Nurse Media Journal of Nursing
e-ISSN: 2406-8799, p-ISSN: 2087-7811
https://medianers.undip.ac.id
15(1):85-97, April 2025
https://doi.org/10.14710/nmjn.v15i1.67666

ORIGINAL RESEARCH

Exploring the Acceptability of Traditional Medicine Clinic Implementation in Indonesian Public Health Centers

Sri Mumpuni Yuniarsih[1,2], Retna Siwi Padmawati[3], Ema Madyaningrum[4], Yodi Mahendradhata[5]

[1]*Department of Nursing, Faculty of Health Sciences, Universitas Pekalongan, Central Java, Indonesia*
[2]*Doctoral Program in Medical and Health Sciences, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia*
[3]*Department of Health Behavior, Environment and Social Medicine, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia*
[4]*Department of Mental Health and Community Health Nursing, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia*
[5]*Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia*

Article Info

Article History:
Received: 24 October 2024
Revised: 18 April 2025
Accepted: 21 April 2025
Online: 30 April 2025

Keywords:
Healthcare integration;
Public Health Centers (PHCs);
Theoretical Framework of Acceptability (TFA);
traditional medicine

Corresponding Author:
Sri Mumpuni Yuniarsih,
Department of Nursing,
Faculty of Health Sciences,
Universitas Pekalongan,
Central Java, Indonesia
E-mail:
unipekalongan@gmail.com
srimumpuni@unikal.ac.id

Abstract

Background: The World Health Organization (WHO) encourages the integration of traditional medicine (TM) into healthcare services, recognizing its cultural importance in countries like Indonesia. However, this integration needs improvement to ensure quality and accessibility. Previous research has primarily focused on policy implementation or health outcomes with limited exploration of the acceptability of TM clinics in Primary Health Centers (PHCs) from the perspectives of stakeholders using the Theoretical Framework of Acceptability (TFA). Operational and ethical challenges of this integration remain underexplored.
Purpose: The purpose of this study was to explore the acceptability of traditional medicine clinics in PHC settings using the TFA, focusing on the perspectives of healthcare workers, traditional medicine practitioners, and patients.
Methods: An exploratory qualitative study was conducted in five PHCs in Boyolali, Indonesia, with 25 participants, including healthcare workers, traditional medicine practitioners, and patients. Participants were purposely selected based on the following inclusion criteria: (1) healthcare workers providing services in traditional medicine clinics at PHCs, (2) traditional medicine practitioners operating within the clinic area, and (3) patients who had used the clinic's services at least once. Data were collected through in-depth interviews and analyzed using a thematic approach.
Results: Thematic analysis identified four key themes: (1) *Perceived Benefits and Trust in TM Clinics*, with participants reporting high satisfaction and trust in the services, (2) *Readiness and Competency of Healthcare Workers*, emphasizing confidence, ongoing training, and collaboration with traditional medicine practitioners, (3) *Barriers to Acceptability and Implementation*, including heavy workloads, limited resources, and a lack of dedicated personnel, and (4) *Alignment with Professional and Cultural Values*, focusing on the importance of cultural integration and ethical considerations for the sustainability of TM clinics.
Conclusion: Traditional medicine clinics in PHCs are generally well accepted, but their sustainability depends on addressing resource constraints and enhancing staff training. Strategic investment and policy support are crucial for overcoming operational and ethical challenges and ensuring the successful integration of public health services.

How to cite: Yuniarsih, S. M., Padmawati, R. S., Madyaningrum, E., & Mahendradhata, Y. (2024). Exploring the acceptability of traditional medicine clinic implementation in Indonesian public health centers. *Nurse Media Journal of Nursing, 15*(1), 85-97. https://doi.org/10.14710/nmjn.v15i1.67666

1. Introduction

Integrating Traditional Medicine (TM) into modern healthcare services has gained global attention due to its potential to prevent and manage lifestyle-related chronic diseases. Global resolutions, such as the Astana Declaration 2018, emphasize expanding access to diverse health services, fostering collaborative medical practices, and enhancing the quality of research for both

modern and traditional medicine (Ng et al., 2024; World Health Organization [WHO], 2023). However, integration efforts vary across countries depending on local traditions, community needs, available services, and regulatory frameworks (Mutola et al., 2021; WHO, 2023).

Indonesia is an archipelagic country facing challenges in the equitable distribution of health resources. In 2023, 11.5% of community health centers in Indonesia still lacked doctors (Ministry of Health Republic of Indonesia [MoHRI], 2023; Ministry of National Development Planning/ Bappenas, 2022). Despite this, TM, such as *jamu* (herbal medicine), acupuncture, and manual therapy, has long been widely used and practiced by the communities (Mahendradhata et al., 2017). In a national survey in 2023, 32.5% of the Indonesian population reported using traditional health services (MoHRI, 2023). The increasing public interest in TM highly urges the government to develop effective and safe integration forms.

Effective integration requires studies that measure perceptions of TM effectiveness and safety, facility readiness, and the attitudes and knowledge of health workers. The Theoretical Framework of Acceptability (TFA) offers a structured approach to assessing the acceptability of such an intervention. TFA defines acceptability as a multi-dimensional concept based on individuals' cognitive and emotional responses to an intervention (Sekhon et al., 2017). This framework consists of seven constructs, including affective attitude, burden, ethics, intervention coherence, opportunity cost, perceived effectiveness, and self-efficacy (Casale et al., 2023). Each construct addresses a specific component of acceptability. *Perceived effectiveness* refers to the belief that the intervention will achieve the desired outcomes, while *affective attitude* reflects an individual's emotional response to the intervention. *Self-efficacy* refers to the confidence in one's ability to engage with the intervention, while *intervention coherence* relates to the extent to which one understands how the intervention works. *Ethics* refers to the extent to which the intervention aligns with one's personal or professional values, and *burden* describes the effort required to participate (Sekhon et al., 2017).

