Accepted Manuscript

Accepted Manuscript (Uncorrected Proof)

Title: Effect of Person-Centered Care on Tuberculosis Treatment Success: A systematic Review and Meta-Analysis

Authors: Sirinapha Jittimanee[1,*], Chonlawat Chaichan[2]

1. *Research Unit for Enhancing Well-being in Vulnerable and Chronic Illness Populations Faculty of Nursing, Chulalongkorn University, Bangkok, Thailand*
2. *Faculty of Medicine Vajira Hospital, Navamindrahiraj University, Navamindrahiraj University, Bangkok, Thailand*

To appear in: ***Journal of Client-centered Nursing Care***

Received date: 2025/03/3

Revised date: 2026/06/27

Accepted date: 2026/11/8

Accepted Manuscript (Uncorrected Proof)

This is a “Just Accepted” manuscript, which has been examined by the peer-review process and has been accepted for publication. A “Just Accepted” manuscript is published online shortly after its acceptance, which is prior to technical editing and formatting and author proofing. Journal of Client-centered Nursing Care provides “Just Accepted” as an optional and free service which allows authors to make their results available to the research community as soon as possible after acceptance. After a manuscript has been technically edited and formatted, it will be removed from the “Just Accepted” Web site and published as a published article. Please note that technical editing may introduce minor changes to the manuscript text and/or graphics which may affect the content, and all legal disclaimers that apply to the journal pertain.

Please cite this article as:

Jittimanee, S., & Chaichan, C., 2026. Effect of Person-Centered Care on Tuberculosis Treatment Success: A systematic Review and Meta-Analysis. To be published in *Journal of Client-centered Nursing Care* [Preprint].

Doi: http://dx.doi.org/10.22034/jccnc.12.4.983.1

Accepted Manuscript (Uncorrected Proof)

ABSTRACT

Introduction: Individuals with tuberculosis (TB) often encounter challenges during treatment, including adverse events, financial burden, social stigma, and concurrent health issues. Person-centered care, which prioritizes individual needs and preferences, is recommended to assist individuals in overcoming these challenges. This systematic review and meta-analysis sought to answer the question: Does person-centered care contribute to treatment success in individuals with TB?

Methods: The study followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Electronic databases (ScienceDirect, Scopus, PubMed, Wiley) and the JSTOR digital library were searched for relevant studies published between 1998 and 2024. Inclusion criteria required studies that: (1) involved adults 18 years of age or older; (2) incorporated person-centered care intervention with clearly defined sharing power and responsibility within any aspect of treatment and care; (3) reported treatment success rates; (4) were published in English, and (5) adopted either an experimental or non-experiential design. The study used the Effective Public Health Practice Project (EPHPP) quality assessment tool to assess the methodology quality. Two reviewers evaluated the studies independently, and any discrepancies were resolved through discussion to reach consensus. A funnel plot and Egger's test of asymmetry was used to evaluate publication bias. The Endnote 21 was used for citation management. For the meta-analysis, we calculated risk ratios with 95% confidence intervals and assessed heterogeneity using STATA-14.2. The protocol was registered in PROSPERO (CRD42023438696).

Results: Out of the 754 studies initially found, 4 were eligible for systematic review. Among these, three randomized controlled trials involving 956 patients with drug-susceptible TB were included for meta-analysis. The meta-analysis, using risk ratio, showed no statistically significant effect of person-centred care on treatment success (RR=1.03, 95% confidence interval (CI): 0.96-1.10, p=0.40). The risk of selection bias was low, as there were no significant differences between included and excluded studies (p>.05), but there was heterogeneity in the outcomes of studies.

Conclusions: This meta-analysis found no significant benefit of person-centered care on treatment success in TB patients. This suggests that additional strategies may be needed to improve treatment outcomes, such as healthcare infrastructure, enhancing case management, or provision of social and economic support.

Keywords: Tuberculosis, Systematic review, Patient-centered care, Psychosocial Support Systems, Counseling

Accepted Manuscript (Uncorrected Proof)

Highlights

- Individuals with TB face multiple challenges during treatment, and person-centered care has been recommended to help address these challenges.
- This meta-analysis found no significant impact of person-centered care on treatment success in TB patients, possibly due to variations in intervention intensity.
- Additional strategies may be needed to improve treatment outcomes.
- Future systematic reviews are suggested to evaluate the effect of combinations of person-centered care and additional supportive strategies.

Plain Language Summary

People with tuberculosis (TB) may have problems during treatment, like feeling sick from medicine, lost income, or feeling isolated. Person-centered care allows doctors and nurses to listen to patients and help them in ways that fit their needs. However, this study did not find strong proof that person-centered care helps the patients, maybe because it was done differently in each place. Better hospital care, financial aid, and social support may help more people recover.

