Regency		Bengkayang Regency		respondent characteristics (age, gender and treatment regimen), drug side effects (ESO) and adherence to taking OAT	Center, Bengkayang Regency with *a p-value of* 0.024	
9.	The Role of the Family and the Success of Treatment for Pulmonary TB Patients in the Tuban Community Health Center Working Area Faiz Isa Zaqi, Teresia Retna P, and Yasin Wahyurianto 2023	To determine the role of the family and the success of treatment for pulmonary TB patients in the Tuban Community Health Center working area	*Cross-sectional*	Tuban Community Health Center working area	The total sample was 55 people	The instruments used were questionnaires and data analysis using descriptive analysis. The questionnaire consists of family roles and treatment success	1. Most of them have good family roles, numbering 39 people 2. A small number of 9 people did not succeed in treatment 3. Almost all of them had a good family role, a small percentage did not have successful treatment. Meanwhile, for the majority of families, almost half of them are not successful in treatment	(25)
10.	Relationship between	To analyze the relationship	*Cross-sectional*	City of Surabaya	The total sample used was 35	The research instrument used a questionnaire on	Family support (*p-value* = 0.343), the role of cadres (*p-value* = 0.476), and	(26)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
	family support, cadres and health workers with treatment compliance for pulmonary TB sufferers Gita Kurnia Widiastutik, Makhfudli Makhfudli, and Sylvia Dwi Wahyuni 2020	between support from family, cadres and health workers with compliance with treatment for pulmonary TB sufferers in the city of Surabaya			pulmonary TB sufferers who met the inclusion criteria, namely: 1. Patients in early and advanced stages of treatment; 2. Patients of productive age; 3. Patients who live with other family members; And 4. Patients who live in the working area of one of the Community Health Centers in Surabaya City Exclusion criteria: 1. TB patients with comorbidities	demographic data, family support, the role of cadres, the role of health workers, and treatment compliance. The medication adherence level questionnaire uses the MMAS-8 (Medication Morisky Adherence Scale) questionnaire which has been adopted and modified	the role of health workers (*p-value* = 1.000) are not related to compliance with treatment for pulmonary TB sufferers in Surabaya City	
11.	Factors Influencing Compliance	To analyze the factors that influence	*Cross-sectional*	Waena Health Center	The total sample was 66 people	The instrument uses a questionnaire consisting of questions about	The results of this study show that there is a relationship between the independent and dependent variables	(27)

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
	with Taking Anti-Tuberculosis Medication in Pulmonary Tuberculosis Patients at Waena Health Center Isak Jurun Hans Tukayo, Sri Hardyanti, and Meyske Stevelin Madeso 2020	adherence to taking anti-tuberculosis medication in pulmonary tuberculosis patients at the Waena Community Health Center				respondent characteristics, knowledge, attitudes of TB sufferers, side effects of OAT, access to health services, attitudes of health workers, and family support.	studied, including knowledge (*p-value* = 0.043), attitudes of pulmonary TB sufferers (*p-value* = 0.014), side effects of OAT (*p-value* = 0.007), access to services health (*p-value* = 0.002), attitude of health workers (*p-value* = 0.04), and family support (p - *value* = 0.014)	
12.	Description of Self-Stigma of Pulmonary Tuberculosis (Pulmonary TB) Clients Undergoing Treatment at Malingping Community Health Center Yunita Sari 2018	To determine the experience of stigma by pulmonary TB clients who receive treatment at the Malingping Community Health Center	*Cross-sectional*	Malingping Community Health Center	The number of samples was 31 people	The instrument uses a self-stigma questionnaire which was adopted and modified from Ritshe's *internalized stigma /self-stigma instrument on mental disorders*	The research results showed that there was 83.87% mild stigma, 16.13% moderate stigma and no respondents experienced high stigma.	(28)
13.	The Impact of the COVID-19	We investigated	An interrupted time series analysis, using	1Internatio nal Health	TB case notification	A comparative retrospective cohort study	There was a significant decrease in TB case notification (IRR 0.71, 95% CI:	29