TFA has been effectively applied in various fields, particularly in health and social interventions. For example, a study assessing the acceptance of a psychoeducation program for prostate cancer patients undergoing androgen deprivation therapy (ADT) found that the intervention was highly acceptable. Patients reported significant improvements in understanding the impact of ADT on their physical, psychological, and sexual health, as well as increased confidence in managing side effects (Sara et al., 2025). Similarly, Walker et al. (2025) found that the Ziba Ufa mental health intervention in Tanzania was highly acceptable, citing a 97% retention rate due to low burden and perceived high benefits. Casale et al. (2023) applied TFA in 55 studies involving young people in Africa and found that intervention coherence and self-efficacy were crucial for engagement and success (Casale et al., 2023; Walker et al., 2025). In Indonesia, the development of integrative traditional medicine clinics in PHCs is ongoing and requires continuous evaluation to ensure feasibility and sustainability (MoHRI, 2023; Oktarina & Rukmini, 2021; Situmorang, 2018; Sriatmi et al., 2016). Insights from Taiwan revealed that the longevity and employment rate of TM clinics have a significant impact on performance, especially in treating musculoskeletal conditions and chronic pain (Chang et al., 2019). TM is typically used as a form of complementary care, rather than primary care.

This research is part of a four-phase study exploring the implementation of TM clinics in Indonesian PHCs. The four phases include an initial assessment phase, a preparation phase, an implementation phase, and an evaluation phase. The current research represents the fourth phase, which focuses on evaluating the acceptance of the clinic through an in-depth exploratory study. This phase gathered insights into the emotions, perspectives, and experiences of various stakeholders, including healthcare providers, patients, and traditional medicine practitioners.

Previous research on TM clinics has largely focused on policy (Oktarina & Rukmini, 2021), health outcomes (Chang et al., 2019), and TM's role in managing specific diseases (Van Wietmarschen et al., 2024). However, few studies have addressed the acceptability in the PHC setting. For instance, Lin and Lai (2024) examined post-pandemic developments in traditional Chinese medicine, yet they did not assess its acceptability within primary care settings. Moreover, ethical concerns and the operational burden on healthcare workers have rarely been explored in depth (Lin & Lai, 2024). TM clinics in Indonesian PHCs represent a formalized integration of traditional healing within the healthcare system, ensuring safety and cultural relevance. However, stakeholder acceptability of this innovation remains relatively unexplored. This study addresses that gap by applying the TFA to examine stakeholder perceptions and key factors influencing TM

integration. Findings aim to inform implementation strategies, enhance training, and support sustainable integration of traditional and modern healthcare.

2. Methods

2.1. Research design

This study employed a qualitative exploratory design to investigate the acceptability of Traditional Medicine (TM) clinics in PHCs. Acceptability in this study is operationally defined as the extent to which stakeholders (healthcare workers, traditional medicine practitioners, and patients) perceive TM clinics as appropriate, beneficial, and feasible within the healthcare system. To explore acceptability comprehensively, this study applied the TFA developed by Sekhon et al. (2017), which consists of seven constructs: perceived effectiveness, affective attitude, self-efficacy, intervention coherence, ethicality, burden, and opportunity cost. These constructs guided both data exploration and the formulation of interview guidelines.

2.2. Setting and samples

This study was conducted in five PHCs in Boyolali District, Central Java, Indonesia. The five PHCs operate traditional medicine clinics offering services such as infant massage, acupressure, cupping, and herbal medicine counselling. A traditional medicine clinic offers alternative traditional medicine services to help patients maintain and care for their health while treating symptoms and diseases with traditional therapeutic techniques. The traditional medicine clinic is supported by a team of dedicated healthcare professionals, comprising the head of PHCs, accomplished general doctors, and service providers (nurses, midwives, physiotherapists). This esteemed team, known as implementers, is committed to providing exceptional care to the patients. The head of the PHCs is responsible for regulating service availability, implementing standard operating procedures, managing funding, and organizing human resources. General doctors are responsible for conducting patient examinations, making diagnoses, and offering advice on using both traditional treatments and herbal medicine. The service providers are responsible for administering traditional therapies according to the doctor's recommendations. Outside this team, there are traditional medicine practitioners who are community members and provide services in the community.

The research study, conducted from January to June 2024, included 25 participants, namely 15 implementers (healthcare providers), 5 traditional medicine practitioners, and 5 patients. They were selected using a purposive sampling technique based on specific study criteria. Inclusion criteria comprised healthcare providers offering services in TM clinics, patients who had used TM clinic services at least once, and TM practitioners operating within the PHC area. Individuals unwilling to provide informed consent or those with health conditions that hindered their ability to participate in in-depth interviews were excluded. The purposive sampling approach was chosen to ensure the inclusion of participants with direct experience and involvement in TM clinics, enabling a focused and in-depth exploration of how acceptability is perceived, challenged, and influenced. All participants had substantial exposure to information related to traditional medicine clinic operations and implementation at the PHC level. Prior to data collection, participants were provided with a comprehensive explanation of the research process and were asked to complete an informed consent form.

A positive and collaborative relationship existed between the researchers and participants, with no conflicts of interest reported. Both parties shared a mutual commitment to objectively presenting the findings in order to contribute to the improvement and sustainability of TM clinics within PHCs. Saturation was achieved at varying points across participant groups. For patients and traditional medicine practitioners, no new themes emerged after the fifth interview, indicating early thematic saturation. However, interviews with healthcare providers continued up to 15 participants due to their central role in clinic implementation, which required deeper investigation into operational, structural, and institutional dimensions of acceptability.