Accepted Manuscript (Uncorrected Proof)

Introduction

Tuberculosis (TB) ranked as the world's second-leading cause of deaths from infectious diseases in 2021, with a global death toll of 1.6 million, following COVID-19 as the leading cause (Falzon et al., 2023; WHO, 2024). While TB is treatable, adherence to treatment poses challenges, especially among individuals with low socio-economic status. Common factors associated with non-adherence to anti-TB therapy include low education level, limited income, low social support, and adverse drug reactions (Iweama et al., 2021; Tirore et al., 2024; Yani et al., 2022). Adherence to treatment is crucial as it prevents disease severity, drug-resistant TB, and deaths, and also helps in averting disease transmission to close contacts.

The End TB Strategy emphasizes patient-centered care as one of the three pillars essential for achieving the goal by 2030 (WHO, 2022a). Patient-centered care, also known as person-centered care, involves organizing healthcare system around the individuals. While there are diverse definitions of person-centered care, a key element is the sharing power and responsibility between healthcare providers and individuals affected by the disease (Fix et al., 2017; Horter et al., 2021; Mead & Bower, 2000; Morgan & Yoder, 2012; WHO, 2022b).

Studies employing person-centered care interventions in TB aim to improve treatment adherence and completion. Previous systematic review or scoping review has assessed these interventions, but they often had broader inclusion criteria, such as treatment support known as directly observed treatment (DOT) (WHO, 2022b), where the essential requirement of sharing power and responsibility was not mandatory (Alipanah et al., 2018; Myburgh et al., 2023). However, no published systematic review has specifically addressed the presence of shared power and responsibility in person-centered care interventions. Therefore, this systematic review and meta-analysis aimed to summarize the available evidence on the effects of person-centered care

Accepted Manuscript (Uncorrected Proof)

interventions, where sharing power and responsibility must be present on treatment success in individuals with TB.

Materials and Methods

Study Design

The study utilized a systematic review and meta-analysis approach and adhered to the Preferred Reporting Items for Systematic Review and Meta-analyses guidelines (PRISMA) statement (Page et al., 2021). The PICO format was used to outline the research question. Participants (P) included individuals with tuberculosis, both drug-sensitive and drug-resistant cases. Intervention (I) was person-centered care, with traditional care serving as the comparison (C). The outcome (O) was treatment success. Based on the PICO strategy, the research question was: "Does person-centered care contribute to treatment success in individuals with TB?" The protocol was registered with the international prospective register of systematic reviews (PROSPERO: CRD42023438696) (Jittimanee & Uthis, 2023).

Search Strategy

Relevant studies published between 1998 and 2024 were sought through comprehensive searches on electronic databased (ScienceDirect, Scopus, PubMed, and Wiley) and the JSTOR digital library (Table 1). The search strategy employed specific keywords in the title and abstract across all databases: (1) ("Person centered" OR "People centered" OR "Patient centered") AND (2) tuberculosis.

Accepted Manuscript (Uncorrected Proof)

Table 1. The search strategy

Database/digital library	Number of articles	Date of access
ScienceDirect	69	10 January 2025
Scopus	478	16 January 2025
PubMed	119	22 January 2025
Wiley	11	30 January 2025
JSTOR digital library	77	30 January 2025
Total	754	-

Inclusion and Exclusion Criteria

Studies that met the inclusion criteria were those that: (1) enrolled adults being 18 years of age or older, (2) incorporated person-centered care intervention with clearly defined share decision-making elements in any part of treatment and care, such as counseling, TB education, directly observed treatment, psychosocial support, financial support, nutrition support, or home visit, (3) reported treatment outcomes, specifically treatment success, (4) were published in English, and (5) adopted either an experimental or non-experiential design. Conversely, the excluded studies were: (1) reviews, case studies, or qualitative studies; (2) gray literature or non–peer-reviewed articles; and (3) preventive therapy.

Data Extraction

This study used the Endnote 21 reference management software package to include citations from ScienceDirect, Scopus, PubMed, JSTOR, and Wiley. First, duplicate studies were removed, and the remaining studies were transferred to Excel. Second, two reviewers independently screened the titles and abstracts using the inclusion criteria, noting reasons for including or excluding each study. Third, full-text articles of the included studies were retrieved, and the two reviewers independently reviewed them based on both the inclusion and exclusion criteria. For studies that

Accepted Manuscript (Uncorrected Proof)

met the inclusion criteria, information was extracted and entered into a structured form newly developed by the research team. The form template included the author, publication year, country, study design, type of patients (e.g., new or previously treated, drug-resistant or drug-susceptible TB), sample size, intervention characteristics, control strategies, and treatment outcome. If there were discrepancies between the two reviewers, they discussed the issues to reach an agreement.

Quality Appraisal

This study used the Effective Public Health Practice Project (EPHPP) instrument to assess the methodological quality of the included studies, which comprised both Randomized Controlled Trials (RCTs) and non-RCTs studies (Thomas et al., 2004; Armijo-Olivo et al., 2012). This evaluation considered 6 components: (1) selection bias to ensure the population was well-represented, (2) study design, (3) control of confounders, (4) blinding of researchers or participants, (5) data collection tools, including validity and reliability description, and (6) rates of withdrawals and dropouts. Each component received a rating of "strong," "moderate," or "weak," contributing to an overall quality rating.

