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Mapping Evidence on the Frameworks that Integrate Traditional Birth Attendants into Formal Health Systems in Low-Middle Income Countries: A Scoping Review

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ABSTRACT

Background: In many countries, traditional birth attendants (TBAs) function independently from the formal health system and thus their practice is often unregulated. The paucity of data and lack of institutionalised feedback between TBAs and Healthcare providers (HCPs) may hinder safe maternal and newborn healthcare practices.
Objective: This scoping review explored studies that have been published of frameworks that integrate TBAs into formal health system in low-and-middle income countries (LMICs).
Method: Utilising the 2022 Joanna Briggs Institute (JBI) methodology for scoping reviews; the search strategy yielded 243 peer reviewed articles that were published between 2014-2024. Only 11 articles met the inclusion criteria and were thus included in the final review.
Result: The review found that integrative frameworks are built on the need to improve maternal and newborn care rendered by TBAs and secondly, the need to empower community-based maternity care facilitated by TBAs is underscored.
Conclusion: Although, TBAs fill the gap by rendering assistance to pregnant women and newborns in LMICs the lack of collaborative frameworks and implementation thereof requires intentional institutionalisation especially in areas where homebirths are still prioritised.
Unique contribution: This scoping review maps the evidence of existing frameworks that integrate TBAs into formal health systems in LMICs which aimed at narrowing the communication gap between TBAs and formal HCPs.
Key recommendation: There is a need for LMICs to explore modifying and implementing the frameworks presented herein to improve the care provided to women and babies.

Key words: framework, integration, formal health system, low-and-middle income countries, traditional birth attendants

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INTRODUCTION

Indigenous traditional medicine providers, such as traditional birth attendants (TBAs), have been an invaluable life-line in the provision of maternal and child healthcare, amidst challenges of access to formal health facilities, especially in the rural areas of low-and-middle income countries (Choguva, 2015). It is estimated that there are about 180 million non-skilled birth attendants globally (Kayombo, 2013), with experience acquired through apprenticeship from elders or practicing TBAs and they are relatively popular at the primary healthcare level (Aziato & Omenyo, 2018; World Health Organisation (WHO), 2019). TBAs compliment the formal health system by rendering emergency assistance in situations where reaching a health facility timely is impracticable. Globally, the WHO recommends collaborations between health professionals and TBAs to improve women's access to maternal health care (Musie et al., 2022). In Mexico and Peru, the participation of TBAs acts as the connection between home and health facilities is highly encouraged (Sarmiento et al., 2022). Similarly, in Australia traditional midwives provide social, emotional and full midwifery care practice as done by registered nurses during pregnancy, labour, birth and puerperium (Rigg et al., 2019).

In most rural parts of Africa, an estimated 60%-90% of women reveal preference for making use of TBA services especially prior and during childbirth (Wilson et al., 2011; Kassie et al., 2022). Similarly, Nigeria, has reported that 64% of women still prefer the services of TBAs (Ogechukwu et al., 2019). Ethiopian women prefer giving birth in the comfort of their homes under the assistance of TBAs, who are already connected to the communities (Kassie et al., 2022). It has been noted that in most countries, the utilisation of TBA services is mostly driven by client satisfaction factors. A study conducted in Pakistan found that factors such as respective attitudes and flexible modes of payment motivate people to choose TBAs services even in areas where community midwives are available (Shaikh et al., 2014). Similarly, Tabong et al. (2021) reported that despite the availability of health facilities in Ghana, women prefer TBAs because of the attention and quality of care rendered by TBAs. Countries such as Zimbabwe, Ghana, Ethiopia have shown inclusion and accommodate TBAs in primary health care program and evidently, collaboration exist (Mathole et al., 2005; Chigoya, 2015; Ohaja et al., 2020; Musie et al., 2022). Contrary, countries such as Tanzania, South Africa and Uganda have not yet recognised TBAs, which contribute to increased clandestine practices (Chi and Urdal, 2018; Shimpuku et al., 2021; Musie et al., 2022). The Namibia Statistics Agency (NSA) (2020), reported homebirths in some regions, with high incidents in Kavango West (16%). In Namibia, the Ministry of Health and Social Services (MHSS) recognises the importance of TBAs and had previously established guidelines for collaboration as part of the National Policy on Community-Based Health Care (MHSS, 2009). However, the implementation of this policy is no longer visible in the regional health directorates. Kruske and Barclay (2004) as cited in Wanyua et al. (2014) suggest that withdrawal of funding for TBA training and exclusion of TBAs in policies and programs were attributed to the definition of skilled birth attendants which excluded TBAs. Despite lacking support from the relevant ministry, TBAs in northern Namibia continue to render services to pregnant women (Haikera et al., 2023). Past studies explored the role of TBAs in their communities (Aziato & Omenyo, 2018; Kayombo, 2013; Rigg et al., 2019), the factors associated with preference of TBA services despite lack of recognition in many settings and

