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Policy implementation of midwife traditional birth attendant partnerships to reduce maternal and child mortality

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ABSTRACT

Introduction: Maternal and child mortality remains a critical public health challenge in Indonesia, particularly in rural areas where access to formal health services is limited. In Kabupaten Takalar, traditional birth attendants (dukun) continue to play a central role in childbirth practices. To address this issue, the local government implemented a partnership policy between midwives (bidan) and dukun aimed at improving maternal and neonatal outcomes through culturally sensitive collaboration.

Methods: This study employed a mixed-methods design to assess the effectiveness of the bidan–dukun partnership policy. Quantitative data were obtained from maternal and child mortality statistics, program coverage reports, and community surveys. Qualitative data were collected through in-depth interviews and focus group discussions with midwives, dukun, and community members. Data triangulation was applied to enhance the validity of findings.

Results: The findings indicate that the partnership policy was implemented at a moderate to high level, with approximately three-quarters of targeted areas adopting the model. Community understanding of the program was relatively high, although active participation remained uneven. Quantitative trends showed a reduction in the maternal mortality ratio during the implementation period. Qualitative results revealed improved referral practices, increased trust in formal health services, and clearer role differentiation between midwives and dukun. However, challenges persisted, including cultural resistance, coordination gaps, and limited training.

Conclusion: The study demonstrates that a culturally inclusive partnership between midwives and traditional birth attendants can contribute to reducing maternal and child mortality by bridging formal health systems and community-based practices. Strengthening coordination mechanisms, continuous capacity building, and community engagement are essential to maximize policy impact. These findings provide evidence to inform local and national strategies for maternal and child health improvement.

Keywords: community partnership; maternal health; midwives; traditional birth attendants; under-five mortality.

INTRODUCTION

Maternal and child mortality remains a persistent public health challenge in many low- and middle-income countries, including Indonesia (Putri *et al.*, 2025). Although national efforts have expanded access to maternal and neonatal health services, significant disparities persist, particularly in rural and culturally diverse areas where utilization of formal healthcare remains limited (Aines, Graham and Sweet, 2025). In these settings, preventable maternal and neonatal deaths continue to occur due to delayed access to skilled birth attendants, weak referral systems, and deeply rooted sociocultural practices related to childbirth (Amouzou *et al.*, 2025). These conditions underscore the importance of health policies that are not only clinically sound but also responsive to local social and cultural contexts (Anumudu, Uhegwu and Anumudu, 2025).

In rural districts such as Takalar Regency, traditional birth attendants (dukun) have historically played a central role in pregnancy and childbirth (Atukunda *et al.*, 2025). Their strong cultural legitimacy, close geographic proximity, and trusted social position often make them the first point of contact for pregnant women (Chauke, 2025). However, limited biomedical training constrains their ability to manage obstetric complications safely. In contrast, professional midwives (bidan) possess the clinical competencies necessary for safe delivery and emergency care but frequently encounter barriers related to accessibility, cultural acceptance, and community engagement (Crawford *et al.*, 2025). This structural and cultural dualism has long contributed to service utilization gaps and suboptimal maternal and child health outcomes (David *et al.*, 2025).

To address these challenges, the Indonesian government introduced a policy framework promoting partnerships between midwives and traditional birth attendants. This policy redefines the role of dukun from primary birth attendants to supportive partners responsible for health education, early detection of danger signs, and referral facilitation, while assigning midwives as the main providers of skilled delivery care (Gwacham-Anisiobi *et al.*, 2023). The partnership model aims to bridge the gap between formal healthcare systems and traditional practices by leveraging community trust without compromising clinical safety. Nevertheless, the effectiveness of this policy is highly dependent on local implementation dynamics, interprofessional coordination, and sociocultural adaptation (Dugle, Bishop and Muthuri, 2025).