2.3. Data collection

The seven dimensions of the TFA—Perceived Effectiveness, Affective Attitude, Self-Efficacy, Intervention Coherence, Ethicality, Burden, and Opportunity Cost—were employed in the development of the interview guidelines (Table 1).

Table 1. Interview guidelines

Type of Acceptability	Interview Question	Construct
Concurrent Acceptability	1. What do you know about the implementation of TM clinics with a transcultural nursing care approach? Could you describe its implementation?	Intervention Coherence
Prospective Acceptability	2. How do you feel, and what is your attitude towards the implementation of TM clinics with a transcultural nursing care approach at the PHCs?	Affective Attitude
	3. What challenges do you experience with the implementation of TM clinics with a transcultural nursing care approach? What steps do you take to ensure its smooth implementation?	Burden
	4. Do you think the implementation of TM clinics with a transcultural nursing care approach aligns with your values and expectations? Are there any ethical aspects at risk of not being fulfilled?	Ethicality
Retrospective Acceptability	5. What is your opinion on the potential costs that may arise from implementing TM clinics with a transcultural nursing care approach? Based on your experience, how has the financing been handled? Do you think it will burden visitors/users?	Opportunity Cost
	6. How would you assess the effectiveness of the implementation of TM clinics with a transcultural nursing care approach?	Perceived Effectiveness
	7. How confident are you in maintaining the necessary behaviors to participate in the implementation of TM clinics with a transcultural nursing care approach?	Self-Efficacy

The guidelines were designed to reflect various stakeholder perspectives, ensuring a comprehensive evaluation of TM clinic implementation. They were piloted with two participants and revised prior to complete data collection to enhance clarity and alignment with study objectives. Perceived Effectiveness questions explored whether TM clinics were seen as beneficial and effective in improving health outcomes. Affective attitude assessed emotional responses and comfort levels of stakeholders regarding TM services, while Self-Efficacy examined healthcare workers' confidence in delivering TM services. In the Intervention Coherence domain, the guidelines investigated how well stakeholders understood the purpose and mechanisms of TM clinics. Ethicality evaluated how well the clinics aligned with cultural, professional, and patient values. Burden identified the workload challenges and resource limitations faced by healthcare workers, while Opportunity Cost explored the financial and logistical trade-offs in utilizing TM clinics. The use of TFA ensured that all dimensions of acceptability were systematically assessed, allowing the study to capture key factors influencing TM clinic acceptance, operational barriers, and potential enablers for sustainability.

The participants were interviewed in person through face-to-face, in-depth interviews, each lasting approximately 30 minutes, and conducted once per participant. The interviews were conducted by the lead researcher (SMY), who has a background in qualitative health research and training in conducting in-depth interviews, with support from a research assistant who took field notes. All interviews were audio-recorded with participants' consent. Furthermore, to address potential memory bias, participants were encouraged to reflect deeply on their experiences before responding, with interview prompts designed to help recall specific details.

2.4. Data analysis

Data analysis was conducted using thematic analysis with the six-phase framework based on Braun and Clarke (2006), focusing on the acceptability of TM clinics in PHCs. Data analysis began with the transcription of interview recordings by research assistants, followed by verification of

the accuracy of transcripts by the principal investigator (SMY) by comparing the transcripts with the original recordings. The interview transcripts were returned to the participants for review, and after all participants agreed, the data coding process continued. Coding was performed by the principal investigator and an independent coder to ensure accuracy and objectivity. The coded data were then reviewed collaboratively by the research team (RSP, EM, YM) to ensure consistency and accuracy. Data were categorised using a deductive approach based on the TFA construct, enabling the identification of main themes relevant to the dimensions of TFA acceptability. The identified themes were reviewed and refined through discussions among the research team to ensure alignment with study objectives and consistency with the TFA framework.

2.5. Trustworthiness/rigor

To ensure trustworthiness, researchers took several important steps. Data credibility was ensured through triangulation of sources, which involved using information from service providers, patients, and TM Practitioners. Interview results from different sources can be used to cross-check data. Dependability was ensured through comprehensive documentation, including audio recordings, field notes, and participants' feedback, to capture all relevant information. Confirmability was achieved through regular discussions with co-authors to review research processes and decisions, ensuring that the findings were based on the data and not influenced by personal bias. To ensure accurate interpretation of the data, five participants were re-contacted to clarify any unclear or potentially ambiguous statements that emerged during the analysis process. This clarification process was conducted in accordance with approved ethical procedures.

2.6. Ethical consideration

This research received ethical clearance from the Medical Health Research Ethics Committee, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada (Reference No. KE/FK/1334/EC). A research permit was also obtained from the Boyolali Regency Health Office (No. 423.4/6770/4.2/2022). All participants provided written consent, and only their initials were used in all publications to ensure confidentiality.

3. Results

3.1. Characteristics of participants

A total of 25 participants were involved in this study. The mean age of participants was 47 years (SD=7.49), the majority of participants were male (60%), with most participants having a high level of education (80%). Traditional medicine service providers still vary due to the limited human resources of PHCs. In this study, the service providers consisted of nurses, midwives, and physiotherapists. They have been trained in traditional medicine and given letters of assignment as traditional health service teams at PHCs. Participant characteristics are outlined in Table 2.

3.2. Thematic analysis of data

As shown in Table 3, four main themes were identified, including: 1) Perceived Benefits and Trust in Traditional Medicine Clinics, reflecting the positive perception of the effectiveness of traditional medicine and increased patient trust in TM services, 2) Readiness and Competency of Healthcare Workers, highlighting the importance of healthcare workers' confidence and preparedness to support the implementation of TM clinics through training and collaboration with traditional medicine practitioners, 3) Barriers to Acceptability and Implementation, revealing challenges such as high workloads, limited resources, and the operational costs necessary to maintain service quality, and 4) Alignment with Professional and Cultural Values, emphasizing the importance of aligning professional values with community cultural norms to ensure the sustainability of TM clinics.