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further made recommendations for integrating the TBAs into the formal health system (Chi & Urdal, 2018; Kassie et al., 2022). It was also established that some countries accommodate the lifeline support rendered by TBAs, however, there is lack of data on available frameworks that allow integration of TBAs in the formal health system. Integration of healthcare systems develop common visions, focus resources, services and avoidance of working in silos (Sandhu et al., 2021, as cited in Piquer-Martinez et al., 2024). The absence of integration frameworks promotes unregulated practice which can be detrimental to the pregnant women and the unborn babies which increase maternal and neonatal morbidity/mortality. Therefore, the aim of this scoping review synthesised existing evidence on frameworks that integrates TBAs into formal health systems in low- and-middle-income countries. The review question that guided this study was: "what evidence is available on the frameworks that integrate TBAs into formal health systems in low- and-middle-income countries (LMIC)?"

METHODS

This review utilised the 2022 Joanna Briggs Institute (JBI) methodology for scoping reviews, evidence synthesis and the literature search was guided Population, Concept and Context (PCC) (Peters et al., 2024. The 'Population' included healthcare professionals, traditional birth attendants/traditional healers and service seekers such as pregnant women. The 'Concept' was integration, collaboration and frameworks; whilst the 'Context' was low-and-middle-income countries (LMIC). The search was conducted on EBSCOhost, PubMed, Proquest and ScienceDirect while the piloting was conducted on ScienceDirect and Pubmed. The protocol for this scoping review was registered on Open Science Framework (OSF) https://osf.io/9bepa or https://doi.org/10.17605/OSF.IO/MY8J9.

Inclusion Criteria

This review included published articles in online journals that met the PCC criteria highlighted in this report and in accordance with the guidance outlined in the JBI manual (Aromatis et al., 2024). The articles focused on those frameworks that highlighted collaboration or integration of TBAs into the formal health system in LMICs. Only articles that were published between 2014-2024 were considered for review. Although some scoping reviews have no limitations on languages (Veroniki et al., 2025); for this review, only articles published in English were considered.

Exclusion Criteria

All articles outside the set scope or inclusion criteria and published prior to 2014 were not included in the study. Independent reviewers played a role in screening to ensure that the PCC framework was followed to reduce errors and bias (Peters et al., 2020).

Search Strategy

Table 1 below depicts keywords/terms used during the search and results per database. The Rayyan AI software was utilised to screen the content of eligible articles (Mak & Thomas, 2022). Discussions with reviewers were held as necessitated by circumstances to ensure diverse

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perspectives and that the inclusion criteria were aligned with the research questions (Mak & Thomas, 2022).