Despite growing advocacy for partnership-based approaches in maternal health, empirical evidence on their implementation remains uneven. Many studies focus primarily on outcome indicators, such as reductions in maternal mortality, without sufficiently examining how policies are enacted at the local level (Graham *et al.*, 2025). Additionally, most evaluations rely on aggregated national or provincial data, offering limited insight into district-level governance, actor interactions, and contextual constraints that shape policy performance. Consequently, there is insufficient understanding of why similar partnership policies succeed in certain settings but yield limited results in others (Fernandez Turienzo *et al.*, 2025).

In Takalar Regency specifically, systematic academic investigations into the implementation of the midwife–dukun partnership policy are scarce. Existing literature rarely addresses critical implementation dimensions, including role clarity, communication mechanisms, power relations, cultural negotiation, and community perceptions. Moreover, reliance on single-method research designs limits the ability to capture the complex institutional and sociocultural processes embedded in policy execution. This creates a significant gap in understanding not only whether the policy is effective, but how and under what conditions it generates meaningful improvements in maternal and child health outcomes.

The novelty of this study lies in its integrative and implementation-focused approach. Rather than focusing solely on outcome indicators, this research critically examines the policy implementation process of the midwife–dukun partnership in Takalar Regency. Using a mixed-methods design, it combines quantitative maternal and child health indicators with qualitative insights from midwives, traditional birth attendants, and community stakeholders. This approach enables a comprehensive analysis of both measurable impacts and underlying social dynamics, providing evidence-based insights to inform policy refinement, strengthen interprofessional collaboration, and support sustainable maternal and child health interventions. The following

table presents maternal and infant mortality indicators across selected years, providing contextual data to support the analysis and highlighting ongoing challenges related to data availability and health surveillance systems.

Table 1. Maternal and Infant Mortality Indicators by Year

Year	Maternal Mortality Ratio (per 100,000 live births)	Infant Mortality Rate (per 1,000 live births)
2006	300	Data not available
2012	0	Data not available
2023	Data not available	Data not available

RESEARCH METHODOLOGY

Study Design

This study employed a mixed-methods approach, integrating quantitative and qualitative methods to comprehensively assess the effectiveness of the midwife–traditional birth attendant (bidan–dukun) partnership policy in reducing maternal and child mortality in Takalar Regency, South Sulawesi, Indonesia. The mixed-methods design was selected to capture both measurable policy outcomes and contextual, socio-cultural dynamics influencing policy implementation.

Study Setting and Population

The study was conducted in Takalar Regency, an area characterized by limited access to formal maternal health services and strong reliance on traditional birth attendants. The study population consisted of midwives, traditional birth attendants (dukun), pregnant women and mothers, and local health stakeholders involved in the partnership policy.

Quantitative Component

The quantitative component utilized a cross-sectional survey design. Secondary data on maternal mortality ratio (MMR) and infant mortality rate (IMR) were collected from district health office records. Primary data were obtained through structured questionnaires distributed to mothers who accessed maternal health services during the policy implementation period. Variables measured included service utilization, referral practices, community participation, and perceived effectiveness of the partnership program. Descriptive statistics were used to summarize trends and patterns related to maternal and child health outcomes.

Qualitative Component

The qualitative component employed in-depth interviews and focus group discussions (FGDs). Purposive sampling was used to select key informants, including midwives, traditional birth attendants, and local health administrators. Data collection focused on perceptions of the partnership policy, roles and responsibilities, coordination mechanisms, cultural barriers, and facilitators of implementation. Qualitative data were analyzed using thematic analysis, allowing for the identification of recurring themes and contextual factors influencing policy effectiveness.

Data Integration and Analysis

Quantitative and qualitative findings were integrated through data triangulation to enhance validity and provide a holistic understanding of policy implementation. Quantitative trends in mortality reduction and service coverage were interpreted alongside qualitative insights explaining how and why the partnership influenced maternal and child health outcomes.

