



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**A STANDARDISED FRAMEWORK FOR INTEGRATING INDIGENOUS KNOWLEDGE OF TRADITIONAL BIRTH
ATTENDANTS INTO THE FORMAL HEALTH SYSTEM TO ENHANCE REPRODUCTIVE HEALTH OUTCOMES
IN NORTHERN NAMIBIA**

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RESOURCES, AND APPLIED SCIENCES AT THE NAMIBIA UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

By

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Abstract

Background: Traditional birth attendants play an important role in reproductive health in many communities in Africa. However, there is lack of evidence to support the adoption of traditional knowledge in reproductive health to support collaboration with formal health systems. This study sought to develop a standardised framework for integrating indigenous knowledge of traditional birth attendants into the formal health system to enhance reproductive health outcomes in selected regions of Northern Namibia.

Method: Underpinned on the Constructivism philosophical paradigm, Health Belief Model (HBM) and the Donabedian SPO Model; this study employed a scoping review (*Phase I*) and the exploratory and descriptive qualitative (EDQ) phenomenological design (*Phase II*).

Phase I: 11 articles were reviewed to map evidence of existing frameworks integrating TBAs into modern healthcare. The Preferred Reporting Items for Systematic reviews and Meta-analysis for Scoping Review (PRISMA-ScR) statement to describe the process and qualitative content analysis using an inductive approach for scoping reviews were applied.

Phase II: Participants comprised 14 TBAs, 22 healthcare professionals (HCPs) and 15 women of childbearing age who were recruited through purposive sampling and sample size was determined by data saturation. Data collection were through face-to-face interviews and focus group interviews with TBAs and women of childbearing age. Semi-structured interviews through individual technology-mediated online interviews were provided for HCPs. Findings were analysed using latent content analysis which included data preparation, familiarisation, coding, and analysis of coded data to identify patterns and themes.

Phase I Findings: The scoping review found that integrative frameworks are developed in response to the need aimed at improving maternal and newborn care rendered by TBAs as the need to empower community-based maternity care facilitated by TBAs is underscored. Out of the 11 articles reviewed, only four (4) articles comprised of frameworks. Despite the recommendations to integrate the two systems, there is a lack of collaborative frameworks in many countries, and a lack of implementation where they exist.

Phase II Findings: Five themes emerged: indigenous knowledge, preconception care, antepartum, intrapartum and postpartum roles. Some of the TBAs perform minor surgery-related procedures similar to haemorrhoidectomy in their homes, which can cause sepsis and bleeding.

Majority of HCPs perceive TBAs as relevant while supporting that training and regulating the TBAs can facilitate their integration in reproductive health promotion programmes. Some HCPs disagreed, expressing concern for harmful practices associated with the care rendered by TBAs. The women of childbearing age prefer TBAs due their availability in remote areas and cost-efficient services. However, some indicated that they have no interest in TBAs services. The scoping review conducted in *Phase I*, and the study findings in *Phase II* guided the

development of the standardised collaboration framework (*Phase III*) and the training manual for TBAs in *Phase (IV)*.

Conclusion: TBAs are indigenously skilled practitioners who fill the gap between their communities and the formal health system. Recommendations to integrate TBAs into formal healthcare systems have been put forward by a multitude of researchers, but stagnation towards implementation is evident due to the unavailability of collaborative frameworks. Although the recommendation is that all women should be attended to by skilled healthcare professionals at healthcare facilities; poverty, socio-economic factors and cultural beliefs cause women to seek care from TBAs. The developed framework and training manual can guide integration, and empower TBAs with evidence-based knowledge to ensure optimum reproductive healthcare in their communities.

Keywords: Frameworks, Indigenous Knowledge, Integration, Reproductive health, Roles, Traditional birth attendants

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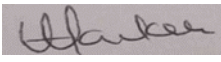
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DECLARATION

I, Hertha Kasiku Haikera, hereby declare that the work contained in the dissertation entitled **A STANDARDISED FRAMEWORK FOR INTEGRATING INDIGENOUS KNOWLEDGE OF TRADITIONAL BIRTH ATTENDANTS INTO THE FORMAL HEALTH SYSTEM TO ENHANCE REPRODUCTIVE HEALTH OUTCOMES IN NORTHERN NAMIBIA** is my own original work and that I have not previously in its entirety or in part submitted it at any university or other higher education institution for the award of a degree.

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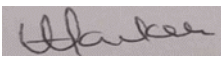
DEDICATION

This thesis is dedicated to my children: Andreas KB, Konzetha & Theofilus.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
DEDICTION	v
DECLARATION	Error! Bookmark not defined.
LIST OF FIGURES	xiv
LIST OF TABLES	xv
LIST OF ABBREVIATIONS	xvi
DEFINITION OF CONCEPTS	xvii
CHAPTER 1: INTRODUCTION AND BACKGROUND.....	1
1.1. Introduction	1
1.2. Background of the study	3
1.3. Problem statement.....	6
1.4. Aim of the research	7
1.5. Research questions.....	7
1.6. Objectives for the research.....	8
1.7. Significance of research.....	8
1.8. Description of the study area.....	9
1.9 Paradigm view	10
1.10 Delimitations of the study	11
1.11 Structure of the Dissertation	11
1.12 Chapter Summary.....	12
CHAPTER 2: LITERATURE REVIEW	13
2.0. Introduction	13
2.1 Search strategy.....	13
2.2 Indigenous knowledge among traditional birth attendants.....	13
2.3 Potential Roles of TBAs in Enhancing Reproductive Health Services through Health Promotion	14

2.4 Collaboration and Partnership of TBAs with the formal health system	16
2.5 Cultural Tensions and Biomedical Risks associated with Unregulated Practice	17
2.6 Theoretical Frameworks.....	18
2.7 Conceptual Framework	19
2.8 Chapter Summary	21
CHAPTER 3: RESEARCH METHODOLOGY	22
3.1. Introduction	22
3.2. Study approach	22
3.2.1 Phase I: Scoping Review	22
3.2.2 Phase II: Qualitative Exploratory and Descriptive Phenomenological Design	25
3.3. Study area.....	26
3.4. Study Population	26
3.5. Sampling method.....	27
3.6. Sample size	28
3.6.1. Inclusion criteria	29
3.6.2. Exclusion criteria	29
3.7. Pilot study	30
3.8. Data collection method and Instrument.....	30
3.8.1 Technology-mediated interviews from health professionals.....	30
3.8.2 Focus group discussions and interviews of TBAs and Women	31
3.9. Data analysis method.....	33
3.10 Phase III: Development of a Collaborative Framework	33
3.11 Phase IV: Proposed Training Manual for Traditional Birth Attendants	34
3.12 Measures used to ensure the trustworthiness and success of the interviews	34
3.12.1 Trustworthiness of data	34
3.12.1.1 Credibility.....	34

3.12.1.2 Dependability	34
3.12.1.3 Conformability	35
3.12.1.4 Transferability	35
3.12.1.5. Authenticity.....	35
3.13. Ethical considerations of the research.....	35
3.13.1. Informed consent	36
3.13.2. Avoidance of harm.....	36
3.13.3. Right to privacy/anonymity/confidentiality	36
3.13.4 Principle of Justice	37
3.14 Chapter Summary	37
CHAPTER 4: PRESENTATION OF PHASE II STUDY FINDINGS	38
4.0. Introduction	38
4.1 Presentation of Socio-demographic characteristics of participants	38
4.1.1 Socio-Demographic Characteristics of Traditional Birth Attendants.....	38
4.1.2. Sociodemographic data of the women	39
4.1.3. Sociodemographic characteristics of Health Care professionals	40
4.2 Presentation of findings.....	41
4.2.1 Themes and subthemes for TBA narratives	41
4.2.2 Findings from interviews conducted with women of childbearing age	48
4.2.3 Presentation of findings from interviews conducted with health care practitioners	52
4.3.2.1 Themes and Subthemes: HCPs' Narratives.....	52
4.4 Triangulation of data.....	57
4.5 Chapter Summary	58
CHAPTER 5: DISCUSSION OF STUDY FINDINGS	60
5.0 Introduction	60

5.1 Scoping review: mapping evidence on the frameworks that integrates Traditional birth attendants into formal health systems in low-middle income countries.	60
5.2 Phase II participants enrolled in the study.....	62
5.3 The Role of TBAs in Reproductive Health practices based on Indigenous Knowledge	63
5.4 Safe and Promotive Reproductive Health Roles for TBAs to Complement Services within the Formal Health System.	64
5.4.1 Safe childbirth practices	66
5.4.2 The need for training and assistance for TBAs.....	67
5.5 Chapter Summary.....	68
CHAPTER 6 DEVELOPMENT OF A COLLABORATIVE FRAMEWORK	70
6.0 Introduction	70
6.1 Conceptualisation of the proposed collaborative framework	70
6.1.1 Identification and defining of concepts	71
6.1.2 Identifying assumptions	71
6.1.3 Clarification of context	72
6.1.4 Designing relationships	72
6.1.5 Framework development	72
6.2 Development of a collaborative framework for TBA integration into the formal health system	73
6.2.1 Background.....	73
6.2.2 Overview of Frameworks for Policy Practice	74
6.2.3 Regulations:	76
6.2.4 Abbreviations	76
6.2.5 Operational Definitions.....	77
6.2.6 Purpose of the framework	77
6.2.7 Objectives of the framework.....	78
6.2.8 Methodology.....	78

6.2.9 Benefits of the framework	80
6.2.10 Beneficiaries of the framework.....	80
6.2.11 Implementation process	83
6.2.12 Monitoring and Evaluation.....	83
6.3 Chapter Summary	83
CHAPTER 7 TRAINING OF TRADITIONAL BIRTH ATTENDANTS	84
7.1 Introduction	84
7.2 Course Introduction	84
7.3 Structure of the training.....	85
7.3.1 Programme entry and exit requirements	85
7.4 Training mode	86
7.5 Training content	86
8.5.1 Goals of the training	86
7.6 Objectives	87
7.7 Validation of the training manual	87
7.8 Implementation plan	88
7.9 Monitoring and Evaluation	88
Definition of terms	89
LESSON 1 HEALTH PROMOTION.....	90
1 Introduction.....	90
2 Promoting hand hygiene	90
3 Donning and Doffing of gloves step-by-step.....	91
4 Cultural Practices and beliefs.....	93
5 Health Promotion roles	95
6 Activities for lesson 1	96
LESSON 2 PREGNANCY AND CHILDBIRTH.....	97

1 Introduction	97
2 Risk Factors in Pregnancy	97
3 Danger signs in pregnancy	98
4 Assistance with delivery	99
5 Caring for a newborn	102
6 Caring for a mother after delivery	102
7 Referral to health facilities & Communication	103
8 Disposing of infectious materials	103
9 Lesson Review	104
10 Referral and communication	104
11 Reference list for the Manual	105
7.10 Chapter Summary	105
CHAPTER 8: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS	106
8.0 Introduction	106
8.1 Conclusion	106
8.2 Novelty/Unique contributions to the body of knowledge	107
8.3 Limitations	107
8.4 Implications of the study	109
8.5 Recommendations	109
8.6 Chapter Summary	111
References	112
Annexure 1: Information sheet for Participants	122
Annexure 2: Interview guide and consent form	123
Annexure 2.1 Traditional Birth Attendants Transcripts	125
Annexure 3: Online Interview guide for Healthcare Professionals	132
Annexure 3.1: Descriptive Responses from HCPs from Google forms	134

Annexure 4 Interview guide for the women	137
Annexure 4.1: Mothers perspectives	139
Annexure 5 Approval letter from Institution/HDC	144
Annexure 6 Approval letters from MHSS	146
Annexure 7: Manuscript 1	148
Annexure 8 Manuscript 2	163
Annexure 9: Manuscript 3 (Accepted for Publication)	184
Annexure 10: Framework and Training Manual review feedback.....	193
Annexure 11: Language Editing Letter	197
Annexure 12: Table of Content for Training Manual.....	198
Annexure 13: Pre and Post Test (Quiz for TBAs).....	199

LIST OF FIGURES

Figure 1.1 Map of regions in Namibia	9
Figure 2.1 Application of the Health Belief Model and SPO Donabedian Model.....	21
Figure 3.1 PRISMA-ScR	24
Figure 3.2 sampling criterion.....	28
Figure 4.1 Themes derived from TBAs' Interviews.....	42
Figure 4.2 Triangulation of multiple data sources	58
Figure 5.1 Participants for the study	62
Figure 6.1 Concept derivation process.....	70
Figure 6.2 Concept and frameworks level.....	73
Figure 6.3 Contributors to the collaborative framework	79
Figure 6.4 Validation of collaborative framework.....	80
Figure 6.5 Collaborative framework.....	82
Figure 7.1 Training methods.....	86

Figure 7.2 Reviewers feedback on training manual	88
Figure 7.3 Handwashing procedure	91
Figure 7.4 Donning gloves	92
Figure 7.5 Removing gloves after a procedure	93
Figure 7.6 Emergency delivery kit (source:breathoflifehaiti.com)	99
Figure 7.7 Umbilical cord tie.....	101

LIST OF TABLES

Table 3.1 Search strategy	23
Table 3.2 Data collection method phase II	32
Table 4.1 Sociodemographic characteristics of TBAs	39
Table 4.2 Sociodemographic data of women (n:15)	40
Table 4.3 Sociodemographic variable for HCPs (n:22)	41
Table 4.4 Coding and theme development	42
Table 4.5 Perceptions of women of childbearing age	49
Table 4.6: Themes derived from Healthcare Professionals.....	53
Table 4.7 Proposed Topics for TBAs Training	56
Table 7.1 Training Manual Descriptors	89

LIST OF ABBREVIATIONS

Below are some abbreviations used in this project

ANC	Antenatal care
CBHC	Community-Based Health Care
CORPs	Community's own resourced persons
HBM	Health Belief Model
HCPs	Health Care Professionals
HEW	Health Extension Workers
HIV	Human Immunodeficiency Virus
HPCNA	Health Professional council of Namibia
ICP	Infection Control and Prevention
IK	Indigenous Knowledge
MNH	Maternal and Neonatal Health
MOHSS	Ministry of Health and Social Services
NANGOF	Namibia Non-Governmental Organisation
NDHS	National Demographic Health Survey
NPCBHC	National Policy of Community Based Health Care
NPRH	National Policy on Reproductive Health
NPSRCH	National Policy on Sexual, Reproductive and Child Health Policy
NSA	Namibia Statistics Agency
OCN	Obstetric Care Navigator
PCC	Population, Concept and Context framework
PRISMA-ScR	Preferred Reporting Items for Systematic reviews and Meta-Analysis for Scoping Reviews
SBA	Skilled Birth Attendants referring to Health Professionals such as nurses/midwives and medical doctors
SDG	Sustainable Development Goals
SPO	Structure, Process and Outcomes (ref. Donabedian framework)
TM/CM	Traditional Medicine/Complementary Medicine
TA	Traditional Authority
TBA	Traditional Birth Attendant
WHO	World Health Organisation

DEFINITION OF CONCEPTS

Collaboration: According to Oxford (2010), this term refers to an act of working with another person or group of people to create or produce something. In the context of this study, collaboration is proposed to occur between health professionals and the traditional birth attendants.

Framework: refers to a structure of a particular system (Oxford, 2010). In this study, the concept is used in reference to a framework that is developed to provide guidance on integrating roles of traditional birth attendants in the formal health system.

Health Professionals: these are trained cadres in the healthcare system such as nurses, midwives and medical doctors whose practice is regulated by a professional body/council e.g. the Health Professional Council in Namibia (HPCNA).

Indigenous Knowledge: refers to the sum total of the knowledge, skill and practices based on the theories, beliefs and experiences indigenous to different cultures (WHO, 2019). In this study, indigenous knowledge denotes cultural wisdom applied in management of reproductive health issues.

Reproductive health: is defined as a state of complete physical, mental, and social well-being related to the reproductive system (Alekhya et al., 2023, p.2). In this study, the concept is used in relation to matters relating but not limited to pregnancy, childbirth, infertility treatment.

Traditional Birth Attendant: is a person that assists a mother during childbirth and acquired her skills by delivering babies herself or through apprenticeship to other traditional attendants (Aziato & Omenyo, 2018). In this study, TBAs are elderly women that assist pregnant mothers in the communities as identified by the traditional authority leadership.

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1. Introduction

Traditional Birth Attendants (TBAs) are defined as individuals (often women) assisting mothers during childbirth, and have been acknowledged since as early as 1975 in WHO guidelines (MacDonald, 2022; Sarmiento, 2014; Verderese & Turnbull, 1975). Thus, TBAs are community birth assistants with skills acquired by delivering babies themselves or through apprenticeship to other traditional birth attendants (Aziato & Omenyo, 2018). This study examines indigenous knowledge (IK) of TBAs and their role in reproductive health in Namibia develop a standardised collaboration framework integrating TBAs into the formal healthcare system.

The unique knowledge and skills of TBAs is confined to their culture or society; which requires the application of local knowledge, folk knowledge, people's knowledge, traditional wisdom or traditional science (Senanayake, 2015). The practice TBAs render is generated from generation to generation over time, often through experience or exposure and in most cases, this knowledge is orally transmitted (Senanayake, 2015). The indigenous knowledge (IK) context in which the TBA practice is grounded, has a component of traditional medicine. The World Health Organisation (WHO) describe traditional medicine as knowledge, skills and practices which are based on the theories, beliefs and experiences indigenous to different cultures, for maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness (WHO, 2019). Indigenous traditional medicine providers are generally understood to include those who utilise cultural remedies; these are traditional healers, bonesetters, herbalists and traditional birth attendants (TBA) (WHO, 2019, p.48). These experts in the field of IK are the community's own resourced persons (CORPs), and they apply knowledge and wisdom to assist members of their communities, including women of childbearing age during pregnancy, childbirth and postpartum care. This study was narrowed down to focus mainly on indigenously skilled TBAs because of their involvement in Sexual and Reproductive healthcare at the community level. This was conducted with focus in the northern part of Namibia, where some communities have challenges accessing healthcare facilities.

TBAs in the northern part of Namibia possess valuable social and cultural skills; they assist many women in maternal health matters, regardless of societal status. Their practice often incorporates providing traditional or complementary medicine (CM) to pregnant women to augment labour progression (Haikera et al., 2023). Despite this reliance by women on TBAs, Namibia, like most countries, is yet to regulate their

practice despite being previously considered as community-based health assistants, decades ago (National Policy in Reproductive Health, 2001).

The lack of support toward TBA practices in many countries began when the WHO shifted the maternal health policy away from training TBAs following a report from the Safe Motherhood Initiative (SMI), which suggested limited effectiveness and resource wastage (Starrs, 1997; Santora, 2020). This decision was based on perceptions of TBAs' resistance to change, lack of credibility, and challenges in supervision, though these issues were more indicative of health system weaknesses rather than inherent flaws with TBAs (Bergstrom & Goodburn, 2001; Tulchinsky & Varavikova, 2014). Subsequently, the 'Making Pregnancy Safer' initiative was introduced by WHO, and the initiative marginalised TBAs in favour of promoting professionally trained and licensed-to-practice skilled attendants such as nurses and midwives at every birth in a health facility, particularly for people living in low and middle-income countries (WHO, 2004; Santora, 2020). This shift in approach disregarded the valuable role TBAs played in community-based maternal health care.

The Namibia Vital Statistics report 2016-2017 indicated that more births in Namibia occur in health facilities than at home, although regions such as Kunene, Ohangwena, Kavango East, Zambezi and Omaheke had a substantial proportion of births occurring at home (Namibia Vital Statistics, 2020). However, a more recent report revealed that almost all births in Namibia do occur at the health facilities and are managed by skilled birth attendants from 88.9 percent in 2018 to 96.3 percent in 2021 (Namibia Statistics Agency (NSA), 2024). The report further highlighted that more than 97 percent of the births occurred in health facilities across the regions, except Kavango West, which had a relatively high number of home births at 16 percent, **Kavango East** with 2.7 percent and **Zambezi with 1.9 per cent** (NSA, 2024, p. 34). Although the homebirth cases are relatively low, both the National Development Plan 6 (NDP6) and the Sustainable Development Goals (SDG 3) prioritise improved health, reduction of the global maternal mortality, end preventable deaths of newborns and reduce neonatal mortality. However, the persistence of home births in selected regions suggests that structural and sociocultural barriers remain unaddressed.

Disregarding TBAs has led some scholars like Sue Kruske and anthropologist Lesley Barclay to critique and respond to the policy shift by questioning the validity of the new policy (Kruske & Barclay, 2004). They argued that the policy was misguided for two primary reasons; first, they asserted that focusing solely on

a single indicator resulted in a significant oversimplification of the notion of effectiveness and secondly, they highlighted that the new skilled birth attendant (SBA) definition, which emphasised obstetric skills not possessed by TBAs, overlooked other valuable skills and expertise in TBAs, particularly social and cultural skills. These scholars argued that the overlooked skills contributed to the broader and less reductionist objective of enhancing maternal healthcare (Kruske & Barclay, 2004).

Although regulation and integration remain unresolved, some pregnant women approach TBAs for care considered as culturally relevant, which sometimes may include administration of TM or complementary medicine (CM) (Musie et al., 2020, Haikera et al., 2023). It is further revealed that pregnant women who make use of traditional concoction before labour often present with hypertonic contractions, making it difficult for midwives to track labour progress on a partograph (now labour care guide) as labour appears to be precipitated, which in some cases lead to complications (Haikera et al., 2023). In another study conducted in Kavango East, Siseho et al. (2023) similarly found that only 19.3 percent of women admitted in the labour ward were monitored using a partograph. While home deliveries and births attended to by TBAs are often discouraged, the researcher observed over the years that TBA consultations by women are inevitable in northern Namibia due to the incidences occurring mostly during the night and reaching a healthcare facility timely is not possible. Hence, the researcher explored the indigenous knowledge of TBAs and their role in reproductive health in pursuit of developing a framework of collaboration between TBAs and the formal health system.

1.2. Background of the study

The World Health Organisation (WHO) and stakeholders have made numerous efforts to support health ministries in reducing maternal and infant mortality globally. However, low- and middle-income countries, continue to report significant mortality rates, partly due to poor access to or low quality of professional care (Aziato & Omenyo, 2018). Namibia adopted the Safe Motherhood Initiative, launched in 1987, which encouraged women to utilise professional healthcare services during pregnancy and childbirth (NSA, 2014; WHO, 2009). A survey conducted in 1995 reported that 40% of births in Namibia were conducted by TBAs, a figure relatively high and compromising to the women's health (MOHSS, 2001). The National Policy on Reproductive Health further highlighted the challenge that TBAs were not trained, therefore the policy made provision to include training TBAs in reproductive health programmes during the implementation phase 2001-2005 (MOHSS, 2001). In 2012, the revised National Policy on Sexual, Reproductive, and Child Health highlighted new development in the workforce of MOHSS. Health Extension workers were

recruited as part of formal health system and their task was to render basic health care in the community and collaborate with TBAs (MOHSS, 2012). The inclusion of TBAs and support from the MOHSS became dormant over the years. A study conducted in northern Namibia revealed that TBAs provide essential care while using their own resources, and in most cases improvise on equipment needed to execute their task when assisting with childbirth (Haikera et al., 2023). It is evident in the National Guideline: Antenatal Care for a Positive pregnancy experience where TBAs roles are no longer mentioned as community-based health assistants (MOHSS, 2020). The roles for community-based health assistants in the 2020 guideline is prescribed for the trained health extension workers as it does not have any provision for eventualities that require the intervention from TBAs (MOHSS, 2020).

As previously indicated in the introduction, the shift in policies which led to a halt in training TBAs marked a turning point in global maternal health strategy. The MOHSS have been advocating for all women to be attended to by 'skilled birth attendants' such as a midwife, doctors or nurses. These cadres received formal education and are trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and new-borns (MOHSS, 2020). However, in the northern parts of Namibia, especially in rural areas where this study was conducted, not all women are assisted by healthcare professionals as recommended by the WHO due to limited resources, lack of access to healthcare services and cultural reasons (MOHSS, 2020; NSA, 2024). Before 2020, the proportion of births attended by skilled birth attendants in Namibia stood at 88% and neonatal mortality was approximately 16 per 1000 births (MOHSS, 2020).

Various studies reported a preference for TBAs' care compared to modern midwifery among women. In some rural parts of Africa, most women, with an estimate of 60%-90% utilise TBA services, especially during childbirth (Kassie et al., 2022). Similarly, despite the introduction of orthodox health services in Nigeria, most of women (about 64%) still preferred the services of TBAs (Ogechukwu et al., 2019). Another notable preference of TBA services has been noted in Ethiopia, where women opt to give birth at home with the assistance TBAs (Kassie et al., 2022). The percentage of women who make use of TBA services in Namibia is, however, not known, but statistics show that not all births occur in healthcare facilities (MOHSS, 2020). Furthermore, there is evidence from previous studies by Haikera et al. (2023) where women in the northern part of Namibia confirmed having been assisted by TBAs during pregnancy and childbirth. TBA practices are guided by IK practices native to the country in which they are practised, and most of the indigenous traditional medicine has been practised at the primary health care level (WHO,

2019). The WHO, together with experts around the world, developed the 'WHO Traditional Medicine Strategy 2014-2023' in cognisance of the fact that most people around the world make use of IK in health management despite the uncertainty of dosage and safety, effectiveness, quality, availability, preservation and regulation (WHO, 2013).

Circumstantially, TBAs play an important role in their communities, especially in those areas where health facilities are not within reach (Ngunyulu et al., 2020). Similarly, Kassie *et al.* (2022) also concur by pointing out an advantage that TBAs are already connected to the communities they serve. Studies like those by Kruske and Barclay (2004) emphasised the importance of TBAs' social and cultural skills, while Sibley et al. (2004) and Sibley et al. (2006) found positive associations between TBA training and antenatal care (ANC) attendance, as well as improvements in maternal care practices. In light of the above global discourses on TBA, it is evident that the sociocultural role of TBAs is rooted in cultural values and beliefs that prioritise the care of women and infants (Ngunyulu et al. 2020). Although some of the services rendered are beneficial, there are equally concerns about harmful practices. There have been reports of complications associated with the care provided by TBAs, which led to secondary infertility and necrotic bowel requiring further costly intervention by specialists (Haikera et al., 2023). Despite these global debates, little empirical research has systematically documented the indigenous epistemologies underpinning TBA practices in Namibia, nor translated such knowledge into a structured collaborative framework. This represents the central knowledge gap addressed by this study.

Therefore, integrating the traditional health system into the formal health system can help prevent some of the adverse events. There are numerous studies suggesting the need to train TBAs and regulate the practice of TBAs in many countries. A meta-analysis conducted by Wilson et al. (2011) suggested that incorporating training and support of TBAs can significantly reduce perinatal and neonatal deaths. Existing literature mostly explored the influence cultural practices have on pregnancy, childbirth and postpartum; however, there is a dearth of data regarding the indigenous knowledge among TBAs and their role in reproductive health. Investigating the IK among TBAs and their role in reproductive health can aid the development of a framework for collaboration between the two health systems in Namibia. The Ministry of Health and Social Services recognises the importance of TBAs and previously established guidelines for collaborating with them as part of the National Policy on Community-Based Health Care, but it has become dormant (MOHSS, 2009). The National Policy on community-based care intended to build a strong relationship with TBAs by raising awareness and educating TBAs about key issues related to pregnancy

and childbirth in the community and other defined parameters of operation. It is not clear why the policy initially developed for a good course, strengthening collaboration, was halted. Most of the reported adverse maternal/neonatal health outcomes can be mitigated by collaborating with TBAs as members of the fundamental support system for mothers throughout pregnancy, childbirth and the postpartum period (Rutledge et al., 2024).

1.3. Problem statement

Globally, the recommended setting for childbirth is a health facility under the care of skilled birth attendants (Tucker et al., 2013). However, in rural and remote settings where there is limited access to health facilities, women continue to rely on traditional birth attendants (TBAs) for help during pregnancy and childbirth (Gurara et al., 2020; Tucker et al., 2013; Rutledge et al., 2024; Wanyua et al., 2014). Importantly, limited access to healthcare facilities is not the only factor influencing women to seek assistance from TBAs; cultural beliefs and practices related to childbirth also play a significant role (Miller & Smith, 2017). In many traditional communities, TBAs provide a wide range of services including abdominal massages and herbal concoctions to pregnant women and the new-born babies, treating infertility and assisting with childbirth to pregnant women and new-borns (Haikera et al., 2023; Musie & Mulaudzi, 2024). Studies reveal that 60%-90% of African women utilise services of TBAs (Kassie et al., 2022; Ogechukwu et al., 2019). Additionally, the World Health Organisation (WHO) reported that, majority of the Member States use Traditional Medicine/Complementary Medicine (TM/CM) in their countries (WHO, 2013). This recognition led to the development of the WHO Traditional Medicine Strategy 2014-2023 to enable those opting for health care using IK/TM/CM to access such care in a safe, respectful and cost-efficient manner.

Despite their continued valued involvement in maternal and reproductive health, most TBAs remain formally unrecognised within national healthcare systems. Sometimes the TBAs practice informally because there is no formal communication and collaboration between healthcare professionals and TBAs (Musie & Mulaudzi, 2024).

While some countries have adopted policies to collaborate with TBAs, others remain cautious due to high maternal mortality rates associated with out of facility childbirth services (Amuta-Onukagha et al., 2017; Rutledge et al., 2024). This tension reflects a broader epistemological contestation between biomedical authority and indigenous health systems, a debate that remains insufficiently resolved within Namibia's

policy environment. In Namibia, policy documents such as the National Policy for Reproductive Health (NPRH) (2001) and National Policy for Community Based Health Care (NPCBHC) (2009) had clear policy statements regarding the need to collaborate with TBAs in maternal health care. In 2012, the revised National Policy for Sexual Reproductive and Child Health (NPSRCH) introduced Health Extension Workers (HEW) to strengthen community-based healthcare. However, the inclusion of TBAs in the formal health system declined over the years in the northern regions of Namibia. Currently, there is no evidence of support nor training for TBAs in the regions, nevertheless, TBAs continue to provide childbirth services in the communities (Haikera et al., 2023).

Namibia has no gazetted guidelines, regulatory framework or any official documentation in exception of the outdated policies such as NPRH 2001, NPCBHC 2009 and NPSRCH 2012. The traditional authorities (TA) acknowledge TBAs as the custodians of the associated traditional knowledge. The lack of structured collaboration framework creates a gap between indigenous reproductive health services and formal health system. Without systematic documentation and evaluation of the indigenous knowledge and practices of TBAs, opportunities for safe collaboration, regulation and integration remain limited. It is, therefore, imperative to investigate and document the indigenous knowledge and roles of TBAs in reproductive health in Northern in Namibia. Such evidence is necessary to inform the development of a standardised collaboration framework that can guide safe integration, role clarification, regulation and capacity building within the formal health system.

1.4. Aim of the research

The overarching aim of this study was to develop a standardised framework integrating indigenous knowledge of traditional birth attendants into the formal healthcare system to enhance reproductive health outcomes in selected regions of Northern Namibia.

1.5. Research questions

For the study to be a success, it was designed to seek answers to the following research questions:

1. How do existing collaboration frameworks for TBAs in Low-and-Middle Income countries compare, and what lessons can inform the development of a such a framework for Northern Namibia? (Phase I).
2. What are the current roles of TBAs in reproductive health practices based on indigenous knowledge? (Phase II).
3. What are the views of health care professionals on safe and promotive reproductive health roles that TBAs can perform to complement services within the formal health system (Phase II)?

4. What standardised collaborative framework can be developed to facilitate effective partnership between TBAs and formal health system? (Phase III).
5. How can the outcome of the study findings be translated into a guide to operationalise the collaborative framework for TBAs to strengthen health promotion and community-based reproductive health care? (Phase IV).

1.6. Objectives for the research

The study was conducted in four phases: the first phase mapped the evidence of existing frameworks that integrates TBAs into formal health system; phase two established the roles of TBAs; phase three focussed on developing a collaborative framework of integration and phase four a training manual respectively. Therefore, the objectives were designed as follows:

1. To review and map existing evidence on frameworks used to integrate TBAs into formal health systems (Phase I).
2. To explore and describe roles of TBAs in reproductive health practices based on indigenous knowledge (Phase II)
3. To appraise safe and promotive reproductive health roles that TBAs can perform to complement services within the formal health system (Phase II).
4. To conceptualise and develop a standardised collaboration framework that integrates TBAs' reproductive health practices into the formal health system (Phase III).
5. To develop a training manual to operationalise the collaborative framework for TBAs grounded in empirical findings and local cultural contexts (Phase IV).