Table 1: Database search results

DATABASES	SEARCH TERMS USED	TOTAL RESULTS
EBSCOHOST	(Traditional Birth Attendants) AND (Health system integration)) AND (Low-income countries)) AND (Middle-income countries)) AND (Frameworks integration)	120
PUBMED	(Traditional Birth Attendants) AND (Health system integration)) AND (Low-income countries)) AND (Middle-income countries)) AND (Frameworks integration)	23
PROQUEST	(Traditional Birth Attendants) AND (Health system integration)) AND (Low-income countries)) AND (Middle-income countries)) AND (Frameworks integration)	66
SCIENCEDIRECT	Traditional Birth Attendants (TBAs) AND Low-income countries AND Middle-income countries AND Health system integration AND TBAs frameworks	34
TOTAL		243

Data Extraction and Charting

The keywords in the area of maternity care as indicated in the search strategy and stipulated in Table 1 were selected, scrutinised, and uploaded on Rayyan AI to detect duplicates. The review team continued to customise the filter process and only remain with articles meeting the criteria. This was followed by a blind reviewed screening of all eligible articles and full text screening of all the articles that were included in the review. Data from the articles included in the review was summarised in a table with details regarding; authors, year of publication, country in which the study was conducted, the aim of the study, method and design, population and sample size as well as key findings pertaining to integration frameworks.

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Data analysis

A qualitative content analysis and inductive approach for scoping reviews was applied as described by Pollock et al. (2023). The steps followed in the review included familiarisation, open coding and categorisation of extracted data.

RESULTS

The customised search resulted in 243 articles, the system filtered the duplicates and 98 were detected, 45 were resolved, 4 retained as not duplicates and 49 were deleted. After resolving the duplicates, 194 articles remained and proceeded to eligibility screening stage, only 11 were included in the final review. Figure 1 below illustrates the PRISMA-ScR flow.