Studies were categorized as "strong" if they had no weak ratings or at least four strong ratings across the six components. They were classified as "moderate" if they had fewer than four strong ratings and only one weak rating, and "weak" if they received two or more weak ratings. One study was rated as strong, two were rated as moderate, and one was rated as weak.

The meta-analysis in this study included studies with strong and moderate ratings. The assessment was conducted independently by two reviewers, who achieved consensus through discussion (Table 2).

Accepted Manuscript (Uncorrected Proof)

Table 2. Quality appraisal of studies included in the systematic review

Study (Year, country)	Selection bias	Study design	Confounder	Blinding	Data collection	Withdrawal & dropout	Overall rating
Gashu et al. (2021, Ethiopia, 18, DS-TB)	Strong	Strong	Strong	Moderate	Strong	Strong	Strong
Khachadourian et al. (2020, Armania, 18, DS-TB)	Moderate	Strong	Strong	Moderate	Strong	Moderate	Moderate
Pawati et al., (2021, Indonesia, 18, DS-TB)	Strong	Strong	Strong	Weak	Strong	Strong	Moderate
Makabayi-Mugabe et al. (2023, Uganda, 18, DR-TB)	Weak	Strong	Strong	Weak	Strong	Weak	Weak

Outcome

Treatment success is defined by the combination of both curing the disease and completing the full course of treatment. According to the WHO (2021), a cure refers to a pulmonary TB patient who was initially diagnosed with positive sputum test for TB, completed treatment, and had negative sputum test results with no evidence of treatment failure. For drug-resistant TB, the negative test results must include at least two consecutive cultures or molecular tests taken at least 7 days apart. For drug-susceptible TB, these negative results can be from cultures, molecular tests, or smears, also taken at least 7 days apart. Completion refers to a patient who has taken the full course of anti-TB drugs but does not have test results meeting the criteria for either cure or failure.

Statistical Analysis

This study used STATA 14.2 for the analysis. The outcome data from the included studies were extracted and entered into Excel, including the authors, publication year, and number of participants for tests of heterogeneity and meta-analysis. Included studies were analyzed using the treatment success rates. The risk difference (RD) was determined as the effect size, taking into account the sample size and 95% confidence intervals (CIs) for each study. The fixed effects model

Accepted Manuscript (Uncorrected Proof)

was applied to combine the studies when heterogeneity was deemed significant, with p value of Cochran's Q statistic <.10 and I^2 >50% (Higgins and Thompson, 2002; Higgins et al., 2003). I^2 represented the percentage of variation attributed to heterogeneity, with values interpreted as follows: 0% as none, 25% as low, 50% as moderate, and 75% as high (Pigott, 2012).

A funnel plot and Egger's test of asymmetry was used to evaluate publication bias (Egger et al., 1997). All p-values of Egger's tests exceeded 0.05, indicating statistical evidence of funnel plot symmetry.

Results

Search Results

A total of 754 abstracts were identified, and after removing 155 duplicates, 598 abstracts were screened. Out of these, 44 studies were selected for further evaluation, but 5 of them could not be retrieved. Among the retrieved studies, 4 met the eligibility criteria, comprising 3 RCTs and one quasi-experimental study. The PRISMA flow chart of identification of studies via database is presented in Figure 1.

Accepted Manuscript (Uncorrected Proof)