1.7. Significance of research

Traditional Birth Attendants (TBAs) play an important role in providing reproductive health care within their communities using indigenous knowledge. However, these practices are largely unregulated in Namibia, potentially compromising the safety of both TBAs and their service users. Currently, there are no gazetted guidelines or official frameworks governing customary midwifery care in the country.

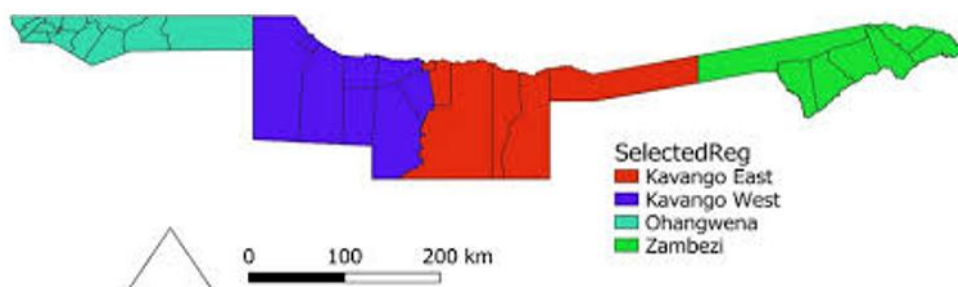
This study examined customary obstetric practices among TBAs in rural northern Namibia, distinguishing beneficial practices from those requiring regulation or further scientific scrutiny potentially harmful ones. Based on these findings, a collaboration framework between the traditional and formal health systems was developed, together with a proposed scope of practice for TBAs. An additional output of the study is

a training manual that can be adopted by the Ministry of Health and Social Services (MOHSS) to guide the training and certification of TBAs.

The findings and developed framework will be presented to the MOHSS to inform policy development and reproductive health practice, in line with the Nursing Act 8 of 2004 and the WHO Traditional Medicine Strategy (2014–2023). The study also produced three peer-reviewed publications, contributing to the body of knowledge and providing a foundation for future research and policy on traditional midwifery care in Namibia.

1.8. Description of the study area

This study was conducted in four selected regions in Northern-eastern and north-central Namibia, namely, Zambezi, Kavango East, Kavango West and Ohangwena. The Zambezi region is in the extreme north-east part of Namibia with a surface area covering 14,663 km² and comprising 8 constituencies (NSA, 2022). The administrative map of Namibia further shows that Kavango West has seven (7), Kavango East six (6), and Ohangwena has eleven (11) constituencies (NSA, 2024). The report further states that the population density in these regions ranges from 5.0 to 31.5 persons per km², with more women evidently found in rural communities. Figure 1.1 below depicts the map of some of the northern regions in Namibia where the study was piloted and conducted.



Source: Research Gate; <http://dx.doi.org/10.1186/s12936-023-04577-4>

Figure 1.1 Map of regions in Namibia

1.9 Paradigm view

A paradigm guides what research topics are explored, how research is conducted, and how theories are derived (Jackson, 2014). According to Polit & Beck (2017, p.42), a paradigm is defined a worldview or a general perspective on the complexities of the world. The two dominant philosophical paradigms are positivism and interpretivism (Adom et al., 2016). Positivism assumes objective, measurable reality, while interpretivism recognises socially constructed realities and subjective meanings. (Al-Ababneh, 2020). Hence, this study adopts a social constructivist stance to explore how TBAs construct meaning around reproductive health practices within cultural contexts. Furthermore, the study was underpinned on the philosophical elements as briefly discussed below.

1.9.1. Ontology

Al-Ababneh (2020) defined ontology as the nature of reality. Under social constructivism, reality is multiple and socially constructed. This study assumes that indigenous reproductive health knowledge is shaped through lived experiences and intergenerational transmission. The application of this philosophical element is motivated by evidence that indigenous knowledge related to reproductive health is constructed by the experiences of people, their culture and beliefs pertaining to the management of pregnancy and birth. Although these experiences may differ from one person to another, there are multiple realities based on their unique individual experiences.

1.9.2. Epistemology

Epistemology refers to the nature of knowledge and thus informs the theoretical perspectives; these perspectives determine research methodology (Al-Ababneh, 2020, p. 76). Major types of epistemology are objectivism, constructionism, and subjectivism (Crotty, 1998, as cited in Al-Ababneh, 2020). This study adopts a subjectivist epistemology, recognising that knowledge about indigenous practices emerges through interaction between researcher and participants. The researcher used in-depth interviews to interact with a smaller sample of participants to collect in-depth and rich meanings of indigenous knowledge with a focus on reproductive health roles. While statistical generalisation is not intended, credibility is enhanced through triangulation of participant categories and data sources.

1.9.3. Axiology

Axiology refers to the role of values in research (Al-Ababneh, 2020, p.88). Similarly, Alele and Malau-Aduli (2023) state that the “researchers’ axiological stance in healthcare refers to their values, beliefs, and

ethical positions that guide their research practices and interpretations of findings”. The researcher obliged and adhered to the ethical principles and standards, and sought approval from relevant authorities for the study before collecting data. The researcher treated all participants with utmost respect without judging them on what the researcher perceived as scientifically incorrect or correct during data collection.

1.9.4. Methodology

Generally, the constructivism philosophical paradigm is often associated with qualitative studies (Adom et al., 2016). Given that background, the methodological evidence in this research was obtained through an inductive process, and data were obtained through narratives and in-depth interactions during interviews and focused group discussions with participants. This also guided the data analysis approach and processes. Themes were generated based on the information provided by the participants during the interactions.

1.10 Delimitations of the study

Delimitations in this study refer to the limits or boundaries consciously set by the researcher to ensure that the aims and objectives of the study are fulfilled at the end of the project. A delimitation of note in this study is in reference to the age criteria for qualifying elderly women who are not TBAs as participants; the age was set at 65 years or more for elderly women assisting with childbirth in their communities, even if they are not in the category of TBAs. The criteria were set based on the definition that a person aged 65 years or more is referred to as ‘elderly’ (Singh, 2014). However, all women who participated as selected by the gatekeepers, were identified as TBAs and the age limitation did not apply to TBAs.

Another boundary set by the researcher is on the population of the study; piloting of the data collection tool on women of childbearing age was conducted in Kavango West region, therefore, in the main study, the researcher focused more on the women in Kavango East, Zambezi and Ohangwena, only few from Kavango West. Kavango was previously constituted as one administrative region and cultural practices in terms of health seeking behaviour do not differ. In addition, the researcher previously conducted and published a study on the influence of cultural practices on labour, childbirth and postpartum in northern regions (Haikera, 2021), and established practices in Kavango West thus the halting of data collection in that area.

1.11 Structure of the Dissertation

This study was structured and organised in eight (8) chapters as outlined below:

Chapter 1: outlines an orientation to the study, background of the study and the aim of the study. The chapter provides details of the research objective, describes the study area and the motivation for conducting the study. The chapter further highlights the philosophical framework on which the study is underpinned.

Chapter 2: comprises of a literature review related to the study and the theoretical framework on which the study is underpinned. By exploring various published articles, the researcher summarised what has been done and identified the gap in existing literature.

Chapter 3: provides details on research methodology and design, which include information on the study population, sampling frame, the inclusion and exclusion criteria, data collection methods and data analysis and strategies employed to ensure the trustworthiness of the data. Methodology of Phase I of the study is briefly highlighted in chapter 3 and a detailed Scoping review manuscript of the results is attached as annexure 8.

Chapter 4: presents the results/findings of the study, which are presented in themes that were derived during the process of data analysis. Phase II of the study focused on objectives 2 & 3 of the study that explored indigenous knowledge among TBAs and their role in reproductive health.

Chapter 5: discusses the *Phase I & II* findings of the study. The researcher applied literature control to compare the findings to what has been discovered before in terms of supporting literature and the findings that may have opposing views to the ones unearthed by this study.

Chapter 6: presents the development of a collaborative framework (*Phase III*) based on findings of the study which was founded on the first objective. This chapter provides details on the process that was followed in the concept derivation, the development and validation of the collaborative framework.

Chapter 7: Subsequent to chapter 6, chapter 7 presents the guide/training manual that is developed to facilitate integration (*Phase IV*).

Chapter 8: concludes the study, shares the limitations encountered and how they were mitigated. The chapter ends with recommendations made to various stakeholders, powered by the findings of this study.

1.12 Chapter Summary

This chapter provided the introduction and background of the study from a global and local perspective. The chapter further highlighted the problem statement, objectives, significance and delimitations of the study. In the next chapter, literature is reviewed, critiqued and identify gaps in previous studies.

CHAPTER 2: LITERATURE REVIEW

2.0. Introduction

This chapter comprises of the reviewed literature related to the indigenous knowledge among TBAs and their role in reproductive health. A literature review systematically examines existing empirical and theoretical scholarship relevant to the research problem in order to identify gaps, debates, and areas of contestation. The literature review herein covers reproductive health practices based on indigenous knowledge, roles of TBAs in enhancing health promotion and Integration of TBAs into formal health system. The review on mapping the existing collaborative frameworks is covered in Chapter 6 of this report.

2.1 Search strategy

Most of the sources that were found to be older than 10 years were not included in the study unless if they were they were seminal works or foundational texts. The researcher explored various databases such as Google Scholar, ResearchGate, Mendeley, PubMed, NUST library off-campus e-resources, and many other articles found online. The keywords used during the search were: *“indigenous knowledge among traditional birth attendants or TBAs”, “role of traditional birth attendants or TBAs”, “traditional birth attendants’ reproductive health roles”* and ...using the same keywords but added locations such as; in *“Namibia”, “Southern Africa”, in “Africa”, “around the globe”*.

2.2 Indigenous knowledge among traditional birth attendants

There is limited empirical literature specifically examining indigenous reproductive knowledge systems among TBAs in Namibia. In the World Health Organisation global report of Traditional and Complementary Medicine for 2019, TBAs are classified as Indigenous traditional medicine practitioners (WHO, 2019). TBAs exist in the majority of WHO member states, thus necessitating the dialogue towards formalisation and integration (WHO, 2019).

2.2.1 Traditional Preconception and Antenatal Care Practices

TBAs provide non-orthodox health services based on the knowledge acquired through experience and which is passed on from generation to generation (Ogechukwu et al., 2019). The practices of TBAs lack scientific evidence as consultation is motivated by the perceived susceptibility and benefits (Aziato & Omenyo, 2018, as cited by Haikera, 2021). TBAs provide treatment based on indigenous knowledge to couples struggling to conceive, and during pregnancy cultural antenatal care is offered (Haikera et al.,

2023). Medically, treatment of infertility requires proper diagnosis, therefore, investigative studies need to be conducted to establish the basis on how TBAs make a conclusive diagnosis for infertility. Indigenous antenatal care practices include providing herbal concoctions to pregnant women culturally known to keep foetus well and active in the uterus, treating preterm labour (herbs with possible tocolytic effect) (Haikera et al., 2023). The treatment is smeared on the abdomen, perineal area and through oral administration. The ingredients of concoctions may comprise of roots, leaves, bark/phloem from trees such as *Sesamum triphyllum*, locally known as ‘eromborora’, *Ancylantus bainesii* locally known as ‘mpindu’, *Ziziphus mucronata*, known as ‘mukekete’ and many other plant-based traditional medicine (Haikera et al., 2023).

During intrapartum stage, TBAs provide concoctions for augmenting labour (herbal concoction with high possibility of uterotonic effect), milk production stimulant and some herbs for pregnancy prevention (Haikera et al., 2023). In some communities, teenage mothers prefer traditional maternity homes to avoid stigmatisation and embarrassment facing caregivers at hospitals (Olusanye et al., 2011, p.481). Another study reported similar socio-cultural roles of TBAs comprising of non-orthodox therapy and psychological support to relieve fear and anxiety, and herbal medications to assist keep foetus strong and healthy (Dako-Gyako et al., 2013, p.5). The case clearly shows the TBAs’ relevance is valued in their communities and they are knowledgeable in the cultural care they render.

In many settings, herbal medicine used in reproductive health is not regulated, hence might be harmful to consumers depending on the route of administration and dosage. The World Health Organisation recommends improved midwifery care to reduce major causes of maternal death, which are mostly caused by haemorrhage, hypertension and sepsis (WHO, 2019). Although various studies describe the traditional preconception and antenatal roles of TBAs, the herbal concoctions administered has been flagged as potentially unsafe. The uptake of TBAs can strengthen partnership, enabling research on the traditional medicine given during antenatal period to establish medicinal properties.

2.3 Potential Roles of TBAs in Enhancing Reproductive Health Services through Health Promotion

2.3.1 Promotion of Reproductive Health Services

TBAs are consulted to provide cultural appropriate care relating to pregnancy. Studies articulates that TBAs are community-based provider of pregnancy-related care and often works independently of the health system (WHO, ICM & FIGO, 2017; as cited by Ogechukwu et al., 2019). Their role commences the moment the woman becomes pregnant, and consultations are held as the need arises until at least 2

weeks after delivery (Kayombo, 2013). Kassie et al. (2022) assert that traditional birth attendant utilisation has an advantage because of their connection with the communities they serve. TBAs positively compliment the formal health system as they are entrusted to work with families and help them make safe choices (Sarmiento et al., 2022). The WHO also encourage engaging existing community level providers (such as TBAs) to ensure mutual respect, strengthened collaboration at community levels and increased positive choices made by women in care seeking (WHO, 2019, p.31). Therefore, TBAs can play a role in reproductive health promotion by encouraging community members to utilise reproductive services efficiently. In many low and middle-income countries, TBAs play various roles such as provision of health education, including delivery support. These roles can potentially improve women's access to health care (Shimpuku et al., 2021).

2.3.2 Labour and Childbirth Support

TBAs provide render life-saving services in their communities, particularly where there is inaccessibility to formal health facilities. Although WHO recommends all pregnant women be attended to by skilled birth attendants (SBA), people are living in remote areas who still seek the services of TBAs based on cultural beliefs. Most births occurring outside health facilities are often conducted by TBAs (Wilson et al., 2011). Thus, in some settings, TBAs serve as the connection between home and health facilities (Sarmiento et al., 2022). Based on the inevitable role of TBAs, some of the national and federal governments initiated a register of TBAs to encourage and monitor full participation of TBAs in the care for their communities. Full participation of TBAs in maternity care is opposed by some settings citing substandard care and lack of knowledge to recognise and manage complications.

The Namibia Demographic Health Survey (NDHS) data shows that about 87% of births in the country occurred in health facilities (MOHSS, 2013, p.106). A great improvement from the 78% in 2000 when a significant number of deliveries were mostly attended to by elders and TBAs. Although some women only opt for TBAs' assistance in emergencies, some just prefer to be cared for by TBAs (Haikera, 2021). In Namibia, TBAs render care during pregnancy, childbirth, postpartum; provide family planning and treatment for infertility (Haikera et al., 2023). Some of these practices are however rendered in a substandard way posing a risk to mother, baby and even the TBAs themselves. Some countries cautioned the utilisation of TBA services by women as a major concern because it has been associated with both neonatal and maternal mortality (Ogechukwu et al., 2019). This could be attributed to the fact that the care rendered is mostly driven by the cultural beliefs and there is lack of resources to manage childbirth safely. On the contrary, other reports revealed that babies delivered in maternity homes managed by

traditional birth attendants are healthier compared to hospital births (Ogechukwu et al., 2019). However, Haikera et al. (2023) argue that some of the cultural care has been associated with complications such as infertility, necrotic bowel due to traditional enema, sepsis and many others. Other concerns relating to TBAs is the undefined boundaries or a guiding operational scope. In countries such as Zimbabwe, TBAs are officially recognised by the government (Mathole et al., 2005, as cited by Haikera, 2021).

2.4 Collaboration and Partnership of TBAs with the formal health system

Most countries lack coordination enabling collaboration between TBAs and the formal health system. In 2001, Namibia launched the National Policy on Reproductive Health which had a policy statement on collaborating with TBAs due to high incidences of home births (MOHSS, 2001). Subsequently, in 2009 a National Policy on Community-Based Health Care also recognised TBAs as collaborative partners in improving reproductive health (MOHSS, 2009). However, in 2012 the revised Reproductive Health and Child Care Policy introduced the cadre of Health Extension Workers who were trained to serve as Community-Based Health Assistants and assigned them a role to collaborate with TBAs (MOHSS, 2012). Notably, the period that followed after the revised policy disadvantaged TBAs as they were no longer prioritised for support. Currently, studies reveal that TBAs in Namibia are operating without support and are no longer recognised, hence they render services clandestinely (Haikera et al., 2023).

This is the case in most African countries where the formal health care systems have not acknowledged the role of TBAs (Shimpuku et al., 2021). In the midst of recognition and regulation debates, people still seek the services of TBAs as culture requires. Therefore, consideration to engage TBAs address bottlenecks in the care and discuss the complementary roles can strengthen partnership. Collaborating with TBAs can solve logistical problems limiting access to skilled birth attendants such as transport challenges, financial implications and inequalities in accessing health services (Mangham-Jefferies et al., 2014 as cited by Kassie et al., 2022). Integrating TBAs into the formal health system through structured training, clear referral mechanisms, supportive supervision, and respectful acknowledgement of indigenous knowledge can strengthen maternal and newborn health outcomes, particularly in resource-limited and rural settings. The Health Professional Council in Namibia (HPCNA) in the Nursing Act 8 of 2004 encourages the collaboration between health care professionals and TBAs. Furthermore, the WHO also acknowledge that majority of member states value their culture hence utilise traditional medicine (WHO, 2019). The absence of collaboration tools create room for mistrust and blame-shifting.

The indigenous knowledge possessed by TBAs can be evaluated, modified and regulated to enable collaboration roles in reproductive health. Exclusion of the TBAs from the formal health system can lead to adverse outcomes as evident in studies that highlighted some of the complications that result from poor management by TBAs. Some countries have demonstrated commendable efforts to recognise TBAs and provide them with necessary support to work closely with the formal health system (Choguya, 2015; Sarmiento et al., 2022). The WHO framework for action to strengthen quality midwifery education include collaboration with TBAs (WHO, 2019). Collaboration and partnership enables recognition, support and regulate guidelines ensuring TBAs operate within the stipulated scope thus promoting safe reproductive health care.

2.5 Cultural Tensions and Biomedical Risks associated with Unregulated Practice

TBAs possess rich knowledge and skills on reproductive health, including local customs, traditions and perceptions regarding childbirth and newborn care (WHO, 1987; Islam, 2001; Kayombo, 2013:3). Women seek the cultural expertise of TBAs as part of their cues for action based on the Health Belief Model. Therefore, the need to integrate the traditional/indigenous-knowledge-enriched health system with the formal health system can strengthen communication and mitigate adverse events. The formal health system argues that deliveries conducted by traditional birth attendants may have poor obstetric outcomes because of a lack of resources and inability to recognise complications (Olusanya et al., 2011, p.474). In a recent study conducted in northern Namibia, concluded that not all practices by TBAs are harmful; most are beneficial and supported by modern maternal and child health care (Haikera, 2021). Beneficial practices include giving health education on pregnancy care and nutrition, teaching pregnant women to do perineal massages, palpations, external cephalic versions in malpresentation and more (Haikera, 2021). There is a need for WHO member states to integrate the indigenous knowledge system with the formal health system and conduct further research on medicinal properties for some of the herbal medicine administered to pregnant women of which safety has not been established (World Health Organisation, 2019). The World Health Organisation has a strategic objective *“to promote universal health coverage by integrating T&CM services into health care service delivery and self-health care”* (WHO, 2019).

The challenges experienced relating to cultural tensions and biomedical risks can be addressed during dialogue and training. According to Ogechukwu et al. (2019), supporting TBAs through basic training, certification and providing them a scope of practice can contribute positively to reproductive health care, mostly to maternal and child health. Furthermore, TBAs has the potential to disseminate health information and the create of awareness about reproductive health issues relevant to their indigenous

communities (Ogechukwu et al., 2019). The study further reports that TBAs are enthusiastic about sharing their knowledge with the health system; the health system should seize this opportunity to improve the production, standardisation and management of herbal and unconventional drugs. TBAs are key actors in reducing maternal and neonatal mortality and/or morbidity (Kayombo, 2013, p.3). This justifies the need to empower the people that fill the gap for the formal health system where needed, these are TBAs.

2.6 Theoretical Frameworks

Polit and Beck (2017, p.225), “a framework is the overall conceptual underpinnings of a study, thus in a study with roots in a conceptual model, the framework is a conceptual framework.” This means that a study that omits a theoretical or conceptual framework may lose direction. After exploring various models used in health profession research, the researcher found the Health Belief Model (HBM) ideal for this study. The HBM is a foundational framework in health behavior research which was conceptualised in the 1950s to help understand preventative health behavior (Alyafei & Easton-Carr, 2024). This model was developed by pioneers such as Irwin M. Rosenstock, Godfrey M. Hochbaum, S. Stephen Kegels, and Howard Leventhal to respond to the challenges of tuberculosis screening using chest x-rays, the need for immunisation, and the community's underutilisation of services. According to Alyafei and Easton-Carr (2024), the HBM initially comprised of four (4) cognitive constructs and later a fifth and sixth (5th and 6th) were added, and the cognitive constructs are briefly outlined below:

1. Perceived susceptibility: assessing the chances of getting unwell and the causative factor.
2. Perceived severity: awareness of consequences if no intervention is taken.
3. Perceived benefits: the understanding of how interventions taken can mitigate the adverse effects.
4. Perceived barriers: Limitations to accessing the recommended interventions.
5. Self-efficacy: the belief in the role one has to play to ensure they get better or remain healthy by managing their own behaviour or attitude towards health.
6. Cues to action: referring to either internal or external factors that may motivate a person to seek intervention.

The HBM kept developing over time; at the onset, this model overlooked cultural and social influences on health behaviors but later adapted to fit diverse medical and cultural contexts, influencing public health through health promotion and preventive community-based programs (Alyafei & Easton-Carr, 2024). The model assists in understanding how perceived risks, benefits, and cultural cues shape women’s decisions to seek TBA services. The adoption of the HBM as a conceptual constructive framework postulates that health-seeking behaviour is influenced by a person’s perception of a threat posed by a health problem

and the value associated with actions aimed at reducing the threat (Polit & Beck, 2017, p.232). The HBM has been widely used mostly in community participatory research and studies involving traditional medicine (Adjei et al., 2024; Oloyede & Chopak-Foss, 2024). Researchers prefer the HBM due to its ability to use the outcomes to provide recommendations for designing developmentally and culturally appropriate interventions (Jones et al. 2014 as cited in Oloyede and Chopak-Foss, 2024). Therefore, by examining the indigenous knowledge of TBAs and their role in reproductive health using the cognitive constructs of the HBM model is appropriate in determining safe intervention. These constructs, namely; perceived susceptibility, perceived severity, barriers and benefits guided the development of a data collection tool that unveils the indigenous knowledge and the role of TBAs in reproductive health in their communities.

2.7 Conceptual Framework

The Donabedian SPO Model

Sequential to the HBM, the Donabedian SPO model is introduced to shape the development of a collaborative framework. As explained by Dziak (2024), the Donabedian SPO model used to assess the quality of healthcare was developed by a physician and researcher known as Avedis Donabedian from the 1960s to the 1980s. The parameters of this model evaluated the Structure, Processes and Outcome (SPO) of healthcare provided to the patients. Healthcare is as old as humankind, and even with modernisation, patients are at liberty to choose how and where their health needs are addressed. Nonetheless, the Donabedian Model remains a significant system criterion for assessing the quality of health care and ensuring that the patients receive quality and safe care. Dziak (2024) clarified the three categories of this model as follows:

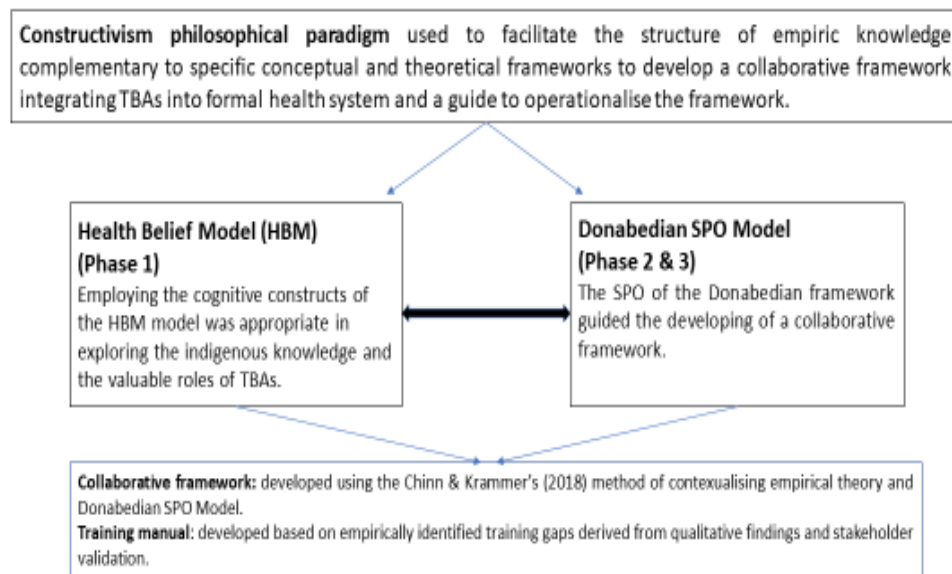
- a) Structure: focuses on the characteristics of the healthcare organisation, which is clearly and easily recognisable. This may include infrastructure where healthcare is provided, the layout of the facility, equipment and other essentials available to provide care and human resource elements (Dziak, 2024). Through *structure* analysis, challenges which may affect patient care and satisfaction can be identified easily. In this study, organisational structure involves the Ministry of Health and Social Services, Regional Health Directorates, Health Centers, Clinics and human resources such health care professional and traditional birth attendants. Identifying the structure can guide on the role that is required from each party.
- b) Process: this category is paramount as it gathers more information related to health provision in a health setting. Process measures quality by evaluating the type of service rendered at first contact,

diagnosis made, treatment given, check-ups, education provided to patients and other various pointers determining quality are covered in this category (Dziak, 2024). In this study, the *Process* application entail identification of roles, training TBAs, revive the utilisation of Reproductive Health Policy and the National Policy of Community-Based Health Care. Therefore, the *Process* should define the type of care that should be rendered at community level in line with the skills possessed and improve communication for the formal health system and TBAs.

c) Outcome: this last category of the Donabedian model is equally broad and of paramount importance as it measures the effect of care rendered on an individual and their family or a group of people. The *Outcome* category seeks answers to the following questions: did the treatment work to cure the disease? Did the health education provided assist in improving the habits of an individual/patient? Did the treatment cause physical, emotional, mental harm or good? This may require conducting studies to establish areas that may need modifications.

Over the years, various researchers have applied the use of the Donabedian model to assess quality of care. Moayed et al. (2022) used the Donabedian model to determine the quality of health services provided to COVID-19 patients from the perspective of healthcare providers. Musie et al. (2024) developed an inclusive framework for collaboration between midwives and traditional birth attendants and optimising maternal and child healthcare in restricted rural communities. In this study, the Donabedian model influences the development of a framework that integrate traditional birth attendants into the formal health system. By incorporating the SPO, the scope design ought to be within the parameters that ensure safety for women and their babies. The SPO of the Donabedian framework is used in developing a collaborative framework which will be presented in Chapter 6.

Theoretical basis of the study



13

Figure 2.1 Application of the Health Belief Model and SPO Donabedian Model

2.8 Chapter Summary

The literature reviewed synthesised studies on indigenous knowledge of TBAs, roles of TBAs in reproductive health promotion, collaboration and partnership, and cultural tensions and biomedical risks associated with unregulated practice. The studies confirm that TBAs have rich knowledge on managing reproductive health which is rooted in cultural beliefs. Furthermore, the women often seek various assistance from TBAs based on their perceived susceptibility and severity, perceived benefits, barriers and cue for action. The most sought-after traditional concoctions that women obtain from TBAs are consumed either for treatment, wellness or labour facilitation. However, some studies also highlighted biomedical risks associated with TBAs practice such as concerns for safety, unestablished medicinal properties, strength and toxicity levels. Conflicting findings are also observed across reviewed studies; some argue on the substandard childbirth care by TBAs while others consider TBAs as life-savers in their communities. Failure to regulate has been noted to create cultural tension because despite the restrictions women still seek TBAs for cultural care.

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the research methodology and design used for the study. It also provides details pertaining to the study area, the target population, the sampling method along with the rationale. Furthermore, the means of data collection and instruments used; matters of trustworthiness and ethical considerations are also addressed in this chapter. The study was conducted in using two designs; i) Scoping review for Phase I for objective 1 and ii) Exploratory and descriptive phenomenological design for Phase II for objectives 2 and 3. The findings for Phases I and II led to the development of materials in Phases III and IV.

3.2. Study approach

3.2.1 Phase I: Scoping Review

The first phase utilised a scoping review to achieve objective 1: ***To review and map existing evidence on frameworks used to integrate TBAs into formal health systems.*** The 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>.

3.2.1.1 Eligibility criteria

This review included published articles in online journals articles that were published between 2014-2024 were considered for review. Only articles published in English were considered although no language limitations are dictated by the conventions of scoping reviews (Veroniki et al., 2025).

All articles outside the set scope or inclusion criteria and published prior to 2014 were excluded from the review. The independent reviewers played a role in screening to ensure that the PCC framework was followed to reduce errors and bias (Peters et al., 2020).

All eligible qualitative, quantitative, mixed method studies and scoping/systematic reviews were equally extracted and uploaded on Rayyan for eligibility screening.

3.2.1.2 Search strategy

The following Keywords were used: “Traditional Birth Attendants frameworks” AND “Traditional birth attendants’ integration” AND “Health systems integration” AND “Integration formal health system framework” AND “Low-middle-income countries” as outlined in Table 3.1 below. The Rayyan The search yielded 243 results which are tabled below per database:

Table 3.1 Search strategy

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

3.2.1.3 Data extraction and charting

By using the keywords indicated in the search strategy, the database produced all articles possessing any of the keywords. The researcher scanned through the results in order to select articles that possess the keywords stipulated in Table 3.1 and in the area of midwifery care. The selected articles were uploaded on Rayyan to detect duplicates and continued to customise through the filter process to remain with articles meeting the inclusive criteria. This was followed by screening of abstracts of all eligible articles

and full text screening of 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. Figure 3.1 shows the PRISMA-ScR on identification of studies.

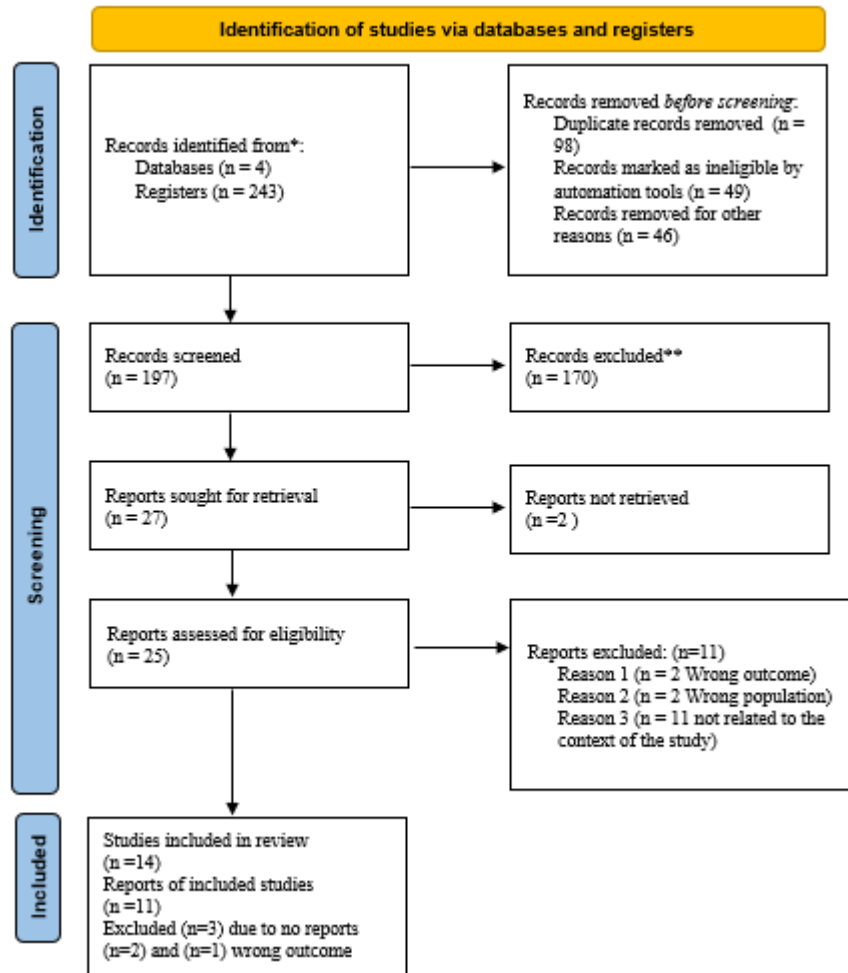


Figure 3.1 PRISMA-ScR

3.2.1.4 Data Analysis

Phase I involved an inductive approach for reviewing 11 articles, which was necessitated by the need to map evidence of existing frameworks integrating TBAs into modern healthcare. Data were analysed by utilising the Preferred Reporting Items for Systematic reviews and Meta-analysis for Scoping Review (PRISMA-ScR) statement to describe the process of the scoping review. The detailed peer-reviewed article for the scoping review is added as annexure 8 in this thesis.