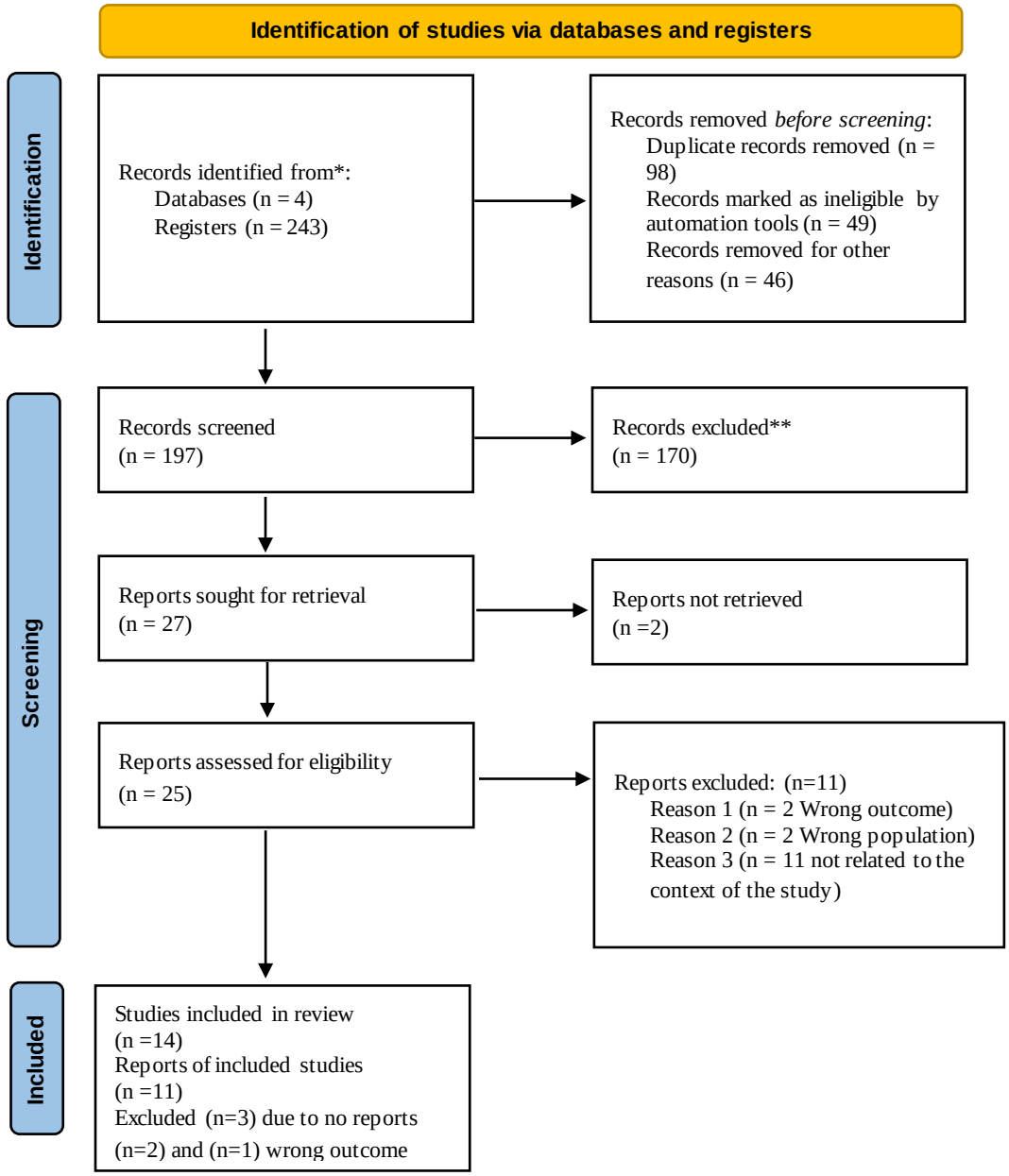

Figure 1: PRISMA-ScR depicting results from database

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Characteristics of Reviewed Studies

The 11 studies that were reviewed used different designs; four (n=4) used exploratory qualitative approach (Gyasi et al., 2017; Peprah et al., 2018; Ohaja et al., 2020; Kassie et al., 2022); three (n=3) scoping systematic review (Renfrew et al., 2014, Nishimwe et al., 2020 and Odii et al., 2024); two (n=2) employed intervention study (Austad et al., 2020; Eze et al., 2020) and two (n=2) mixed method approach (Sami et al., 2018; Jean-Baptiste, 2023). The population of the study mostly consisted of TBAs (Kassie et al., 2022; Austad et al., 2020), healthcare professionals (Kassie et al., 2022), pregnant mothers (Kassie et al., 2022), 17 mixed-methods studies systematically reviewed (Nishimwe et al., 2021) and 35 series by co-authors from low-middle and high income settings (Renfrew et al., 2014).

Study Trends and Distribution

Most of the studies reviewed lacked evidence of collaborative frameworks in exception of four. This scoping review found that publications with frameworks and models suggesting integration of TBAs into formal health system originated from Guatemala (Austad et al., 2020); Ethiopia (Kassie et al., 2022); South Africa (Nishimwe et al., 2021); Brazil, China and India (Renfrew et al., 2014). Kassie et al. (2022) explored the role of TBAs in feto-maternal care and integration with health professionals. Another study assessed community-based maternal and newborn intervention in Africa (Nishimwe et al., 2021); one piloted an Obstetric Care Navigator (OCN) intervention model in rural Guatemala to utilise TBAs for maternity accompaniment (Austad et al., 2020) and another study examined the contribution of midwifery to the quality care of women and infants and the role of midwives and others (Renfrew et al., 2014). The details of reviewed articles are below in Table 2.

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Table 2: Characteristics of Reviewed Studies

Reference, Author	Publication year	Country/ setting	Aim	Methodology	Study design	Population and sample size	Key findings/outcome
Austad, K., Juarez, M., Shryer, H., Maratoya, C. & Rohloff, P.	2020	Rural Guatemala	The aim was to report the results from a 12-month piloting of Obstetric Care Navigator (OCN) in rural Guatemala implemented within an ongoing collabo-ration with TBAs equipped with mHealth technology to improve their detection of high-risk pregnancies and birth complications	Intervention study	Implementation was guided by bimonthly meetings of the interdisciplinary quality improvement team where the OCN role was iteratively tailored. Facility referral and success rate, were analysed using statistical process control methods.	41 TBAs	The OCN support evidently improved collaboration between TBAs and health facility. The OCN correlated with increased facility care by 62% compared to the 24% during pre-intervention period.
Eze, I. I., Mbachu, C. O.,	2020	Rural	The study	Quantitative	pre-post	158	The study found that community