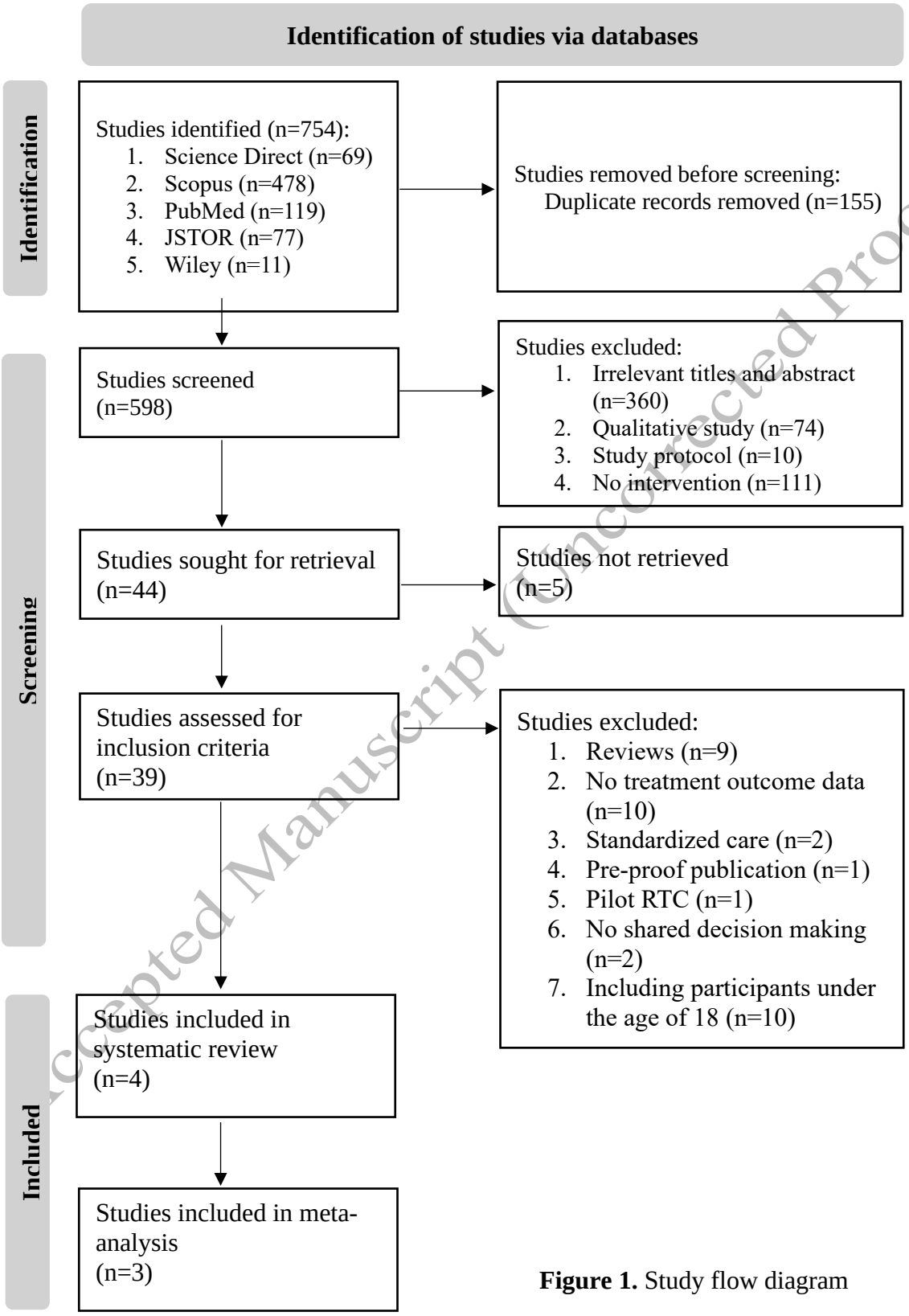


Figure 1. Study flow diagram

Accepted Manuscript (Uncorrected Proof)

Characteristics of Included Studies

Table 3 provides an overview of key characteristics of studies that met the inclusion criteria. Two studies were conducted in Africa, while the remaining two were from Asia. Among these studies, three focused on drug-sensitive new TB patients, while one study conducted in Uganda targeted drug-resistant TB patients. All studies were made available between 2020 and 2024. The total number of patients across these studies was 1,220, with 67.2% being men in intervention group and 63.1% men in control group. Regarding age demographics, three studies reported a mean age of 41.8 years for both groups, while one study indicated that 55% of participants were aged between 18 and 29 years. The durations of studies in drug-sensitive new TB patients ranged from 4 months to 6 months, while the study focusing on drug-resistant TB patients did not specify the duration.

Table 3. Characteristics of included studies

Author, Year, Country	Design, setting	Participant Characteristics and sample size (IG/CG)*	Intervention (Duration)	Comparator	Outcome	
					Measures	result
Gashu et al, 2021, Ethiopia	Two-arm randomized controlled trial, 74 health centres and hospitals	Age 18+ years, owning a mobile phone, drug-sensitive, and newly diagnosed, n=306 (152/154)	Intervention duration: 4 months of continuation phase 1. a 5-minute orientation 2. a web-based reminder system 3. weekly pill refills 4. reminders for daily anti-TB drugs (graphic or text) 5. provider calls patients also received routine care with a treatment supporter.	From month 3 to 6 of routine care, patients took their medication at home with the assistance of a treatment supporter	Treatment success from facility records	89.5% (136/152) in the IG, 85.1% (131/154) in CG
Khachadourian et al, 2020, Armenia	A stratified cluster randomized controlled trial with two parallel equal	Age 18+ years, drug-sensitive and either new or retreatment patients, n=493 (259/234)	Intervention duration: 4 months during the continuation phase 1. counselling session for family supporters and TB	From month 3 to 6 of routine care, patients received treatment	Treatment success from facility records	92.0% (172/187) in the IG, 92.9% (184/198) in CG

Accepted Manuscript (Uncorrected Proof)