3.2.2 Phase II: Qualitative Exploratory and Descriptive Phenomenological Design

The second and third objectives; 2) *explore and describe roles of TBAs in reproductive health practices based on indigenous knowledge* and 3) *appraise safe and promotive reproductive health roles that TBAs can perform to complement services within the formal health system* were achieved using the constructivism research paradigm, the exploratory and descriptive phenomenological design.

3.2.2.1 Constructivism paradigm

Constructivism paradigm philosophy asserts that reality is subjective and constructed by the people based on their experiences. Therefore, constructivism philosophical paradigm is indivisible from qualitative research approach. The investigative nature of this study required exploring and engaging participants to share their knowledge and practices relating to reproductive health, which is embedded in indigenous knowledge, thus the underpinning on exploratory and descriptive phenomenological qualitative approach for this study. Kumar et al. (2023) asserts that qualitative research approach enables in-depth exploration of meanings, experiences, and social processes that cannot be quantified. The selected approach is appropriate when exploring behaviour of people, the rationales behind actions, the views regarding certain phenomenon and other subjects that cannot be quantified. Utilisation of exploratory and descriptive phenomenological design enhances understanding people's meanings and adjust to evolution of new theories related to indigenous knowledge and traditional reproductive health practices.

3.2.2.2 Exploratory design

Exploratory design in qualitative is designed to clarify how a phenomenon is manifested and often useful in investigating little understood phenomena. This design allows a researcher to explore a topic with limited literature and allows participants to contribute to the development of knowledge (Hunters et al., 2019). The exploratory design was utilised during Phase II, and was necessitated by the need establish the indigenous knowledge of traditional birth attendants as the custodians of indigenous epistemology. The exploratory design is flexible and guided by broad research questions thus aids in unpacking what is not known about the phenomenon. In this study, exploratory design was applied through utilisation of in-depth interviews with women of childbearing age and focused groups discussions with TBAs.

3.2.2.3 Descriptive and phenomenological design

Various types of qualitative studies are descriptive and interpretive by nature. Grunbaum (2023) explains that descriptive studies record and report unusual or new events. The descriptive phenomenological

design is often applied with a philosophical interest in describing individual human experiences (Polit and Beck, 2017). Similarly, Hunters et al. (2019) affirms that the descriptive qualitative design or description of the phenomena provides a detailed account of its significance and generates a picture of the world from the perspective of the participants. Therefore, this approach was necessitated by the fact that the researcher intended to engage with various participants to investigate the understanding and knowledge thereof, which could have been difficult to quantify. This was carried out through in-depth discussions with different participants at different times to explore and unpack the indigenous knowledge among traditional birth attendants and their role in reproductive health. Maximum variation sampling was applied by engaging TBAs, healthcare professionals, and women of childbearing age to capture diverse perspectives.

3.3. Study area

This study was conducted in some of the northern regions of Namibia. The researcher conducted face-to-face interviews and focus groups discussions in the Zambezi, Kavango East and West, and Ohangwena regions. The regions were selected because majority of inhabitants reside in the remote areas. The chances of these remote/rural areas having TBAs as community-based health assistants is also relatively high. The respective Traditional Authorities (TA) served as gatekeepers for recruiting TBAs in the study, and regional directors facilitated the participation of health care professionals. For the TBAs and women of childbearing age, discussions took place privately in a conducive environment. The actual venues where interviews took place were; a shelter in Ohangwena, the boardroom at the Chief's Palace in Kavango West, as well as one group interview in the boardroom at the traditional authority office and another at the headman's house in Kavango East. In Zambezi, the interview took place under a tree outside the TBAs' house. As for the healthcare professionals, the engagement did not require physical meetings but through technology-mediated mode of interaction.

3.4. Study Population

Casteel and Bradier (2021, p. 343) state that the population of interest for the study is comprised of the individuals, dyads, groups, organisations, or other entities one seeks to understand and to whom or to which the study results may be generalised. There were boundaries created in accordance with the scope of the study to select the population of interest. Selecting the target population was based on the region of residence for participants, expertise in indigenous knowledge and health care profession background. Target population refers to the specific, conceptually bounded group of potential participants to whom

the researcher may have access that represents the nature of the population of interest (Casteel and Bradier, 2021). Therefore, the target population for this study comprised traditional birth attendants (TBAs), health care professionals (HCPs) and the women of childbearing age. The targeted health care professionals were multidisciplinary who either directly or indirectly operate in reproductive health programs such as antenatal clinics, maternity wards and family health at the district/regional level. In the same disposition, traditional birth attendants were selected based on their role in the community which the traditional authorities and remote clinic staff are cognisant of. Additionally, the traditional authorities and clinic staff should be convinced that the participants can contribute to the study based on their role in the communities. All participants were female, reflecting the gendered nature of TBA practice and maternal health services. On the contrary, the gender imbalance creates a gap in findings due to lack of male TBAs participation. However, literature asserts that TBAs are often women (MacDonald, 2022; Sarmiento, 2014; Verderese & Turnbull, 1975). TBAs shared their indigenous knowledge and roles in reproductive health; healthcare professionals were engaged to ascertain the relevance and perceptions on collaborating with TBAs. HCPs contributed to the development and validation of a training manual and a collaborative framework. Another category of participants were women of childbearing age, the findings from this category cemented the need to develop the envisaged framework of collaboration for the two health systems.

3.5. Sampling method

In qualitative research, the non-probability sampling approach is used almost without exception (Strydom & Delport, 2005; Grunbaum, 2023). However, non-probability sampling implies that not all units would get an equal chance to be selected. This study adapted the non-probability convenience sampling. Casteel & Bradier (2021) stated that convenience sampling is characterised by selecting participants based upon their proximity to the researcher/investigator. When an investigator uses convenience sampling, it means that it can either be *purposive/judgemental/selective* or *subjective* (Grunbaum, 2023). Although non-probability sampling is deemed necessary in exploratory studies of this nature, it comes with weaknesses such as the inability to generalise the findings of the study to other settings (Casteel & Bradier, 2021). The study utilised a purposive sampling strategy to solicit data directly from practitioners who actively deal with maternal/neonatal health services and those managing these services at the district/regional level, TBAs that assist in various communities and women of childbearing age. Most of the participants for this study were identified by the gatekeepers of their communities or organisations based on the knowledge they possess and their ability to contribute to the study. Regional health directors identified the ideal HCPs

to participate in the study, while the traditional authorities identified women and TBAs as informants for the study. The gatekeepers' choice of participants can contribute to the success of the study when executed in a just manner, however failure to adhere to criteria can affect the results. According to Polit and Beck (2017), a researcher is expected to outline how sampling for **Phase II** was executed. The illustration below clarifies the method thereof.

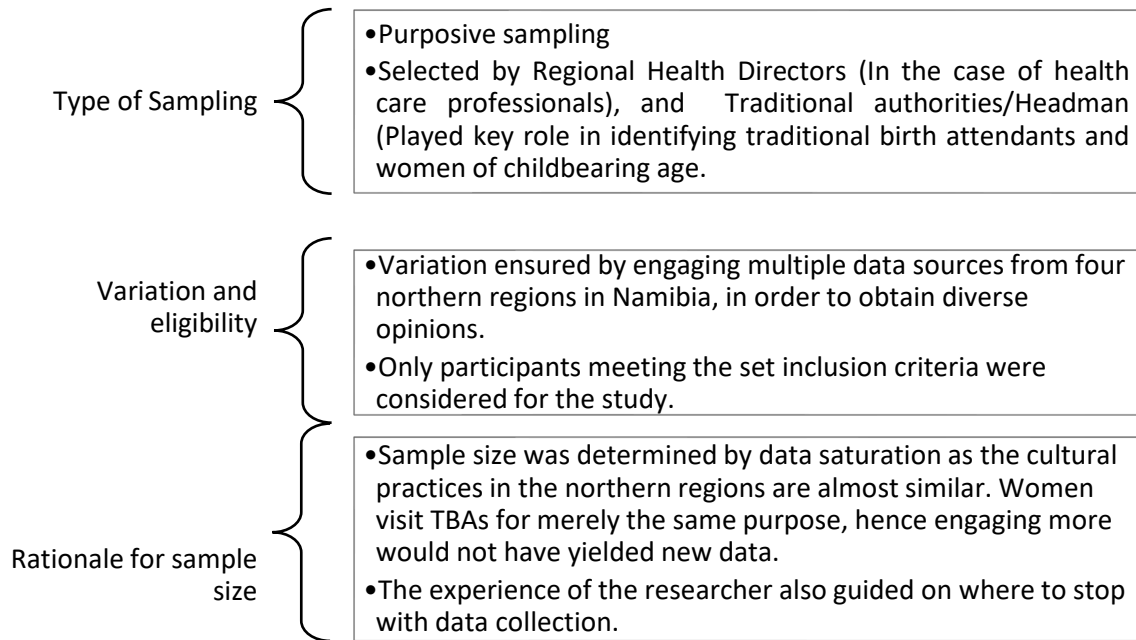


Figure 2.2 sampling criterion

3.6. Sample size

According to Polit and Beck (2017), there are no fixed rules for sample size in qualitative research; furthermore, sample size is based on informational needs, thus guided by the principle of data saturation. As cited in Hunters et al. (2019), Sandelowsky, (2000) state that purposeful sampling is the most appropriate strategy for descriptive qualitative research and that sampling should allow the researcher to capture and describe the phenomena over a variety of situations. Similar studies that used EDQ recommend a sample size of 30 participants, as this should allow important categories and sub-categories to emerge, but does recognise that a smaller sample may be appropriate (Hunters et al., 2019, p. 5). However, the qualitative nature of this study did not require a predetermined sample size. Therefore, the sample size was influenced by the point of data saturation. The researcher sought information from key informants in different categories, but recruitment stopped when data were saturated. Polit and Beck (2017) define data saturation as sampling to the point at which no new information is obtained, and

redundancy is achieved. This proved to be true in this study due to the fact that most practices are similar despite being in different jurisdictions.

In compliance with a qualitative sampling approach, participants were recruited to participate from each region selected for this study. The researcher purposively chose the following categories of HCPs who could add valuable input into this study, and they were: nurses/midwives, Primary Health Care (PHC) supervisor, senior or chief health program officer for family health division and a medical officer in the gynaecology and obstetrics department at state/government health facilities. An invitation was extended to all four participating regions. The total participants for this study were 51 (inclusive of 15 women, 22 HCPs and 14 TBAs). Hunters et al. (2019) examined the sample sizes that were used in sixteen (n=16) studies that utilised the EDQ approach and found that the average sample size was fifteen (15). Hence, the researcher is convinced that the sample size for this study, which is fifty-one (51), is evidently adequate, as supported by literature and data saturation.

3.6.1. Inclusion criteria

Patino and Carvalho (2018, p.84) state that “establishing inclusion and exclusion criteria for study participants is a standard, required practice when designing high-quality research protocols.” Inclusion criteria are defined as the key features of the target population that the investigators use to answer their research question” (Patino and Carvalho, 2018, p.84). Failure to set inclusion and exclusion boundaries may open doors for those not in the category of interest to partake in the study and affect the result of the study negatively. The following inclusion criteria was set:

- Registered nurses, Registered Midwives, Senior or Chief Health Program Officers and Medical officers dealing working at the clinics, health centres or at district or regional hospitals and in-charge of Sexual and Reproductive Health/family health services at regional level.
- Traditional birth attendants that assist in their communities,
- Women of childbearing age in the community who were identified by the traditional authority office were allowed to participate in the study.

3.6.2. Exclusion criteria

Differentiated from inclusion criteria by definition, “the exclusion criteria are defined as features of the potential study participants who meet the inclusion criteria but present with additional characteristics that could interfere with the success of the study or increase their risk for an unfavourable outcome” (Patino & Carvalho, 2018, p.84). The exclusion criteria were as follows:

- All nurses and doctors who do not deal with pregnant women or do not work in the maternity units or clinics.
- If not known as TBA, perhaps circumstantially just assisted once off and does not do it routinely
- Women under 21 years old were excluded.
- Not willing to partake in the study after being given information.

3.7. Pilot study

It is deemed necessary that a pilot study be conducted on a smaller scale to ascertain the feasibility of the study. Although, most of the EDQ studies rarely considered a pilot study, it is recommended for novice researchers to conduct such to test their data collection method and the information gained can form part of the data analysis (Hunters et al., 2019). A pilot study was conducted to test the clarity, relevance, and feasibility of the interview guide. The pilot involved interviewing two women of childbearing age, two healthcare professionals, and two Traditional Birth Attendants (TBAs) from Kavango East and West regions. The purpose was to ensure that the questions were understandable, culturally appropriate, and capable of eliciting the desired information. Feedback from the pilot study indicated areas where questions required rephrasing for clarity, and minor adjustments were made to the sequence and wording of some items to improve flow and comprehension. The pilot study helped to refine the data collection tools, enhance the interview process; and ensured the reliability and validity of the main study.

3.8. Data collection method and Instrument

There are various data collection techniques pertaining to a qualitative study that a researcher can choose from. However, for this study particularly, data collection methods were customised depending on the category of participants. One of the methods used was technology-mediated interviews by sharing a google link that was developed specifically with reflective questions based on the objectives of the study that required participants to type their responses/narratives. The technology-mediated interviews were applied to healthcare practitioners and interview guide was used for TBAs and women. The instruments used are briefly discussed in detail below:

3.8.1 Technology-mediated interviews from health professionals

The use of online data collection methods has become a trend in medical research complemented by the advantage of reaching participants near and afar in a short period of time (Mondal et al., 2018). The researcher requested the regional health directors via the official Ministry of Health and Social Services' communication channels to identify the HCPs meeting the criteria and shared the link of the semi-

structured interviews with HCPs through individual technology-mediated online interviews (Lathen and Laestadius, 2021). A semi-structured interview guide comprised of two sections: A) sociodemographic data and B) questions related to the study. The customised instrument for HCPs obtained data on their perceptions on collaboration with TBAs and to provide suggestions that could contribute to the development of training manual, suggest roles of on reproductive health and supported the development of a collaborative framework. This activity occurred between January 2023 and May 2024. Participation in the study was entirely on a voluntary basis, and the data collection tool did not require the entry of personal details of participants. The interviews shaped the formation of themes through the following questions:

- i) What are the views of healthcare professionals regarding the relevance of TBAs in their communities?*
- ii) What is the potential role of TBAs in enhancing reproductive health services through health promotion in Namibia?*

Responses were obtained from specialists in gynaecology and obstetrics, medical officers, primary healthcare (PHC) supervisors, family health programme officers at the district and regional levels, as well as registered nurses, midwives, and accoucheurs. Only HCPs currently practising in maternal and neonatal care units at district or regional hospitals over a period of twelve (12) months participated in the study. According to Mondal et al. (2018), online data capturing methods are now preferred by researchers because they require less manpower, less expense and less time, hence the application in this study.

3.8.2 Focus group discussions and interviews of TBAs and Women

The researcher collected data through face-to-face focus group discussions and/or interviews. Interviews and focus group discussions are frequently used in exploratory and descriptive research and in case studies to attempt to understand the world/phenomena from the participants' point of view, while focus group discussions are useful in attempting to understand diversity (Greeff, 2006; Hunters et al., 2019). The researcher used a semi-structured interview guide during the data collection process. The TBAs and women were interviewed consecutively. Data was collected through focused group interviews with TBAs lasting 30 to 60 minutes and in-depth interviews with women of childbearing age. Data was captured through audio recordings and the use of field notes. In the Kavango East and West regions, the interviews were conducted in *Rukwangali*, a vernacular spoken and understood by the majority, but in the Oshana Region, where *Oshikwanyama* is the spoken language, the researcher sought assistance from a translator who is a nurse/midwife, educator and researcher based in the region. In Zambezi, the local

health facility's senior nurse assigned a translator to assist the researcher. The translator in Zambezi is a health extension worker who worked closely with TBAs known at the health centre, as they accompany women and infants to the clinic after a home delivery. The data captured in the local languages was later translated into English by language experts to facilitate the analysis process. The sociodemographic data of participants were also collected to support and strengthen the quality of the study (Hunters et al., 2019).

An exploratory approach utilised in both engagements enabled optimum view expression by participants. The interviews took place in a private area assigned to the researcher by the TA. The headman's house, houses of TBAs that could not make it to the office due to distance and the Shelter for pregnant women outside Engela Hospital all served as venues for interviews. The venue was set up with either chairs or benches with no physical barrier between researcher and participants. Participants were served with 500ml water bottle during the interviews and a soft drink at the end of the session.

Consistency in data collection was ensured by adhering to the interview guide, and the online platform had reflective questions to which health professionals responded by typing their narratives. Additionally, some interviews were captured on a tape recorder, and the researcher also took field notes to capture interpretations. The recordings were made available to participants to validate if their opinions were captured correctly, and debriefing was done at the end of every session.

Table 3.2 Data collection method phase II

Participants	Data collection method	Rationale	Gatekeepers
PHASE II			
Healthcare professionals (HCPs)/Skilled birth attendants	Technology-mediated interview link and health professionals typed their responses and submitted online	The method enabled researcher to reach HCPs and get responses in a short period of time in the form of narratives.	Regional Health Directors- Ministry of Health and Social Services
Traditional Birth Attendants (TBAs)	Face-to-face interviews and focused group discussions	To allow probing into their perceived roles.	Traditional authorities

Women of childbearing age	Face-to-face interviews	To explore their views on the utilisation of TBA services	Traditional Authorities
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3.9. Data analysis method

Data management in qualitative research involves converting masses of data into small, manageable segments (Polit & Beck, 2017). In qualitative studies, the researcher may use either content analysis or thematic analysis. Polit and Beck (2017) used Patton's definition of content analysis and qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistency and meaning" (p. 435).

The recorded responses were extracted and imported into a Microsoft Word document and subsequently analysed. Latent content analysis and qualitative data reduction and sense-making efforts were applied through reading and re-reading of the responses to generate codes from transcripts, and categorising data into thematic areas. The following steps for latent content analysis were applied:

1. Data preparation- Transcribing verbatim of recordings, organising texts/narratives and correcting errors.
2. Familiarisation- required reading and re-reading while noting ideas and first impressions.
3. Development of codes through identification of themes and concepts relating to the phenomena being studied.
4. Code data- tag texts to corresponding code, refine codes and identify overarching themes
5. Interpretation and reporting

The analysed findings for Phase I and Phase II produced Phase III where a collaborative framework is developed to achieve objective 4 and; Phase IV which produced a training manual in accordance with objective 5. Phase III and IV are briefly introduced below.

3.10 Phase III: Development of a Collaborative Framework

The development of the framework was guided by the Phase I findings of the study, the Health Belief Model (Alyafei & Easton-Carr, 2024) and the Donabedian SPO model (Dziak, 2024). The concept derivation process followed the steps in Chinn & Krammer's (2018) method of contextualising empirical theory and Donabedian SPO influenced the development of the collaborative framework. Details on this process is in Chapter 6.

3.11 Phase IV: Proposed Training Manual for Traditional Birth Attendants

Phase IV presents the training plan and content in the developed manual that will be used to train TBAs as guided by the collaborative framework. The training manual was developed based on empirically identified training gaps derived from qualitative study findings in Phase II and the contribution from stakeholders. Stakeholders comprised of HCPS, academics and experts in Social Sciences. A training guide to operationalise the collaborative framework for TBAs grounded in empirical findings and local cultural contexts was produced in Phase IV and details are presented in chapter 7.

3.12 Measures used to ensure the trustworthiness and success of the interviews

3.12.1 Trustworthiness of data

Polit & Beck (2017, p. 982) clearly stated that a “good qualitative work is both descriptively sound, explicit and interpretively rich and innovative.” Exploratory-descriptive qualitative studies ensure to observe rigour or trustworthiness (Hunter et al., 2019). The researcher ensured that the trustworthiness is not compromised, hence, incorporated the criteria for ensuring trustworthiness in qualitative inquiry and one that is suitable for a constructivist paradigm as proposed by Lincoln & Guba (1985) and augmented by Guba & Lincoln (1994). The five criteria are *credibility*, *dependability*, *conformability*, *transferability* and *authenticity* (Polit & Beck, 2017). These trustworthy canons are discussed individually under subheadings below.

3.12.1.1 Credibility

Polit and Beck (2017) defines credibility as confidence in the truth of the data and interpretations of them. The researcher ensured credibility through prolonged engagement with participants. Prolonged engagement enhanced trust and enabled the researcher to understand context. The use of multiple data sources, sharing findings with supervisors to validate, member checking as participants verifying accuracy and resonance promoted credibility.

3.12.1.2 Dependability

Dependability and credibility complement each other. The concept of dependability refers to the stability of data over time and conditions (Polit & Beck, 2017). *Dependability* was ensured by using the applicable data collection tool for each specific category of participants for consistency. Furthermore, the researcher maintained detailed records for all research activities including data collection, coding and theme

development. Methodological decisions including coding and re-coding were shared with the supervisor for confirmation, rectification and validation.

3.12.1.3 Conformability

According to Polit & Beck (2017), conformability concerns establishing that the data represent the information participants provided and that the interpretations of those data are not invented by the inquirer. In this study, conformability was ensured by sharing preliminary results with the supervisors to identify gaps and render appropriate guidance timely. This is evident in the recommendation that was made by the supervisors after the initial data collection phase was completed and the researcher was advised to make amends in the proposal to include another set of participants that were initially not part of the study to enhance diverse views.

3.12.1.4 Transferability

Transferability refers to the extent to which the findings can be transferred to or have applicability in other settings or groups (Polit & Beck, 2017). Transferability was observed by providing a clear description of the participants and the study area. The researcher further conducted the study in four regions following the same process in each setting.

3.12.1.5. Authenticity

Authenticity, which refers to the extent to which researchers fairly and faithfully show a range of realities (Polit & Beck, 2017). This was ensured by keeping records of all field notes and audios. The researcher also transcribed verbatim the conversations captured during interviews. The raw data, including audio recordings and a trail of field notes, are secured, stored and readily available.

3.13. Ethical considerations of the research

As with any research approach involving human subjects, full recognition of relevant ethical issues and the ethical approval processes is required (Hunter et al., 2019). At the onset, the researcher presented the proposal to the NUST Ethical Clearance Committee for approval which was obtained (ref: FHAS09/2022). Thereafter, another approval was sought from the Ministry of Health and Social Services in Namibia (reference: 22/4/2/3). Before approaching participants in the communities, the researcher pursued permission from Traditional Authorities (TA) to access community members who were potential subjects for the study in accordance with the fulfilment of the regulations in Act no. 2 of 2017 of the

Ministry of Environment Forestry and Tourism on *Access to biological resources and associated traditional knowledge* that came into effect on 1 November 2021. As for the engagement with healthcare professionals, the letter of approval from the Ministry of Health and Social Services was forwarded to the regional directors to inform them of the intention to recruit the latter as participants of the study. For this study, Informed consent, avoidance of harm and justice principles were observed.

3.13.1. Informed consent

Participants who took part in the study were given full information about the study and had the right to consent or reject participating in the study. The Information sheet (see Annexure A) was provided to them, and the researcher read through it for them and allowed prospective participants to ask questions. Participation was entirely on a voluntary basis; no force or coercion was used to get participants. For the technology-mediated interview, the first page also had information and consent to participate. If a participant indicated that they have no interest in the study, then the subsequent pages would not open allowing them to exit from the link freely.

3.13.2. Avoidance of harm

According to Polit & Beck (2017), the researcher should observe the beneficence principle by ensuring that no harm befalls the study participants. Participants can be harmed in either physical or emotional form. However, this study only required participants to share indigenous knowledge verbally or give their perceptions on the relevance of TBAs in the communities. This project did not require laboratory experiments, which could have posed a risk of harm to subjects. Furthermore, there is no single participant who suffered exploitation or harm, whether physical or emotional, during the duration of the study.

3.13.3. Right to privacy/anonymity/confidentiality

Respect for human dignity was a priority in this study and their right to privacy was not compromised. The researcher further ensured that the participants' right to self-determination and right to full disclosure were not violated in any way. Polit & Beck (2017) clarified that respect to human dignity should not be compromised through coercion or taking advantage of economically challenged groups to manipulate them into participating in a study.

3.13.4 Principle of Justice

This principle implies that the researcher should observe the right to fair treatment and to privacy (Polit & Beck, 2017). In this study, participation was voluntary, and participants' identities were not revealed; no names were used during interviews/in field notes/in audio recorders. Instead, participants were allocated codes for identity. The data was handled strictly by the researcher and the team comprising of supervisors. A reserved lockable drawer was used for the storage of all study related materials. The key was handled by the researcher only. The final report and all relevant required materials were shared with the institution of study for examination purposes and with the stakeholders, such as the MOHSS, for consideration. Participants were also informed of the intention to publish the findings in a reputable journal, but were assured that their identity would not be attached to it.

3.14 Chapter Summary

This chapter outlined details on the methodology and design used by the researcher. This study utilised a scoping review and an exploratory-descriptive qualitative design (EDQ). Data was collected from selected data bases for the scoping review (phase I) and multiple data sources comprising three categories of participants to ensure maximum variation in the study (phase II). Data saturation was achieved, and latent content analysis was chosen as an ideal method to analyse the findings of the study that are presented in the next chapter. This chapter also clarified the ethical considerations and principles that were observed for this study to ensure that the rights of participants were not violated. Phase I produced a detailed manuscript of Scoping Review attached as Annexure 8. The next chapter consist of the results for Phase II; objectives 2 and 3 which will be followed by the collective discussion findings.

CHAPTER 4: PRESENTATION OF PHASE II STUDY FINDINGS

4.0. Introduction

This chapter presents data gathered by means of structured technology-mediated interviews, in-depth interviews and focus group discussions. Data were collected between January 2023 and May 2024 from a total 14 traditional birth attendants (TBAs), 15 women of childbearing age, and 22 health care professionals (HCPs) across the four selected northern Regions. The participants are addressed according to codes assigned to them, for example Z-TBA10 means Z-Zambezi, TBA-traditional birth attendant and 10-number assigned to the participant.

The findings below respond to the following objective: *To explore and describe roles of TBAs in reproductive health practices based on indigenous knowledge.*

4.1 Presentation of Socio-demographic characteristics of participants

Below is a presentation of sociodemographic characteristics of the TBAs, Women of childbearing age and Healthcare Professionals.

4.1.1 Socio-Demographic Characteristics of Traditional Birth Attendants

The exact number of TBAs in these regions is not known. However, a total of fourteen (14) female traditional birth attendants participated in the study from five (5) traditional authorities (TA) in Kavango East and West, Zambezi and Ohangwena regions, respectively. Fourteen percent (14%, n=2) of participants from *Ukwangali*, 21.4% (n=3) from *Sambyu* and 21.4% (n=3) from *Gciriku*, 29% (n=4) from *Uukwanyama* and 14% (n=2) from the Mashi in Zambezi. The ages of TBAs ranged from 50 to 96 years, and on average, most of them have been practising as TBAs for more than 30 years with experience in the field of assisting pregnant women in reproductive health issues. The ages of TBAs raise a concern on preservation of indigenous knowledge, a question whether the younger generation has interest on indigenous knowledge acquisition or folk knowledge is at risk of phasing out. Table 4.1 provides details on sociodemographic characteristics of TBAs.

Table 4.1 Sociodemographic characteristics of TBAs

Characteristics	Frequency	Percentage
Region		
Kavango West	2	14%
Kavango East	6	43%
Ohangwena	4	29%
Zambezi	2	14%
Total	14	100%
Age range of TBA in years		
50-64	8	57%
65-75	5	36%
>76	1	7%
Total	14	100%
Educational level		
No education	4	29%
Literacy program	8	57%
Primary	1	7%
Secondary	1	7%
Tertiary	0	0%
Total	14	100%
Years of experience as TBA		
1-10 years	1	7%
11-20 years	1	7%
21-30 years	1	7%
31-40 years	3	21%
41 years and more	4	29%
Don't know how many years	4	29%
Total	14	100%

4.1.2. Sociodemographic data of the women

A total number of fifteen (15) women took part in the study until data saturation. Their age ranges from 25-43 years, with an average of 31.5 years. The marital status of the majority (about 12 women) is not legally married, some of them are cohabiting with their spouses, which is acceptable in their communities in terms of customary unions. One of the participants went into a customary marriage at a tender age of 17. Eleven out of the fifteen participants indicated that they completed the secondary phase of education, and only four either ended at the primary level of education or never went to school. This information goes hand in hand with the educational status of their partners/spouses. Most of the participants (n=7) are housewives, while the remaining participants are either self-employed or partake in other jobs on a temporary basis as casual workers. Almost all participants reside in rural communities, and the number of people in a household ranges from three (3) to twelve (12). With regards to their religion, thirteen (13)

participants indicated that they are Christians, one (1) Muslim, while another one (1) answered that she does not belong to any religion. Most of the participants do not have access to televisions, but there are a few who indicated that they listen to the radio sometimes and read newspapers occasionally. Some of these participants live closer to a clinic that offers basic health care and operates daytime only, while some reside in the remotest areas where even walking to a health facility is impossible. This category of participants was also engaged to give their perceptions on the relevance of the services of TBAs in the communities. The table 4.2 below summarises some variables of the sociodemographic data of women of childbearing age.

Table 4.1 Sociodemographic data of women (n:15)

4.1.3.	Sociodemographic variables	(n=number)	Percentage (%)
	Age range (years)		
	18-25	2	13
	26-35	9	60
	36-40	3	20
	>40	1	7
	Total	15	100
	Marital status		
	Single	12	80
	Married	3	20
	Total	15	100
	Employment status		
	Housewife	7	47
	Self-employed	2	13
	Others	6	40
	Total	15	100
	Religion		
	Christian	13	86
	Muslim	1	7
	Others	1	7
	Total	15	100

Sociodemographic characteristics of Health Care professionals

Twenty-two (22) health care professionals participated in this study voluntarily from the four sampled regions in northern Namibia. The regional directors assisted with the identification of participants who met the inclusion criteria. Most of the participants (n=10) were from Kavango East region, representing 45.5% and the least participation was from Zambezi with 9.1% (n=2). HCPs from Kavango West region were 31.8% (n=7) and Ohangwena 13.6% (n=3). The regional representation of HCP is illustrated in Table 4.3 analysed through Google Forms as depicted below. Furthermore, in this category of HCPs, 63.6% of

the participants were males, while 36.4% were females. Most of the participants were registered nurses/midwives, 40.9%, followed by Specialists, gynaecologists/obstetricians/medical officers with 36.4%, PHC supervisors 13.6% and Chief/Senior Health Programme Officers at 9.1% as shown in the table below. The HCPs that participated in the study have vast years of experience ranging from 3 to 29 years of experience in maternal and neonatal health care.