Ethical Considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki for research involving human subjects. Ethical approval was obtained from the relevant institutional ethics committee prior to data collection. All participants were fully informed about the objectives, procedures, potential risks, and benefits of the study before participation. Written informed consent was obtained from all participants, and participation was entirely voluntary. Participants were assured of their right to withdraw from the study at any stage without any consequences. Confidentiality and anonymity were strictly maintained by using coded identifiers and restricting access to research data to the research team only. The study involved no physical, psychological, or social harm to participants. Data were collected and

reported honestly, ensuring transparency, integrity, and respect for participants' dignity, rights, and well-being, in compliance with internationally accepted ethical standards.

Methodological Rigor

To ensure rigor, the study applied triangulation of data sources, clear inclusion criteria for participants, and systematic analytic procedures. The mixed-methods approach strengthened the credibility of findings by combining empirical evidence with contextual understanding of local cultural and social conditions.

RESULTS

Qualitative Findings

The qualitative analysis, based on in-depth interviews and focus group discussions with midwives, traditional birth attendants, and community members, generated four dominant themes.

Role Reorientation and Mutual Trust

Participants consistently described a shift in the role of traditional birth attendants—from primary delivery assistants to supportive partners responsible for early detection, referral, and postpartum care. This transition was perceived as strengthening trust between health professionals and the community.

Cultural Mediation and Community Acceptance

Traditional birth attendants were viewed as effective cultural mediators who increased acceptance of formal maternal health services. Their involvement reduced resistance to facility-based deliveries and antenatal care, particularly in rural areas.

Coordination and Communication Challenges

Despite positive perceptions, informants reported ongoing coordination issues, including unclear referral protocols, inconsistent supervision, and limited joint training opportunities.

Capacity Gaps and Sustainability Concerns

Both midwives and traditional birth attendants emphasized the need for continuous training, incentives, and institutional support to sustain the partnership and prevent role ambiguity.

Figure 1 presents a comparative overview of key maternal and child health indicators before and after the implementation of the midwife traditional birth attendant partnership policy. The figure highlights changes in maternal mortality alongside the program's implementation rate and the level of community participation. This visualization is intended to illustrate not only outcome indicators, such as mortality reduction, but also process indicators that reflect how well the policy was executed and accepted at the community level. By integrating outcome and implementation measures, Figure 1 provides an initial empirical basis for assessing the effectiveness of the partnership approach in strengthening maternal health services and improving community engagement.

Figure 1. Comparison of maternal mortality before and after policy implementation, program implementation rate, and community participation levels.

Figure 1 illustrates a clear relationship between policy implementation performance and maternal health outcomes. The observed reduction in the maternal mortality ratio after the introduction of the midwife–traditional birth attendant partnership indicates that the policy contributed positively to safer maternal care. This decline suggests improved referral practices, increased use of skilled birth attendants, and better continuity of care during pregnancy, childbirth, and the postpartum period. The relatively high program implementation rate demonstrates that the policy was operationalized effectively at the service delivery level. However, the lower level of community participation compared with implementation indicates that policy execution alone is not sufficient to achieve optimal impact. Community engagement remains a critical determinant of success, as active participation influences early antenatal visits, timely referrals, and adherence to recommended health practices.

Taken together, the figure suggests that improvements in maternal outcomes are closely linked to both structural implementation and social acceptance of the program. While strong implementation creates the necessary service capacity, sustained reductions in maternal mortality depend on strengthening community involvement and trust. These findings underscore the importance of integrating technical health system interventions with culturally responsive strategies to enhance participation, ensuring that policy gains are both effective and sustainable over time.