Author, Year, Country	Design, setting	Participant Characteristics and sample size (IG/CG)*	Intervention (Duration)	Comparator	Outcome	
					Measures	result
	arms, 52 centres (26 in intervention, 26 in control)		patients (120 minutes), 2. taking medication at home under the supervision by trained family member 3. daily monitoring messages 4. regular phone calls to supporting family members	support or DOT **		
Parwati et al, 2021, Indonesia	A randomized posttest-only control group design, 38 health centres (19 in IG*, 19 in CG*)	Age 18+ years, drug-sensitive and new patients, n=214 (107/107)	7 counseling session on month 2, 5, 6, (intervention duration 6 months of treatment)	Routine care	Treatment success from facility records	96.3% (103/107) in the IG, 88.8% (95/107) in the CG
Makabayi-Mugabe et al, 2023, Uganda	Quasi-experimental pre-posttest-study,5 centres	Age 18+ years, drug-resistant patients, n=264 (112/152)	Community based DOT, trained lay providers chosen by the patient to administer DOT (intervention duration unspecified)	Health facility-based DOT	Treatment success from facility records	87% (98/112) in the IG, 76% (116/152)

*IG=intervention group/CG=control group; **DOT=directly observed treatment

Accepted Manuscript (Uncorrected Proof)

Implementation of person-centered care in study settings:

All four studies implemented shared decision-making as a priority of person-centered care through counseling sessions (n=1) and directly observed treatment (n=3), and allowing patients to choose their supporter. Part of patient centered care is used such as counseling, TB education, directly observed treatment, psychosocial support, financial support, nutrition support, or home visit.

Meta-analysis of effects of person-centered care on treatment outcome

Three RTC studies with 956 patients, which met strong and moderate quality ratings, formed the basis of the meta-analysis assessing the impact of person-centered care on treatment success compared with routine care. The heterogeneity in the effects, as successful treatment, across the studies was assessed using I^2 statistic, which showed 63.37% (p=0.06). Therefore, a random effects model was used for meta-analysis.

All three studies contributed to the meta-analysis, yielding a risk ratio (RR) of 1.03 with 95% CI of 0.96-1.10, indicating that the effects of person-centered care on treatment success were not statistically significant (p=0.40). Figure 2 displays the forest plot, including the RR, its CI, the weight assigned to each study, the pooled RR, its IC, and the I^2 index.

Accepted Manuscript (Uncorrected Proof)

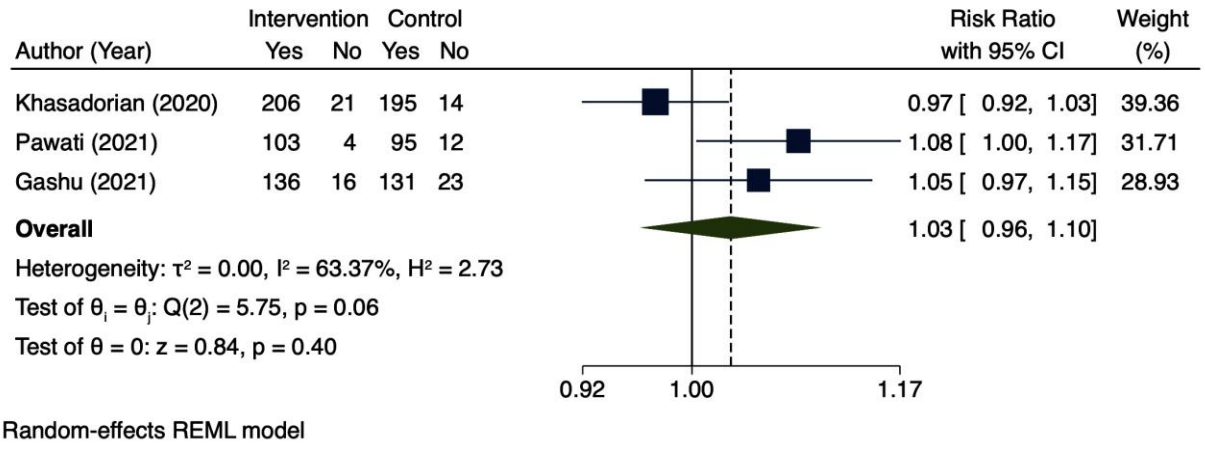


Figure 2. The effects of person-centred care on treatment success represented by the risk ratio. The horizontal lines indicate 95% CI, the square shows the point estimate; the diamond shows the combined overall effects of person-centred care.

Accepted Manuscript (Uncorrected)

Publication Bias

Since the results of Egger's test were not significant (p>.05), and the funnel plot for treatment success in meta-analysis exhibited symmetry, it is less likely that publication bias occurred among the studies (Figure 3).