Table 4.2 Sociodemographic variable for HCPs (n:22)

<i>Sociodemographic variables</i>	<i>(n=number)</i>	<i>Percentage (%)</i>
<i>Regional representation</i>		
<i>Kavango East</i>	10	45
<i>Kavango West</i>	7	32
<i>Ohangwena</i>	3	14
<i>Zambezi</i>	2	9
<i>Total</i>	22	100
<i>Sex</i>		
<i>Male</i>	14	64
<i>Female</i>	8	36
<i>Total</i>	22	100
<i>Work experience (in years)</i>		
<i>< /=5</i>	3	14
<i>6-10</i>	3	14
<i>11-20</i>	13	59
<i>>21</i>	2	9
<i>Not stated</i>	1	4
<i>Total</i>	22	100
<i>Job category</i>		
<i>Registered nurse/midwives</i>	9	41
<i>Primary healthcare supervisor</i>	3	14
<i>Health programme officers</i>	2	9
<i>Medical officers/specialists</i>	8	36
<i>Total</i>	22	100

4.2 Presentation of findings

4.2.1 Themes and subthemes for TBA narratives

The objective for the focus group interview with the TBAs were as follows: *To explore and describe roles of TBAs in reproductive health practices based on indigenous knowledge*. The interview transcripts were analysed to identify patterns and generate themes. Data saturation occurred at participant OH-TBA11 as

no new codes were generated thereafter until TBA14. Table 4.4 below provides a summary of codes generated based on services provided by TBAs and the corresponding themes.

Table 4.3 Coding and theme development

Code	No	Category	Theme
Provide herbal concoctions	11	Cultural treatment	Indigenous knowledge
Treat infertility and minor ailments	5	Cultural treatment	Preconception and antepartum role
Cut off piles and other growths	2	Treatment	Antepartum and postpartum role
Correct fetus uterine position	6	Pregnancy management	Antepartum role
Conduct emergency deliveries	14	Childbirth procedure	Intrapartum role
Remove retained placenta	2	Manage afterbirth complications	Intrapartum role
Educate pregnant women	14	Health promotion	Antepartum role
Encourage hospital deliveries	14	Health promotion	Antepartum role

Based on the evidence above, Figure 4.1 presents a summary of themes as presented sequentially.

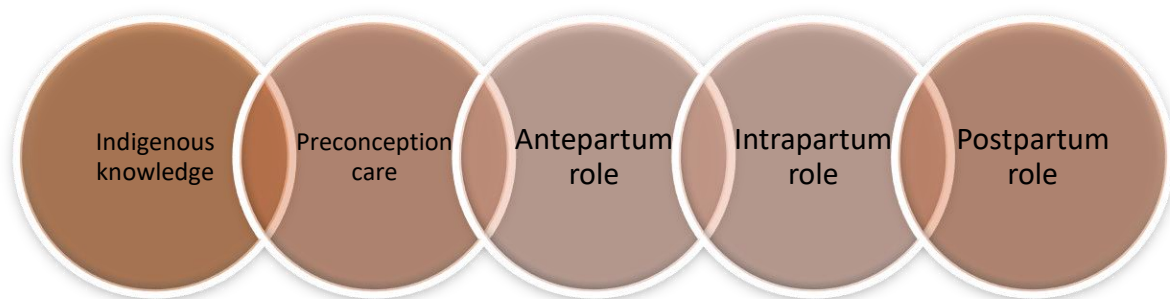


Figure 4.1 Themes derived from TBAs' Interviews

The themes are presented in detail, supported by verbatim quotations from the participants as presented under each theme:

Theme: Indigenous Knowledge

The scope of knowledge for TBAs in the cultural context is broad; some of them indicated that they provide traditional concoctions for infertility, maintenance of pregnancy and facilitate labour.

In the Zambezi Region, both Z-TBA09 and Z-TBA10 stated that they do treat infertility using “*mushunga*.” (local name, scientific name unknown). “*Mushunga*” is a combination of a consumable concoction and a stick ritual indicated to treat infertility. The concoction is mixed by the TBA and given to the woman to drink, while the stick is tied on the back. This treatment is taken with strict instructions that the woman should take the concoction until she misses her menstrual period, then she can visit the TBA for confirmation. The TBAs revealed that the concoctions they give during antepartum comprise of roots, leaves, bark of a tree and other remedies such as elephant dung mixed with roots. The concoctions are also given in case the woman or her partner has extra sexual affairs. Cultural beliefs are that if a woman fails to drink the concoction while she knows she had other affairs, she can bleed to death. Below are some of the quotes:

K-TBA03 said: *“I give herbal concoction known as “mpindu” (scientific name: Ancyloanthus Bainesii). Mpindu can be translated as medicine that stimulates something. This medicine is given for safe pregnancy, and for morning sickness. I also give “rwaso” if vomiting. All these are mixtures of various herbs we collect in the forest. Some of the herbs are crushed and smeared on the abdomen.”*

Another K-TBA04 also said: *“If a woman is bleeding early in pregnancy, I give “mundwere” (Lansea zastrowiana) concoction mixed with “nompeke” (Ximema caffra) roots.”*

Some of the TBAs in Kavango provide ‘*ntunga*’, to stop bleeding after birth.

In Zambezi, Z-TBA09 and Z-TBA10 revealed that they provide what is locally known as ‘*funga*’ to drink and some crushed herbs to smear on the pregnant woman’s body so that she will not have any complications during delivery.

Theme: Preconception care

One of the health motivations for women to seek TBA services is when they are struggling to conceive. According to the participants, their clientele is mostly women, but in rare cases they also render such services to men. According to the TBAs, infertility in the cultural context is diagnosed by failure to conceive after several attempts to fall pregnant. Below are some of the extracts from the translated conversations:

K-TBA01 said, *“I can treat infertility. Some of the problems leading to difficulty in becoming pregnant is just a bended cervix, sometimes the cervix is hiding at the back (posterior), hence the woman cannot conceive. I can successfully realign it to make it straight, and if that rectification is done, the woman can easily conceive.”*

The above statement demonstrates unique skills possessed by the TBA, however investigation to rule out biomedical risks associated with how this procedure is carried out can be recommended. This therefore requires the formal health system to engage critically with the TBAs to ensure that care rendered does not cause secondary complications.

K-TBA02 also revealed she can treat infertility in both women and men. She further added that: *“for a man, we give treatment comprising a concoction to drink so that the unhealthy sperm is flushed out with urine whereby yellow discharge will be dripping, thereafter, there won’t be problems conceiving.”*

K-TBA04 also affirmed to treatment of infertility that results from a folded cervix. After treatment is provided, there are signs a TBA checks for to confirm pregnancy, namely a growing abdomen, white eyes and other pregnancy-related symptoms such as spitting too much.

The majority of the TBAs that took part in the study in the Ohangwena Region only render pregnancy and childbirth aid, except for OH-TBA14, who indicated that she could treat infertility by providing herbal concoctions. The composition of the herbal concoctions used by OH-TBA14 was not revealed during the interview, which demonstrates the ethical considerations associated with this study. Participants were at liberty to decline responding to questions that brought them discomfort.

Theme: Antepartum role

The majority of the TBAs reported that pregnant women approach them for cultural care that applies to pregnancy. It is perceived that in the cultural context, if a woman is pregnant, she needs to find an elderly woman to assist her to avoid complications during pregnancy and childbirth. TBAs expressed that they render a variety of services in their communities to pregnant women. Some of the services rendered to women and their families include providing herbal concoctions to treat minor ailments such as lower abdominal pain, backache, nauseous and vomiting; palpating the uterus to assess foetal growth; and employing manoeuvres to correct foetal positioning in the uterus.

K-TBA01 said: *“I assess by palpating the abdomen to check the growth of the baby in the womb.*

K-TBA02 added that: *“I assess the growth of the baby at every visit and in case the baby is in transverse lie in the womb, I can also perform some manoeuvres to position the baby in a normal way.”*

K-TBA03, who also renders similar services as those of the other TBA narrated, stated as follows: *“I attend to pregnant women. If they have morning sickness, I attend to it too.”*

Z-TBA09 stated that: *“I care for pregnant women, I educate them on how they should behave during pregnancy, and I also advise them to deliver at the hospital.”*

The services rendered by OH-TBA11, OH-TBA12 and OH-TBA13 during the antepartum period are similar to those the previous participants reported about.

K-TBA01, gives herbal concoction to *“ensure safe pregnancy and safe delivery.”*

K-TBA05 added that some of the cultural remedies help relax perineal muscles so that during birth, a woman will not sustain any tears or lacerations on the birth canal.

K-TBA06, K-TBA07 and K-TBA08 all stated that they give herbal concoctions that ensure a safe pregnancy and smooth delivery when in labour.

Some pregnant women often complain of growths on the genitals (from the description, it might be warts) and on the anus (piles). Both TBAs from Kavango West indicated that they manage the growths by cutting them off.

Theme: Intrapartum role

The role of TBAs during the intrapartum period is to help women give birth in emergencies. TBAs revealed that the home births conducted are unplanned but rather circumstantially driven. However, the TBAs are approached for assistance during emergencies, which mostly occur at night due to a lack of transport and long distances to health facilities.

The narratives below are some of the expressions and views of the participants:

K-TBA01 said: *“I conduct deliveries and also in situations where the afterbirth products (referring to the placenta) get stuck after the baby is born, I can remove them manually”* She laughed and added that *“we use a technique that involves pricking on the vaginal opening with dry grass.”*

K-TBA07 and K-TBA08 shared the same sentiments and summarised it this way: *“It is not by choice that we conduct deliveries at home, but just emergencies (sic) and people approach us because they know we can do it.”*

K-TBA07 also shared that *“I can manage stuck afterbirth products successfully.”*

The narratives above were echoed in almost all TBA views. However, the TBAs indicated that they render these services selflessly without charging a cent, but the anticipation is that when the women finally

deliver and everything turns out well, they should at least return with a token of appreciation. It is clear, therefore, that the women benefit from the TBAs' generosity, as they are not required to pay upfront.

K-TBA07 and K-TBA08 stated that: "However, we have challenges such as a lack of gloves, blades, and strings to tie cord."

In the Zambezi Region, there is only one district hospital, which is in Katima Mulilo. This creates a situation where pregnant mothers residing furthest from town must travel long distances to access a maternity unit when in labour. The TBAs that participated narrated their experience and views as follows:

Z-TBA09 stated that: "I attend to emergency deliveries and when that happens, I make sure to escort the woman to the clinic the following day."

Z-TBA10 also concurred with her counterpart above, saying she renders assistance with emergency deliveries and further elaborated on how she performs the procedure: "I was once trained here in Zambezi, there was a programme supporting us, but now, it stopped (she takes out a bag she was given as evidence, and it reads '**Caprivi Home Based Care Givers.**' Now I use what is available to help with the delivery, such as using reeds to cut the umbilical cord."

In the Ohangwena Region, 4 TBAs participated, and their experiences are not different from the TBAs in the Kavango and Zambezi. They also assist with emergency deliveries as some of their clients live far from the hospital and in some cases, labour starts at night time, and there is no transport. Below are some of the narratives:

OH-TBA11, OH-TBA12 and OH-TBA13 all shared the same narrative: "I assist with emergency deliveries in the community, especially during night time."

OH-TBA14 indicated that: "I help to assist (sic) women give birth by receiving the baby and caring for the newborn. In the morning, the mother can go to the hospital for further care."

Theme: Postpartum role

During the postpartum period, the role of TBAs is to ensure that the women they have assisted are in good condition. TBAs advise women to go to the clinic after delivery so that they can be assessed and their infants can be registered and immunised. Referral is also done for the cases that show complications, such as postpartum bleeding, and some of the TBAs accompany their patients to the health facility.

K-TBA03 said: “I encourage my clients to go to the hospital, especially those with complications.”

K-TBA07 said: “When I finish assisting with delivery and remove the ‘afterbirth’ (referring to placenta) successfully, I take the woman and her baby to the hospital for further care.”

Similarly, Z-TBA09 stated that: “I assist with childbirth because it is an emergency, but once the job is done, I escort the mother and baby to the clinic.

The need to Collaboration with the formal health system

Most of the participants expressed that there is a need for a formal health system to collaborate with TBAs. Participants from the regions that participated in the study indicated that they are known in their jurisdiction but not yet recognised by the MHSS. However, some of the participants shared that since they accompany their clients to the health facility after delivery, they have exposed them positively to the HCPs. None of the participants expressed challenges with the formal health system as a result of conducting a home delivery. However, they are conscious of the fact that herbal concoction they give are not supported by the formal health system, but then culture dictates contrary, hence they clandestinely administer to prevent death of a pregnant mother. They expressed the need to be trained, certified and supported with necessities that can allow them to render assistance in their communities. Below are some of the views expressed:

K-TBA02 says: “We need recognition because working this way is just a problem.”

K-TBA04 expressed that: “if we can be recognised, maybe we can be given even gloves, blades and strings to tie an umbilical cord during emergency deliveries.”

K-TBA08 says: “We need support, we need gloves. Right now, we are just using our bare hands or even normal plastic bags, which are not safe, and there are many diseases now, not like in the past.”

In their narratives, it was also revealed that they do render some health promotion activities for the Ministry of Health and Social Services (MOHSS) by encouraging women to attend Antenatal Care (ANC). Below are some of the narratives:

On the aspect of health education, K-TBA03 said the following: “We encourage the women to go to the clinic and attend ANC, and those with complications, we tell them to go to the hospital.” K-TBA04 and K-TBA05 also shared the same sentiments.

The inquiry on the need for training and certification received affirmation from the participants representing Ohangwena and Zambezi regions, respectively, further highlighting that perhaps training and recognition might be accompanied by essentials needed to execute their community tasks, and some also hope for incentives if recognised by the government. The majority highlighted the need for support, as some of the tools they improvise with might cause infections. Below are some of the quotes in this regard;

OH-TBA11 said: “We need training and at least the hospitals to supply us with gloves.”

Another TBA also added that: “We need support and cooperation from health workers at the hospital; they criticised us sometimes when we assist with deliveries and accompany the woman to the hospital.”

Another TBA lamented regarding assisting without remuneration for the important task they render in their communities and further added that some of them even got infections while assisting the women that they cared for. OH-TBA14 summarised as echoed by her counterparts: “We would do well if trained and supported. Most of us conduct 5 to 20 deliveries successfully in a year with limited resources, no gloves, no blades.... there is just nothing proper, but we have no choice but to help.”

From the narratives above, it is evident that TBAs do play a role in their communities, but a lack of recognition, training and support poses a challenge in executing their tasks effectively. They are all in support of being trained, certified and recognised by the government.

4.2.2 Findings from interviews conducted with women of childbearing age

This section discusses the main findings emanating from the focus group discussions with women of childbearing age.

Perception of the women on the relevance of TBAs in their communities

Almost all women who participated in the study stated that TBAs are indeed relevant in their communities as they are knowledgeable and able to assist pregnant women who live far from health facilities. The table below shows responses from women regarding the relevance of TBAs, training of TBAs and areas of assistance. The data in this table were also coded, categorised and grouped into themes in which the findings are eventually presented.

Table 4.4 Perceptions of women of childbearing age

	View on the relevance of TBAs	Will women access TBAs if trained and certified	Services sought from TBAs and Reasons
Z-W01	They are helpful, especially for us who only have a clinic nearby that operates during the day. The clinic has no maternity services. To reach the maternity hospital, we have to travel 114km, and it is costly.	Yes, they will	Usually, here, TBAs are consulted for emergency deliveries. Also, during pregnancy, women need to get ' <i>funga</i> ' from TBAs to prevent complications during delivery.
Z-W02	Yes, they are helpful to some of those who believe in those cultural things. But I do not believe in it.	Yes, if certified women will make use of their services because they will work accordingly	I do not know anything about that because I do not believe in it.
OH-W03	Yes, they are relevant as they assist those in need.	Yes, women will use the services even more	Emergency deliveries, as some stay far from clinics and hospitals. We stay very far from hospitals.
OH-W04	Very relevant, especially to those who are very far from health facilities	Yes, because if they are trained, they will even be able to tell the position of the baby and know what to do.	Some seek fertility treatment if struggling to fall pregnant, and the TBAs are known to treat it successfully.
OH-W05	Yes, they are relevant.	Yes, if trained, they can help with deliveries because they will have more knowledge.	Pregnancy and delivery services and they do not charge a lot of money. Going to the hospital is too costly because you pay for transport and hospital fees.
OH-W06	Yes, they are important and very helpful, especially at night when it is difficult to get transport, they can walk to the house and assist.	Yes, that will mean recognition from the government and getting a birth certificate will not be a problem for babies born at home.	Mostly, emergency deliveries.
OH-W07	Yes, they are needed in the communities	Yes, women will make use of the services as TBAs will have all the necessary tools to carry out their tasks.	Mostly women go for assistance with fertility treatment.

OH-W08	Yes, they are relevant because they assist with emergencies in the community	Yes, people will make use of them more, and in addition, if trained, they will have materials to use and prevent infections.	People mostly seek assistance when in labour during the night, and there are challenges getting transport to the hospital during the night.
KE-W09	They are needed as they assist in case you stay far from the clinic.	Yes, as they will be equipped with the knowledge and skills to assist people	Fertility treatment, They assist traditionally with obstructed labour.
KE-W10	Yes. Some stay far from the hospital. In this village, there is only a clinic which does not operate at night. So if there is a TBA nearby, she can assist.	Yes, most people will be free to visit them and get assistance.	They assist with all pregnancy related emergencies, including retained placenta Emergency deliveries They give <i>nsunga</i> to have a safe delivery They treat breast related problems during pregnancy (<i>etjupa</i>). They also treat PPH using a hot stone with herbs, they dig a hole and let the blood drip in the pit and they add some herbs; blood stops immediately.
KE-W11	Yes, they are relevant; sometimes they can assist with emergency deliveries. Due to transport challenges, they do come in handy.	Yes, people will use the services of TBAs	They give herbal concoctions to prepare a pregnant woman for labour and delivery. They also assist babies to be well after delivery by smearing herbal medicines. They also give newborn babies to prevent colic.
KE-W12	Yes, they are relevant, they assist during emergencies to conduct deliveries.	Yes, most people will seek assistance. Some do not have elders that can assist them but when there is someone known then women will seek assistance there.	They give <i>nsunga</i> for wellness of baby in uterus. They also treat obstructed labour, cord around the neck, and retained placenta. They treat all that.
KE-W13	Yes, they are relevant. There is no hospital here. They assist so much with emergency deliveries.	Yes, people will utilise the services.	They assist and give recommended cultural remedies when in labour. They also treat hemorrhoids, and also

			treat growths on genitalia, they also give <i>nsunga</i> to speed up labour.
KE-W14	Sometimes they are relevant, they can assist women who are far from hospital or no money for transport, and they can help with deliveries.	Yes, because that means they will get assistance with essentials such as gloves. So, people will not hesitate to seek for assistance.	They go for <i>nsunga</i> They treat <i>kakenda</i>
KE-W15	They are not relevant; I do not see what they do.	No	I do not know because i don't go there.

Based on the findings tabulated above, data saturation was reached at the 13th participant. The pattern that emerged paramount was traditional remedies, emergency deliveries and long distance to health facilities. The following themes were derived: i) *distance and financial challenges* and ii) *TBA cultural care and birth assistance*. These two themes are presented individually below:

Theme: Distance and financial challenges

The majority, eighty-six percent (86%) of participants indicated TBAs are relevant in their communities as most people live far from maternity wards and at night time it is challenging to travel long distances. In scenarios such as that, TBAs are seen as lifesavers because they are readily available and can assist with emergency births. The participants also believe that being helped by a TBA in the community does not cost much compared to paying for transportation and hospital fares. Below are some of the quotes corresponding with this theme:

In Zambezi, Z-W01 responded that: *“Traditional birth attendants are helpful, especially for us who only have a clinic nearby that operates during the day. The clinic has no maternity services. To reach the maternity hospital, we must travel 114km, and it is costly.”*

In the Ohangwena region, women of childbearing age who took part in the study also share the same sentiments as echoed in the previous quote. OH-W04, OH-W06 and OH-W08 said traditional birth attendants can assist during the night hours in their communities because transport to the hospital during the night can be challenging.

Theme: TBA Cultural Care

The women who participated in the study indicated that TBAs render a variety of relevant services in the community. Some of the most common reasons TBAs are sought after include the provision of cultural care during pregnancy. Participants indicated that during pregnancy, pregnant women require traditional remedies from TBAs for maternal and foetal wellbeing, however, scientifically taking unregulated complementary medicine may be hazardous as toxicity has not been established. Although this practice is culturally acceptable to most, some women in this study, approximately two (n=2; 14%), indicated that they have no interest in TBAs. However, the remaining 86% narrated that TBAs are very useful in treating fertility and pregnancy-related ailments. TBAs are also known in the communities in which the study was conducted that they assist with emergency births, managing bleeding after delivery (postpartum haemorrhage) and provide care to newborns.

The need to assist with emergency deliveries at night due to lack of transport was highlighted by at least five (5) participants. They indicated that without a hospital nearby, the only option is to seek assistance from TBAs when labour commences at odd hours.

4.2.3 Presentation of findings from interviews conducted with health care practitioners

The health care practitioners' views were in response to the reflective questions that were shared with them using Google link. The individuals had to respond to reflective questions based on the objective, asking them to: *'To identify safe and promotive reproductive health roles that TBAs can perform to complement services within the formal health system.'* The health care practitioners wrote the narratives at their own pace, which the researcher retrieved to engage with the text and extract themes and subthemes.

4.3.2.1 Themes and Subthemes: HCPs' Narratives

The researcher engaged with the narratives from each health care professional who participated in the study. In this instance, qualitative content analysis was used to identify similarities, prominent themes and patterns from the narratives (Polit & Beck, 2017). There was a 95.5% positive affirmation on the relevance of TBAs in society, representing twenty-one (21) out of the health care workers, and 100% stated that there is a need to train and certify TBAs to regulate their practices. Additionally, TBAs can play a role in facilitating communication between the communities and the formal health system. Healthcare professionals in this study support the training of TBAs and proposed possible topics for training. The text trail extracted generated the following themes, illustrated in table 4.6 below:

Table 4.6: Themes derived from Healthcare Professionals

Themes	Sub themes
1. TBAs are relevant for various roles in the communities	Facilitate communication with formal health system
2. Educate, support and assist pregnant women	Health promotion role Conduct safe emergency deliveries Encourage health facility deliveries
3. Risk assessment and identification of cases for referral	Recognise risks and refer timely
4. Training TBAs to improve service delivery and prevent infections	Training needs

Theme 1: TBAs are relevant for various roles in the communities

Subtheme: Facilitate communication with the formal health system

Almost all of the healthcare professionals agreed that the TBAs are relevant in their communities, while one 1) participant representing 4.5% differed from the rest. Additionally, it was also highlighted that TBAs can facilitate communication between the communities and the formal health system. The HCPs further responded positively to the question of whether TBAs need to be trained and further proposed the necessary topics.

Theme 2: Educate, support and assist pregnant women

Subtheme: Health promotion role

In this theme, most of the HCPs expressed through text that TBAs can play a vital role in health promotion. They can encourage women to initiate antenatal care early, plan for births, educate on postnatal care and immunisation. Below are some of the expressions by HCPs:

HCP01 said: *“TBAs can assist in the areas of identifying the pregnant mothers in their territories, advice on the importance of attending ANC, ensure that they attend ANC too, assist mothers to plan for birth together with their families. “Good relationships between the TBA (skilled) (sic) and MOHSS are important.”*

Sharing the same sentiments, HCP03 also wrote: *“TBAs can assist in educating the community about the importance of antenatal care, postnatal care and the importance of immunisation.”*

Similarly, HCP04 shared the same opinion, noting the importance of: *“Early identification of pregnant women in the community and referring them to their nearest health facilities for antenatal care.”*

The statements narrated above were echoed by some of the HCPs, including HCP06, HCP07, HCP21 and HCP22. These HCPs concur that TBAs can play a role in encouraging women in their communities to seek reproductive healthcare and antenatal services early.

Subtheme: conduct safe emergency deliveries

Some of the healthcare professionals who took part in the study seemed to be well conversant with the fact that there are clients who live in the remotest areas and might face challenges reaching the health facilities on time when the need arises. Therefore, they recommend that, where necessary and in cases of emergency, TBAs can assist with childbirth safely. However, they emphasised that TBAs should be able to perform risk assessment, identify danger signs and refer. The quotes below are based on the narratives expressed through text by individual HCPs. HCP02 stated the following: *“I propose that TBAs assist in delivering those who find it hard to reach Health (sic) facilities.”*

On the other hand, HCP03 also suggested to get help by: *“calling the ambulance for mothers in labour or home delivery in case the mother did not have time to reach a health facility.” (sic)*

The quotes above were also noted in the statements expressed by HCPs 07, 08 and 11 supporting the idea of TBAs assisting with emergency deliveries at home. On the contrary, some of the HCPs believed that TBAs should be discouraged from conducting deliveries at home, but should rather convince the women to go to the hospital. The next subtheme has the views on encouraging mothers to be assisted by skilled birth attendants at health facilities.

Subtheme: Encourage health facility deliveries

HCPs suggest that TBAs should discourage home deliveries, and pregnant women should be referred to the health facilities when having signs of labour. TBAs can play a role in calling ambulance services to assist in transportation to the nearest health centre. HCP03, HCP06 and HCP08 respectively responded as follows:

“TBAs should assist in calling the ambulance so that the first option for place of delivery is a health facility.”

“TBAs should advocate and encourage hospital deliveries at all times.”

“TBAs should advocate and convince women that it is dangerous to deliver at home.”

Case in point is that some HCPs expressed concerns that allowing TBAs to conduct deliveries could open room for harmful practices. Below are quotes to illustrate their concerns:

HCP04 wrote: *“TBAs must stop giving herbal concoction (that works like ‘oxytocin’) to pregnant women.”* Similarly, HCPs 15 and 21 both state: *“TBAs should avoid harmful practices during pregnancy and labour.”*

Theme 3: Risk assessment and identification of cases for referral

Subtheme: Recognise risks and refer timely

Another theme that was extracted from the narratives is that of risk assessment and identification of referral cases. This emanated strongly in at least five (5) of the responses.

HCP01 wrote: *“TBAs can assist in identifying pregnant risks in these mothers, and they should be able to recognise complicated deliveries (sic) cases for early referral. Most importantly, establish good relationships between the TBA (skilled) and MOHSS”.*

Similar to the opinion narrated above, HCP04’s sentiments were that TBAs should *“refer pregnant mothers to health facilities, be cautioned about dangers of traditional medicine and other traditional practices for example putting cow dung or charcoal ashes on the newborn’s umbilical and importance of hand hygiene.”*

Sharing the same sentiment, HCP12 wrote: *If TBAs are trained well, they will be able to detect complications early and refer patients to the hospital.”*

In addition, HCPs 14, 17 and 18 stated that TBAs should be able to recognise danger signs and complications and refer to the health facility for timely interventions

Theme 4: Training TBAs to improve service delivery and prevent infections

Subtheme: Training needs

The healthcare practitioners were asked to indicate whether TBAs in Namibia need to be trained and certified, and 100% of respondents replied with a ‘yes’. Based on that response, they were further asked to suggest areas of training that TBAs should be given. The suggestions made mostly focused on infection control and prevention, recognition of danger signs, identification of high-risk mothers, communication and timely referral.

HCP01 suggested: *“The TBAs should be trained on the basic principles of obstetrics, danger signs in pregnancy, Identification (sic) of high-risk mothers, labour management and postnatal follow-up check.”*

However, HCP02 added: *“TBAs should be taught the signs of true labour, how to conduct a normal delivery and how to help a baby breathe (sic).”*

HCP03 believed that TBAs be oriented on how to identify danger signs of pregnancy, and how to conduct a sterile/ clean delivery to avoid infections. The professionals further added that TBAs should be familiarised with the equipment and materials for delivery.

HCP05 and HCP11 both believed that TBAs should be trained on *“maternal and Child Health care, Infection Prevention and Control.”*

HCP11 further added that TBAs should be trained on *“Maternal Assistance & Motherhood Aid for Improved Childbirth, Ante-Natal, and Reproductive Education (MAMA I-CARE) Proposed topics: Haemorrhage (ante and postpartum), Puerperal sepsis and general Infection prevention and control, HIV PMTCT, Complications of labour, Ethics (in modern society).”*

The proposed topics of training are compiled and tabulated below based on the needs as highlighted by participants. The frequency just indicates the number of times that specific training need was mentioned by different participants:

Table 4.7 Proposed Topics for TBAs Training

Topic	Frequency
Infection control and prevention	
- Hand washing	
- Cleaning and sterilising equipment	7
- Clean births	
- PMTCT	
Promotion of Reproductive Health services	
- ANC	
- PNC	4
- Immunisation	
Conducting a normal delivery	
- Signs of true labor	6
- Assisting with births/delivery	
- Immediate care of newborn	
- Prevention of hypothermia	
Basic first Aid	4
- Applicable to mother	
- Applicable to newborn baby	
Recognition of danger signs in pregnancy, labor and puerperium	6
Harmful practices	
- Administration of traditional labor inducing/augmenting concoctions	3
- Administration of herbal medicine to newborn babies	
Ethics	1

Effective Communication	
- Collaboration with healthcare practitioners	2
- Referrals	
- Recordkeeping	

4.4 Triangulation of data

Triangulation is one method researchers can use to mitigate bias in their studies. According to Fusch et al. (2018), triangulation adds depth to the data that is collected in qualitative research and further can support a direct link with data saturation. The researcher applied data triangulation in this study by engaging multiple data sources, scoping review and literature control that is presented in the next chapter. Through triangulation, different groups of people can be observed or interviewed to collect the same information at different times and places (Donkoh & Mensah, 2023). The researcher collected data through different platforms; interviews, focus group discussions and online through technology-mediated platforms. This strategy enhanced rigor as participants were also multidisciplinary; which included specialist gynaecologist/obstetrician, medical doctors, health programme officers, Primary health care supervisors, nurses and midwives, traditional birth attendants and women of childbearing age to enabling triangulation. Examining the results of the study across interviews allow convergence and corroboration on shared sentiments regarding the relevance of TBAs. Multiple perspectives enhanced credibility compared to relying on a single category of participants. Therefore, the integration of varied perspectives contributed to rich, contextualised descriptions which further promotes transferability.

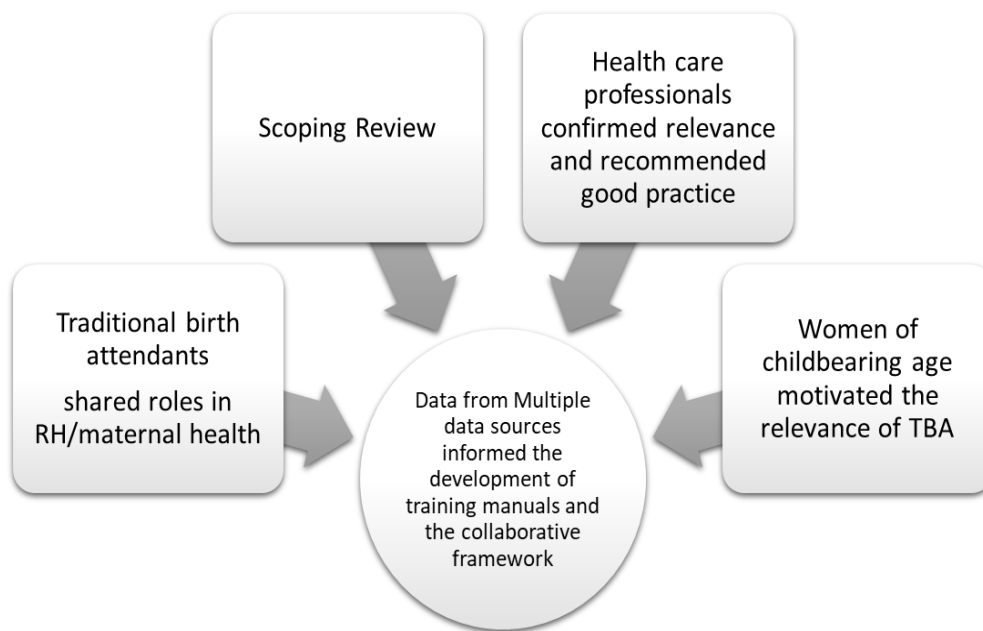


Figure 4.2 Triangulation of multiple data sources

4.5 Chapter Summary

This chapter presented the findings of Phase II of the study which focused on objective 2 and 3. Data sets from all three categories of participants were analysed using content analysis, and findings are presented thematically. Participants comprised of TBAs, women of childbearing age, nurses/midwives, health program officers and medical officers operating in the gynaecology and obstetrics departments. The TBAs expressed that most clients seek cultural care and, on some occasions, treatment. The care rendered includes massages, provision of traditional concoctions for pregnancy and sometimes conducting deliveries. While TBAs do not advocate for home births, majority of pregnant women they assist during childbirth are those whose labour initiates during the night and face transport challenges to reach a health facility. The women shared that TBAs are relevant in their communities because they circumstantially assist in case of emergency. Furthermore, their relevance is also grounded on the traditional treatment required before labour because cultural beliefs dictate that adverse effects can occur if no traditional treatment is taken at certain stages of pregnancy. On the contrary, there were diverse views from healthcare professionals (HCPs) due to biomedical risks associated with traditional treatment. Suggestions made include defining the role of TBAs in health promotion activities, with emphasis on the need to be trained on basic midwifery skills. Knowledge acquisition can promote safe procedures when handling emergency births and adherence to infection control and prevention practices. In addition, HCPs added that TBAs should be cautioned regarding harmful cultural practices which can endanger both mother and

fetus. Data triangulation was applied accordingly throughout the analysis process. The findings presented in this chapter are further discussed in the next chapter with the application of literature control.