3.2.1 Perceived benefits and trust in traditional medicine (TM) clinics

The implementation of TM clinics in PHCs has been widely accepted due to their perceived effectiveness. Patients reported high satisfaction levels, as they experienced tangible improvements in their health after receiving traditional treatments. The integration of TM services has enhanced service delivery and made healthcare more comprehensive, as one patient expressed, "*At that time, I felt that my neck, left and right back were stiff from taking care of the*

harvest. After being massaged, the stiffness and soreness disappeared immediately… the body relaxed" (I21, patient).

Table 2. Characteristics of participants (n=25)

Characteristics	Mean (SD)	f (%)
Age	47 (7.49)	
Gender		
Male		10 (40)
Female		15 (60)
Education Level		
Primary education		5 (20)
High school, College, and above		20 (80)
Occupational status		
Government		3 (12)
Private		2 (8)
Head of PHC		5 (20)
General Doctor		5 (20)
Traditional healers		5 (20)
Nurse		1 (4)
Midwife		3 (12)
Physiotherapist		1 (4)

Health workers and patients alike exhibit a positive affective attitude toward traditional medicine. Many implementers and users believe that TM services contribute to a holistic approach to health. The acceptance of clinics has fostered greater confidence in health workers and increased patient trust in these services, as one midwife noted, "*The implementation of the traditional medicine clinic makes traditional medicine services more well-organized, and the community is also more confident in using them*" (I5, midwife).

Table 3. Themes, categories, and codes

Themes	Categories	Codes
Perceived Benefits and Trust in TM Clinics	Perceived Effectiveness	Patient satisfaction
		Improvement in service delivery
		Comprehensive health services
	Affective Attitude	Positive emotions toward traditional medicine
		Acceptance of clinics
		Health worker confidence
Readiness and Competency of Healthcare Workers	Self-Efficacy	Confidence in providing traditional services
		Patient trust in services
		Team commitments
		Ongoing training for service providers
		Ensure TM quality and safety
		Collaboration with traditional medicine practitioners
Barriers to Acceptability and Implementation	Burden	Staff workload
		Limited resources
		Lack of dedicated traditional medicine personnel
		Regulations and policies of the head of PHCs
	Opportunity Cost	Financial affordability for patients
		Training and operational costs for PHCs
		Service availability challenges
Alignment with Professional and Cultural Values	Intervention Coherence	Understanding of the intervention's goals
		Clarity on cultural relevance
		Transcultural healthcare integration
	Ethicality	Alignment with cultural and ethical values
		Patient safety
		Ethical concerns in service delivery

3.2.2 Readiness and competency of healthcare workers

Self-efficacy among healthcare workers plays a crucial role in the successful implementation of TM clinics. Implementers expressed confidence in providing traditional health services, which is strengthened by ongoing training and collaboration with traditional medicine practitioners. One midwife stated, "*I'm confident that the traditional medicine clinics at PHCs will keep running because there's a lot of interest from the community*" (I3, midwife). Furthermore, patient trust in these services reinforces the motivation of healthcare workers. They emphasized the need for team commitment and continuous efforts to ensure the quality and safety of TM services. One PHC head noted, "*As long as the services we provide follow the rules and do not conflict with the culture of the community, God willing, it will run well*" (I11, head of PHC).

3.2.3 Barriers to acceptability and implementation

Despite the success of TM clinics, certain challenges hinder their full implementation. A significant burden faced by implementers is the heavy workload, exacerbated by limited resources and the absence of dedicated TM personnel. This challenge affects service availability and operational efficiency. One patient explained, *"Since there is only one officer, the traditional medicine clinic at PHC D only serves every Saturday. In the future, I hope it can serve every day"* (I25, patient).

Additionally, the opportunity cost of running TM clinics must be considered. While the services are financially affordable for patients, PHCs incur costs related to training, operational expenses, and maintaining service quality. A participant expressed the following:

> *"The traditional medicine service requires HR training costs, collaboration and partnership costs, guidelines and procedures development costs, and monitoring and evaluation costs. Funding sources can be from government budgets, health organization funds, and external support, as long as it does not burden patients."* (I7, head of PHC)

3.2.4 alignment with professional and cultural values

Ensuring intervention coherence is vital for the sustainability of TM clinics. Healthcare workers understand the importance of aligning TM services with community needs, respecting cultural differences, and integrating transcultural healthcare approaches. One general doctor stated*, "Traditional health services with a transcultural nursing care approach is a service that views cultural differences and similarities with a positive view as long as it does not conflict with health*" (I2, general doctor).

Ethical considerations are also crucial. While most implementers agree that TM clinics align with ethical and cultural values, concerns remain regarding patient safety, informed consent, and the proficiency of service providers. A participant stated:

> *"The implementation of this traditional medicine clinic aligns with our values and expectations, especially respect for the diverse cultures of patients. However, we need to pay attention to ethical concerns such as patient safety and security because some traditional therapies do not have a strong scientific basis."* (I7, head of PHC)

4. Discussion

This study sought to investigate the acceptability of TM clinics within PHCs using the TFA. Findings indicate that stakeholders generally have a positive perception of TM clinics in PHCs, though several barriers to their implementation remain. The following discussion focuses on the themes that emerged from the analysis of the data.