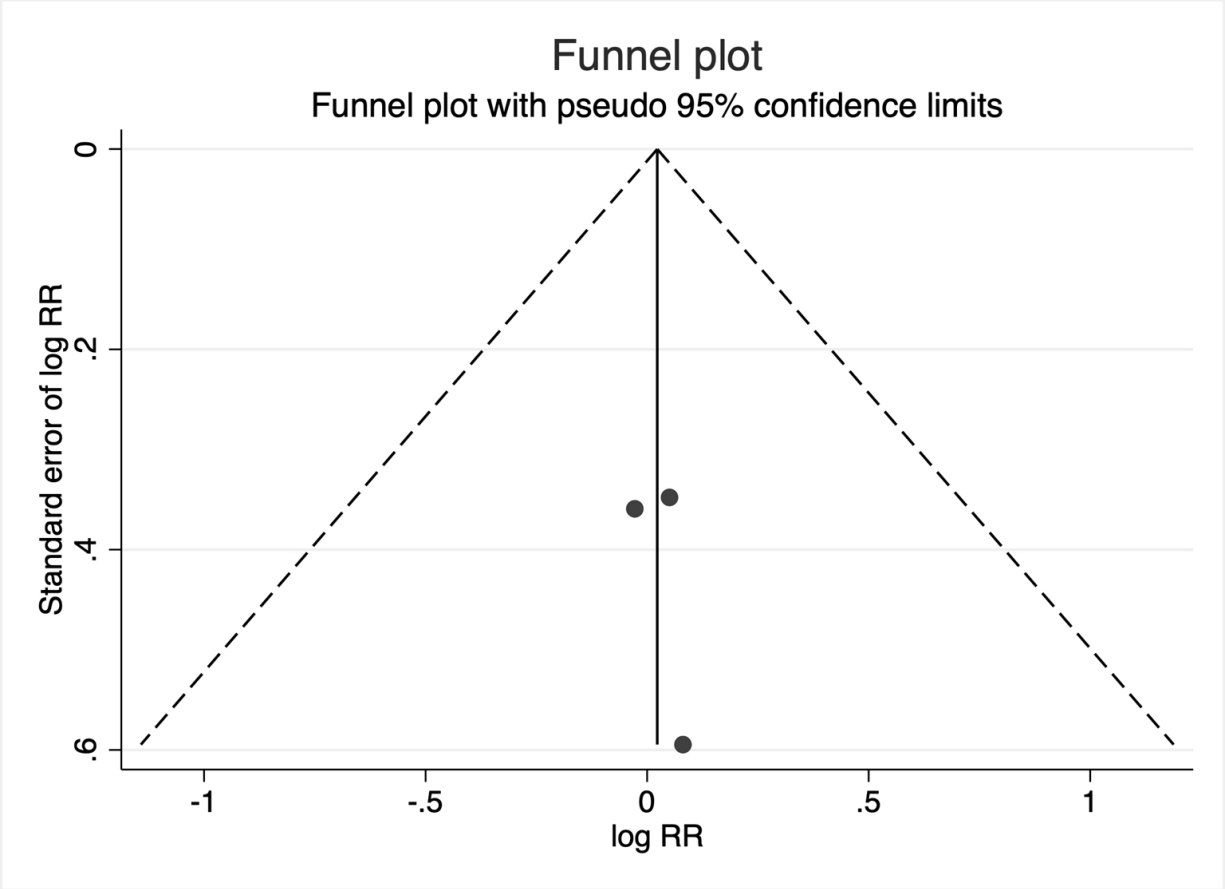


Figure 3. The funnel plot for the publication bias.

Accepted Manuscript

Discussion

This systematic review and meta-analysis explored the role of person-centered care in the success of treatment for people with tuberculosis. Due to specific inclusion criteria, only three studies that met the presence of shared power and responsibility were eligible for inclusion in the meta-analysis. Surprisingly, the findings indicate that person-centered care interventions did not improve treatment success rates among newly diagnosed drug-sensitive TB patients compared to the control group. Notably, in two studies conducted in Ethiopia and Armenia, the control group received routine care with support from treatment supporters such as community health workers,

family members, neighbors, or community figures, achieved high treatment success rates (Gashu et al., 2021; Khachadourian et al., 2020). Conversely, in the intervention group in these two studies, participants received daily phone calls and counseling in addition to routine care, including treatment supporters. The effect of daily phone calls and counseling may not have been as strong as the support provided by treatment supporters, possibly explaining why the success rates were comparable to those of the control group. However, in the third study conducted in Indonesia, where control group received a routine care without treatment supporters, the intervention group with counseling sessions showed a significantly higher treatment success rate than the control group (Parwati, 2021). Additionally, another study from Uganda, which was part of the systematic review but excluded from the meta-analysis due to weak quality appraisal, found that the treatment success rate among patients with community health workers as treatment supporters was significantly higher than those in treatment support by health facility (Makabayi-Magabe et al., 2023). This suggests that treatment support within the community as part of routine care may significantly contribute to treatment success, while additional components introduced in the intervention group may have limited impact.