No	Title, Author and Year of Article	Research purposes	Research *Design*	Research Place	Research Sample	Research Instrument	Results	Ref
	Pandemic on Tuberculosis Case Notification and Treatment Outcomes in Eswatini (2022)	the impact of COVID-19 on tuberculosis (TB) case notification and treatment outcomes in Eswatini.	segmented Poisson regression was done to assess the impact of COVID-19 on TB case notification comparing the period before (December 2018-February 2020, n = 1,560) and during the pandemic (March 2020–May 2021, n = 840). Case notification was defined as number of TB cases registered in the TB treatment register. Treatment outcomes were results assigned to patients at the end	Program, National Yang Ming Chiao Tung University, Taipei, Taiwan	comparing period before (December 2018-February 2020, n = 1,560) and during the pandemic (March 2020–May 2021, n = 840).	was conducted using TB data from eight facilities.	0.60–0.83) and a significant increase in death rate among registrants during the pandemic (21.3%) compared to pre-pandemic (10.8%, p < 0.01) . Logistic regression indicated higher odds of unfavorable outcomes (death, lost-to-follow-up, and not evaluated) during the pandemic than pre-pandemic (aOR 2.91, 95% CI: 2.17–3.89). Conclusion:	

DISCUSSION

This study presents a systematic review factor related factors with obedience pulmonary TB treatment. Pulmonary TB sufferers part big can finish treatment without effect aside, however, part small can experience effect side. Monitoring possibility happen effects side very important during treatment. There is an effect side anti-malarial drug (oats) is one reason for failure in Pulmonary TB treatment. In general symptom effects of side drugs found in patients are Sick headaches, nausea, vomiting, etc Sick joints and bone. Symptoms effects of side drugs can happen at the start of treatment Because mandatory medication drunk patients in phase intensive Enough Lots so that make sufferers are lazy to drink the medication.

Based on results study diet results of 13 (Three twelve) research that meets criteria inclusion and exclusion for this literature review, all correspond For studies published quantitative between 2016 to 2023. Research carried out in the country of Indonesia which has high cases of TB. Each of the 13 (Three twelve) appropriate research criteria inclusion and exclusion be read with carefully from the abstract, objectives, data analysis of question beginning researcher For gather information about influencing factors to obedience TB treatment. One of reason failure in therapy treatment tuberculosis is incident effect side anti- tuberculosis drugs (OAT) that can influence obedience to drink drug tuberculosis patients.

There are some thing that makes patient with pulmonary TB no maximum in giving drug because of lack of knowledge and information to parents or family about giving Pulmonary TB drugs in patients. In guide treatment of pulmonary TB WHO states that for treatment effective and therapeutic needed time for 6 months (with condition certain) where No allowed There is negligence moment undergo treatment.

Lots of it sufferers who do not obedient can happen consequence lack of communication open between officer health with patient and/ or his family. Disobedient consequence lack of communication this is also supported by the results research shows that number Lowest is in the question related communication open with officer health. Communication between officers and pulmonary TB sufferers is component important to use achieved obedience treatment. Sugiono (2017) stated that quality interaction between TB sufferers and professionals health is decider success treatment.

Next factor Level of knowledge will influence understanding to TB disease and its treatment. From the review research is known There is Lots influencing factors to obedience treatment that is support of family, price self or efficacy self positive, norm subjective, effect side medicine, support Supervisor Taking Medication (PMO), uses tools help reminder drink medicine, desire patient for recover, way think patients and knowledge patient about TB disease and use appropriate medication standard Ministry of Health. While those who don't influential that is level age, type gender, education, occupation, attitude, control behavior, distance to service health and duration of treatment.

Lack of family role in carrying out tasks gives care for members sick family so that Lots experiencing patients failure in treatment. This matter causes the cost

of treatment issued will more higher. Support family and community form reinforcement, motivation, and reminding timetable drink drugs to TB sufferers are a crucial thing. Research results by Fitri et al. (2018) show that sufferers who get support emotional and appreciation from their families tend to have more motivation low for drink medicine in a way regularly. Fulfilled TB sufferers' support the award will motivate for more increase their health.

CONCLUSIONS AND RECOMMENDATIONS

Moderate sufferers operate TB treatment so always notice dose and time for proper treatment because TB is possibly disease healed with method discipline. Officer health in service health or at home Sick need each other to coordinate do system tracking patients who do not obedient treatment and improve capacity team management cases in investigation contact and assistance sufferer as well as increase socialization/promotion health about TB, especially in space public, through print media nor electronic.

This study shows that the general population in Indonesia has high knowledge and attitudes although they have moderate perception against TB. Research result can be beneficial for developing TB education to the community and help the government in lower the prevalence of TB. Strengthening awareness and education programs for health in society in general very important for fighting tuberculosis in the country.

FURTHER STUDY

To deepen understanding of the topics discussed in this article, future research could explore several avenues. First, additional data collection and analysis across diverse contexts could provide broader insights and enhance generalizability. Second, integrating interdisciplinary perspectives may offer innovative solutions or shed light on overlooked dimensions of the subject matter. Lastly, longitudinal studies or experimental approaches could provide more robust evidence regarding the dynamics and causal relationships within the topic.

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