CHAPTER 5: DISCUSSION OF STUDY FINDINGS

5.0 Introduction

This chapter discusses the findings of the study in relation to the following research objectives:

- To review and map existing evidence on frameworks used to integrate TBAs into formal health systems. (Phase I)
- To explore and describe roles of TBAs in reproductive health practices based on indigenous knowledge. (Phase II)
- To appraise safe and promotive reproductive health roles that TBAs can perform to complement services within the formal health system. (Phase II)

The all-encompassing findings of this study that surfaced in all data sources is that TBAs play a role in their respective communities. The sociocultural role TBAs fulfil is highly valued by the women. However, the healthcare professionals expressed concerns regarding the care rendered by TBAs and the influence it has on maternal and neonatal outcomes. The participants recognised the necessity to support the TBAs through training and collaboration with the formal health system to ensure regulation of care that is rendered in their communities and have a defined scope of practice. The discussion integrates empirical findings with existing literature and theoretical frameworks to critically analyse the implications for maternal health governance.

5.1 Scoping review: mapping evidence on the frameworks that integrates Traditional birth attendants into formal health systems in low-middle income countries.

Phase I of this study was based on the first objective presented in chapter 1. The 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 share similar sentiments on the need to collaborate the TBAs with formal health systems to improve maternal/neonatal outcomes during all stages of pregnancy and postpartum consistent with the Obstetric Care Navigator (OCN) model and thematic map (Austad et al., 2020; Kassie et al., 2022). This finding is similar to that 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 Low-and-Middle Income Countries. Rutledge 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 (MNH) outcomes as a result of support through training and feedback platforms.

The frameworks reviewed in the scoping review suggest 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 TBAs as the care rendered is in accordance with their cultural beliefs and philosophy. This evidence depicting 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.

Lastly, this scoping review concurs with the notion that 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 is a contemporary niche area. The detailed peer-reviewed article including the findings for the scoping review is added as annexure 8 in this thesis.

5.2 Phase II participants enrolled in the study

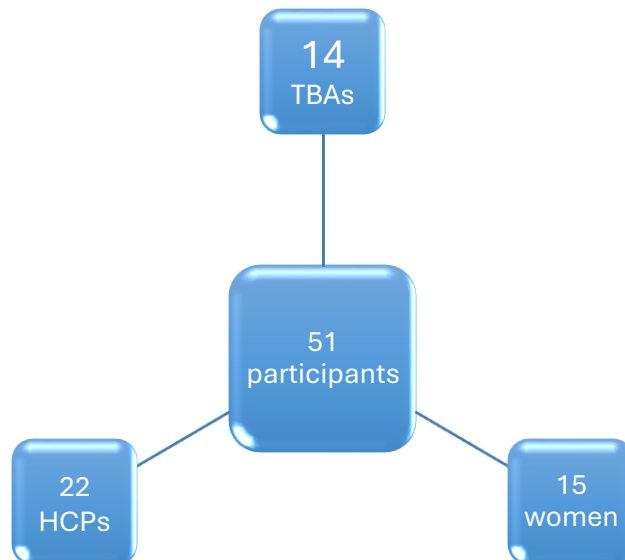


Figure 5.1 Participants for the study

All TBAs that participated were females; this statistic reflects the reality revealed in literature that reproductive health field is mostly female-dominated. The absence of male participants creates pose a bias risk in findings because the views of males are not included. This is supported in previous studies, which indicate that TBAs around the globe are mostly women (Kassie et al. 2022; Ofili & Okojie 2005). On the contrary, Esan et al. (2023) argue that a significant number of male TBAs exist in some countries. Participants in this study accessed the government literacy programme to know the basics of reading and writing. Similarly, Kassie et al. (2022) report that most TBAs did not receive any formal education, which is consistent with the findings of this study. The majority of healthcare professionals were male 63.6% and most of them 77.3% practice at operational level in the clinical area while 22.7% at management or supervisory level. The high response from the staff dealing directly with maternal and neonatal health accentuates the relevance of the study findings.

5.3 The Role of TBAs in Reproductive Health practices based on Indigenous Knowledge

Traditional birth attendants (TBAs) fulfil a critical role which was confirmed across all categories of participants. Women of childbearing age and Healthcare professionals similarly confirmed the relevance of TBAs in respect of filling a critical gap between the community and formal health system. This study revealed that TBAs in Northern Namibia provide comprehensive, culturally acceptable reproductive care in reproductive health, which is guided by indigenous knowledge (IK). The generational knowledge acquired through apprenticeship enables TBAs to provide various concoctions (indigenous knowledge), fertility treatment (preconception care), care for pregnancy (antepartum) and assist with emergency childbirth/deliveries (intrapartum role) and escort mother and newborn to health facilities for further management (postpartum). Various studies align with these findings; in many settings, TBAs are considered important health aid providers in maternity care and serve as auxiliaries in support of conventional obstetric care in developing countries (Gadanya et al., 2021; Sarmiento et al., 2022). The health aid role during integration of the traditional and formal health system enables TBAs to serve as doulas and support women in labor, an initiative worth emulating. In another study, Wanyua et al. (2014) recounted that women who do not give birth in a clinical setting rely upon TBAs who may have received formal training or have gained experience by assisting neighbours, friends and family members to give birth. Furthermore, besides attending to pregnant women, assisting with childbirth and/or afterbirth care, TBAs are often the go-to persons for other community members to seek treatment, usually in the form of herbal remedies for various ailments (Gadanya et al., 2021; Ngunyulu et al., 2020; Shimpuku et al., 2021). Similarities in reproductive healthcare practices performed by TBAs were also reported in various studies

conducted in Ethiopia, Kenya and Nigeria (Kassie et al., 2022; Mwoma et al., 2021; Ofili & Okojie, 2005). Additionally, TBAs correspondingly advise pregnant women to seek advanced care at the hospitals. This finding is consistent with previous research conducted on the role of TBAs in the remote rural community of West Omo Zone (Kassie et al. 2022; Ofili & Okojie, 2005). Moreover, TBAs render extra care to avert complications as they are indigenously skilled in recognising danger signs in the cultural context. However, advocacy to ensure that all pregnant women deliver in a hospital setting is crucial, any twist in labour progress, fetal or maternal wellbeing can be dealt with promptly.

These cross-contextual similarities suggest that TBA practices are not isolated cultural phenomena but represent structured community-based maternal care systems within plural health environments. In this study, it has been established that TBAs play a role in cultural care, which includes providing herbal medicine or traditional concoctions that are believed to keep the pregnant woman healthy and ensure a safe delivery. Similarly, in Kenya, Mwoma et al. (2021) also highlighted that TBAs play a vital role in assisting pregnant women and providing them with herbal treatment. In Ethiopia and Nigeria, TBAs render antepartum care; provide herbal treatment; conduct deliveries; treat infertility; and manage threatening miscarriages (Kassie et al. 2022; Ofili and Okojie, 2005). TBAs are regarded as primary health providers during childbirth in many rural communities (Musie & Mulaudzi, 2024, P.1). Despite these reports of important roles carried out by TBAs in their communities, there are views contrary to these findings. Wanyua et al. (2014) reported the assumption that high incidences of maternal mortality were associated with home births, either conducted by TBAs or family members. Literature suggests that skilled attendance at childbirth is vital for reducing maternal/neonatal mortality and further emphasis on creating a loophole in obstetric surveillance systems (Wanyua et al., 2014). Some studies report variability in the quality of care provided by TBAs and raise safety concerns regarding certain practices (Ogechukwu et al., 2019). Discouraging childbearing women from utilising TBA services has not yielded results in many countries, where the policy is strict, TBAs render their services clandestinely (Chi & Urdal, 2018; Ogechukwu et al., 2022). These reports are similar to the findings of this study that women do access TBAs for cultural remedies in pregnancy and for emergency assistance when in labour at odd hours (Hobday et al., 2018).

5.4 Safe and Promotive Reproductive Health Roles for TBAs to Complement Services within the Formal Health System.

The healthcare professionals expressed that there is a need for modification of TBAs' roles to ensure safe health promotion practices. Participants suggested that TBAs can play a role in health promotion activities

such as: assisting to identifying pregnant women in their communities and advising for early initiation of antenatal care, promoting hospital births, postnatal care and immunisation. It is imperative that the World Health Organisation member states strengthen partnership with TBAs, define roles and boost communication between TBAs, skilled attendants, and staff in referral facilities (WHO, 2004 as cited in Miller & Smith, 2017). Furthermore, Miller & Smith (2017) emphasize that TBAs, community and formal-based skilled birth attendants, women and family members as stakeholders to improving maternal and neonatal health outcomes through interventions that include well-defined roles for TBAs and TBA partnership. Yet integration of TBAs into the formal health system is not executed despite the recommendations. The paramount relevance of TBAs is observed in their role encompassing care for women with reproductive health matters (Ngunyulu et al., 2020). Absence of TBAs integration into the formal health system has promoted unauthorized practices, which are often reported to have adverse events (Chi & Urdal, 2018; Haikera et al., 2023). In 2009, Namibia launched a National Policy on Community-Based Health Care (CBHC), which outlined the integrative role of TBAs (MOHSS, 2009). Although the MOHSS currently has programs supporting CBHC (MOHSS, 2020), it is silent on TBAs since there are health extension workers (HEW) in various communities in Namibia. Some of the participants in this study highlighted that they received support from the MOHSS during the time the CBHC policy came into effect e.g. provision of gloves; however, support declined over the years. There is no available information as to what happened to the CBHC policy, and a search to find a revised one did not yield any results. The apparent dormancy of the CBHC policy highlights governance discontinuities and implementation gaps within Namibia's maternal health system.

Kassie et al. (2022) also confirmed that in Ethiopia, TBAs play an important role in improving maternal health, such as managing early pregnancy problems, identifying the presentation of the foetus, diagnosing labour, assisting childbirth, especially in unexpected childbirth, preventing haemorrhage, and promoting healthy messages such as the importance of breastfeeding. Similar roles are highlighted in a study conducted in Mozambique, where TBAs often promote ANC, accompany and attend facility births, and assist at home births/deliveries when women cannot access the health facility (Hobday et al., 2018). The modus operandi highlighted in these studies is evident on the impact of collaboration, training and recognition. Open communication between TBAs and formal health system can address the concerns relating to substandard care associated with homebirths.

In settings where collaboration became dormant, consideration to allow TBAs contribute towards the improvement of maternal/neonatal health through health promotion should be deliberated. Notably, where integration has been established, TBAs complement the formal health system by serving as birth companions, rendering traditional care and serving as interpreters (Miller & Smith, 2017). Despite this appeal, health facility births remain precedence, while allowing TBAs to assist with homebirths when a pregnant woman in labour is unable to reach the health centre (Gurara et al., 2020). Similar observations documented in rural China where task-shifting of TBAs into village maternal health workers to promote perinatal care and institution-based delivery was implemented (Jiang et al., 2015). This approach illustrates that TBAs' integration and collaboration can mitigate human resource constraints in maternal healthcare (Miller & Smith, 2017). Therefore, identifying safe and promotive reproductive health roles for TBAs to complement services within the formal health system can boost safe childbirth practices.

5.4.1 Safe childbirth practices

Most deliveries conducted by TBAs are circumstantial driven. Participants shared that most women requiring assistance from TBAs during childbirth are those who stay far from health facilities and are faced with transport challenges, mostly at night. This situation is the contributing factor to 'out-of-facility' births. TBAs avail their services to save lives, while operating with limited resources and lack of essentials needed to carry out the procedure safely. Similar observations are made in low-resources settings and rural areas where professionally trained staff are often in short supply, and women have to rely on traditional birth attendants for delivery (Pyone et al., 2014). Despite the inequalities in access to health services, being cared for by a skilled birth attendant (SBA) is critical for improving maternal and newborn health (Pyone et al., 2014). TBAs assisting where the need arise should be empowered with knowledge and skills to ensure safe delivery practices to prevent some neonatal morbidity, thus preventing complications and deaths (Lawn et al., 2007). Linking TBAs into the formal health system and assigning a companionship role to accompany pregnant women to antenatal care, labour and after childbirth services promotes cultural sensitive maternity care (Titaley et al., 2019). Participants in this study highlighted that collaboration could improve communication and promote timely referrals. Musie & Mulaudzi (2024, p.6), suggest that TBA-collaboration from antenatal level should encompass recognising complications early during pregnancy and refer the women to healthcare facilities for management. This study and those conducted in other settings found that TBA are found globally and empowering them with relevant knowledge can accentuate safe practices in the care they render. Empowering TBAs requires disposition of knowledge and skills

which responds to the fifth objective of this study: *'develop a guide to operationalise the collaborative framework for TBAs grounded in empirical findings and local cultural contexts (Phase IV).'*

5.4.2 The need for training and assistance for TBAs

The findings of this study support the need to train TBAs in basic reproductive health to ensure awareness of what is safe to perform and be able to recognise risky cases and refer timely. In response to the research question: *'What are the views of health care professionals on the need to develop training manuals for TBAs focusing on health promotion and reproductive health care?'* The need for training is consistent with a study that found that in Sub-Saharan Africa, approximately 23% of all births are conducted by a Traditional Birth Attendant (TBA), only half of which were formally trained in modern medical childbirth techniques with a focus on clean delivery (Hobday et al., 2018, p. 2). The healthcare professionals expressed concerns of harmful practices by TBAs, which have been associated with complications. This agrees with the findings of another study that indicated the need for training TBAs, because updating their knowledge has an impact on reducing maternal and neonatal death (Kassie et al., 2022).

In this study, the healthcare professionals recommended that TBAs can be trained to support pregnant women during antenatal care and conduct uncomplicated emergency deliveries safely. In Somaliland, TBAs were trained in basic midwifery care to change the focus of their role from providing primary maternity care to becoming supporters and promoters of skilled birth attendance and to helping women avoid home birth (Pyone et al., 2014). Training empowers TBAs with knowledge to recognise complications and provide first aid when the need arises. Similarly, TBAs in Mozambique were trained to manage postpartum haemorrhage for deliveries that occur outside the health facility by availing *misoprostol* to TBAs to administer to women that they assist in the community (Hobday et al., 2018). This study found a need to promote safe home-based practices, collaborating and supporting TBAs, which can reduce maternal/neonatal mortality and morbidity.

Proposed topics for training

Some of the proposed topics of training highlighted by HCPs include: infection prevention and control, conducting normal deliveries, caring for a newborn baby, recognition of danger signs in pregnancy, health education, harmful cultural practices, first aid, communication and referral. A study by Pyone et al. (2014, p. 42) supports the suggestions as almost similar topics were given to TBAs in Somaliland, and these were; normal and abnormal pregnancy, care in pregnancy, labour and postpartum, recognition of danger signs

and referral. Previous studies recommend that TBAs can be trained in accredited institutions according to the Traditional Health Practitioners (THPs) Act for a period of 12 months and receive certificates of competence on completion of issues of antenatal, intrapartum, and postnatal care (Street et al., 2012; Ngunyulu et al., 2015 as cited by Musie et al., 2022).

The suggestions made by the participants in this study are similar to the proposed curriculum for TBAs in Guatemala. It was proposed that TBAs be trained on:

- i) an overview of maternal-infant care;
- ii) an introduction to ovulation, fertilisation, and the natural development of pregnancy;
- iii) pregnancy complications and the danger signs during pregnancy;
- iv) an introduction to the stages of labour and complications
- v) Neonatal resuscitation and care of the mother during the postnatal period (Hernandez et al., 2017, cited by Musie et al., 2024, p. 11).

A draft training manual for this project has been developed and is presented in Chapter 7, benchmarking on the Community-Based Health Care policy (MOHSS, 2009), MOHSS National Guideline on Positive Pregnancy Experience (MOHSS, 2020), WHO recommendations and findings from participants. This draft training manual is grounded on evidence acquired through research, hence during reviews the developed material can inform revision of policies and guidelines on maternal health care in Namibia. During the implementation of the training, the materials will be translated into the vernacular spoken in the regions of study or further be developed into user-friendly information, education and communication (IEC) materials for TBAs who cannot read.

5.5 Chapter Summary

This chapter discussed the findings on the roles of TBAs in reproductive health practices based on indigenous knowledge. Despite not having received formal training, the care they render is rooted in indigenous knowledge. Notably, despite government efforts to build health facilities in all regions, the country is vast, with many living in rural areas and some of which have no health facilities. Most emergency deliveries handled by TBAs occur at night, and they lack essentials such as gloves and blades to assist with. The findings of this study have similarities with those in studies conducted in other countries. Through literature control, it is revealed that care rendered by TBAs is not unique to northern Namibia, where this study was conducted, but is similar to what is practised in Zimbabwe, Nigeria, South Africa, Ghana, Kenya, Mexico, Rural China and many other countries. This study also discovered that in

most countries, TBAs are not recognised, and there is no specific collaborative or integrative framework for traditional birth attendants and the formal health system. In some countries, Namibia included, policies and programs were supporting TBAs as community-based health care providers, but they became dormant over the years. Even in the absence of support from governing authorities, cultural practices on pregnancy never ceased but continued with difficulty in task execution due to a lack of essentials required. The discussion on phase I and Phase II in this chapter directed the development of a collaborative framework presented in chapter 6 and the training guide/manual in chapter 7.

CHAPTER 6 DEVELOPMENT OF A COLLABORATIVE FRAMEWORK

6.0 Introduction

The development of the framework of collaboration between the traditional birth attendants and the formal health system is underpinned by the fourth objective of this research project, which is to ‘*to conceptualise and develop a standardised collaboration framework that integrates TBAs’ reproductive health practices into the formal health system*’ (Phase III). This chapter presents the conceptualisation, structure, validation, and proposed implementation of a novel collaborative framework tailored to the Northern Namibian context. The study findings, literature control and scoping review facilitated to conceptualise the proposed collaborative framework.

6.1 Conceptualisation of the proposed collaborative framework

The concept derivation process was adopted using the Chinn & Krammer’s (2018) method of contextualising empirical theory and Donabedian SPO influenced the development of the collaborative framework. The following steps were followed

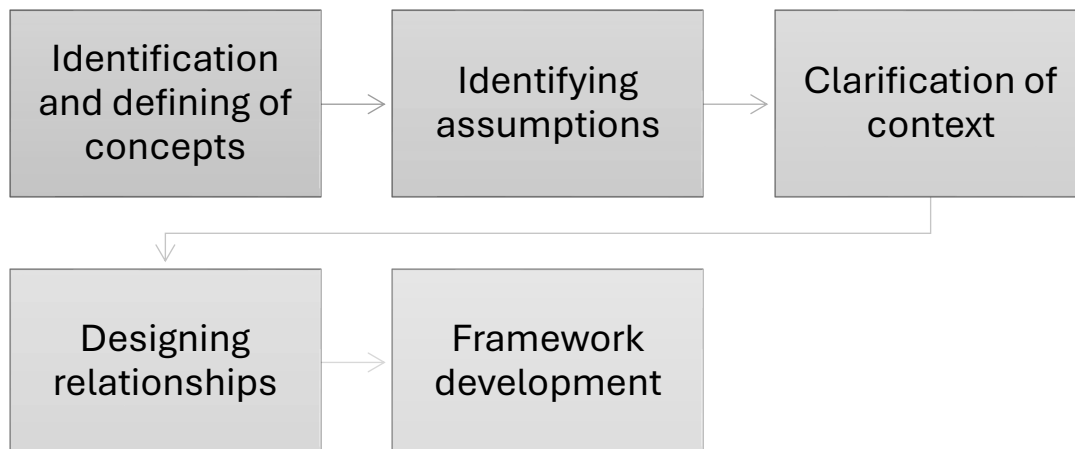


Figure 6.1 Concept derivation process

6.1.1 Identification and defining of concepts

The concepts derived at the level of community reproductive health care were; health seeking behaviour, cultural beliefs, health promotion, basic supplies, communication and training. At the level of integration and collaboration, the concepts were; regulations and policies, structure, processes and outcome. Each of these concepts were given precise meaning applicable in this context of study.

Health seeking behavior: refers to the trigger that motivate the women to seek care from TBAs.

Cultural beliefs: herein mean the norms, traditions, practices and values followed by a community with similar sentiments.

Health promotion: refers to practices or activities that encourage healthy living.

Basic supplies: refer to essentials such as gloves, sterile blades, cord ties/clamps needed to execute a delivery procedure in a clean manner.

Communication: refers to a conversation or engagement between TBAs and HCPs. Feedback can be provided during communication.

Training: In this context implies that TBAs are to be equipped with relevant knowledge and skills.

Regulation and policies: In this context refers to the legal documents authorising or providing mandate to certain people to carry out tasks. Herein, such documents include Act, Policies on Reproductive Health and Standard Operating Procedures.

Structure: herein structure means organisation and role players entrusted to facilitate the collaboration.

Process: Refers to the strategies that will be employed to enable collaboration

Outcome: herein means the end result of collaboration which in this regard aims for improved working relations.

6.1.2 Identifying assumptions

Health seeking behavior: Women access TBAs to be provided with care which is perceived as necessary during pregnancy. This is applicable during pregnancy and labour.

Cultural beliefs: Cultural practices that are transmitted from one generation to another motivate individuals to seek relevant care to avoid danger. An example of applicability is when a woman seeks herbal concoctions to avoid heavy bleeding during delivery.

Health promotion: There are activities TBAs perform that are beneficial and align with recommendations in guideline. An example is encouraging women to deliver at the hospital.

Basic supplies: TBAs lack clinical essentials to execute their tasks in the community, and this can lead to complications.

Communication: The channels of proper communication are not yet established. It can be assumed that communication can enable feedback platforms and improve care of mothers.

Training: If TBAs can be trained, they can play a vital role in health promotion as they work closely with their communities.

Regulation and policies: Current policies exclude TBAs, including TBAs in the policy can enable them to practice with authorization and can adhere to the stipulated guidelines.

Structure: If MOHSS, TAs, HCPs, TBAs and community work together, collaboration can yield impactful results.

Process: The process of training TBAs can facilitate smooth collaboration and integration. This can also improve community midwifery care.

Outcome: collaboration and integration can improve communication between the formal health system and the TBAs. This can also improve community midwifery care.

6.1.3 Clarification of context

The framework developed is designed specifically for application in Northern Namibia in the regions where the study was conducted. It can be beneficial and useful to rural and low resource settings, as there are people living in the remotest areas with limited access to health facilities and relying of TBAs for assistance.

6.1.4 Designing relationships

- Health seeking behavior is driven by *cultural beliefs to promote health*
- TBAs render *emergency services* yet *lack basic supplies* and not offered training to sharpen skills.
- *Communication* can enhance *collaborative relationship* between TBAs and HCPs; improved relations can have a positive impact on community reproductive and maternity care.
- *Policies, Regulations* provide direction to *structure*, thus facilitating *processes* to yield an impactful *outcome*.

6.1.5 Framework development

The reviewed definitions highlighted above collectively with existing national regulations, and the empirical findings were considered in the development of the collaborative framework. The derivation of concepts as embedded in the proposed framework is depicted in figure 6.2 below.

Results: Key concepts and framework levels

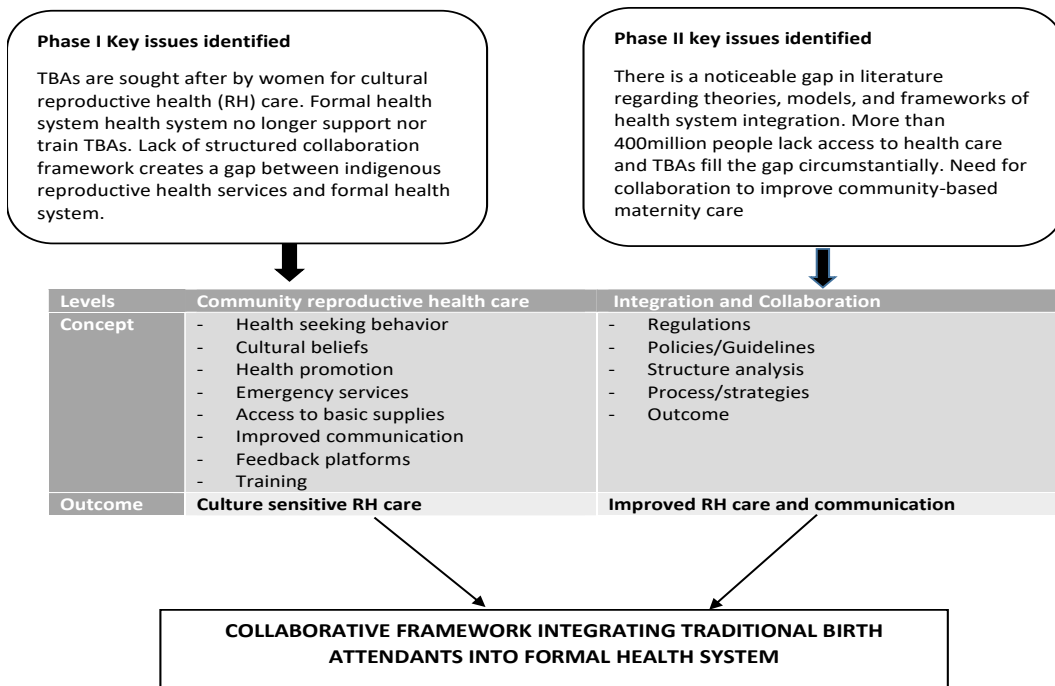


Figure 6.2 Concept and frameworks level

6.2 Development of a collaborative framework for TBA integration into the formal health system

6.2.1 Background

Recommendations to integrate TBAs into the formal health system were made by various studies. This is evident in studies conducted by (Gyasi et al., 2017; Peprah et al., 2018 & Ohaja et al., 2020), which are in line with the findings of this study as presented in Chapter 4 and 5. However, there remains a paucity of context-specific, operationalised collaborative frameworks tailored to Sub-Saharan African rural health systems. Renfrew et al. (2014) developed a framework that can be used to assess the quality of care, plan workforce development, resource allocation, education curriculum and identify research gaps. Although the study focused on professional and regulated midwifery, it can be customised to meet the specific demands of population demography, health and cultural context (Renfrew et al., 2014). Traditional midwifery is often low opinionated as it is associated with substandard care (Miller and Smith, 2017). Namibia's Reproductive Health Policy for 2001 and the National Policy for Community-Based Health Care for 2009 had a clear collaborative role and scope for TBAs. However, the revised Reproductive Health and Child Health Policy for 2012 introduced health extension workers (HEW) as community-based health

assistants which eventually led to the phasing out of TBA support although the policy encouraged HEWs to link with TBAs. Currently TBAs in northern operate as unregulated, without training or support from the MOHSS for over 10 years. Designing a Framework specifically for integration shifts the focus back to TBAs, ensuring that they are supported through training and provision of basic essentials needed to execute their tasks.

6.2.2 Overview of Frameworks for Policy Practice

Partelow (2023) reviewed various definitions of a framework and the steps to consider in the development thereof. Frameworks are vital instruments that organise diagnostic, descriptive, and prescriptive inquiry (Partelow, 2023). Furthermore, frameworks “assist scholars and practitioners to analyse the complex, nonlinear interdependencies that characterise interactions between biophysical and social arenas and to navigate the new epistemological, ontological, analytical, and practical horizons of integrating knowledge for sustainability solutions” (Pulver et al., 2018 as cited in Partelow, 2023). Frameworks are also known to facilitate the day-to-day operations in an organisation or in a setting.

Musie et al. (2024) proposed a framework that is sustainable and culturally sensitive, aimed at optimising the strengths of midwives and TBAs, which can foster improved healthcare delivery to rural South African communities. Musie et al. (2024) developed an inclusive framework for collaboration between traditional birth attendants and health professionals, adopted from the SPO *Donabedian framework*. The key components of the framework included:

- i) objectives,
- ii) structure,
- iii) processes, and,
- iv) outcomes.

The SPO Donabedian framework implies that the resources and providers of care should be defined (**Structure**), the standard operating procedure to aid in achieving the intended outcome (**Processes**) and the final **Output** (Musie et al., 2024).

Another framework in the field of maternal and neonatal health was developed by Renfrew et al. (2014). “This framework identified the required needs for a health system to provide high-quality care and how it delivers its functions and meets its goals within any context” (Renfrew et al., 2014, p. 1131). The components of this framework comprised i) effective practices, ii) the organisation of care, iii) the

philosophy and values of the care providers working in the health system, and iv) the characteristics of care providers.

Both frameworks emphasise structural clarity, defined processes, measurable outcomes, and contextual adaptability. They both highlight the need to clearly define the objectives and scope of practice and the processes or organisation of care. Both frameworks are recommended to be relevant to any setting, and to those who need or provide maternal and newborn care and services (Musie et al., 2024; Renfrew et al., 2014). TBAs and modern health midwives are both care providers in maternal and neonatal care with skills respectively embedded in evidence-based practice and traditional wisdom/IKS. Therefore, interdisciplinary teamwork and collaboration are inherent in the implementation of collaborative frameworks (Renfrew et al., 2014).

Another study conducted by Sacks et al. (2019) supported the expansion of the WHO building blocks frameworks to integrate community roles into the health systems framework to improve maternal/neonatal/child health. Furthermore, this study highlights that health systems frameworks can serve many purposes, including: 'to describe the structure, organisation, functions and processes of a health system; to conceptualise actions to improve health system performance; or to coordinate and harmonise national and global health systems investment strategies, programme support and tools' (Sacks et al., 2019, p. 2). The purposes highlighted in this study are also in line with the components outlined in the two frameworks discussed earlier.

In 2009, the Ministry of Health and Social Services in Namibia compiled objectives and strategies of community-based care in the National Policy for Implementing Community-Based healthcare (CBHC). A policy that clearly included TBAs as CBHC providers (MHSS, 2009). The components included objectives, strategies and community entry. These components are what make up a framework. In this National Policy, TBAs in Namibia were expected to:

- Raise awareness and educate about key issues relating to pregnancy and childbirth in the community
- Routinely refer pregnant women to health facilities during pregnancy for ANC, for delivery and after birth for PNC, immunisation and Family planning
- Conduct clean and safe delivery (only in case of emergencies)
- Identify danger signs during pregnancy, delivery and after delivery and refer to the nearest health facilities.

- Keep records and send reports monthly to the nearest health facility
- Lead by good example and challenge traditional practices which may damage the health of the mother or baby.

(Extracted from the MOHSS *National Policy for Implementing CBHC, 2009, p. 11*).

The apparent dormancy of the CBHC policy highlights governance discontinuities and weak policy implementation mechanisms. The search for a follow-up or updated CBHC policy did not yield any results. Having reviewed the frameworks developed by other researchers, a collaborative framework is created herein based on the components such as:

- i) objectives,
- ii) structure
- iii) strategies and processes,
- iv) outcomes, and,
- v) monitoring and evaluation.

Although outcomes, monitoring and evaluation are similar in context, the application herein the proposed framework imply that the impact of care rendered is the indicator if outcome which can be monitored periodically. Contrary, monitoring and evaluation intend to focus more on the evaluation of the whole programme including the framework and manuals in accordance with the review periods of ministerial guidelines and policies.

