



EFFECTIVENESS OF HEALTH COACHING INTERVENTIONS IN IMPROVING TUBERCULOSIS TREATMENT ADHERENCE: A SYSTEMATIC REVIEW

Agnes Ehipania Dua Bura^{1,2} * Retno Indarwati¹, Eka Mishbahatul Mar'ah Has¹

¹Faculty of Nursing, Universitas Airlangga, Jl. Dr. Ir. H. Soekarno, Mulyorejo, Surabaya, Jawa Timur. 60115, Indonesia

²Nita Maumere Health Center, Jl. El Tari Maumere Ntt 86113, Uneng City, Alok, Sikka, Nusa Tenggara Timur, Indonesia

*agnes.ehipania.dua-2024@fkip.unair.ac.id

ABSTRACT

Tuberculosis (TB) is still a global health challenge, especially related to low patient adherence to treatment. This non-adherence can lead to drug resistance, recurrence, and the wider spread of the disease. Health coaching interventions, especially those based on psychosocial approaches such as the GROW model, have developed as a potential strategy in improving health behaviors. The purpose of this review was to evaluate the effectiveness of health coaching interventions on the medication adherence of TB patients. This systematic review was conducted on seven quantitative articles (RCTs and quasi-experiments) focusing on health coaching interventions in TB patients, with or without telenursing support. The literature was selected based on inclusion criteria including adult TB patients, health coaching interventions, and measurement of compliance outcomes. Data were extracted narratively based on design, sample size, location, instruments, key outcomes, and nurse roles. Most studies showed that health coaching interventions significantly improved medication adherence (with a p-value < 0.05). The GROW model is the most commonly used approach. The intervention was carried out face-to-face and dominated by the active role of the nurse as a coach. Although there was variation in duration and frequency, interventions over 4-8 weeks showed a positive impact. Health coaching is effective in improving TB treatment adherence. The role of nurses as coaches has proven to be crucial in the process of changing patient behavior.

Keywords: health coaching; medication adherence; tuberculosis

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INTRODUCTION

Tuberculosis (TB) is still a serious global health problem. According to WHO (2023), Indonesia is among the top five countries with the highest burden of TB in the world. One of the main challenges in TB management is the low level of patient adherence to long-term treatment. This non-compliance increases the risk of recurrence, transmission, and drug resistance, and contributes to the high mortality rate from TB. Therefore, innovative approaches that are able to increase the active involvement of patients in treatment are urgently needed. Health coaching is one of the intervention strategies that focuses on empowering individuals through supportive communication, increased motivation, and realistic goal setting. This intervention has been shown to be able to increase self-efficacy and change in patient behavior, including in the context of TB treatment (Jannah, M., 2023; Maisyaroh, L., 2024). In practice, health coaching can be done face-to-face or through a telenursing approach, which allows for more flexible interventions and reaches patients in remote areas. This approach is also aligned with strengthening primary services and community-based health promotion (Suraya et al., 2022; Widiharti & Eka Sari, 2022).

Various studies have evaluated the effectiveness of health coaching interventions on various aspects of TB patients' behaviors, such as improved medication adherence, preventive behavior, and self-efficacy. Nurses play an important role as coaches, educators, and companions during the intervention process. However, there has not been a systematic study that comprehensively summarizes scientific evidence related to the effectiveness of health coaching on TB treatment

adherence. Therefore, this systematic review aims to evaluate the effectiveness of health coaching interventions in improving treatment adherence for TB patients based on findings from quantitative studies. This review also analyzes the role of nurses in supporting the success of TB patients' therapy.

METHOD

This study is a Systematic Review (SR) which aims to identify, evaluate, and synthesize available scientific evidence regarding the effectiveness of educational interventions in improving the quality of life of Tuberculosis (TB) patients. The research protocol was prepared based on the guidelines of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) to ensure transparency, completeness of reporting, and methodological accuracy (Haddaway, N.R., Page, M.J., Pritchard, C.C., & McGuinness, 2022)

RESULT

A total of seven articles that met the inclusion criteria were included in the final analysis. All included studies used a quasi-experimental design and were conducted in Indonesia between 2020 and 2024. The total sample in each study ranged from 34 to 70 participants, with the majority being adult patients undergoing tuberculosis treatment. Overall, all studies reported that Health Coaching Interventions Can Improve Medication Adherence in TB patients significantly ($p < 0.05$). Various approaches are used in the implementation of health coaching, such as the GROW model, action planning, and empowerment through self-help groups. The interventions were carried out in person (face-to-face), with some studies combining them by telephone or home visit. The duration of the intervention varies, ranging from four to eight weeks, with a frequency of one to two sessions per week. Three studies using instrumen MMAS-8 (Morisky Medication Adherence Scale) to measure medication adherence, while other studies used questionnaires made by researchers that had been adjusted to medication adherence behavior indicators. Role of nurses very dominant in all studies, both as coaching implementers, educational session facilitators, and patient companions during the intervention process. One of the studies also involved Patient's Family as a Coaching Partner, which showed higher adherence outcomes compared to interventions without family support. In addition to compliance, some studies also report Increased self-efficacy patients after undergoing a coaching session. The study of Dedi Wahyudin et al. (2020) and Suhesti et al. (2023) explicitly showed that interventions were able to significantly increase self-efficacy, which in turn correlated positively with medication adherence. One study (Sophia, 2024) those who did not use the fixed control group showed a drastic increase in adherence from 23.3% to 86.7% after the implementation of health coaching-based action planning. Although without comparison, these results still indicate the potential effectiveness of coaching in a community context. Based on the quality assessment using the JBI checklist, all articles were declared worthy of further analysis, with methodological quality in the range of 85% to 100%. This shows that although the majority are quasi-experimental studies, the quality of the reporting and research design is relatively good. In general, the findings of the seven studies show consistency in the effectiveness of health coaching interventions in improving TB treatment adherence, both in clinical, home, and community-based settings, with active involvement of nurses as a key success factor.