4.1. Perceived benefits and trust in traditional medicine (TM) clinics

Participants expressed positive attitudes toward TM clinics, with most accepting them because of the effects they felt and their cultural compatibility. Many patients describe TM as a natural and satisfying form of treatment that met their physical and spiritual needs. Previous studies have also provided a similar picture, showing that TM services have minimal side effects and are closely related to the cultural practices of the community (Chang et al., 2019; Kenu et al., 2021). A positive attitude was also demonstrated by service providers, with some stating that TM clinics can provide a more comprehensive range of services to patients. This was also conveyed in

a study by Ampomah et al. (2021), reporting that the integration of TM into primary care facilities provides additional services to patients and that healthcare workers welcome this integration. However, challenges were also highlighted in the integration process, including inadequate certification and regulation of traditional medicines, resistance from doctors, unstandardized service protocols, and insufficient public awareness of the benefits of traditional healthcare services. A study conducted by Rahayu et al. (2022) on general practitioners' attitudes toward the acceptance of traditional herbal medicine in conventional healthcare services also found that most doctors view traditional herbal medicine as something that can be incorporated into Indonesia's national health insurance scheme.

Although acceptance of integrating traditional health services into conventional health services is improving, skepticism remains, primarily due to the lack of standardized clinical evidence and traditional treatment protocols. Concerns about patient safety and inconsistent service delivery have been raised in previous research, emphasizing the need for scientific validation, regulatory oversight, and the development of clear clinical guidelines in TM practice (Negahban et al., 2018). Addressing these gaps is critical to enhancing healthcare providers' confidence and ensuring the delivery of safe and consistent TM services.

Beyond institutional and professional perspectives, trust in and use of TM clinics are also shaped by individual sociodemographic factors and factors related to trust. For example, individuals with higher socioeconomic status tend to have greater access to a variety of healthcare options and may adopt TM as part of a broader health strategy (Barbieri et al., 2024). Similarly, higher levels of education are associated with increased openness to TM, as educated individuals often have greater health literacy and awareness of the holistic benefits offered by TM (Barbieri et al., 2024; Koyuncu et al., 2024). Additionally, patients with strong beliefs in traditional health, such as valuing balance, natural healing, and spiritual harmony, are more likely to trust and use TM services (Gyasi et al., 2016). These findings align with the findings in this study that patients use TM clinic services due to a belief in the effectiveness of TM, and also because of the cultural practices commonly used by patients.

4.2. Readiness and competency of healthcare workers

The integration of TM into PHCs in Indonesia requires the readiness of personnel, primarily in terms of competence or skills, and secondarily in terms of additional workload. A previous study showed that the readiness and confidence of personnel in providing services at TM clinics vary greatly depending on the training and certification they have received. Healthcare workers who have received formal training from the Ministry of Health or local training were better prepared than those who have not received traditional medicine training. Those without such experience express doubts and discomfort in providing TM services (McMahon et al., 2024).

In line with previous research, participants in this study emphasized the need to improve capacity and competence through training and certification related to traditional medicine skills. In previous research related to the competence of healthcare workers, it was suggested that traditional medicine-related competencies should be integrated into education so that healthcare workers are exposed to them at an early stage and are better prepared to provide services (Ng et al., 2024). It is important to provide training to improve the capacity and competence of these providers, in order to ensure that TM services in PHCs can be implemented clinically and that services are provided to patients in accordance with the broader objectives of the national health system. Other studies have shown that the readiness of the health system to integrate TM into PHCs is influenced by healthcare providers' perceptions of organizational support, the success of change, and the relevance of TM to their professional roles (Lee et al., 2019, 2020). The level of structural and cultural readiness varies across regions in Indonesia, which affects the extent to which TM can be effectively integrated into health services (Ragunathan & Abay, 2009).

In the Indonesian context, the need for formal TM training is highlighted by the fact that most healthcare workers are not exposed to TM during their formal education. Government-and institution-led training programs have improved awareness and clinical skills in various areas. One example is standardized herbal medicine, and another one is acupressure. However, these opportunities are still unevenly distributed and have not become an integral part of professional development programs. A study in East Java, for instance, found that pharmacists' readiness to provide research-based services was greatly influenced by their previous training and professional attitudes. This includes evidence-based TM practices (Fanda et al., 2025).

Several institutions in Indonesia have begun integrating disaster response training and community-based surveillance into medical curricula to improve the work readiness of healthcare workers (Sebong et al., 2024). However, training on TM and complementary and alternative medicine (CAM) remains very limited, despite the fact that such training is crucial for healthcare workers to provide culturally sensitive care in Indonesian communities where traditional medicine is still widely used (Nurlinawati et al., 2023). Furthermore, although government initiatives like special assignments and local contract schemes have improved healthcare access in remote areas, sustaining TM workforces in these regions requires non-financial incentives, such as professional development and career advancement opportunities (Afrita et al., 2020). Overall, this study indicates that the readiness of TM clinic service providers can be improved through various efforts, such as training on TM, integration of TM into the healthcare providers' curriculum, and interprofessional collaboration and equitable distribution of healthcare workers.

4.3. Barriers to acceptability and implementation

Despite the overall positive reception toward the integration of TM in PHCs, there are several challenges, particularly those related to staff shortages, increased workloads among healthcare providers, and limited financial resources. Many healthcare workers report feeling overwhelmed due to the small number of staff assigned to TM clinics. Furthermore, health workers assigned to TM clinics often have primary roles as doctors, nurses, or midwives. These findings are consistent with those from Iran, where the majority of healthcare workers reported insufficient training and experience in traditional or complementary therapy alongside high workloads in conventional medical services (Farahani et al., 2023). The present study's findings are also consistent with previous literature, indicating that insufficient human and financial resources often hinder the integration of TM into the national health system (Mutola et al., 2021).