Healthcare providers may not always realize that they are implementing person-centered care, even when they engage in routine treatment support activities. For example, when providers ask patients to choose treatment supporter or appointment dates, they are in fact facilitating shared decision-making. This phenomenon is exemplified in two studies from Ethiopia and Armenia where treatment success rates between the intervention group and the control group, both with treatment supporters, showed no significant difference (Gashu et al., 2021; Khachadourian et al., 2020). Conversely, another study from Indonesia demonstrated that person-centered care increased treatment success rates compared to the control group without treatment supporter (Parwati, 2021).

Accepted Manuscript (Uncorrected Proof)

A limitation of this study is that although the findings underscore the importance of offering routine service that provide treatment support aligned with patient acceptability and preferences, the perceptions of healthcare providers may have influenced the implementation of such practices. Some providers may consider treatment support, previously known as directly observed treatment, as outdated, which could lead them to overlook or underuse this practice. This perception may have affected how treatment support was delivered across the included studies, which in turn could influence the overall effectiveness observed in the meta-analysis.

Implications for Practice

The study's findings have important implications. While person-centred care, which emphasizes sharing power and responsibility, is widely advocated for improving health outcomes, it may not be sufficient on its own to significantly enhance treatment success among individuals with TB. This suggests that additional strategies may be needed to improve treatment outcomes, such as healthcare infrastructure, enhancing case management, or provision of social and economic support. It also highlights the need for further research to explore how person-centered care can be optimized or integrated with other interventions to benefit individuals with TB more effectively.

Conclusion

This meta-analysis found that person-centered care did not yield significant improvements in treatment success among TB patients. This could be because the control groups, which received treatment supporters as part of routine care, already exhibited high success rates. This suggests that additional strategies may be needed to improve treatment outcomes, such as healthcare infrastructure, enhancing case management, or provision of social and economic support. Future systematic reviews should evaluate combinations of person-centered care and additional

Accepted Manuscript (Uncorrected Proof)

supportive strategies. Also, including articles in languages other than English in subsequent systematic reviews and meta-analyses may produce more accurate results.

Ethical considerations

Compliance with ethical guidelines

The study protocol was registered with the International Prospective Register of Systematic Reviews (PROSPERO: CRD42023438696). This study does not have ethics approval because it does not involve direct interaction with human participants or the collection of new personal data.

Acknowledgement: The authors thank Krittaboon Pornchokchai, Faculty of Medicine Vajira Hospital, Navamindrahiraj University, Thailand for the quality appraisal.

Authors' contributions: The conception and design of the study, acquisition of data, interpretation of data, drafting the article, revising it critically for important intellectual content and final approval of the version to be submitted: Sirinapha Jittimanee; the conception of the study, acquisition of data, quality appraisal, data analysis and final approval of the version to be submitted: Chonlawat Chaichan.

Conflict of interests: The authors declare no conflict of interest.

Funding: Ratchadapiseksompotch Fund, Chulalongkorn University [#ReinUni_65_03_36_48]

Accepted Manuscript (Unconnected Proof)

References

Alipanah, N., Jarlsberg, L., Miller, C., Linh, N. N., Falzon, D., Jaramillo, E., & Nahid, P. (2018) Adherence interventions and outcomes of tuberculosis treatment: A systematic review and meta-analysis of trials and observational studies. *PLoS Medicine, 15*(7), e1002595.

Armijo-Olivo, S., Stiles, C. R., Hagen, N. A., Biondo, P. D., & Cumming, G. G. (2012). Assessment of study quality for systematic reviews: A comparison of Cochrane Collaboration risk of bias tool and the effective public health practice project quality assessment tool: Methodological Research. *Journal of Evaluation in Clinical Practice, 18*, 12-18. https://doi.org/ 10.1111/j.1365-2753.2010.01516.x

Egger, M., Davey, S. G., Schneider, M., & Minder, C. (1997). Bias in meta- analysis detected by a simple, graphical test. *British Medical Journal, 315*, 629–634.

Falzon, D., Zignol, M., Bastard, M., Floyd, K., & Kasaeva, T. (2023) The impact of the COVID-19 pandemic on the global tuberculosis epidemic. *Frontier Immunology*, *14*, 1234785. https://doi.org/10.3389/fimmu.2023.1234785

Fix, G. M., Lukas, C. V., Bolton, R. E., Hill, J. N., Mueller, N., Lavela, S. L., & Bokhour, B. G. (2018). Patient-centred care is a way of doing things: How healthcare employees conceptualize patient-centred care. *Health Expectation, 21*, 300-307.

Gashu, K. D., Gelaye, K. A., Lester, R., & Tilahun, B. (2021) Effect of a phone reminder system on patient-centered tuberculosis treatment adherence among adults in Northwest Ethiopia: a randomised controlled trial. *BMJ Health Care Information, 28*, e100268.

Higgins, J. P., & Thompson, S. G. (2002). Quantifying heterogeneity in a meta- analysis. *Statistics in Medicine, 21*, 1539-1558.