DISCUSSION

The results of this systematic review demonstrate that health coaching interventions are effective in improving medication adherence among Tuberculosis (TB) patients. These findings align with previous research showing that behaviorally oriented interventions that emphasize patient empowerment and continuous support have a positive impact on adherence and health outcomes (Davis et al., 2020). Health coaching helps patients develop self-efficacy, motivation, and behavioral responsibility, which are key determinants of long-term adherence (Rollnick et al., 2019). The role of nurses as coaches in this review is consistent with the theory of self-management support and patient-centered care, which emphasize the partnership between patients and healthcare

providers (Wagner et al., 2021). Nurses not only serve as educators but also as facilitators of behavior change through empathetic communication, goal setting, and motivational interviewing. This perspective is in line with the Chronic Care Model (CCM), which emphasizes proactive, relationship-based interactions to support patient self-management (Bodenheimer et al., 2021).

The findings of this review also support the importance of family involvement in adherence enhancement. Studies have shown that family-based interventions increase emotional support, supervision, and accountability for TB patients (Sukmawati et al., 2023; Soep et al., 2024). This is in line with social support theory, which posits that perceived family and community support can reduce psychological distress and improve adherence behaviors (House et al., 1988). Similarly, Rahman et al. (2022) found that TB patients with strong family engagement had 1.8 times higher medication adherence compared to those without family involvement. Nevertheless, the studies reviewed showed variation in intervention models, such as GROW, action planning, and group coaching. This flexibility demonstrates that coaching can be adapted to different healthcare settings and patient needs, as suggested by Olsen and Nesbitt (2020), who argue that customized coaching models yield better engagement and adherence outcomes. However, such diversity also poses challenges in determining the most effective model, particularly when session frequency and duration differ significantly.

Another limitation observed in the reviewed studies is the short duration of interventions (4-8 weeks), which restricts understanding of the long-term sustainability of adherence behaviors. Previous evidence suggests that longer interventions lasting 12 weeks or more tend to yield more stable adherence patterns (Lin et al., 2018). Furthermore, variations in measurement instruments, particularly between the use of MMAS-8 and self-report adherence scales, may affect consistency and comparability of findings. The MMAS-8 remains the most validated tool for TB medication adherence, but it still has subjectivity limitations (Morisky et al., 2008). Geographically, all studies in this review were conducted in Indonesia. While this is valuable for the local context, cross-border validation is necessary to generalize results across different sociocultural and health system settings. International studies, such as those by Alipanah et al. (2020) in India and Zhang et al. (2021) in China, have confirmed similar benefits of coaching-based adherence support, emphasizing the global applicability of this approach. Given these findings, integrating health coaching into national TB control programs is a strategic step, particularly in primary care. This integration should involve strengthening nurse training in communication and behavioral change techniques, enhancing family engagement, and exploring digital or telenursing-based coaching to expand reach and continuity of care. Future studies should employ randomized controlled trials (RCTs) with longer follow-up periods and standardized adherence metrics to establish stronger evidence and ensure sustainability of outcomes.

Practical Implications

Health coaching has been proven to be effective in improving TB patient compliance, so it needs to be integrated in primary services with nurse training, family support, the use of telenursing, and standardized continuous evaluation.

Synthesis Conclusion

Based on the results of the review, health coaching interventions consistently improved medication adherence in TB patients. Nurse engagement, family support, and telenursing integration strengthen the effectiveness of interventions, making them feasible to be implemented in primary services to support the continued success of TB control programs.

Study Limitations

This review has several limitations, including that all studies were conducted in Indonesia, thus limiting the generalization of results globally. In addition, most studies used a quasi-experimental design without long-term evaluation, and there was a variety of adherence measurement

instruments. The lack of intervention standards and uniform coaching models also makes it difficult to make direct comparisons between the studies analysed in this review.

CONCLUSION

The results of this review show that health coaching interventions have strong relevance in clinical practice, particularly in the management of Tuberculosis (TB) patients in primary health care. Patient non-adherence to long-term treatment remains a major challenge in TB control. Therefore, the application of health coaching as an educational and supportive approach is needed to increase the active involvement of patients in the treatment process. In the context of nursing practice, health coaching allows nurses to play the role not only of conveying information, but also of facilitating behavior change, motivators, and companions of patients holistically. This intervention also supports the implementation of patient-centered care that emphasizes two-way communication, empathy, and common goal setting between nurses and patients. Family involvement in some studies also confirmed the importance of community-based approaches in strengthening the success of interventions. In addition, the use of telenursing is a potential solution to reach patients in remote areas, expand the scope of interventions, and reduce barriers to access. By considering its effectiveness and flexibility, health coaching can be used as part of the standard operating procedures (SOPs) at Puskesmas and national TB programs. Structured implementation and adequate training for nurses will strengthen their impact in daily clinical practice.

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