Financial barriers also limit the use of TM services in Indonesia because these services are not covered by health insurance, so people must pay out of pocket (Prasad et al., 2025). This aligns with a broader trend observed in low- and middle-income countries, where out-of-pocket payments are the main barrier to TM utilization (Oktarina & Rukmini, 2021). Therefore, expanding government funding and insurance coverage for TM services could help address these financial limitations and significantly improve access to care.

4.4. Alignment with professional and cultural values

The Indonesian government's approach to strengthening TM through traditional health practitioners, also known as *Tenaga Kesehatan Tradisional (Nakestrad),* who are trained through accredited formal education, has further strengthened public trust. *Nakestrad* practitioners are integrated into PHCs and operate according to professional standards. Traditional healers without formal qualifications must register with local health authorities and are supervised by PHCs. This dual system honours cultural traditions while ensuring patients' safety and regulatory oversight (MoHRI, 2023; Oktarina & Rukmini, 2021).

In response to the limited availability of certified *Nakestrad* during the transitional phase, modern healthcare personnel have been provided with training in basic TM practices. These professionals are authorized to provide traditional health services in TM clinics, ensuring continuity of care and maintaining community trust until more *Nakestrad* are available (MoHRI, 2018, 2022). This initiative represents a pragmatic approach to addressing workforce gaps while fostering interdisciplinary collaboration and capacity-building at the primary care level.

However, there are still challenges in aligning TM with established medical standards. Health professionals are concerned about the absence of standardized procedures, clear regulations, and scientific evidence supporting TM practices. These concerns are similar to those found in other countries (Hunter et al., 2023; Situmorang, 2018). There are ethical tensions that come from different ways of knowing, or epistemologies, between biomedicine and traditional knowledge (Lin & Lai, 2024; Moitra & Madan, 2025). Despite these obstacles, TM clinics are regarded as a culturally suitable link between traditional and conventional medicine. Their integration into PHCs shows a larger movement toward care that is inclusive, patient-centered, and that respects cultural identity while maintaining professional quality and safety (Park & Canaway, 2019). With the proper regulatory and educational support, TM clinics can serve as a model of culturally responsive and professionally aligned healthcare.

5. Implications and limitations

The findings of this study have implications for nursing practice. The integration of TM into healthcare services highlights the need for culturally competent care. It also underscores the need for expanded training in basic TM modalities. Empowering nurses with the skills and knowledge to engage in integrative practices can improve TM clinic sustainability, build patient trust, and support more holistic health outcomes. Additionally, this study provides recommendations for adding curriculum related to cultural sensitivity and traditional healthcare skills to formal healthcare education.

However, this study has several limitations. First, the findings may not be applicable to all healthcare settings because of differences in healthcare policies and cultural perceptions of TM. Second, the participants' responses may have been influenced by bias, which could have affected the results, especially in terms of their attitudes and beliefs regarding TM services. Lastly, this study did not examine long-term results or the effectiveness of specific TM treatments. Future research should consider a larger group of people and follow them over time to learn more about how TM can be a part of the existing healthcare systems.

6. Conclusion

This study indicated that the TM clinic was generally well accepted. The acceptance of TM clinics was demonstrated by patient satisfaction, improved comprehensive services, increased confidence among service providers, and positive emotions from both TM practitioners and service providers. However, some barriers to acceptance remain, including the shortage of service providers, insufficient funding, and the lack of regulations or guidelines from the PHCs. The integration of traditional health services is driven by the goal of patient safety and alignment with professionalism and cultural norms. Further research and policy support are needed to explore sustainable strategies for integrating traditional medicine into healthcare systems.

Acknowledgments

We would like to thank Universitas Pekalongan and Universitas Gadjah Mada Yogyakarta, Indonesia, and all participants involved in this study.

Author contribution

SMY was involved in the conceptualisation, design, analysis, and interpretation of data, as well as the drafting of the manuscript. RPS, EM, and YM contributed to the analysis of data and provided valuable revisions to improve the intellectual content of the manuscript. All authors were involved in the evaluation and approval of the final version of the manuscript.

Conflict of interest

The authors declare that there is no conflict of interest.

References

Afrita, I., Yetti, Y., & Arifalina, W. (2020). Medical environmental competitiveness: Law protection for patients and traditional alternative medicine practitioners. *IOP Conference Series: Earth and Environmental Science*, *469,* 012043. https://doi.org/10.1088/1755-1315/469/1/012043

Ampomah, I. G., Malau-Aduli, B. S., Seidu, A. A., Malau-Aduli, A. E. O., & Emeto, T. I. (2021). Perceptions and experiences of orthodox health practitioners and hospital administrators towards integrating traditional medicine into the Ghanaian health system. *International Journal of Environmental Research and Public Health*, *18*(21), 11200. https://doi.org/10.3390/ijerph182111200

Barbieri, V., Lombardo, S., Gärtner, T., Piccoliori, G., Engl, A., & Wiedermann, C. J. (2024). Trust in conventional healthcare and utilization of complementary and alternative medicine in South Tyrol, Italy: A population-based cross-sectional survey. *Annali Di Igiene Medicina Preventiva e Di Comunita*, *36*(4), 377–391. https://doi.org/10.7416/ai.2024.2605

Casale, M., Somefun, O., Haupt Ronnie, G., Desmond, C., Sherr, L., & Cluver, L. (2023). A conceptual framework and exploratory model for health and social intervention acceptability among African adolescents and youth. *Social Science & Medicine*, *326*, 115899. https://doi.org/10.1016/J.SOCSCIMED.2023.115899

Chang, S. C., Lin, C. F., Yeh, T. C., & Chang, C. W. (2019). Determinants of the performance of traditional Chinese medicine clinics in Taiwan. *Health Policy*, *123*(4), 379–387. https://doi.org/10.1016/j.healthpol.2019.01.009