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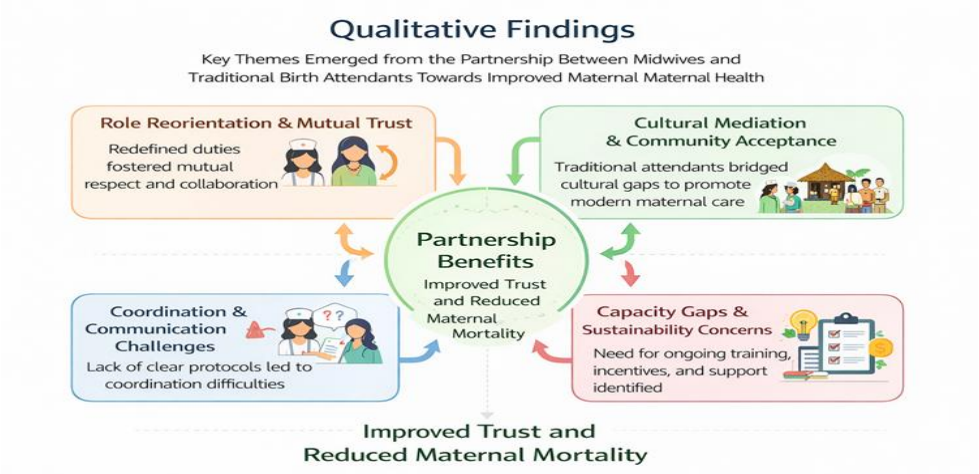

Figure 2. Thematic framework illustrating key qualitative findings on partnership implementation.

The qualitative visualization illustrates how the partnership between midwives and traditional birth attendants functions as a social and cultural mechanism that supports maternal health improvement. The reorientation of roles fostered mutual trust and respect, enabling clearer collaboration and smoother referral practices. Traditional birth attendants acted as cultural mediators, increasing community acceptance of formal maternal health services and reducing resistance to facility-based care. At the same time, the visualization highlights persistent challenges, particularly in coordination and communication, which limited the consistency of implementation across settings. Capacity gaps and sustainability concerns indicate that without continuous training, incentives, and institutional support, the effectiveness of the partnership may decline over time. Overall, the findings suggest that while cultural alignment and trust are key strengths of the partnership model, long-term success depends on strengthening coordination structures and investing in ongoing capacity development.

Triangulation of findings indicates that quantitative improvements in maternal outcomes are closely linked to qualitative factors, particularly enhanced trust, cultural alignment, and role clarity. Areas with stronger collaboration and clearer communication reported higher service uptake and better referral compliance. Conversely, implementation gaps identified qualitatively help explain variations in participation rates observed quantitatively. The results demonstrate that the bidan–dukun partnership policy has had a positive and measurable impact on maternal health outcomes, supported by strong community acceptance and culturally grounded collaboration. However, the effectiveness of the policy remains contingent on improved coordination mechanisms, structured capacity building, and sustained institutional support.

DISCUSSION

This study examined the implementation of the midwife–traditional birth attendant (bidan–dukun) partnership policy in Takalar Regency and its contribution to reducing maternal and child mortality. The findings indicate that the policy has generated meaningful improvements in maternal health outcomes, while also revealing structural and social challenges that influence its overall effectiveness. By integrating quantitative indicators with qualitative insights, this study provides a comprehensive understanding of how and why the partnership model works within a specific sociocultural context.

Quantitatively, the observed decline in the maternal mortality ratio following policy implementation suggests that the partnership model contributed to safer maternal care. This finding aligns with previous studies demonstrating that the involvement of community-based actors can improve access to skilled care and timely referrals, particularly in rural and underserved areas. The relatively high implementation rate indicates that health facilities and local health workers were able to operationalize the policy effectively. However, the gap between implementation and community participation highlights that program success cannot be assessed solely on administrative performance (Musie and Mulaudzi, 2024). Community engagement plays a decisive role in translating policy into actual health-seeking behavior (Habib *et al.*, 2025).

The qualitative findings help explain this discrepancy. Role reorientation emerged as a central theme, with traditional birth attendants shifting from primary delivery providers to supportive partners who encourage antenatal care, accompany mothers to health facilities, and assist during the postpartum period. This transition reduced professional tension and fostered mutual trust between midwives and traditional birth attendants. Trust, in turn, strengthened referral compliance and increased acceptance of skilled birth attendance. These findings support the view that culturally sensitive role adaptation is critical for effective health system integration in settings where traditional practices remain influential (Ngotie, Kaura and Mash, 2024).