6.2.3 Regulations:

This framework is built upon the recommendations in the following existing guidelines:

- Ministry of Health and Social Services; National Policy for Reproductive Health 2001, National Policy of Reproductive Health and Child Health
- Ministry of Health and Social Services; National Policy for Implementing Community Based Health Care, 2009
- Nursing Act, 2004 (Act 8 of 2004)
- The Constitution of the Republic of Namibia

6.2.4 Abbreviations

CM/TM: Complementary Medicine/Traditional Medicine

HBM: Health Belief Model

HCP: Healthcare Professionals

ICP: Infection Control and Prevention

MHSS: Ministry of Health and Social Services

SPO: Structure, Process and Outcome (Donabedian)

TA: Traditional Authority

TBA/s: Traditional Birth Attendants

6.2.5 Operational Definitions

Childbirth: the physiological process culminating in the delivery of a newborn.

Collaboration: A structured, regulated partnership between TBAs and health professionals aimed at coordinated reproductive health service delivery.

Framework: refers to a structure that is developed to guide collaborative roles of traditional birth attendants in the formal health system.

Health Professionals: this is a collective term used to refer trained cadres in the healthcare system, such as nurses, midwives and medical doctors whose practice is regulated by a professional body/council for example the Health Professional Council in Namibia (HPCNA) (Health Professions Act 16 of 2024)

Indigenous Knowledge: refers to the total of the knowledge, skill and practices based on the theories, beliefs and experiences indigenous to different cultures (WHO, 2019). In this study, indigenous knowledge refers to the cultural wisdom applied in the management of reproductive health issues.

Reproductive health: refers to a state of complete physical, mental, and social well-being related to the reproductive system (Alekhya et al., 2023, p.2). In this study, reproductive health refers to matters relating but not limited to pregnancy, childbirth and infertility treatment.

Traditional Birth Attendant: is a person who assists a mother during childbirth and acquired her skills by delivering babies herself or through apprenticeship to other traditional attendants (Aziato & Omenyo, 2018). In this study, TBAs are elderly women who assist pregnant mothers in the communities as identified by the traditional authority offices.

6.2.6 Purpose of the framework

The framework is developed to guide the practice of traditional birth attendants and strengthen communication between the formal health system and the traditional health system. This framework

defines the parameters of practice, ensures that processes are followed and that the outcome is in the best interest of the clients (women and their babies).

6.2.7 Objectives of the framework

The objectives of the framework are anchored on the SPO pillars of the Donabedian model as outlined below:

- Structure: Create a safe environment that promotes family and community awareness on reproductive health, including maternal and child health.
- Process: Define the type of care that should be provided at the community level in line with the level of education, skills, and available support.
- Outcome: Evaluate the effect of (complementary) services rendered by TBAs in the community.

6.2.8 Methodology

The development of the framework was guided by the findings of the study and the Donabedian SPO model (Dziak, 2024). The traditional birth attendants deal with emergencies associated with childbirth in resource-constrained environment. This situation poses a risk to both TBAs and clients as improvising to execute their job can entail harmful practices. Thus, recommendations to collaborate arose from the healthcare professionals' responses and from the TBAs. Further support came from the literature review, as most studies recommend collaboration for the two health systems and the scoping review.

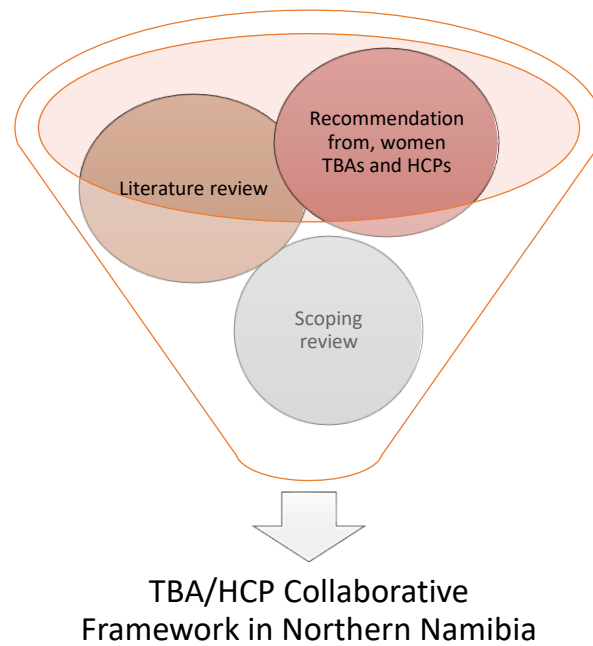


Figure 6.3 Contributors to the collaborative framework

The framework was reviewed and validated by the stakeholders from the MOHSS (**Annexure 10**). Validation reports were received from Ohangwena, Kavango East and Zambezi Regions. However, Kavango West Region initially indicated their willingness but did not provide any report hence this was a limitation in this regard. The teams from the regions that provided input supported the initiative. The framework was deemed clear, appropriate, agreed with the outlined procedures and therefore recommended that the framework be adapted as it is. The framework was recommended for adaption with 80%.

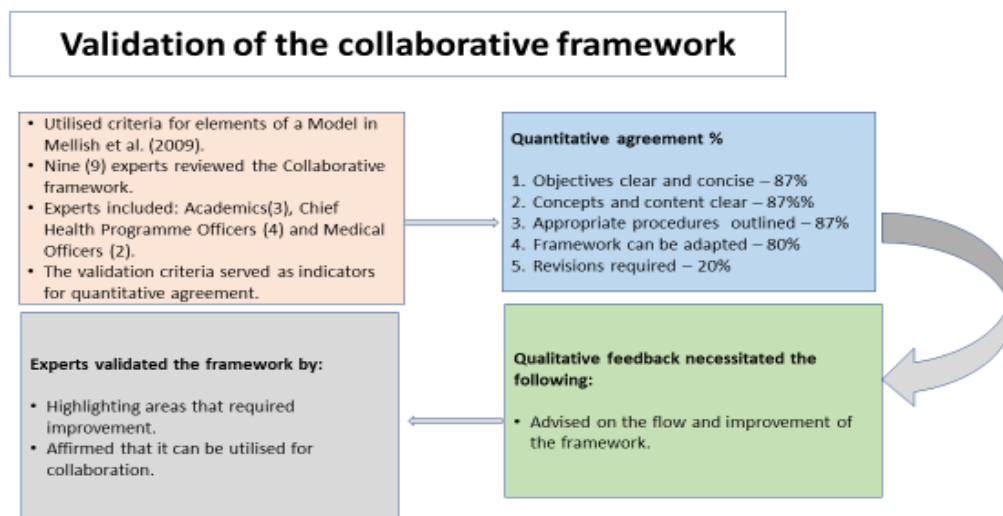


Figure 6.4 Validation of collaborative framework

6.2.9 Benefits of the framework

Various studies cited earlier in this chapter revealed that frameworks are utilised to assess the quality of healthcare rendered to clients, the effect and the outcome (Dziak, 2024; Renfrew et al., 2014). The framework developed is tailored to improve care rendered to pregnant women, facilitate communication between TBAs and the formal health sector and to continuously monitor and evaluate the outcome. When the Donabedian SPO framework was developed, it was monitored and evaluated for a decade, and thus an improved version is being adopted by various researchers.

The framework above was developed using the ideology of the SPO Donabedian Framework. The monitoring and evaluation were added to the framework to serve as a reminder for various structures that the outcome of the services provided will be assessed to establish the effectiveness of the collaboration programme. It is highlighted in the National Policy on Community-Based Health Care that monitoring is essential to track the progress of a program in terms of input, activities and results (MOHSS, 2008).

6.2.10 Beneficiaries of the framework

This framework is designed mainly for TBAs in partnership with the health professionals. The framework stipulates the role that the Ministry of Health has to fulfil to empower TBAs and enable them to render

assistance safely. The beneficiaries in this regard include both health systems and the client's seeking assistance from TBAs.

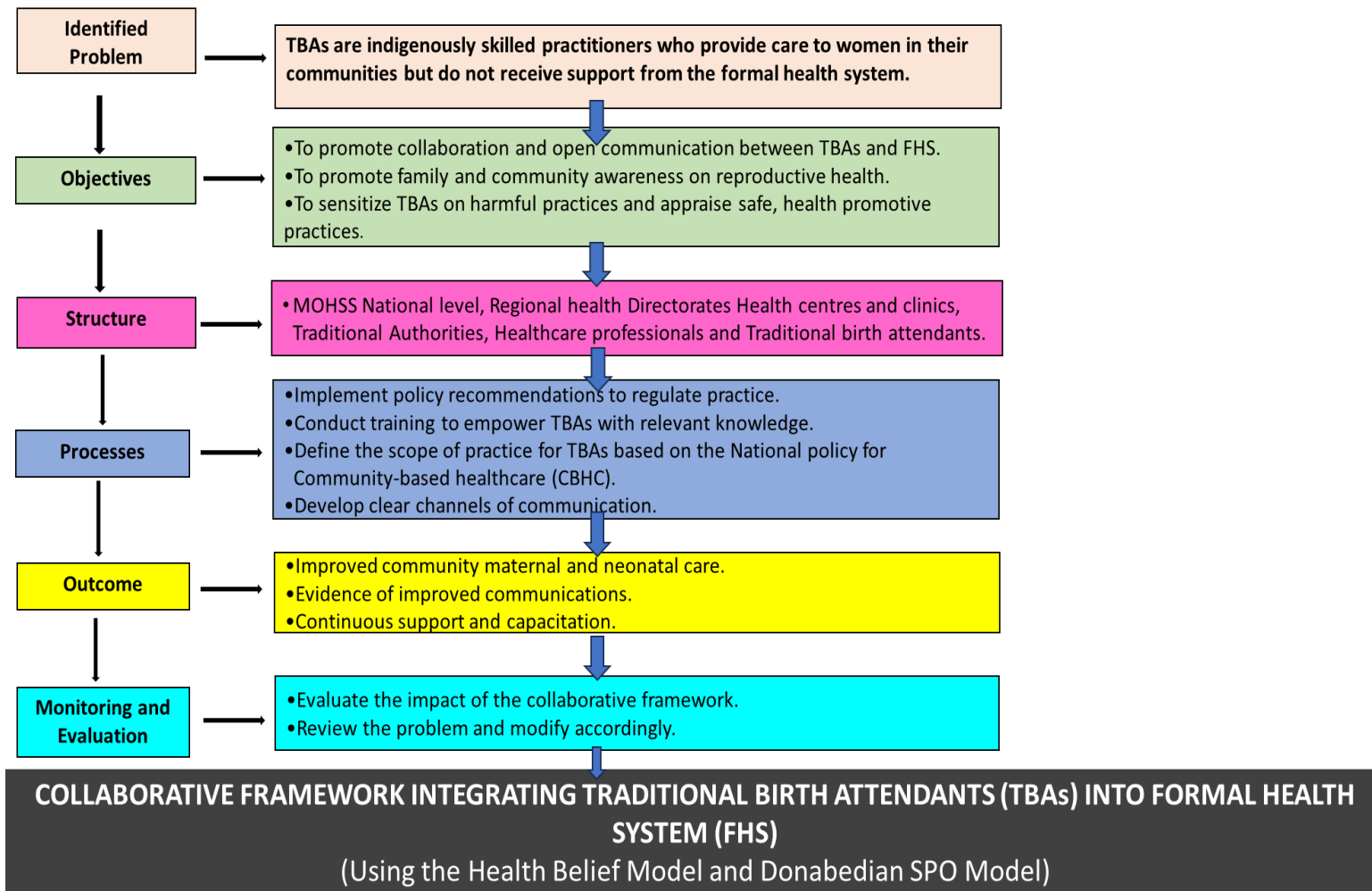


Figure 6.5 Collaborative framework

6.2.11 Implementation process

At the onset, this framework will be presented to the stakeholders, namely the MOHSS and the Traditional Authorities (TA). If supported, the researcher will launch the application of the framework in the regions that were included in the study. This is an on-going project that will require support from MOHSS or the researcher to apply for a grant that will sustain the program. In 2009, Namibia launched the National Policy of Community-Based Health Care, which included TBAs but has since been dormant, possibly due to funding (MHSS, 2009). However, TBAs continue to practice in their communities without support from the formal health sector.

6.2.12 Monitoring and Evaluation

Frameworks require constant monitoring and evaluations once operational as in the case of the SPO Donabedian Framework (Dziak, 2024; Musie et al., 2024). Similarly, the developed framework will be monitored once operational and evaluated to establish the impact and identify bottlenecks that may require amendments or improvement. The evaluations of the framework will be conducted after five (5) years of training the TBAs, which is in accordance with the WHO recommendations for home-based records for maternal, newborn and child health (WHO, 2018). The evaluation will be guided by the summary of monthly findings/reports that will be submitted by TBAs at the Primary Health Care facilities (MHSS, 2020). This will determine the effectiveness of the framework and whether any revision is required.

6.3 Chapter Summary

This chapter presented details of the framework, including the objectives, purpose, benefits, beneficiaries, implementation process and improvement plans. The chapter equally explored literature on available frameworks, which assisted with the development. The framework operationalises regulated collaboration, structured training, defined scope of practice, and measurable outcome monitoring to ensure the care they render does not compromise the safety of pregnant women and their babies. Therefore, the next chapter reveals the training plan for the TBAs.

CHAPTER 7 TRAINING OF TRADITIONAL BIRTH ATTENDANTS

7.1 Introduction

This chapter presents the training plan and content in the developed manual that will be used to train TBAs as guided by the framework that was presented in the previous chapter. The training manual was developed based on empirically identified training gaps derived from qualitative findings and stakeholder consultation. The content of this manual was developed based on the training needs identified during the data collection phase. The participants comprising of healthcare professionals proposed topics that TBAs need to be trained to enable collaboration with the formal health system.

7.2 Course Introduction

Traditional birth attendants (TBAs) are recognised as community healthcare providers in their respective communities to promote health and welfare. The number of TBAs in Northern Namibia is unknown because currently, there are no active programmes supporting TBAs. However, in 2007, the Namibia Non-Governmental Organisation Forum (NANGOF) recorded more than 20,000 community-based healthcare (CBHC) providers (Ministry of Health and Social Services (MOHSS), 2009). These comprised of TBAs, Traditional healers, health promoters, home-based care givers, home visitors, and peer counsellors who were mostly focusing on home-based care services and prevention of human immunodeficiency virus (HIV) under the supervision of civil society organisations (MOHSS, 2009). The care rendered by the CBHC providers is mostly motivated by the need to help someone in the family or in the neighbourhood at a time when reaching a health facility is not possible. In such situations, a resourceful person, such as a TBA, may assist with childbirth in emergencies. It is, however, important that the community's resourceful people are equipped with the relevant knowledge so that the care they provide is beneficial and does not pose a risk to the clients, which can lead to complications.

Pregnancy and childbirth carry inherent risks that require timely detection and skilled intervention. According to the World Health Organisation (WHO), the *Trends in Maternal Mortality 2000-2017 Report* revealed that more than 300,000 women die from pregnancy and childbirth complications worldwide, while some are left with lifetime complications or disabilities (MOHSS, 2020). Therefore, to reduce maternal and neonatal mortality, the advocacy is that all pregnant women should have access to skilled birth attendants, attend antenatal care and deliver at the hospitals. This advocacy fulfils the Sustainable Development Goal 3 (SDG 3), which aims to reduce the maternal-mortality-ratio to a minimum. Poverty, distance to health facilities, lack of information, inadequate or poor-quality service delivery, **cultural beliefs and practices** were some of the factors reported that hinder professional service use by women

during pregnancy and childbirth (MOHSS, 2020). The practices of TBAs are mostly rooted in cultural beliefs founded on indigenous knowledge, hence the development of this manual to inform and educate for the benefit of the women requiring care and their babies. Although TBAs render care circumstantially at odd hours, the common goal should be to promote safe motherhood pillars through early detection and timely referrals to health facilities (Catholic Relief Services, 2004; MOHSS, 2020).

7.3 Structure of the training

7.3.1 Programme entry and exit requirements

Target Participants and Criteria

The plan is designed for women who assist with pregnancy and childbirth in various communities.

To qualify for the programme, participants should meet the following criteria:

- Living in a rural area and recommended by the Traditional Authority to partake in the training.
- Known in the community as a traditional birth attendant with experience in childbirth.
- Willing to learn and adapt to safe practices.

7.3.2 Criteria for successful completion of the programme

The following parameters will be used to determine successful completion of the programme:

- A pass in written and/or oral assessment.
- Competency in Infection Control and Prevention practices.
- Knowledge of the redefined role of TBAs in the community.
- Knowledge of harmful cultural practices.
- Ability to provide health education; promoting ANC to pregnant women, breastfeeding, immunisation and importance of PNC.
- Ability to conduct safe delivery utilising clean material (emergencies only).
- Satisfactorily care for a newborn safely, preventing hypothermia.
- Identify warning indicators of pregnancy and promptly refer to the hospital.
- Effective communication with the formal health system.
- Attend all 5 days scheduled for the workshop.

7.4 Training mode

A 5-day hands-on workshop will be rendered in the participating regions. At first, the training manual will be translated into local languages and visuals will be prepared for the audience that cannot read/write. The methods of content delivery include:

- Teaching/lecture
- Demonstrations
- Group discussions
- Poster presentations/Visuals
- Feedback sessions

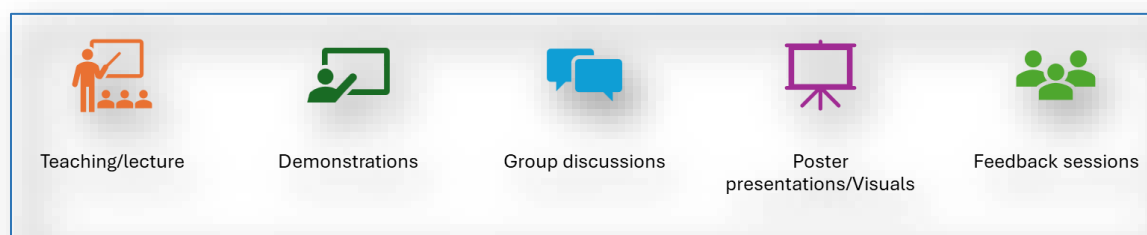


Figure 7.1 Training methods

7.5 Training content

8.5.1 Goals of the training

The overarching aim of developing the TBA training plan is to:

- Collaborate with TBAs to complement formal health systems with maternal and neonatal healthcare in the communities.
- Educate traditional birth attendants on scientifically evidence-based harmful cultural practices and promote healthy practices.
- Equip TBAs with skills to execute emergency deliveries in a safe, clean manner and care for a newborn baby in the best way possible.
- Provide TBAs with information that will help in the recognition of danger signs and risky pregnancies.

7.6 Objectives

At the end of the training, TBAs should be able to:

- Demonstrate effective hand washing before and after a procedure.
- Demonstrate donning and doffing gloves correctly.
- Manage waste appropriately to prevent infection transmission.
- Be aware of harmful cultural practices and the complications associated with the practices.
- Know the importance of family planning, early ANC attendance, health-facility recommended births, immunisation and postnatal care.
- Safely support childbirth/delivery during emergencies.
- Correctly care for a newborn baby, initiate bonding and early breastfeeding.

7.7 Validation of the training manual

The developed manual was reviewed and validated by five (5) experts in the field of maternal and neonatal health in the regions where the study was conducted (annexure 10). Stakeholders contributed to the manual through the provision of input and recommendations and rated the manual 87% valid. The manual was further reviewed and validated by an academic, seasoned researchers and experts in health and social welfare. The teams from the regions that provided input supported the initiative. The training manual was regarded as clear for the target audience with acceptable teaching methods and manual valid among others. The outcome of the validation exercise with the reviewers is depicted in figure 7.2 below:

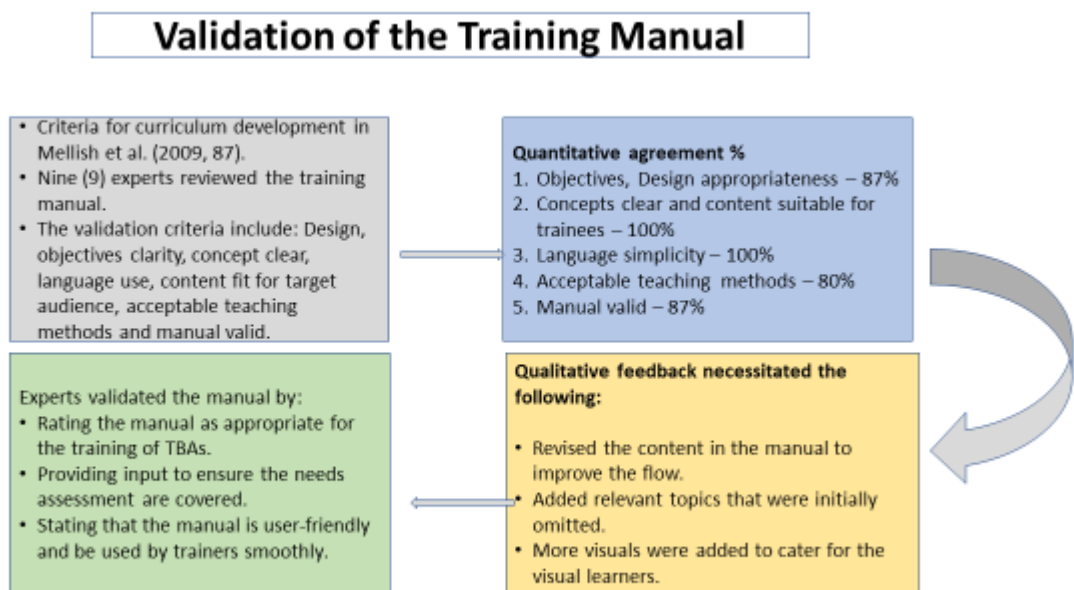


Figure 7.2 Reviewers feedback on training manual

7.8 Implementation plan

Through liaising and collaboration with the Ministry of Health and Social Services, the training materials will be made available to the chief health programme officers for the Family Health division. The principal investigator will serve as a master trainer and will plan for a Trainer of Trainers session, which will facilitate the rollout of the program in the regions.

7.9 Monitoring and Evaluation

The training will commence with either a written or oral pre-test and end with a post-test. If supported, the impact of the programme will be monitored through reports of referrals made by TBAs. Programme success will be measured through pre–post knowledge gain, referral frequency, reduction in unsafe practices, and documented communication between TBAs and facilities. Evidence of collaboration and improved communication between the formal health system and TBAs will indicate of program success.

Table 7.1 Training Manual Descriptors

Unit	Hours	Content/topics	Teaching materials	Methods
Health promotion	16	Hand washing Donning and doffing of gloves Harmful cultural practices Complications associated with cultural practices Family planning, ANC, PNC, Immunisation importance	Antiseptic hand-wash soap Water Paper towels Gloves Posters	Lecture Demonstrations Hand-outs (printed materials) Group work Discussion
Pregnancy and childbirth	22	Risk factors in pregnancy Identification of danger signs Assisting with delivery Caring for a newborn Caring for the mother after delivery (observe for bleeding and general condition) Referral to health facility Effective communication	Participant handbook Visuals	Lecture Demonstrations Feedback sessions Group discussion
Recordkeeping	2	Records (mother and baby)		

Key definitions are discussed below:

Definition of terms

Childbirth: the physiological process culminating in the delivery of a newborn.

Health Professionals: these are trained cadres in the healthcare system such as nurses, midwives and medical doctors whose practice is regulated by a professional body/council for example the Health Professional Council in Namibia (HPCNA) (Health Professions Act 16 of 2024).

Indigenous Knowledge: refers to the total of the knowledge, skill and practices based on the theories, beliefs and experiences indigenous to different cultures (World Health Organisation, 2019).

Traditional Birth Attendant: is a person who assists a mother during childbirth and acquired her skills by delivering babies herself or through apprenticeship to other traditional attendants (Aziato & Omenyo, 2018). These are (elderly) women who assist pregnant mothers in the communities as identified by the traditional authority offices.

The following two (2) lessons will be included in the actual training manual.

LESSON 1 HEALTH PROMOTION

1 Introduction

Primary Health Care (PHC) services under the Ministry of Health and Social Services (MOHSS) mainly focus on the arm of health promotion at community and health facility levels (MOHSS, 2022). Health promotion implies that people take control of their own health and improve the quality of their lives. The World Health Organisation (WHO) outlines three components of health promotion, namely: 1) good governance for health, 2) health literacy and 3) healthy cities (WHO, 2016).

This manual applies the health literacy component to ensure that the right knowledge, skills and information is shared with community-based health providers to ensure that they make healthy choices on the type of care provided in their communities.

By the end of this chapter, the traditional birth attendants should:

1. Demonstrate competence in hand hygiene practices.
2. Be aware of their health promotion roles.
3. Differentiate between safe and harmful cultural practices.

2 Promoting hand hygiene

This is a general term used for hand cleansing (WHO, 2009). A person may use soap, antiseptic solution and water to cleanse the hands. Hand hygiene practices reduce transmission of infections. This is required before and after a procedure.

Preparation:

- Water (tap, bucket tap, jug)
- Soap
- Antiseptic solution if available
- Clean paper towels for drying



How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

⌚ Duration of the entire procedure: 40-60 seconds



Figure 7.3 Handwashing procedure

3 Donning and Doffing of gloves step-by-step

It is important that gloves should be used whenever a healthcare assistant handles a procedure where there is exposure to body fluids such as blood, amniotic fluid and also when handling a newborn baby. Facilitators will demonstrate the steps to wear and remove gloves.

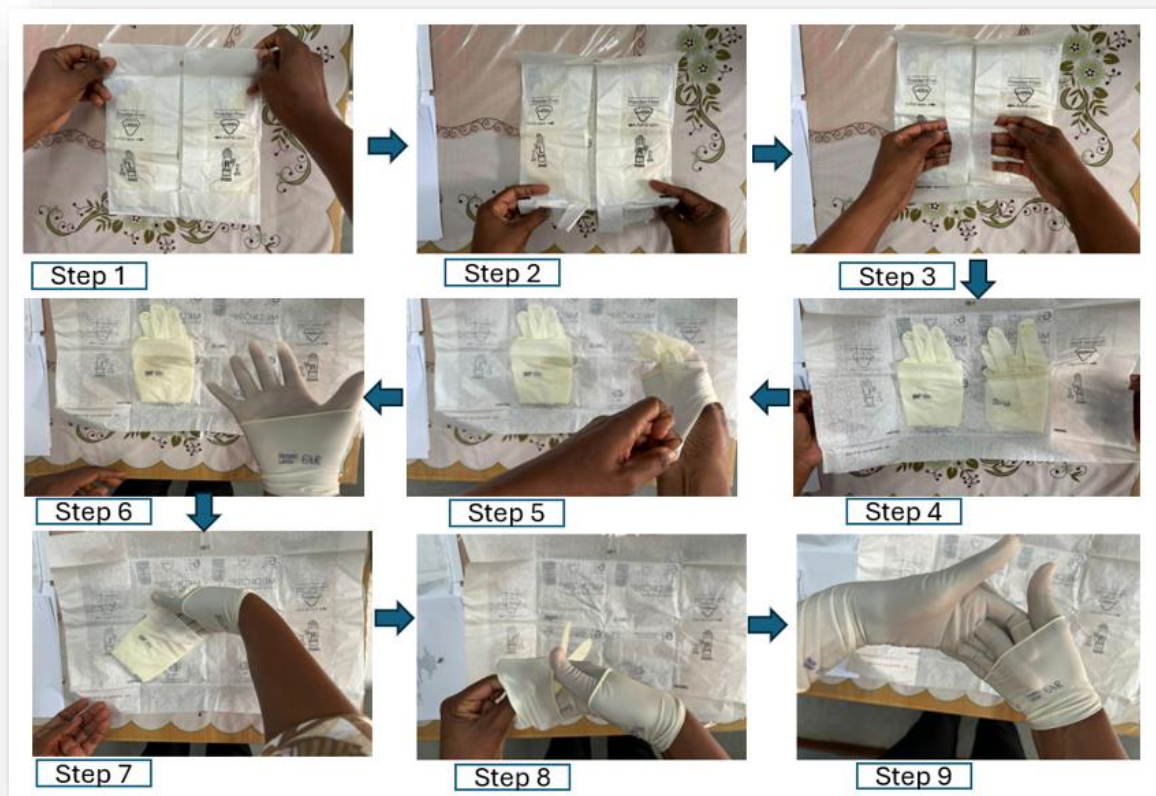


Figure 7.4 Donning gloves

Step 1: Open the gloves wrap without touching the gloves, the package shows the glove for the right and left hand

Step 2: Unfold wrap from furthest (top) to nearest (bottom)

Step 3: Unfold the middle shown in step 3 so that the gloves are displayed as in step 4

Step 4: gloves awaiting donning with the part that covers the wrist inside out

Step 5: put on the glove on the right hand, handling it by touching the inside out part to securely put it on without touching the part that covers the fingers.

Step 6: Do not stretch to folded part yet, wait until the other hand is gloved.

Step 7: Use the gloved hand to assist don the glove on the left hand, handle the glove as shown in step 7 and 8

Step 9: Use the gloved left hand to unfold the right glove without contaminating and stretch it over to cover the wrist.

Doffing/Removing the gloves after a procedure

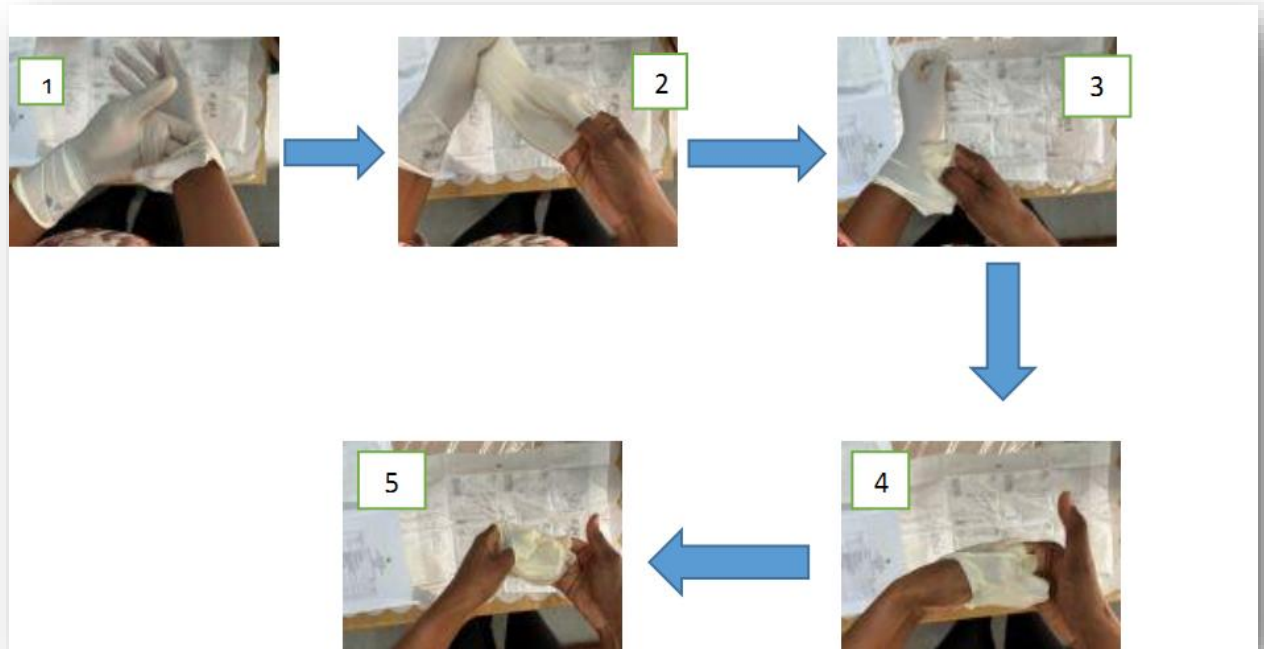


Figure 7.5 Removing gloves after a procedure

After performing a procedure, remove the gloves as depicted above in figure 7.5. The facilitator will demonstrate these steps and allow you to practice.

Step 1: Start removing from one hand as shown in this step without contaminating yourself but the glove should not come off completely.

Step 2: Half gloved hand now inside out facilitates the removing of the glove on the other hand as shown in 3 and 4, while in step 5 complete the removal of the soiled gloves.