Fanda, R. B., Probandari, A., Kok, M. O., & Bal, R. A. (2025). Managing medicines in decentralization: Discrepancies between national policies and local practices in primary healthcare settings in Indonesia. *Health Policy and Planning*, *40*(3), 346–357. https://doi.org/10.1093/heapol/czae114

Farahani, A. S., Ashrafizadeh, H., Khoshnazar, T. A. S. K., Mehrnoush, N., Karami, M., Khademi, F., Dorcheh, A. E., Ebrahimloee, S., Rostamkalaee, Z. K., & Rassouli, M. (2023). Barriers to applying integrative oncology from the perspective of the care providers in Iran: A mixed-methods study. *Seminars in Oncology Nursing*, *39*(4), 151444. https://doi.org/10.1016/j.soncn.2023.151444

Gyasi, R. M., Asante, F., Yeboah, J. Y., Abass, K., Mensah, C. M., & Siaw, L. P. (2016). Pulled in or pushed out? Understanding the complexities of motivation for alternative therapies use in Ghana. *International Journal of Qualitative Studies on Health and Well-Being*, *11*(1), 29667. https://doi.org/10.3402/qhw.v11.29667

Hunter, J., Harnett, J. E., Chan, W.-J. J., & Pirotta, M. (2023). What is integrative medicine? Establishing the decision criteria for an operational definition of integrative medicine for general practice health services research in Australia. *Integrative Medicine Research*, *12*(4), 100995. https://doi.org/https://doi.org/10.1016/j.imr.2023.100995

Kenu, A., Kenu, E., Bandoh, D. A., & Aikins, M. (2021). Factors that promote and sustain the use of traditional, complementary and integrative medicine services at LEKMA hospital, Ghana, 2017: An observational study. *BMC Complementary Medicine and Therapies*, *21*(1), 14. https://doi.org/10.1186/s12906-020-03185-y

Koyuncu, H., Bükülmez, A., & Oflu, A. (2024). Evaluation of the attitudes of vaccination-hesitant parents towards complementary and alternative medicine. *Turk Osteoporoz Dergisi*, *22*(1), 58–64. https://doi.org/10.4274/jcp.2024.66743

Lee, L., Lewis, C. M., & Montgomery, S. (2020). Clinic-based community health worker integration: Community health workers', employers', and patients' perceptions of readiness. *Journal of Ambulatory Care Management*, *43*(2), 157–168. https://doi.org/10.1097/JAC.0000000000000320

Lee, L., Montgomery, S., Gamboa-Maldonado, T., Nelson, A., & Belliard, J. C. (2019). Perceptions of organizational readiness for training and implementation of clinic-based community health workers. *Journal of Health Organization and Management*, *33*(4), 478–487. https://doi.org/10.1108/JHOM-06-2018-0158

Lin, S. K., & Lai, J. N. (2024). Enhancing traditional Chinese medicine healthcare system in Taiwan post-COVID-19 pandemic: A strategic focus on specialization. *Journal of the Formosan Medical Association*, *123*(3), S207–S214. https://doi.org/10.1016/j.jfma.2024.09.012

Mahendradhata, Y., Trisnantoro, L., Listyadewi, S., Soewondo, P., MArthias, T., Harimurti, P., & Prawira, J. (2017). The Republic of Indonesia health system review. *Health Systems in Transition, 7* (1), WHO Regional Office for South-East Asia. https://iris.who.int/handle/10665/254716

McMahon, D., Dixon, D., Quinn, T., & Gallacher, K. I. (2024). The acceptability of post-stroke cognitive testing through the lens of the theory of acceptability, a qualitative study. *Cerebral Circulation - Cognition and Behavior*, *6,* 100197. https://doi.org/10.1016/j.cccb.2023.100197

Ministry of Health Republic of Indonesia. (2018). *Kurikulum pelatihan tenaga kesehatan dalam pelayanan akupresur di Puskesmas* [Curriculum and capacity building model for health workers in acupressure services at public health centers]. Ministry of Health, Republic of Indonesia. https://ditmutunakes.id/portal-kemkes/detail-kurikulum-pelatihan/pelatihan-tenaga-kesehatan-dalam-pelayanan-akupresur-di-puskesmas/

Ministry of Health Republic of Indonesia. (2022). *Pelatihan training of trainer (TOT) peningkatan kapasitas bidan dalam pelayanan pijat baduta untuk tumbuh kembang anak di fasyankes* [ToT module curriculum for capacity building of midwives in toddler massage services for child growth and development in primary health care facilities]. https://ditmutunakes.id/portal-kemkes/detail-kurikulum-pelatihan/pelatihan-training-of-

trainer-tot-peningkatan-kapasitas-bidan-dalam-pelayanan-pijat-baduta-untuk-tumbuh-kembang-anak-di-fasyankes/profil

Ministry of Health Republic of Indonesia. (2023). *Indonesian health survey 2023*. Ministry of Health, Republic of Indonesia.