Cultural mediation was another key factor shaping program outcomes. Traditional birth attendants functioned as trusted intermediaries between the community and the formal health system, helping to address fears, misconceptions, and cultural barriers related to facility-based childbirth (O'Brien and Newport, 2023). This role was particularly important in increasing community acceptance of modern maternal health services. The qualitative evidence suggests that the partnership model succeeded not by eliminating traditional practices, but by reframing them within a collaborative framework that complements biomedical care (Ogbeye *et al.*, 2025). This reinforces the argument that public health interventions are more effective when they respect and incorporate local cultural norms rather than attempting to replace them (Openshaw *et al.*, 2023).

Despite these strengths, the study identified persistent coordination and communication challenges. Inconsistent referral protocols, limited joint supervision, and unclear lines of responsibility occasionally undermined collaboration (Osseo-Asare, 2023). These issues may explain why community participation remained lower than expected despite high levels of awareness. Similar challenges have been reported in other partnership-based health interventions, where insufficient coordination mechanisms weaken implementation fidelity (Vallely *et al.*, 2023). Addressing these gaps requires clearer operational guidelines, regular joint meetings, and integrated monitoring systems that involve both midwives and traditional birth attendants (Priebe *et al.*, 2024).

Capacity gaps and sustainability concerns further complicate the long-term effectiveness of the partnership. Participants emphasized the need for continuous training to reinforce role clarity, referral skills, and basic maternal health knowledge among traditional birth attendants (Randolph, 2024). Without ongoing capacity development and appropriate incentives, motivation and performance may decline over time. This finding underscores that partnership policies should not be viewed as one-time interventions, but as dynamic processes requiring sustained investment and institutional support (Ridout *et al.*, 2025).

From a policy perspective, the results suggest that the midwife–traditional birth attendant partnership model has the potential to strengthen maternal health systems in culturally diverse and resource-limited settings. However, its success depends on balancing technical implementation with social engagement (Rojas-Suarez and Paruk, 2024). Quantitative improvements in maternal outcomes are closely linked to qualitative factors such as trust, cultural legitimacy, and perceived relevance of services. Therefore, policy frameworks should integrate performance indicators with social process indicators, including community participation and quality of collaboration. This study also contributes to the broader literature on community-based health interventions by demonstrating the value of mixed-methods approaches in policy evaluation (Sangy *et al.*, 2023). Quantitative data alone would indicate that the policy is moderately successful, but qualitative insights reveal the mechanisms that drive success and the barriers that limit impact. Such triangulation is essential for developing contextually appropriate and scalable health policies (Thompson *et al.*, 2025).

Nevertheless, this study has limitations. The availability of longitudinal mortality data was limited, which constrains causal inference. Additionally, the findings are context-specific and may not be directly generalizable to regions with different cultural or health system characteristics. Future research should employ longitudinal or quasi-experimental designs to strengthen causal claims and explore the sustainability of partnership models over time. The discussion of findings indicates that the bidan–dukun partnership policy in Takalar Regency has contributed to improved maternal health outcomes through enhanced collaboration, cultural mediation, and community trust. However, maximizing its impact requires addressing coordination challenges, strengthening capacity development, and deepening community engagement. These insights provide a valuable foundation for refining maternal health policies and for adapting partnership-based approaches in similar contexts.

CONCLUSIONS

This study concludes that the midwife–traditional birth attendant partnership policy has contributed positively to improving maternal health outcomes in Takalar Regency. The integration of traditional birth attendants as supportive partners strengthened community trust, increased acceptance of skilled maternal health services, and supported safer referral and care practices. The combination of effective program implementation and culturally grounded collaboration demonstrates that partnership-based approaches can enhance maternal health service delivery in settings where traditional practices remain influential.

To sustain and expand these gains, it is recommended that health authorities strengthen coordination mechanisms between midwives and traditional birth attendants through clear referral protocols, regular joint supervision, and integrated monitoring systems. Continuous capacity building, supportive incentives, and community engagement strategies should be prioritized to

ensure long-term effectiveness and scalability of the partnership model in similar socio-cultural contexts.

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