4 Cultural Practices and beliefs

Pregnant women visit TBAs during pregnancy for cultural care. There are some practices done by TBAs that are commendable, such as health talks advising women to remain faithful during

pregnancy, avoiding heavy work, encouraging hospital births and accompanying a woman to the hospital after childbirth for further examination, as established in this study.

Caution should be taken on harmful practices, such as:

- Taboos relating to/restrictions on food items such as eggs, as this can deprive a woman of nutritious food.
- Home deliveries when there is a chance to get to the hospital. Complications can occur; thus, the safest place to deliver a baby remains a hospital.
- Conducting deliveries without gloves can lead to infections.
- Use of split reeds/knife to cut the umbilical cord can cause infection in a newborn.
- Use of traditional herbal concoctions during pregnancy to speed up labour can lead to strong contractions and tearing of the womb (ruptured uterus), which may lead to extensive bleeding and death.
- Inserting herbs in the rectum or vaginally and giving enema during ante- and post-partum has been linked to necrotic bowels and sepsis.
- Providing herbal concoctions to women with a previous caesarean section scar can lead to a torn womb (ruptured uterus).
- Blowing smoke to babies who are born not crying can cause respiratory problems.
- Do not apply Vaseline on the babies' cords as this can lead to infection.

Why are the practices above discouraged?

- Restriction on food items can deprive the woman of nutrients required to boost the growth of the infant
- Home deliveries can be complicated in the event of cord prolapse (Cord protruding before the baby is born), malpresentation (Baby coming with buttocks instead of the head). A woman or her baby might die.
- Conducting deliveries without gloves can facilitate transfer of disease-causing microbes, which may lead to fever in a newborn and/or the mother.
- Using inappropriate equipment may cause infections
- Herbal concoctions have been reported as the cause of severe pains in labour without progress, uterine rupture (womb tearing), necrotic bowel (intestines destroyed), and infertility (if uterine rupture).

- Herbal concoctions have been linked to causing multiple organ failure due to traditional medicine intoxication and can result in death.

5 Health Promotion roles

TBAs should:

- Encourage women, men and girls in their communities to make use of family planning services in the nearby health facilities.
 - Family planning aids in child spacing and plans future pregnancies
- Young people (boys and girls) should make use of adolescent-friendly corners in the clinics to be provided with information on sexual and reproductive health
 - This can reduce teenage pregnancy and boost the welfare of the young people
- Educate the community members on the screening, preventative and curative services available at facilities such as HIV testing, Cancer screening, and General health check-ups.
 - Screening and early detection can enable timely treatment and prevent complications
- Collaborate with Community-based health assistants to identify pregnant mothers and encourage early antenatal attendance
 - Early antenatal attendance ensures early screening and detection of risk factors
 - A woman might be on a treatment that may need to be changed as it might not be safe in pregnancy
 - Advise pregnant women to eat a variety of locally available food such as liver, spinach, green leafy vegetables and beans (to replenish the blood); maize, millet, mahangu pap, potatoes, rice, sweet potatoes (for energy); fruits, vegetables and beans (to protect the body).
 - Educate the pregnant woman on hygiene, rest and birth preparedness
 - Educate pregnant women on danger signs such as headache, dizziness, blurry vision, draining liquor, difficulty in breathing, severe abdominal pain, fitting/fainting, and reduced foetal (baby) movement.
- Advise women regarding the importance of breastfeeding and correct any myths relating to breastfeeding.
 - Mothers should start to breastfeed as early as possible

- Colostrum is beneficial to the newborn; hence it should not be regarded as abnormal.
- Encourage mothers to visit the clinic 6 weeks postnatal for a routine check and for their babies to be immunised. Immunisation protects babies from childhood illnesses.

6 Activities for lesson 1

In groups/individual, discuss what you have learnt and how you are going to implement it in your practice.

1. Hand hygiene.
2. Show how you will wear and remove gloves.
3. Harmful and beneficial cultural practices.
4. Advice that you will provide in your community on antenatal and postnatal care.
5. Breastfeeding advice.

LESSON 2 PREGNANCY AND CHILDBIRTH

1 Introduction

This lesson presents matters relating to pregnancy and childbirth. Pregnancy is the result of a sperm cell from a male and an egg cell from a female fusing together to form a product of conception (zygote) (Sellers, 2018). This product of conception attaches to the uterine wall and grows into a foetus) baby. The duration of pregnancy is 40 weeks/9 lunar months, calculated from the first day of the last normal menstruation. A woman can start to experience childbirth (labour) pains known as contractions from 37-40 weeks. Any childbirth pains that come before 9 months could signify preterm labour, and this requires specialised care as the lungs of the baby are not fully developed.

By the end of this session, the TBAs should be able to:

1. Know the warning signs of pregnancy and refer promptly.
2. Danger signs during pregnancy.
3. safely assist with emergency childbirth.
4. Care for the newborn and mother after delivery.
5. Effectively communicate with health professionals.

2 Risk Factors in Pregnancy

Risk factors are issues that make a condition more likely to happen or make a condition more dangerous (MOHSS, 2020). Some conditions and diseases can influence the health of a pregnant woman and her unborn baby. These are:

- Adolescent pregnancy: Teenagers are at risk of developing complications. Identify them early and encourage them to be seen by the health professionals without delay
- HIV positive status: HIV affects the immune system; thus, special care should be rendered to avoid opportunistic infections. The HIV positive women should be advised to start ANC to be initiated on treatment to prevent the mother from passing on the virus to the baby.
- Anaemia: Lack of blood in the body can cause dizziness. Advise the women with a history of anaemia to visit the clinics and take their iron supplements.
- Complications with previous pregnancies, such as undergoing an operation or bleeding after delivery

- Multiple (Twins) pregnancy is a high risk. No woman with a suspected or confirmed twin pregnancy should attempt to deliver at home.
- Sickly pregnant women are at high risk, should be referred to the health facilities.
- Some cultural and religious beliefs pose a risk to pregnant women. Example: giving herbal concoctions of which the strength is not established, and religious belief restricting their members from receiving lifesaving treatment. This practice should be discouraged.
- Victims of gender-based violence are at risk of sustaining injuries which can be life-threatening. Identify victims of gender based violence and refer them to the hospital where they can access social workers.

3 Danger signs in pregnancy

Community-Based Health Assistants (CBHAs), which in the context of this study includes TBAs, should be knowledgeable on danger signs during pregnancy and advise women to go to the nearest clinic or hospital without delay. The following are known to be danger signs during pregnancy (MOHSS, 2020):

- Vaginal bleeding may indicate that the placenta has separated partially. This is an emergency as bleeding can lead to shock and death
- Abnormal vaginal discharge; it could be a sign of an infection that needs to be treated as soon as possible.
- Rupture of membranes; If a pregnant woman sees too much fluid draining from the vagina, she needs to rush to the nearby health facility because it is a sign that the amniotic sac has an opening or escape route for the liquor. This needs urgent intervention at the hospital.
- Headache, dizziness, nausea, vomiting and blurred vision; these may indicate high blood pressure.
- Swollen hands, feet and face indicate underlying issues that need to be investigated.
- Difficulty in breathing
- Severe abdominal pain
- Fever
- Fitting, fainting
- Reduced fetal movement

- Open the Emergency delivery kit
- Wear gloves, double the gloves so that you remove the soiled glove when handling the newborn baby
- Allow the woman to assume her chosen position for delivery (some might prefer to lie on the back (lithotomy), squat, lie on lateral etc.
- Encourage her to push if there is pain (contraction)
- Encourage her to breathe and not to scream or talk too much
- Once the head is born, do not rush to deliver the body, but first feel around the neck of the baby if there is a cord. (If there is, but loose, then slide it over the head)
- You will notice rotation of the head of the baby on the outside. If that takes place, then it means the baby has turned into a favourable position that will allow the delivery of the upper (anterior) shoulder, and then the posterior shoulder, and then the rest of the body will be born (come out). Note the time of birth.
- Place the baby on the mother's abdomen and immediately start drying the newborn with the clean dry towel vigorously (dry the head thoroughly, the face the rest of the body).
- Replace the wet towel with a dry one/baby blanket.
- The baby should start crying right after the birth or during vigorous drying if there are no other complications.
- Take the strings tied on the cord (at least two fingers away from the stump), another clean string, measure two fingers from the first tie and make a second tie. Cut with a blade between the first and the second tie



Figure 7.7 Umbilical cord tie

- Feel the abdomen to see if it feels like there is still a baby. If none, wait for signs indicating that the afterbirth (placenta) is about to come out
- You will notice a gush of blood, the cord getting longer, and the woman will feel the need to push because of a contraction
- Hold the cord close to the perineum, and place one hand on the suprapubic area to support the womb (which will feel like a ball), help deliver the placenta by applying cord-controlled traction
- When the placenta is almost out, receive it with both hands and roll it in a circular motion (clockwise) to ensure the membranes are not left inside. Note the time.
- Rub the womb to make it contract.
- Check the perineum for any tears, apply pressure to stop the bleeding from any tears and ensure that the woman goes to the hospital for stitches/suturing. Perineal tears not attended to can lead to blood loss.
- If heavy bleeding is observed, pack the vagina with a tampon/maternity pad to stop the bleeding. Review after 5 minutes to see if bleeding has stopped.
- Keeping items soaked with blood during delivery can guide health professionals to estimate the blood loss amount.
- Clean the woman, let her lie in lateral position, and if possible, she should be assisted to urinate, as a full bladder might trigger bleeding.

- Once help has arrived, hand over with a full report on the time baby was born, the time for placenta, the condition of the baby (did baby cry immediately or not?), did the mother bleed too much (dizziness and feeling faint can be a sign that she lost a lot of blood).
- Hand over the placenta to the medical team for a proper examination.
- Ask the woman what she intends to do with the placenta, in case culture allows her to take it. If not, then allow the medical team to take it for disposal at incineration.

5 Caring for a newborn

- Once the baby is born, ensure to do the following
- Drying the baby thoroughly to ensure that the baby does not lose heat
- Baby must remain with the mother, skin to skin
- Cover the baby, head in a beanie and socks on
- Check that the umbilical tie is secured and not bleeding
- Do not apply any herbal medicine or ash on the cord
- Observe that the baby is breathing effortlessly
- Do not bathe the baby in the first 24 hours
- Baby should be taken to the clinic or hospital for a full physical examination, routine newborn care and immunisation
- Caring for the umbilical cord only requires washing with mild soap and water and drying with a clean towel/cotton swab.
- Advise the mother to expose the umbilical cord to air so that it may speed the drying process.

6 Caring for a mother after delivery

It is expected that a woman who has just given birth at home should be taken to a health facility as soon as possible. However, in the case where it is not possible, the first 6 days after delivery are very crucial, and a woman should be monitored closely.

- Observe for bleeding; it should be mild. Any heavy bleeding is a medical emergency.
- Advise the woman to do a Sitz bath by sitting in a basin filled with lukewarm water and coarse salt to prevent infections and facilitate healing.

- Advice on personal including perineal hygiene. Pads should be changed whenever soaked with blood or every 4 hours.
- Advise the mother to abstain from sexual intercourse for the first six weeks after delivery to allow healing.
- Observe the behaviour of the new mothers; some experience sadness as having a newborn might be overwhelming.
- If you observe sadness, isolation, feelings of anger, or hallucinations, seek help for the mother as soon as possible because this could mean that she is going through “postpartum maternal blues”. This condition is a danger to both the woman and her newborn.

7 Referral to health facilities & Communication

Communication must be maintained between TBAs and Healthcare professionals.

- All pregnant mothers identified in the community should be referred to the clinic to start ANC early
- Refer adolescents to the clinic so that they can be educated on sexual and reproductive health services. Equipping them with the right knowledge can prevent teenage pregnancies
- Refer all mothers showing danger signs during pregnancy to the health facility for management
- Where a delivery is conducted at home, document the time of birth, the condition and if any herbal concoctions were given and communicate this information with the medical team
- Refer all mothers who are having labour pains, those with previous caesarean section scars, to the hospital.
- Newborn babies born at home should be referred to the hospital without delay for management.
- Have the contact details of the clinic so that an ambulance is summoned without delay.

8 Disposing of infectious materials

The TBAs should ensure that they dispose of the used gloves and blades appropriately.

- Gloves should only be used once. Used gloves should be put in a plastic bag that is readily available and be handed over to the health team upon arrival of the ambulance so that it can be disposed of together with other infectious waste at the health facility.
- In the event that handing over is not possible, the used gloves should be burnt.
- The blades should only be used once. Dispose of used blades in a self-made sharp disposal container, such as a cold drink can. Take this to the health facility periodically for proper waste management.

9 Lesson Review

This chapter equipped you with knowledge on how to recognise danger signs in pregnancy and presented various skills required to safely provide care to the women in labour during emergencies, newborn babies and to mothers after birth.

In groups:

Demonstrate the following:

1. Prepare all items needed for an emergency delivery.
2. What will you do to keep a newborn baby warm?
3. How will you handle childbirth?

10 Referral and communication

It is vital that TBAs maintain clear and effective communication with healthcare professionals. Emergency numbers should be availed to the TBAs to communicate timely during emergencies and for consultations. They should also be provided with registers (hard cover books) where they can record the cases seen and referred to the next level of care. Communication regarding reproductive health matters should be strengthened during periodic community meetings to promote health. Furthermore, a referral form should be completed whenever possible. Make use of the Form on Annexure 1 to clearly state the Situation, Background, Assessment and Recommendation (SBAR). This form is adopted from the SBAR tool used during referrals in healthcare from one facility to another. Herein, the form is customised and simplified to be used at the community level.

11 Reference list for the Manual

- Catholic Relief Services. (2004). Facilitators' Manual for Traditional Birth Attendants in Obstetrical and Newborn emergencies in inaccessible communities
- Liverpool School of Tropical Medicine. (2013). Life Saving Skills: Care of a Newborn.
- Ministry of Health and Social Services. (2009). Community-Based Healthcare (CBHC) Guideline
- Ministry of Health and Social Services. (2022). <https://mhss.gov.na/primary-health-care-services>
- Ministry of Health and Social Services. (2020). National Guidelines: Antenatal Care for a Positive Pregnancy Experience. Windhoek. Namibia
- Sellers, P. M (2018) Midwifery Textbook. Third edition. Juta and Co PTY/LTD
- World Health Organisation. (2009). Guidelines on Hand Hygiene in Health Care: First Global Patient Safety Challenge Clean Care is Safer Care.
- World Health Organisation. (2016). Health Promotion. <https://www.who.int/news-room/questions-and-answers/item/health-promotion>

7.10 Chapter Summary

This chapter presented various topics for the training of TBAs. The contributors to the development of the manual are the participants through their diverse views. The manual was validated by experts in the field of maternal and neonatal care as well as Academia.

CHAPTER 8: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

8.0 Introduction

This chapter presents a conclusion of the research project based on the objectives and the research questions. It also presents the limitations of the study, recommendations and novel contribution to the body of knowledge.

8.1 Conclusion

Underpinned by the Health Belief Model and constructivist philosophical paradigm, this study was designed to produce a standardised framework integrating indigenous knowledge of TBAs into the formal healthcare system to enhance reproductive health outcomes in selected regions of Northern Namibia. A Scoping review (ScR) to map existing evidence on frameworks used to integrate TBAs into formal health systems was conducted. The studies included in the review lacked collaborative frameworks despite highlighting the need to integrate the TBAs into the formal health system. Furthermore, ScR concluded 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. As a result of the ScR, a collaborative framework was developed and processes for validation were adhered to. The components of the collaborative framework include; objectives, structure, strategy/processes, outcome, along with monitoring and evaluation, customised for the settings where the study was conducted.

This study explored the reproductive health practices based on indigenous knowledge among TBAs in Northern Namibia. Based on the findings, it is concluded that the role of TBAs in reproductive health is culturally and circumstantially driven. Although the TBAs are not recognised to provide such care, they are mostly approached by women based on cultural beliefs and during emergencies to render assistance, mostly to pregnant women. TBAs provide culturally grounded remedies for infertility, manage minor pregnancy-related ailments, assist with emergency childbirth, and respond to obstetric complications within resource-constrained environments. The cultural care provided by TBAs is also motivated by personal beliefs and perceived susceptibility if such care is not accessed. In contexts where TBA practices remain unregulated, adverse outcomes linked to harmful traditional practices have contributed to maternal and neonatal morbidity and mortality. On the contrary, in countries where there are clear guidelines and integrative frameworks to collaborate, TBAs contribute positively as their roles are defined and their service complements the modern health systems.

The HCPs were engaged to appraise safe and promotive reproductive health roles that TBAs can perform to complement services within the formal health system. Some of the care highlighted by HCPs that TBAs provide and found commendable include; encouraging facility births, escorting mothers and newborns to health facilities after birth, advise on diet and healthy living. Furthermore, the healthcare professionals who participated in the study responded in affirmation to the research question that sought to find an answer to the relevance of TBAs. Healthcare professionals support the need to collaborate with TBAs and emphasise the need for training and define the parameters of their role. Equally supported by various studies, training TBAs can equip them with relevant knowledge to apply when assisting in their communities and avoid harmful practices. The study highlights the key areas of TBA training such as infection control and prevention, antenatal and postnatal care promotion, clean emergency deliveries and immediate care of a newborn, danger signs in pregnancy, referral and effective communication. The identified training needs were used as pillars for the development of a training manual.

8.2 Novelty/Unique contributions to the body of knowledge

This research significantly contributed to the body of knowledge as it:

- provides a foundation for the Namibian researchers; this is the first known study conducted in the four northern regions of the country where the majority live in rural communities, and those in the remotest areas often seek assistance from traditional birth attendants.
- developed a framework which can be utilised to ensure that traditional birth attendants receive relevant support. The framework also provides guidance to the stakeholders to ensure collaboration accentuates quality in care rendered to clients, thus, contributing toward the reduction of preventable maternal and neonatal mortality and morbidity.
- created a training plan and manual for TBAs which can be used for benchmarking by future researchers in this field of study.
- produced three peer-reviewed articles in reputable journals that contribute to knowledge globally.

8.3 Limitations

Theofanidis and Fountouki (2019), study limitations may mean imposed limitations which are out of the researcher's control. Some of the factors associated with this study limitation include the following:

- Ethnobotanical survey was not conducted: this can be considered post-doctoral phase.

8.3.1 Methodology

This study utilised a qualitative approach, which was complemented by triangulation by including multiple data sources involving 3-4 northern regions. The researcher collected data and conducted analysis concurrently. This process assisted in determining the data saturation. The findings herein cannot be generalised to other settings, such as central and southern regions in Namibia. A study of this nature can be carried out in other parts of the country to compare the similarities and differences in indigenous knowledge practices.

8.3.2 Sample size

Total sample size of 51 might be considered adequate; however, this was addressed through engaging multiple data sources ensuring maximum variation and conducting data up to saturation point. Similarly, the size was relatively small for some groups, especially for the Zambezi region, where only two (2) TBAs participated in the study. This was primarily because the researcher is not native to the region, and at entry level into the community, language proved to be a challenge and had to use the services of a translator. The researcher was a self-funded candidate, and this would have been a costly exercise. The two TBAs who were interviewed narrated similar roles and practices. This complemented the data already collected in the Kavango and Ohangwena regions. Given the qualitative nature of this study, the sample size was considered sufficient data was collected for analysis.

8.3.3 Protection of Intellectual Property Rights associated with Indigenous Knowledge

Although the goal of this study was to investigate the indigenous knowledge among TBAs and their role in reproductive health, not all participants were willing to share details. The TBAs had full rights to only share what they were willing to share because some details are considered classified information. The indigenous knowledge systems are fully protected by policies on intellectual property rights. However, this was mitigated by piloting and collecting data in Kavango West, Kavango East, Ohangwena and Zambezi regions. Literature control was further utilised during the discussion of these findings.

8.3.4 Time

At the onset, this study did not include the women of childbearing age in the population of the study. However, after the review of preliminary findings, a need to include women of childbearing age was identified. An amendment was made in the initial proposal and sought approval from the relevant Ethical Clearance and Approval offices. This necessary amendment affected the progress in terms of time. This was mitigated by drawing up a research work plan with clear deadlines to be adhered to.

8.4 Implications of the study

8.4.1 Policy & Practice implications

Ministry of Health and Social Services evidently strives to improve the care of pregnant women by enforcing the implementation of policies and guidelines. However, the empirical findings reveal that TBAs play a role regardless of regulations that are put in place by the authorities. Thus, the Ministry can consider revising policies and strengthen the collaboration with TBAs as it was in the policies for NPRH 2001, NPCBHC 2009 and NPRHCH 2012. This is necessary to address the adverse events associated with traditional practices and to improve the quality-of-care women receive at community level. The framework and training manual developed through this study can be utilised for piloting and implementation of the proposed collaboration between the two health systems.

8.4.2 Future Research

The empirical findings contribute to the body of knowledge as three articles were produced and published in International Journals (Annexure 7, 8, 9). Future researchers can consider studying the effectiveness of the developed materials and address the gap in this study.

8.5 Recommendations

The roles of traditional birth attendants in the community are dictated by cultural practices. The study found that regardless of utilising modern healthcare in labour, pregnant women need cultural care that ensures safe pregnancy and a smooth childbirth process. Most of Namibians living in remote areas sometimes travel many kilometres to access health facilities. Similarly, some pregnant women in rural areas face challenges when labour onset is at odd hours, such as night time, and hence seek TBAs to assist

with deliveries. Based on these findings, the recommendations below are made to the following structures:

8.5.1. Ministry of Health and Social Services (MOHSS) and Civil Organisations

The study recommends that there is a need to collaborate with traditional birth attendants. The following existing and proposed enablers can be utilised to facilitate the process thereof:

- **The National Policy on Community-Based Health Care (2009)**

The 2009 National Policy on Community-Based Health Care can be reviewed, revised to be updated and strengthened implementation in the regions. This policy had clear guidelines and a well-defined scope that clearly highlighted the objectives and modus operandi for TBAs. It is not clear why TBAs currently practice without support from the ministry, while there is an existing policy that stipulates guidelines and directs the community-based practices.

- **The Collaborative Framework**

One of the objectives of this study was to develop a framework of collaboration between TBAs and the formal health system. A framework with clear objectives, structure, processes/strategies, outcome and monitoring and evaluation was developed. The ministry can explore the feasibility of the developed integrative framework by allowing a pilot implementation phase in regions where this study was conducted for possible incorporation.

- **Improved TBA practices**

As Healthcare Professionals affirmed the relevance of TBAs in this study, they emphasised the need to train TBAs on how to conduct safe deliveries while observing infection control and prevention protocols. They also called for TBAs to refrain from harmful practices. Based on these findings that TBAs continue to render assistance in the community with limited resources despite a lack of recognition, the researcher suggests that the ministry can support the TBAs by offering training to eliminate the scientifically-proven harmful practices and encourage health promotion activities, prompt referrals and effective communications with the formal health system.

8.5.2. Traditional Authorities

TBA practices are grounded in indigenous knowledge, and traditional authorities are the gatekeepers of their communities. This study recommends that traditional authorities play a major role in ensuring those practising as TBAs in their jurisdictions are registered and adhere to the framework, guidelines and policy. The study advocates for continuous communication between the MHSS, traditional authorities and TBAs.

8.5.3. Researchers

Although this study utilised triangulation to enhance the validity, reliability and trustworthiness of the data, the study undertook a purely qualitative approach. Therefore, there is a need for future researchers to consider the utilisation of a mixed method or quantitative approach on a larger scale to enable generalisability. Future studies can be done in regions that are excluded in this study to explore the need to equally empower TBAs in those areas with relevant knowledge, skills and support.

8.6 Chapter Summary

This chapter provided the conclusion of the research project. The study achieved its stated objectives and addressed the research questions through empirical investigation, theoretical grounding, and applied framework development. This report highlights the importance of integrating TBAs into the formal health system. The framework to facilitate the process was developed. In this chapter, limitations of the study are highlighted, and recommendations are made.

References

- Adom, D., Yeboah, A., & Ankrah, A. K. (2016). Constructivism philosophical paradigm: Implication for research, teaching and learning. *Global journal of arts, humanities and social sciences*, 4(10), 1-9.
- Al-Ababneh, M. M. (2020). Linking Ontology, Epistemology and Research Methodology. *Science & Philosophy*, 8(1), 75-91.. <https://doi.org/10.23756/sp.v8i1.500>
- Alekhyia, G., Parida, S. P., Giri, P. P., Begum, J., Patra, S., & Sahu, D. P. (2023). Effectiveness of school-based sexual and reproductive health education among adolescent girls in Urban areas of Odisha, India: a cluster randomised trial. *Reproductive Health*, 20(1), 105. <https://doi.org/10.1186/s12978-023-01643-7>
- Alele, F., & Malau-Aduli, B. (2023). *An introduction to research methods for undergraduate health profession students*. North Queensland: James Cook University.
- Alyafei, A., & Easton-Carr, R. (2024). The health belief model of behaviour change. *StatPearls*.
- Amutah-Onukagha, N., Rodriguez, M., Opara, I., Gardner, M., Maame Araba Assan, M. A., Hammond, R., Plata, J., Pierre, K. & Farag, E. (2017). Progresses and challenges of utilizing traditional birth attendants in maternal and child health in Nigeria. *International Journal of MCH and AIDS (2017)*, 6 (2), 130-138. <https://doi.org/10.21106/ijma.204>
- Aromataris, E., Lockwood, C., Porritt, K., Pilla B., Jordan Z., editors. (2024) JBI Manual for Evidence Synthesis. JBI; 2024. Available from: <https://synthesismanual.jbi.global>. ISBN: 978-0-6488488-0-6
- Austad, K., Juarez, M., Shryer, H., Maratoya, C. & Rohloff, P. (2020). Obstetric care navigation: results of a quality improvement project to provide accompaniment to women for facility-based maternity care in rural Guatemala. *BMJ Qual Saf*, 43, 169–178. <http://dx.doi.org/10.1136/bmjqs-2019-009524>
- Aziato, L., & Omenyo, C. N. (2018). Initiation of traditional birth attendants and their traditional and spiritual practices during pregnancy and childbirth in Ghana. *BMC pregnancy and childbirth*, 18(1), 64. <https://doi.org/10.1186/s12884-018-1691-7>
- Bergström, S., & Goodburn, E. (2001). *The role of traditional birth attendants in the reduction of maternal mortality*. *Studies in Health Services Organisation and Policy*, 17, 77–96
- Catholic Relief Services. (2004). Training Plan for Traditional birth attendants and maternal health aides. CRS
- Chi, P. C. & Urdal, H. (2018). The evolving role of Traditional Birth attendants in Maternal Health in post-conflict Africa. A qualitative Study of Burundi and Northern Uganda. *SAGE Open Medicine*. <https://doi.org/10.1177/2050312117753631>

- Chinn, P. L. & Kramer, M. K. (2018). Knowledge Development in Nursing. Theory and Process, 10th Edition. Elsevier. 3251 Riverport Lane. St. Louis, Missouri 63043
- Choguya, N. Z. (2015). Traditional and Skilled Birth Attendants in Zimbabwe: A Situational Analysis and Some Policy Considerations. *Journal of Anthropology* 2015 (1) <http://dx.doi.org/10.1155/2015/215909>
- Constitution of the Republic of Namibia. (2014). Namibian Constitution 3rd Amendment Act 8 of 2014 (GG5589). Published 13 October 2014. Legal Assistance Centre, Windhoek.
- Cruz, R. F., & Tantia, J. F. (2017). Reading and understanding qualitative research. *American Journal of Dance Therapy*, 39(1), 79-92. <https://doi.org/10.1002/s10465-016-9219-z>
- Dako-Gyeke, P., Aikins, M., Aryeetey, R., Mccough, L., & Adongo, P. B. (2013). The influence of socio-cultural interpretations of pregnancy threats on health-seeking behavior among pregnant women in urban Accra, Ghana. *BMC pregnancy and childbirth*, 13(1), 211.
- De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S.L. (2005). *Research at grassroots for the social sciences and human service professions*. 3rd Edition. Pretoria. Van Schaik Publishers
- Donkoh, S. and Mensah, J. (2023). Application of triangulation in qualitative research. *Journal of Applied Biotechnology and Bioengineering*, 10(1):6–9.
- Eze, I. I., Mbachu, C. O., Ossai, E. N., Nweze, C. A. & Uneke, C. J. (2020). Unlocking community capabilities for addressing social norms/practices: behavioural change intervention study to improve birth preparedness and complication readiness among pregnant women in rural Nigeria. *BMC Pregnancy Childbirth* 20, 369. <https://doi.org/10.1186/s12884-020-03061-0>
- Fusch, P., Fusch, G. E., & Ness, L. R. (2018). Denzin's paradigm shift: Revisiting triangulation in qualitative research. *Journal of Sustainable Social Change*, 10(1), 2. <https://doi.org/10.5590/JOSC.2018.10.1.02>
- Gadanya, M. A., Adamu, K. A., & Ibrahim, U. M. (2021). Traditional birth attendants and reproductive health services in the context of COVID-19: A scoping review. *Kanem Journal of Medical Sciences*, 15(1), 1-12. <https://doi.org/10.36020/kjms.2021.1501.001>
- Grunbaum, S. (2023). Methodology for Clinical Research. Medicine. July 2023. <https://doi.org/10.29327/7283236>
- Gurara, M., Muyldermans, K., Jacquemyn, Y., & Draulans, V. (2020). Traditional birth attendants' roles and homebirth choices in Ethiopia: A qualitative study. *Women and Birth*, 33(5), e464-e472. <http://dx.doi.org/10.1016/j.wombi.2019.09.004>
- Gyasi, M. R., Poku, A. A., Boateng, S., Amoah, P. A., Mumin, A. A., Obodai, J. & Agyemang-Duah, W. (2017). Integration for co-existence? Implementation of intercultural health care policy in Ghana from

- the perspectives of service users and providers. *Journal of integrative medicine*, 15 (1).
[https://doi.org/10.1016/S2095-4964\(17\)60312-1](https://doi.org/10.1016/S2095-4964(17)60312-1)
- Haikera, H. K., Aku-Akai, L., & Aboua, Y. G. (2023). Scope of Medicinal Plants for Uterotonic, Tocolytic, and Wellness Effects in Pregnant Women: A Cultural Perspective. In *Curative and Preventive Properties of Medicinal Plants* (pp. 341-352). Apple Academic Press. <https://doi.org/10.1201/9781003328544>
- Haikera, H. K. (2021). *Investigating the influence of cultural practices on pregnancy, childbirth and postpartum care in Kavango regions, Namibia, in Southern Africa* (Doctoral dissertation, Namibia University of Science and Technology). NUST Library, Ounongo repository, Windhoek.
- Health Profession Council of Namibia. (2004). Nursing Act no 8 of 2004. Legal Assistance Centre. Windhoek, Namibia. Health Professions Act 16 of 2024. Republic of Namibia
- Hobday, K., Hulme, J., Homer, C., Zualo Wate, P., Belton, S., & Prata, N. (2018). "My job is to get pregnant women to the hospital": a qualitative study of the role of traditional birth attendants in the distribution of misoprostol to prevent post-partum haemorrhage in two provinces in Mozambique. *Reproductive Health*, 15(1), 174. <https://doi.org/10.1186/s12978-018-0622-4>
- Hunters, D., McCallum, J., & Howes, D. (2019). Defining exploratory-descriptive qualitative (EDQ) research and considering its application to healthcare. *Journal of Nursing and Health Care*, 4(1), 1-8. <http://eprints.gla.ac.uk/180272/>
- Jackson, J. I. (2024) "Nursing paradigms and theories". General Submissions: Nursing as Profession. 4. https://www.sigmarepository.org/gen_sub_np/4
- Jean-Baptiste, M., Millien, C., Pognon, P. R. & Jean-Baptiste, M. C. (2023). Reframing the Three Delays framework: factors influencing referrals to facilities by matrones in rural Haiti. *BMJ Glob Health* 2023, (8), e011957. <https://doi.org/10.1136/bmjgh-2023-011957>
- Jiang, H., Tang, S., Li, J., Chen, L., Escobar, E., & Qian, X. (2015). Task shifting of traditional birth attendants in rural China: a qualitative study of the implementation of institution-based delivery policy. *The Lancet*, 386, S41.
- Kant, S. L. (2014). The distinction and relationship between ontology and epistemology: Does it matter?. *Politikon: The IAPSS Journal of Political Science*, 24, 68-85. <https://doi.org/10.2215/Politikon>
- Kassie, A., Wale, A., Girma, D., Amsalu, H., & Yechale, M. (2022). The role of traditional birth attendants and problem of integration with health facilities in remote rural community of West Omo Zone 2021: exploratory qualitative study. *BMC pregnancy and childbirth*, 22(1), 425. <https://doi.org/10.1186/s12884-022-04753-5>