Accepted Manuscript (Uncorrected Proof)

Higgins, J. P., Thompson, S.G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *British Medical Journal, 327*, 557-560.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C.D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimsaw, J. J., Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *British Medical Journal, 372*, n71. https://doi.org/10.1136/bmj.n71

Horter, S., Daftary, A., Keam, T., Bernays, S., Bhanushali, K., Chavan, D., Denholm, J., Furin, J., Jaramillo, E., Khan, A., Lin, Y. D., Lobo, R., Loveday, M., Majumdar, S. S., Mistry, N., Patel, H., Rane, S., Swaminathan, A., Triasih, R., Venkatesan. N., & Viney, K. (2021). Person-centred care in TB. *Internationa Journal of Tuberculosis and Lung Disease, 25*(10), 784-787.

Iweama, C. N., Agbaje, O. S., Umoke, P. C., Igbokwe, C. C., Ozoemena, E. L., Omaka-Amari, N. L., & Idache, B. M. (2021). Nonadherence to tuberculosis treatment and associated factors among patients using directly observed treatment short-course in north-west Nigeria: A cross-sectional study. *Sage Open Medicine, 9*, 1-15.

Jittimanee S, & Uthis P. (2023). Person-centred care contributing to treatment outcomes of drug-susceptible and drug-resistant tuberculosis patients: A Systematic review and meta-analysis. https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023438696

Khachadourian, V., Truzyan, N., Harutyunyan, A., Petrosyan, V., Davtyan, H., Davtyan, K., Boom, M. V., & Thompson, M. E. (2020). People-centred care versus clinic-based DOT for continuation phase TB treatment in Armenia: a cluster randomized trial. *BMC Pulmonary Medicine, 20*, 105.

Accepted Manuscript (Uncorrected Proof)

Lan, Z., Ahmad, N., Baghaei, P., Barkane, L., Beneditti, A., Brode, S. K., Brust, J. C., Campbell, J. R., Change, V. W., Falzon, D., Guglielmetti, L., & Isaakidis, R. (2020). Drug-associated adverse events in the treatment of multidrug-resistant tuberculosis: An individual patient data meta-analysis. *Lancet Respiratory Medicine, 8*, 383-394. https://doi.org/10.1016/S2213-2600(20)30047-3

Linh, N. N., Viney, K., Gegia, M., Falzon, D., Glazious, P., Floyd, K., Timimi, H., Ismail, N., Zignol, M., Kasaeva, T., & Mirzayev, F. (2021). World Health Organization treatment outcome definitions for tuberculosis: 2021 update. *European Respiratory Journal*, *58*, 2100804. https://doi.org/10.1183/13993003.00804-2021

Makabayi-Mugabe, R., Masaazi, J., Zawedde-Muyanja, S. Kizito, E., Fatta, K., Namwanje-Kaweesi, H., Turyahabwe, S., & Nkolo, A. (2023). Community-based directly observed therapy is effective and results in better treatment outcomes for patients with multi-drug resistant tuberculosis in Uganda. *BMC Health Services Research, 23*, 1248.

Mead, N., & Bower, P. (2000). Patient-centredness: a conceptual framework and review of the empirical literature. *Social Science and Medicine*, *51*, 1087-1110.

Morgan, S., & Yoder, L. H. (2012). A concept analysis of person-centered care. *Journal of Holistic Nursing*, *30*(1), 6–15.

Myburgh, H., Baloyi, D., Loveday, M., Meehan, S., Osman, M., Wademan, D., Hesseling, A., & Hoddinott, G. (2023). A scoping review of patient-centred tuberculosis care interventions: Gaps and opportunities. *PLOS Global Public Health, 3*(2), e0001357.

Parwati, N. M., Bakta, I. M., Januraga, P. P., & Wirawan, I. M. (2021). A health belief model-based motivational interviewing for medication adherence and treatment success in

Accepted Manuscript (Uncorrected Proof)

pulmonary tuberculosis patients. *International of Journal Environment Respiratory Public Health, 18,* 13238.

Pigott, T. D. (2012). *Advances in Meta-Analysis*. Springer.

Thomas, B. H., Ciliska, D., Dobbins, M., & Micucci, S. (2004). A process for systematically reviewing the literature: providing the research evidence for public health nursing intervention. *Worldviews on Evidence-Based Nursing, 1*(3), 176-184.

World Health Organization (2024). *Global tuberculosis report 2023*. Geneva: World Health Organization. Available at: https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2023

World Health Organization (2022a). *Implementing the end TB strategy: the essentials, 2022 update*. Geneva: World Health Organization; 2022.

World Health Organization (2022b). *WHO operational handbook on tuberculosis, Module 4: treatment - tuberculosis care and support*. Geneva: World Health Organization; 2022.

Yani, D. I., Juniarti, N., & Lukman, M. (2022). Factors related to complying with anti-TB medications among drug-resistant tuberculosis patients in Indonesia. *Patient Preference Adherence, 16,* 3319-3327.

Accepted Manuscript (Uncorrected Proof)