Ossai, E. N, Nweze, C. A. & Uneke, C. J.		Nigeria	assessed ways of improving birth preparedness and complication readiness using community-driven behavioural change intervention among pregnant women in rural Nigeria		intervention study	pregnant women	participation can be an effective mechanism for addressing shortage of skilled manpower for safe motherhood especially in rural areas. The study further recommends there is need for multi-stakeholder involvement in birth preparedness and complication readiness programmes.
Gyasi, R. M., Poku, A. A., Boateng, S., Amoah, P. A., Mumin, A. A., Obodai, J. & Agyemang-Duah, W.	2017	Ghana	To explore health care users and providers' experiences towards the implementation of intercultural healthcare policy in Ghana	Qualitative	Exploratory design that adopted the interpretivist paradigm and subjectivist epistemology.	29 Ghanaian participants comprising of 16 health service users, 7 traditional healers, 6 healthcare practitioners	Intercultural healthcare policy supported but not fully implemented highlighting the need to strengthen institutional support, regulating and training practitioners. The study concluded that integration will maximise utilisation of formal healthcare services.

Jean-Baptiste, M., Millien, C., Pognon, P. R. & Jean-Baptiste, M. C.	2023	Rural Haiti	The study aimed to understand the factors influencing TBAs' (known in Haiti as matrones') decision to refer pregnant women to facilities in Haiti's Central Plateau when labouring or giving birth.	Mixed method studies	Only qualitative part of the larger mixed-method study.	Seven FGDs involving TBAs/matrones	The study found that the integration of matrones into the formal health system could help strengthen existing maternal, neonatal and child healthcare (MNCH) service provision across the continuum of care.
Kassie, A., Wale, A., Girma, D., Amsalu, H. & Yechalo, M.	2022	Ethiopia	The role of TBAs in feto-maternal care and integration with Health professionals in West Omo, Ethiopia	Exploratory Qualitative Approach	descriptive with triangulation of data sources	6 TBAs 6 HCPs 18 pregnant mothers Total: 30	Study participants highlighted the importance of training TBAs. Continuation role outlined in the framework include; Pregnancy care, assist labour and delivery, care after delivery and decision-making role for seeking care Integration of TBAs is based on negative attitude of HCPs towards TBAs and challenges for continuation of TBA roles; Formal and informal relationships; experiences of

							HCPs and TBAs; Training of TBAs.
Nishimwe, C., Mchunu, G. G. & Mukamusoni, D.	2021	South Africa	Community-based maternal and newborn intervention in Africa: Systematic Review.	Systematic Review	The review includes quantitative, qualitative and mixed-method studies	17 included studies focused on three themes: antena-tal, delivery and postnatal care interventio ns as a continuum	This study found that Integrated community-based interventions are essential to ensure that the quality of antenatal, delivery and postnatal care interventions can be put into effect and effectively sustained. A conceptual framework of planning and implementing Maternal and Neonatal Healthcare interventions by Community Health workers on antenatal, delivery and postnatal care.
Odii, A., Arize I., Agwu, P., Mbachu, C. & Onwujekwe, O	2024	Sub-Sahara Africa	The paper highlights the collaborations that exist between informal providers and the formal health system and examines how these collaborations have	Scoping review	Scoping literature review	26 articles were included in the review	Due to the scarcity of public health facilities within urban slums, coupled with a substantial number of informal health providers and a prevalent preference for their services among urban slum dwellers, it becomes imperative to recognise and leverage the potential contributions of informal health providers which includes TBAs. The study further highlight that collaboration set a stage for an