Ministry of National Development Planning/Bappenas. (2022). *Buku putih reformasi sistem kesehatan nasional* [The white paper of the national health system reform]. https://perpustakaan.bappenas.go.id/e-library/file_upload/koleksi/migrasi-data-publikasi/file/Policy_Paper/BukuPutihReformasi SKN.pdf

Moitra, P., & Madan, J. (2025). Stakeholder perspectives on integrating Ayurveda and Indian Indigenous Knowledge Systems into higher education: An exploratory study. *Social Sciences and Humanities Open*, *11*, 101453. https://doi.org/10.1016/j.ssaho.2025.101453

Mutola, S., Pemunta, N. V., & Ngo, N. V. (2021). Utilization of traditional medicine and its integration into the healthcare system in Qokolweni, South Africa; prospects for enhanced universal health coverage. *Complementary Therapies in Clinical Practice*, *43*, 101386. https://doi.org/10.1016/j.ctcp.2021.101386

Negahban, A., Maleki, M., & Abbasian, A. (2018). Elements of integrating traditional and complementary medicine into primary healthcare: A systematic review. *Journal of Clinical and Diagnostic Research*, *12*(12), IE05-IE11. https://doi.org/10.7860/JCDR/2018/36136.12417

Ng, J. Y., Wieland, L. S., Lee, M. S., Liu, J., Witt, C. M., Moher, D., & Cramer, H. (2024). Open science practices in traditional, complementary, and integrative medicine research: A path to enhanced transparency and collaboration. *Integrative Medicine Research*, *13*(2), 101047. https://doi.org/10.1016/j.imr.2024.101047

Nurlinawati, I., Mujiati, M., & Efendi, F. (2023). Factors influencing the retention of specialist doctors in the placement area: Realist evaluation approach in the specialist doctor utilization program. *Rural and Remote Health*, *23,* 7610. https://doi.org/10.22605/RRH7610

Oktarina, O., & Rukmini, R. (2021). Gambaran implementasi kebijakan program pelayanan kesehatan tradisional di Dinas Kesehatan Kota Surabaya [Implementation of traditional health care program policy in Surabaya City]. *Buletin Penelitian Kesehatan*, *48*(4), 291–300. https://doi.org/10.22435/bpk.v48i4.3584

Park, Y. L., & Canaway, R. (2019). Integrating traditional and complementary medicine with national healthcare systems for universal health coverage in Asia and the Western Pacific. *Health Systems and Reform*, *5*(1), 24–31. https://doi.org/10.1080/23288604.2018.1539058

Prasad, K., Prasad, A., Dyer, N. L., Bauer, B. A., Soderlind, J. N., Fischer, K. M., Croghan, I. T., Kaufman, C. C., Rosmarin, D. H., & Wahner-Roedler, D. L. (2025). Use of complementary and integrative medicine among low-income persons with mental health disorders. *Mayo Clinic Proceedings: Innovations, Quality and Outcomes*, *9*(1), 100585. https://doi.org/10.1016/j.mayocpiqo.2024.11.002

Ragunathan, M., & Abay, S. M. (2009). A survey on knowledge and attitude of pharmacy, health science and medical students towards traditional medicine as well as willingness of students and doctors towards the integration of traditional and modern medicine in Gondar University. *Pharmacognosy Journal*, *1*(2), 146–153.

Rahayu, Y. Y. S., Araki, T., Rosleine, D., & Purwaningtyas, R. M. (2022). General practitioners' attitudes toward traditional Indonesian herbal medicine and integrative care in the universal health coverage system. *Global Journal of Health Science*, *14*(4), 82. https://doi.org/10.5539/gjhs.v14n4p82

Sara, S. A. M., Heneka, N., Chambers, S. K., Dunn, J., & Terry, V. R. (2025). Acceptability of a nurse-led survivorship intervention for men with prostate cancer receiving androgen deprivation therapy: A qualitative exploratory study. *European Journal of Oncology Nursing*, *75*, 102836. https://doi.org/10.1016/j.ejon.2025.102836

Sebong, P. H., Pardosi, J., Goldman, R. E., Suryo, A. P., Susianto, I. A., & Meliala, A. (2024). Identifying physician public health competencies to address healthcare needs in underserved, border, and outer island areas of Indonesia: A rapid assessment. *Teaching and Learning in Medicine*, *37*(3), 363-374. https://doi.org/10.1080/10401334.2024.2353573

Sekhon, M., Cartwright, M., & Francis, J. J. (2017). Acceptability of healthcare interventions: An overview of reviews and development of a theoretical framework. *BMC Health Services Research*, *17,* 88. https://doi.org/10.1186/S12913-017-2031-8

Situmorang, Y. (2018, December). *Pelayanan kesehatan tradisional integrasi di Indonesia: Tantangan dan kemajuan terkini* [Integrating traditional healthcare in Indonesia: Challenges and recent advancements]. Kemenkes RI. https://kesmas.ums.ac.id/wp-content/uploads/sites/49/2017/12/Materi-1-Dr.-Ina-Rosalina-Kemenkes-RI.pdf

Sriatmi, A., Jati, S., & Rahmawati, A. (2016). Analysis of the implementation of integration of traditional health services at Halmahera Health Centre, Semarang City. *Jurnal Kesehatan Masyarakat (e-Journal)*, *4*(1), 12–22.

Van Wietmarschen, H. A., Kapteijns, A., Busch, M., von Rosenstiel, I., Hoenders, R. H. J., & Baars, E. W. (2024). Setting a Dutch integrative medicine research agenda: Results of a consensus-based strategy. *European Journal of Integrative Medicine*, *67*, 102353. https://doi.org/10.1016/j.eujim.2024.102353

Walker, S., Robinson, L. J., Mhando, L., Paddick, S. M., Boshe, J., McAllister-Williams, R. H., Eliamini, W., Sakanda, L., & Walker, R. (2025). Feasibility and acceptability findings from a pilot study of the adapted Ziba Ufa intervention for late-life depression and chronic conditions in Tanzania. *The American Journal of Geriatric Psychiatry: Open Science, Education, and Practice*, *5*, 21–33. https://doi.org/10.1016/j.osep.2024.11.001

World Health Organization. (2023, 7 June). *Integrating traditional and complementary medicine into health systems: Social, economic and health considerations*. https://www.who.int/publications/m/item/integrating-traditional-and-complementary-medicine-into-health-systems--social--economic-and-health-considerations