			contributed to strengthening urban health systems in sub-Sahara Africa				inclusive, responsive, and resilient healthcare system yielding improved health outcomes.
Ohaja, M., Murphy-Lawless, J. & Dunlea, M.	2020	Nigeria	Exploring the midwives' views of traditional birth attendants' place in the formal healthcare settings.	Qualitative	Exploratory	7 midwives	The study found that the practice of traditional birth attendants remains controversial. However, participants suggested that providing traditional birth attendants with the necessary support would contribute to the integration into the formal healthcare system.
Peprah, P., Abalo, E. M., Nyonyo, J., Okweyi, R., Agyemang-Duah, W. & Amankwaa, G.	2018	Ghana	Exploring the perspective of pregnant women's attitude and perception about modern and traditional midwives	Qualitative	Exploratory	30 pregnant women who experienced services from both modern and traditional midwives	Participants expressed willingness and readiness to support intercultural care. The study recommends intercultural midwifery system to maximise the utility of modern health systems.
Renfrew, M. J., Mcfadden, A., Bastos, M. H….. et al.	2014	Brazil, China and India	The paper examines contribution of midwifery to	Mixed-method approach	Systematic reviews	35 series co-authors from low-middle and	This study developed a framework that can be used to assess the quality of care, plan workforce development,

			the quality care of women and infants and the role of midwives and others			high income settings	resource allocation, education curriculum and identify gaps in research. This framework can be customised to meet specific demands of population demography, health and cultural context.
Sami, S., Amsalu, R., Dimiti, A., Jackson, D., Kenyi, S., Meyers, J., Mullany, L. C., Scudder, E., Tomczyk, B. & Kerber, K.	2018	South Sudan	The study described the factors that influence implementation of a package of facility- and community-based neonatal interventions in South Sudan using a health systems framework	Mixed method case study design	Focus-group discussions, face-to-face interviews, observations and review of documents	61 community health workers, 13 facility-based TBAs, 30 healthcare professionals	There are facilities that make use of TBAs as part of the health system. However, challenges noted include incomplete records and lack of expertise in managing neonates.

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Furthermore, the results are presented in accordance with categories generated during the inductive analysis stage. Two categories emerged after the open coding phase, namely; *training and integration of TBAs enhances quality maternity care* and *community-based maternity care*.

Category 1: Training and Integration of TBAs Enhances Quality Maternity Care

The need to train and integrate TBAs in the formal health setting was highlighted in most of the reviewed studies. Through training of TBAs, skills transfer is possible and this can enhance quality care provided to women and their newborns. In Guatemala, Austad et al. (2020) reported that equipping TBAs with skills can guide TBAs in detecting high-risk pregnancies. This ideology is similar to that echoed in a study conducted in Haiti (Jean-Baptiste et al., 2023). Literature reveals that many pregnant women in Nigeria prefer the services of TBAs although the formal health system discourages the practices. To ensure safer care for mothers and babies, advocacy for community driven behavioural change, support and integration of TBAs into the formal health system is recommended (Eze et al., 2020; Ohaja et al., 2020). Eze et al. (2020) highlighted that community sensitisation can improve birth preparedness. It is recommended that TBAs be trained to improve feto-maternal care (Kassie et al., 2022).

Category 2: Community-Based Maternity Care

Community-based maternity care facilitated by TBAs has led to various studies recommending integration of the informal health system into the formal health system. This call highlights the need for collaboration and team work due to various challenges with regards to referrals and late detection of risk cases in pregnant women or their neonates (Austal et al., 2020 and Sami et al., 2018). For example, incomplete records or poor recordkeeping are some of the challenges associated with community based neonatal intervention (Sami et al., 2018). On the contrary, Odii et al. (2024) found that community based maternity care facilitated by informal healthcare providers fill the gap where there is scarcity of public health facilities. Thus, supporting TBAs can yield quality maternity care provision. Ghana is one of the few African countries that has the intercultural healthcare policy although not fully implemented in some areas (Gyasi et al., 2017 and Peprah et al., 2018). However, both healthcare providers and pregnant women have fully embraced and support the policy highlighting that if implemented, utilisation of modern healthcare will be maximised knowing their culture is not disregarded (Gyasi et al., 2017; Peprah et al., 2018).

Types of Collaborative Frameworks and Models

The systematic review conducted by Nishimwe et al. (2021) produced a conceptual framework detailed with planning and implementation maternal and newborn health (MNH) care interventions by maternal community health workers (MCHW). The MNH conceptual framework is anchored by three themes; 1) antenatal, 2) delivery and 3) postnatal care; and interventions required through various stakeholders. Kassie et al. (2022) developed a thematic map on the role of traditional birth attendants regarding maternal health care and integration with health facilities in West Omo state. The thematic map consists of two parts; 1) continuation of TBAs' role in pregnancy, labour and after delivery; and 2) integration of TBAs with health facilities through training and formalisation of relationships and addressing challenges of TBAs continuation roles. Renfrew et al. (2014) developed framework for quality maternal and newborn care in respect of maternal and newborn health components of a health system needed by childbearing women and newborn infants. The quality maternal

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care framework is built upon practice categories, organisation of care, values, philosophy and providers of care. Although this framework focuses on professional midwifery, it also accommodates cultural sensitive care and recommends adaptation of this framework to meet specific demands of a population or cultural context. The framework outlines the categories of care which includes health promotion, screening, identifying complications, referring for first line management of complications (Renfrew et al., 2014). Lastly, Austad et al. (2020) developed an Obstetric Care Navigator (OCN) model based on the Three Delays Model for Maternal Mortality. The Three Delays Model for maternal mortality is based on the contributing factors to maternal mortality. In the OCN model, TBAs are empowered with knowledge to support, coordinate, communicate and advocate for facility-based care and play a role in accompanying women and their families to the facilities (Austad et al., 2020).

DISCUSSION

This scoping review found that recommendations to integrate are mostly based on the need to train TBAs to improve the care rendered to women and their babies, and on the relevance of community based maternity care. Furthermore, the reviewed articles comprised of either a thematic map, a framework or model outlining the integration steps and processes while others only support the call to integrate TBAs into formal healthcare system to reduce maternal and neonatal mortality but lacked frameworks (Mendhi et al., 2018; Ohaja & Dunlea, 2020). Another scoping review also highlighted a noticeable gap in literature regarding theories, models, and frameworks of health system integration (Evans et al., 2013, as cited in Piquer-Martinez et al., 2024, p. 1). The lack of frameworks can be attributed to the fact that in modern healthcare, advocacy is for pregnant women to be attended to by skilled birth attendants in health facilities thus developing frameworks incorporating TBAs can be misinterpreted to being against modern healthcare.

The reviewed studies echoed a similar goal which is to collaborate the TBAs with formal health systems to improve maternal/neonatal outcomes during all stages of pregnancy and postpartum as outlined in the OCN model and thematic map (Austad et al., 2020; Kassie et al., 2022). This finding is consistent with the sentiments in Rutledge et al. (2024), which state that in order to support the WHO's Sustainable Development Goal 3 "ensuring healthy lives and promote well-being for all," there is an urgent need for sustainable, scalable solutions that mitigate adverse maternal health outcomes, especially within LMICs. Rutlegde et al. (2024, p. 1) suggest a more universal engagement of and intentional collaboration with TBAs. Collaboration is necessary because TBAs operate globally in their respective communities rendering care to pregnant women and their babies (Peprah et al., 2018; Mendhi et al., 2018). The World Health Organisation reported that more than 400 million people lack access to essential health care globally, and circumstantially, TBAs render basic maternity care (WHO, 2016). Therefore, collaboration can yield optimum maternal and neonatal health outcomes as a result of support through training and feedback platforms.

The frameworks reviewed in this study also encompass empowering community-based health workers to ensure quality in antenatal, delivery and postnatal care interventions modelled in the conceptual framework (Nishimwe et al., 2021); and utilising quality maternal care framework which is built upon practice categories, organisation of care, values, philosophy and providers of care to improve MNH outcome while considering cultural sensitive care (Renfrew et al., 2014). Similar sentiments are echoed in Peprah et al. (2018) which state that women have a positive attitude and perception towards traditional birth attendants as the care rendered is in accordance with their cultural beliefs and philosophy. This evidence depicting

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the preference of cultural sensitive care thus calls for safe integration of traditional midwifery into the formal health system. Literature suggests that training and integration of traditional birth attendants into formal healthcare system can foster respect, recognition and improve outcomes (Peprah et al., 2018; Ohaja & Dunlea, 2020; Ngotie et al., 2022). This is similar to the findings of this scoping review where the OCN model describes TBAs as navigators of obstetric care that are trusted to support pregnant women, coordinate referrals from communities to facilities, communicate with women, families and health professionals and also advocate for facility-based care during antenatal, labour and postnatal (Austad et al., 2021). In Rural Guatemala, the OCN model was implemented and was found to improve facility births by 62% compared to 24% during the pre-intervention period (Austad et al., 2021). Contrasting, TBA practice which is often associated with homebirths raise concerns due to high rates of intrauterine infections observed in women who were attended to by TBAs (Amutah-Onukagha et al., 2017). This concern can be remedied through regulation and training of TBAs on safe childbirth practices including orientation on the fundamental principles on infection control and prevention.

However, the reviewed studies also highlighted that integration of TBAs into the formal healthcare system requires political commitment for the sustainability of the program and effective implementation of the integration framework (Gyasi et al., 2017). Therefore, policy makers, such as the International Confederation of Midwives (ICM), can advocate for the inclusion of TBAs as an important bridge to healthcare (Amutah-Onukagha et al., 2017). If not supported, it equates to no fund allocation and this would indicate that integration remains a farfetched dream in maternity healthcare. TBAs remain relevant in their communities and high utilisation rates of TBAs in rural areas and developing countries are not solely due to preference but also to lack of access to health care facilities (Amutah-Onukagha et al., 2017). Although recommendations to collaborate have been made numerously by studies, and in some cases frameworks developed, there is no adequate evidence of implementation.

CONCLUSION

In conclusion, this scoping review provides evidence of existing frameworks that integrate TBAs into the formal health system. The frameworks herein share a similar purpose which supports integration of TBAs into the formal healthcare system to improve maternal and newborn health outcomes. This can be achieved through training TBAs to enhance quality maternity care and empowering community-based maternity care to address challenges associated with the care that is rendered by TBAs. The various frameworks clearly defined the roles for both TBAs, formal health system and stakeholders to ensure that necessary support is rendered. Furthermore, emphasising on effective communication, coordination and advocacy for communities to utilise health facilities while TBAs serve as obstetric care navigators and assist safely in emergencies. The existing frameworks also accommodate cultural sensitive and respectful maternity care which can increase client satisfaction. If supported by stakeholders, utilising frameworks can yield impactful results in settings that TBAs are actively assisting pregnant women. Namibia has people residing in the remotest areas, thus need to adapt the thematic map outlining the role of TBAs in complementing the public health system especially in the northern regions where homebirths are still reported.

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RECOMMENDATIONS

This review revealed that LMICs have similar, unique challenges. The various governments herein are mostly WHO member states, and the health ministry advocates for skilled birth attendants for every birth, however, the reality is there is still scarcity of public health facilities in most countries. TBAs can fill the gap in case of emergencies, hence there is a need for LMICs to consider adapting the frameworks herein and implement for the betterment of care rendered to women and their babies. Namibia can adapt the thematic map on the role of TBAs regarding the maternal healthcare and integration with formal health systems as developed by Kassie et al. (2022) for Ethiopia.

Ethical clearance

This research project received ethical clearance from the High Degree Committee (HDC) of the Namibia University of Science and Technology (NUST) (Ref: FHAS09/2022). This manuscript is based on secondary data, hence, the researcher ensured that the articles included in the review adhered to the standard ethical principles as required.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Authors' Contributions

Hertha K. Haikera and Roswitha Mahalie conceived the study, including the design, Haikera, Mahalie and Sikunawa Shoopala collated the data, and Haikera and Mahalie handled the analysis and interpretation, while Haikera drafted the initial manuscript. All authors have critically reviewed and approved the final draft, and are responsible for the content and similarity index of the manuscript.

Availability of data and materials.

The datasets on which conclusions were made for this study are available on reasonable request.

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