- Katale, R. & Gemechu, D. (2023). Spatio-temporal Analysis of Malaria Incidence and its Risk factors in Northern Namibia. *Malaria Journal*, 22(14), 1-13. <https://doi.org/10.1186/s12936-023-04577-4>
- Kayombo, E. J. (2013). Impact of Training traditional birth attendants on maternal mortality and morbidity in Sub-Saharan African countries. *Tanzania Journal of Health Research*, 15(2). <https://doi.org/10.4314/thrb.v15i2.7>
- Kleinheksel, A. J., Rockich-Winston, N., Tawfik, H., & Wyatt, T. R. (2020). Demystifying content analysis. *American journal of pharmaceutical education*, 84(1), 7113. <https://doi.org/10.5688/ajpe7113>
- Kruske, S., & Barclay, L. (2004). Effect of shifting policies on traditional birth attendant training. *Journal of Midwifery and Women's Health*, 49(4), 306–311. <https://doi.org/10.1016/j.mwh.2004.01.005>
- Kumar, A., Geetha, MCS., & Rajan, V.R. (2023). Research Methodology. Lambert Academic Publishing. ResearchGate
- Lathen, L., & Laestadius, L. (2021). Reflections on online focus group research with low socio-economic status African American adults during COVID-19. *International Journal of Qualitative Methods*, 20(11), 1-10. <https://doi.org/10.1177/16094069211021713>
- Lawn, J. E., Manandhar, A., Haws, R. A., & Darmstadt, G. L. (2007). Reducing one million child deaths from birth asphyxia—a survey of health systems gaps and priorities. *Health Research Policy and Systems*, 5(1), 1-10. <https://doi.org/10.1186/1478-4505-5-4>
- Lochmiller, C. R. (2021). Conducting thematic analysis with qualitative data. *The qualitative report*, 26(6), 2029-2044. <https://doi.org/10.46743/2160-3715/2021.5008>
- Mak, S., & Thomas, A. (2022). Steps for conducting a scoping review. *Journal of graduate medical education*, 14(5), 565-567. <http://dx.doi.org/10.4300/JGME-D-22-00621.1>
- Mathole, T., Lindmark, G., & Ahlberg, B. M. (2005). Competing knowledge claims in the provision of antenatal care: a qualitative study of traditional birth attendants in rural Zimbabwe. *Health care for women international*, 26(10), 937-956. <https://doi.org/10.1080/07399330300301796>
- MacDonald, M. E. (2022). The place of traditional birth attendants in global maternal health: policy retreat, ambivalence and return. *Anthropologies of global maternal and reproductive health: from policy spaces to sites of practice*, 95(115), 103-107. https://doi.org/10.1007/978-3-030-84514-8_6
- Mendhi, M. M., Cartmell, K. B., Newman, S. D., Premji, S., & Pope, C. (2019). Review of educational interventions to increase traditional birth attendants' neonatal resuscitation self-efficacy. *Women and Birth*, 32(1), 16-27. <https://doi.org/10.1016/j.wombi.2018.04.016>

- Miller, T. & Smith, H. (2017). Establishing Partnership with Traditional Birth Attendants for improved maternal and newborn health: A review of factors influencing implementation. *BMC Pregnancy & Childbirth*, 32(1), 16-27. <https://doi.org/10.1016/j.wombi.2018.04.016>
- Ministry of Environment Forestry & Tourism. (2021). Act no. 2 of 2017 *Access to biological resources and associated traditional knowledge*.
- Ministry of Health and Social Services. (2001). National Policy on Reproductive Health. Ministry of Health and Social Services, Windhoek. Namibia
- Ministry of Health and Social Services. (2009). National Policy on Community-Based Health Care. Ministry of Health and Social Services, Windhoek. Namibia
- Ministry of Health and Social Services. (2012). National Policy on Reproductive Health and Child Health. Ministry of Health and Social Services, Windhoek. Namibia
- Ministry of Health and Social Services. (2013). Namibia Demographic Health Survey. Windhoek, Namibia. Government Printers.
- Ministry of Health and Social Services. (2020). National Guidelines: Antenatal Care for a Positive Pregnancy Experience. Windhoek. Namibia
- Moayed, M. S., Khalili, R., Ebadi, A., & Parandeh, A. (2022). Factors determining the quality of health services provided to COVID-19 patients from the perspective of healthcare providers: Based on the Donabedian model. *Frontiers in public health*, 10, 967431. <https://doi.org/10.3389/fpubh.2022.967431>
- Musie, M. R., Mulaudzi, M. F., Anokwuru, R., & Bhana-Pema, V. (2022). Recognise and acknowledge us: views of traditional birth attendants on collaboration with midwives for maternal health care services. *International journal of reproductive medicine*, 2022(1), 9216500. <https://doi.org/10.1155/2022/9216500>
- Musie, M.R.; Mulaudzi, F.M.; Anokwuru, R. and Sepeng, N.V. (2024) An Inclusive Framework for Collaboration between Midwives and Traditional Birth Attendants and Optimising Maternal and Child Healthcare in Restricted Rural Communities in South Africa: Policy Considerations. *Healthcare* 2024. Vol 12, 363. <https://doi.org/10.3390/healthcare12030363>
- Musie, M. R., & Mulaudzi, F. M. (2024). Knowledge and attitudes of midwives towards collaboration with traditional birth attendants for maternal and neonatal healthcare services in rural communities in South Africa. *Midwifery*, 130, 103925. <https://doi.org/10.1016/j.midw.2024.103925>

- Mwoma, T., Kituku, J., & Gitome, J. (2021). Role of traditional birth attendants in providing pre and postnatal care to mothers in refugee camps: a case of Ifo Camp Dadaab Kenya. *International Journal of Pregnancy & Child Birth*, 7(3), 58-62. <https://doi.org/10.15406/ipcb.2021.07.00229>
- Namibia Statistics Agency. (2024). Namibia vital statistics report. Births, Marriages and Deaths 2018-2021. Windhoek. NSA
- Namibia Vital Statistics Report. (2020). Registered Births, Deaths and Marriages for Period 2016-2017. Windhoek Namibia
- Ngotie K. T., Kaura DKM. & Mash B. (2022) Awareness of cultural practices by skilled birth attendants during pregnancy and birth in Kenya: An interpretive phenomenological study. *Journal of Africa Nursing Science*. <https://doi.org/10.1016/j.ijans.2022.100394>
- Ngotie, T. K., Kaura, D. K., & Mash, B. (2022). Awareness of cultural practices by skilled birth attendants during pregnancy and birth in Kenya: An interpretive phenomenological study. *International Journal of Africa Nursing Sciences*, 16, 100394. <https://doi.org/10.1016/j.ijans.2022.100394>
- Ngunyulu, R. N., Mulaudzi, F. M., & Peu, M. D. (2020). Traditional birth attendants' experiences during the provision of post-natal care in Mopani District, Limpopo Province of South Africa. *Health SA Gesondheid*, 25, a1359. <https://doi.org/10.4102/hsag.v25i0.1359>
- Nishimwe, C., Mchunu, G. G. & Mukamusoni, D. (2021). Community- based maternal and newborn interventions in Africa: Systematic review. *Journal of Clinical Nursing*, 2021 (30), 2514–2539. <https://doi.org/10.1111/jocn.15737>
- Odii, A., Arize, I., Agwu, P., Mbachu, C. & Onwujekwe, O. (2024). To What Extent Are Informal Healthcare Providers in Slums Linked to the Formal Health System in Providing Services in Sub-Sahara Africa? A 12-Year Scoping Review. *Journal of Urban Health*, 101, 1248–1258. <https://doi.org/10.1007/s11524-024-00885-5>
- Ofili, A. N., & Okojie, O. H. (2005). Assessment of the role of traditional birth attendants in maternal health care in Oredo Local Government Area, Edo State, Nigeria. *Journal of Community Medicine and Primary Health Care*, 17(1), 55-60.
- Ogechukwu, E.O., Rhenua, B.A., Ezeokoli, R.N. & Adegbite, O.S. (2019). Perception on Traditional Birth Attendants Integration in the Primary Health Care system in Ikene local government Area, Ogun State, Nigeria. *Researchgate*
- Ohaja, M., Murphy-Lawless, J., & Dunlea, M. (2020). Midwives' views of traditional birth attendants within formal healthcare in Nigeria. *Women and Birth*, 33(2), e111-e116. <https://doi.org/10.1016/j.wombi.2019.01.005>

- Olusanya, B. O., Inem, V. A., & Abosede, O. A. (2011). Infants delivered in maternity homes run by traditional birth attendants in urban Nigeria: a community-based study. *Health care for women international*, 32(6), 474-491.
- Partelow, S. (2023). What is a framework? Understanding their purpose, value, development and use. *Journal of Environmental Studies and Sciences*, 13(3), 510-519. <https://doi.org/10.1007/s13412-023-00833-w>
- Patino, C. M., & Ferreira, J. C. (2018). Inclusion and exclusion criteria in research studies: definitions and why they matter. *Jornal Brasileiro de Pneumologia*, 44(2), 84-84. <https://dx.doi.org/10.1590/s1806-37562018000000088>
- Peprah, P., Abalo, E. M., Nyonyo, J., Okwei, R., Agyemang-Duah, W., & Amankwaa, G. (2018). Pregnant women's perception and attitudes toward modern and traditional midwives and the perceptual impact on health seeking behaviour and status in rural Ghana. *International Journal of Africa Nursing Sciences*, 8(12) 66-74. <https://doi.org/10.1016/j.ijans.2018.03.003>
- Peters, M. D., Marnie, C., Tricco, A. C., Pollock, D., Munn, Z., Alexander, L., ... & Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. *JB I evidence synthesis*, 18(10), 2119-2126. <https://doi.org/10.11124/JBIES-20-00167>
- Peters M. D. J, Godfrey C, McInerney P, Munn Z, Tricco A. C, Khalil, H. (2024). Chapter 10: Scoping Reviews 2024 edition. In: Aromataris E, Lockwood C, Porritt K, Pilla B, Jordan Z (Editors). JBI Manual for Evidence Synthesis, JBI, 2024. Available from <https://synthesismanual.jbi.global>.
- Piquer-Martinez, C., Urionagüena, A., Benrimoj, S. I., Calvo, B., Dineen-Griffin, S., Garcia-Cardenas, V., Fernandez-Llimos, F., Martinez-Martinez, F. & Miguel Angel Gastelurrutia, M. A. (2024). Theories, models and frameworks for health systems integration. A scoping review. *Health Policy*, 141,(2024)104997, <https://doi.org/10.1016/j.healthpol.2024.104997>
- Polit, F. D., & Beck, C. T. (2017). *Nursing research: Generating and Assessing Evidence for Nursing Practice*. 10th edition. Wolters Kluwer, China.
- Pollock, D., Peters, D., Khalil, H., McInerney, P., Alexander, L., Tricco, A., Evans, C., de Moraes, É. B., Godfrey, C. M., Pieper, D., Saran, A., Stern, C. & Munn, Z. (2023). Recommendations for the extraction, analysis, and presentation of results in scoping reviews. *JB I Evidence Synthesis* 21(3):p 520-532, March 2023. <https://doi.org/10.11124/JBIES-22-00123>
- Pyone, T., Adaji, S., Madaj, B., Woldetsadik, T., & Van Den Broek, N. (2014). Changing the role of the traditional birth attendant in Somaliland. *International Journal of Gynecology & Obstetrics*, 127(1), 41-46. <http://dx.doi.org/10.1016/j.ijgo.2014.04.009>

- Renfrew, M. J., McFadden, A., Bastos, M. H., Campbell, J., Channon, A. A., Cheung, N. F., ... & Declercq, E. (2014). " Midwifery and quality care: Findings from a new evidence-informed framework for maternal and newborn care": Erratum.[https://10.1016/s0140.6736\(14\)60789-3](https://10.1016/s0140.6736(14)60789-3)
- Rutledge, J. D., Kiyanda, A., Jean-Louis, C., Raskin, E., Gaillard, J., Morgan Maxwell, M., Smith, T., Kershaw, T. & Abrams, J. (2024). Recommendations for Integrating Traditional Birth Attendants to Improve Maternal Health Outcomes in Low- and Middle-Income Countries. *International Journal of Maternal and Child Health and AIDS*, 13 (e019). https://doi.org/10.25259/IJMA_16_2024
- Sacks, E., Morrow, M., Story, W. T., Shelley, K. D., Shanklin, D., Rahimtoola, M., ... & Sarriot, E. (2019). Beyond the building blocks: integrating community roles into health systems frameworks to achieve health for all. *BMJ global health*, 3(Suppl 3), e001384.
- Sami, S., Amsalu, R., Dimiti, A., Jackson, D., Kenyi, S., Meyers, J., Mullany, L. C., Scudder, E., Tomczyk, B. & Kerber, K. (2018). Understanding health systems to improve community and facility level newborn care among displaced populations in South Sudan: a mixed methods case study. *BMC Pregnancy and Childbirth*, 18 (1) 325. <https://doi.org/10.1186/s12884-018-1953-4> PMID: 30097028; PMCID: PMC6086013.
- Santora, E. (2020). The impact of the safe motherhood initiative from 1987 to 2000. *Embryo project encyclopedia*.<https://hdl.handle.net/10776/13150>
- Sarmiento, I., Paredes-Solís, S., de Jesús García, A., Maciel Paulino, N., Serrano de los Santos, F. R., Legorreta-Soberanis, J., ... & Andersson, N. (2022). Safe birth in cultural safety in southern Mexico: a pragmatic non-inferiority cluster-randomised controlled trial. *BMC pregnancy and childbirth*, 22(1), 43-48.<https://doi.org/10.1186/s12884-021-04344-w>
- Senanayake, S. G. J. N. (2006). Indigenous Knowledge as a Key to sustainable development. *Journal of Agricultural Sciences*. Sri-Lanka. <https://doi:10.4038/jas.v2i1.8117>
- Shimpuku, Y., Madeni, F. E., Shimoda, K., Miura, S., & Mwilike, B. (2021). Perceived differences on the role of traditional birth attendants in rural Tanzania: a qualitative study. *BMC Pregnancy and Childbirth*, 21(1), 137.<https://doi.org/10.1186/512884-021-03611-0>
- Singh, S., & Bajorek, B. (2014). Defining 'elderly' in clinical practice guidelines for pharmacotherapy. *Pharmacy practice*, 12(4), 489. <https://doi.org/10.4321/s1886-36552014000400007>
- Singh, S., & Estefan, A. (2018). Selecting a Grounded Theory Approach for Nursing Research. *Global Qualitative Nursing Research* (5). <https://doi.org/10.1177/2333393618799571>
- Siseho, G. M., Mathole, T., & Jackson, D. (2023). Baseline assessment of the WHO/UNICEF/UNFPA maternal and newborn quality-of-care standards around childbirth: Results from an intermediate hospital,

northeast Namibia. *Frontiers in paediatrics*, 10, 972815.
<https://doi.org/10.3389/fped.2022.972815>

- Sol, K., & Heng, K. (2022). Understanding epistemology and its key approaches in research. *Cambodian Journal of Educational Research*, 2(2), 80-99.
- Tabong, P. T. N., Kyilleh, J. M., & Amoah, W. W. (2021). Reasons for the utilization of the services of traditional birth attendants during childbirth: A qualitative study in Northern Ghana. *Women's Health*, 17(2), 1-7. <https://doi.101177/17455065211002483>
- Tulchinsky TH & Varavikova, EA. (2014). Chapter 6 - Family Health. Editor(s): Theodore H. Tulchinsky, Elena A. Varavikova. *The New Public Health (Third Edition)*, Academic Press, 2014, Pages 311-379, ISBN 9780124157668, <https://doi.org/10.1016/B978-0-12-415766-8.00006-9>
- Theofanidis, D., & Fountouki, A. (2018). Limitations and delimitations in the research process. *Perioperative Nursing-Quarterly scientific, online official journal of GORNA*, 7(3), 155-163.
- Titaley, C. R., Chaerani, S., Maelissa, M., de Lima, F. V., Saija, A., Mainase, Y., ... & Que, B. J. (2019). Antenatal Care Attendance and Parental Education Are Associated With Utilization of Non-Trained Delivery Attendants in Negeri Lima Health Center Catchment Areas, Maluku Province. *Molucca Medica*, 25-38.
- Veroniki, A. A., Hutton, B., Stevens, A., McKenzie, J. E., Page, M. J., Moher, D., ... & Tricco, A. C. (2025). Update to the PRISMA guidelines for network meta-analyses and scoping reviews and development of guidelines for rapid reviews: a scoping review protocol. *JB1 evidence synthesis*, 23(3), 517-526. <http://dx.doi.org/10.11124/JBIES-24-00308>
- Wanyua, S., Kaneko, S., Karama, M., Makokha, A., Ndemwa, M., Kisule, A., ... & Shimada, M. (2014). Roles of traditional birth attendants and perceptions on the policy discouraging home delivery in coastal Kenya. *East African medical journal*, 91(3), 83-93.
- Wilson, A., Lissauer, D., Khan, K. S., MacArthur, C. & Coomarasamy, A. (2011). Effectiveness of strategies incorporating training and support of traditional birth attendants on perinatal and maternal mortality: meta-analysis. *BMJ*. <https://doi:10.1136/bmj.d7102>
- World Health Organisation. (2009). *Maternal and Child health in Namibia*. Second edition. Windhoek. Namibia
- World Health Organisation. (2013). *WHO Traditional Medicine Strategy 2014-2023*. Hong Kong, China. www.who.int
- World Health Organisation. (2016). *Framework on Integrated, People-Centred Health Services: Report by the Secretariat*. SIXTY-NINTH WORLD HEALTH ASSEMBLY A69/39 Provisional agenda item 16.1

- World Health organisation. (2019). Framework for Action: Strengthening Quality Midwifery Education. Geneva: WHO; 2019. Licence: CC BY-NC-SA 3.0 IGO
- World Health Organization. (2019). *WHO global report on traditional and complementary medicine 2019*. Geneva: World Health Organization.
- Wilson, A., Gallos, I. D., Plana, N., Lissauer, D., Khan, K. S., Zamora, J., ... & Coomarasamy, A. (2012). O738 effectiveness of strategies incorporating training and support of traditional birth attendants on perinatal and maternal mortality: meta-analysis. *International journal of gynaecology & obstetrics*, 119, s520-s520. <https://doi:10.1136/bmj.d7102>
- Veroniki, A. A., Hutton, B., Stevens, A., McKenzie, J. E., Page, M. J., Moher, D., McGowan, J., Straus, S. E., Li, T., Munn, Z., Pollock, D., Colquhoun, H., Godfrey, C., Smith, M., Tufte, J., Logan, S., Catalá-López, F., Tovey, D., Franco, J. V. A., ... & Tricco, A. C. (2025). Update to the PRISMA guidelines for network meta-analyses and scoping reviews and development of guidelines for rapid reviews: a scoping review protocol. *JB I Evid Synth*. 2025 Mar 1;23(3):517-526. <https://doi.org/10.11124/JBIES-24-00308>

Annexure 1: Information sheet for Participants

TITLE: An Investigation of the Indigenous Knowledge of Traditional Birth Attendants and their role in reproductive Health: Developing a Standardised Collaborative Framework with the Formal Health System

Dear Participant,

Introduction

The candidate for this study, Hertha Kasiku Haikera is a PhD student in the field of Health sciences at the Namibia University of Science and technology. You are approached to participate in this study based on the criteria set by the researcher and that it is believed your contribution will add value to the study.

The procedure

The researcher will explain to you the objectives of the study and the mode of your interaction during your engagement with her. The researcher is obliged to explain this to you in a language you are conversant with and if need be, translation should be done. After explaining to you satisfactorily, you will be required to sign a consent form which means that you have given permission to partake in the study. Please take note that participation is strictly on voluntary basis. You are at liberty to give information that you are comfortable giving, and you are also allowed to withdraw from the study any time you may wish to stop the interview without fear of penalties or victimisation. To collect information, it is required that the researcher has a one-on-one interview or a focus group discussion with you or ask you to complete an online survey. The focus group discussion session will take approximately 40 to 60 minutes. At the end, the researcher will debrief you for confirmation that your information is captured with no alterations.

About the Research

Her research aims to explore the traditional knowledge of TBAs and their role in reproductive health. The objective of the study is to get information from you (TBAs) regarding what you know about reproductive health, how you deal with reproductive health issues including how certain conditions are managed culturally including pregnancy, childbirth and postpartum management. The envisaged outcome of the study is to develop a framework for possible collaboration of TBAs with the formal health system.

Any questions? Yes or No? Do you agree to participate? Yes or No

If yes, please sign the form, your names will not be used in the study.

Annexure 2: Interview guide and consent form

Title: An Investigation of the Indigenous Knowledge of Traditional Birth Attendants and their role in reproductive Health: Developing a Standardised Collaborative Framework with the Formal Health System

Participant code..... Signature.....

Part A: Demographic Data

1. Age
2. Level of Education (circle applicable):
 - a. Primary level
 - b. Secondary level
 - c. Tertiary level
 - d. Other.....
3. Years of experience as TBAs:
4. Ethnic group:
 - a. Mukwangali
 - b. Mbunza
 - c. Vamanyo
 - d. Ghambukushu
 - e. Aawambo
 - f. Lozi/Yeye/Mafwe/Subiya

Part B: Interview based on objectives

Objectives	Focus Area using Health Belief Model (HBM) Approach	Questions
1.Explore the reproductive health practices based on indigenous knowledge among traditional birth attendants	Perceived Susceptibility Perceived Severity Health motivation Perceived Benefits Perceived barriers Cues for Action	What is your cultural role in the community? (Clarify Reproductive health) What happens if problem is not addressed? Any exemptions?

		What advice is given to clients? Any barriers to collaborate with HCPs? Action to improve health of clients?
2. Assess the role of TBAS in reproductive health in the indigenous knowledge context	How they can contribute to health promotion	Any need for training and certification?
3. Recommendations/suggestions how TBAs can assist MHSS in health promotion (NB: this is specific for HCPs: Separate interview form as annexure 3)		

Thank you for your time, your participation is highly valued!!!

Annexure 2.1 Traditional Birth Attendants Transcripts

Part I: Focus group discussion TBA Ukwangali

Researcher: What cultural services do you render?

K-TBA 1: “I give mbatu (concoctions for safe pregnancy), conduct deliveries, realign a cervix, and all other necessary treatment for complications prevention”

K-TBA 2: What I do includes, treating infertility.... (pause, phone rings) Treating piles/hemorrhoids, genital warts, conduct deliveries, give concoctions for pregnancy safety..... also, external maneuvers to move or rotate a fetus that is in an abnormal position such as transverse (she demonstrates by showing on her own abdomen), “kugusa kapa’

Researcher: who do you give the safety concoction? Is it the husband or the wife?

K-TBA 1: Both can be given, sometimes it is a man that has cheated while for some it is the woman

K-TBA 2: This kind of treatment is in 2 parts, there is one for man and another for women. The man must be given to drink. It is from 2 different roots.

Researcher: if this concoction is not administered, what will happen to the woman?

Both TBAs responds: She will die (TBA 1) and **TBA 2** says: She will lose her life.

Researcher: Are there any other consequences to this other than dying if treatment is not given?

K-TBA 2: She will die, or sometimes you see the baby just in the birth canal, once baby comes out, the mother dies. Even if she goes to the hospital even to the theatre she will still die.

Researcher: Do you experience any challenges with your clients not coming timely for this service and is there a prescribed time that they have to take it, in terms of gestation?

K-TBA 1: she can wait even until she is 6 months, so it can help (TBA 2 add to help the baby)

K-TBA 2: some clients come early while others wait until they are in labour then they confess that they had cheated on their partners while pregnant and they want the treatment. We have talent to read in the eyes of a woman and detected that she was cheating/unfaithful during her pregnancy.

Researcher: How is that possible?

K-TBA 2 responds: There are stick-like things that appear in the eye of a woman.

Researcher: Apart from antenatal care and treating the cervix and infertility, what else do you do?

K-TBA 1: I assist women give birth, especially during emergency and there is no transport to the hospital.

K-TBA 2: I also help the san people a lot as they do not like delivering at the hospital.

Researcher: are there any clients that you turn away or advice to go to the hospital?

K-TBA 1: Those that were operated before in the previous pregnancies.

K-TBA 2: the same as what my colleague said. We also know how to check how far the baby is and if we see that there are some difficulties we send to the hospital.

Researcher: You also mentioned earlier that you treat infertility? How do you recognise infertility?

K-TBA 1: No conceiving and the woman always experiencing pain on her cervix.

K-TBA 2: To add, the man also who fails to impregnate can be classified as infertile and needs to be given medicine so that he can urinate it out. Yellow discharge is excreted and if it doesn't come out he will not impregnate a woman.

Researcher: Any other tasks you perform as TBAs?

K-TBA 1: I can also treat piles in a pregnant woman by either cutting or applying medicine.

K-TBA 2: we educate them as well to attend antenatal care at the clinics and we also tell them not to stress during pregnancy and also to eat well but avoid eland/game meat

Researcher: What do you think about the idea of getting trained and be recognised to practice freely in your communities in collaboration with the Ministry of Health?

K-TBA1: That is a very good idea, maybe we will get support

K-TBA2: I support it too. May be the challenges we have of not having equipment to use can be addressed.

Part II: Focus group discussions; Sambyu

Researcher: What cultural role do you offer mostly to women? Your role in this community?

K-TBA03: I attend to pregnant women... give them herbal concoctions for safe pregnancy and safe childbirth/delivery. I also give "mpindu" for women having morning sickness, if vomiting I give "rwaso". These herbal concoctions are mixed in 'sikundu' and can also be given in a powder form to apply/smear. As the pregnancy advance to near birth/term, I give 'mpeyo' and some concoctions are mixed with testicles of a cock and a woman drinks for safe delivery. In our culture, if a woman does not drink this, she will die while giving birth."

K-TBA04: I attend to pregnant women, whether sick or in good health. If a woman starts bleeding while the pregnancy is still small, I give "mundwere" a concoction mixed with "nompeke" roots. I

also treat lower abdominal pains by smearing herbal treatment on lower abdomen and lower back. I also treat infertility that is caused by a folded or malposition cervix.

K-TBA05: I attend to pregnant women and give them cultural care even when they are not well. I give them traditional treatment. I also assist with deliveries, even the teenagers I can help them deliver without tearing on birth canal because I give “munandwa” to help the vaginal muscles relax and make the birth canal/passage slippery.

Researcher: What else do you offer those that seek services from you? Perhaps in form of health advice?

K-TBA03: I just advice my clients to go to the clinic for antenatal care. I also ask them to be close to hospital and deliver with nurses and doctor at hospital.

K-TBA04 and K-TBA05: same as TBA03,

Researcher: Are there any challenges that you experience as you render your services and even with collaboration with health workers?

K-TBA03: No challenges yet

K-TBA04: We need essentials such as blades and strings to use when assisting with emergency births.

K-TBA05: working without proper recognition is a problem. No team work yet with hospital staff.

Researcher: What is your take on receiving training and collaborate with formal health system?

K-TBA03: That will be good. I really support it.

K-TBA04: That is a good idea. At least we will have papers to defend our practice.

K-TBA05: It is good. It might also come with benefits.

Part III: Focus group discussion Gciriku

Researcher: What cultural role do you provide in your communities and what is the reason for those services rendered?

K=TBA06: I give herbal concoctions to pregnant women because in our culture if a pregnant woman is not given such, it can lead to the death of a woman or her baby. I also assist with emergency deliveries. Sometimes people come to me at night and there is no transport to the hospital, so I assist with deliveries. That is all I do, I do not treat infertility.

K-TBA07: I give herbal concoctions to pregnant women, and I also assist with emergency deliveries. There are times a woman would give birth and the afterbirth products (placenta and

membranes) get stuck in the womb and I can also remove that. I also accompany pregnant women to the hospital.

K-TBA08: All that was said by my colleagues is what I do too. I give herbal concoctions, assist with childbirth and care for pregnant women. If a pregnant woman does not drink the herbal treatment, childbirth can be complicated, baby can get stuck or the mother can die. This is important because sometimes people are unfaithful, therefore they need to drink otherwise the pregnancy will not be successful.

Researcher: Any other role you play to ensure the women under your care are healthy?

K-TBA06: I educate my clients... on how to behave during pregnancy. A pregnant woman must know she must not move around (sleep around with other men). She must wait for the baby, no extramarital affair otherwise she will die during labour.

K-TBA07: Just like my colleague said. We give them health education. Being unfaithful during pregnancy is taboo in our culture otherwise the woman or her baby can really die.

K-TBA08: The same as said before, this thing is serious. Unfaithfulness whether by woman or her partner, they need to be assisted to save a life.

Researcher: Any challenges?

K-TBA06: No challenges. Those I have assisted with deliveries are safe, no incidents of woman dying in my hands. After delivery, they go to hospital for vaccine for the newborn baby.

K-TBA07: The only challenge is working with no gloves, just using plastics. If we can be recognized, perhaps support will come in as well to give us some necessities to use as we assist our clients.

K-TBA08: My challenges are the same as mentioned by my fellows. No gloves, just working like that...

Researcher: If there was an opportunity to train you, certify you and ask you to collaborate with formal health system, will you welcome it?

K-TBA06: Yes, it will be good to get such training.

K-TBA07: Yes, I will.

K-TBA08: Yes.

Part IV: TBA Interview Mashi in Zambezi

Researcher: What cultural role do you play in the community as a traditional birth attendant? And why?

Z-TBA09: I treat infertility, I give care to pregnant women, help them give birth and educate them.

Researcher: Can you elaborate on those points?

Z-TBA09: I give mushunga by either tying on the back of the woman or put in a bottle and give a woman to drink. I also give specific instruction to the women that she must obey for the treatment to work. If she does not follow the instructions like not talking to people until pregnancy is confirmed, the treatment will fail. With regards to pregnant women, I give funga to apply every morning but also to drink so that the woman will not have a complicated delivery if she slept with other men.

Researcher: You also mentioned health talks?

Z-TBA09: Oh yes... I encourage the women to go to the clinic for antenatal care, I tell them to be faithful to their partners but also to make sure they travel to be near the hospital when near delivery because I also believe they should give birth at the hospital. I also assist with emergency deliveries.

Researcher: DO you think there is a need to train TBAs and certify them?

Z-TBA09: Yes.

Researcher: Any challenges?

Z-TBA09: There are no challenges with Health workers at the nearby clinic. They know me because when I assist with deliveries at night, I accompany my clients to the clinic the following morning. However, we do not have gloves, even to cut the umbilical cord, I have to use reeds and a thread to tie the cord.

Z-TBA10 was also interviewed at a different place due to distance.

Researcher: What cultural services do you provide in the community as a traditional birth attendant?

Z-TBA10: I treat infertility, but before I give treatment, confirmation must be provided by the traditional healer that the woman has fertility issues. If confirmed, then I give “mushunga” roots. Secondly, I also use to give traditional pregnancy prevention treatment but that is no longer popular because women prefer to go to the clinics for family planning injections. For pregnancy, I give treatment for infidelity while the woman is pregnant. In cases like that where the woman has been unfaithful, I give ‘funga’, which is boiled and the women can steam and perform a ritual before spilling the water out. By doing this ritual, it prevents complications during labour. If the man was unfaithful, he is also summoned for a ritual because the woman should drink water from his soaked belt or undergarment.

Researcher: What is the reason for doing these and what will happen if it is not done?

Z-TBA10: If a woman does not go through this ritual, she can die in labour or her baby can die.

Researcher: What other roles do you perform in your community?

Z-TBA10: I was trained back in the former years by an organization through ministry of health “Caprivi home-based caregivers” because my role includes assisting with emergency deliveries but after training there is no support again. Nowadays I assist with deliveries mostly at night as you can see we stay very far from the hospital, 120 kilometers, I cut the umbilical cord with reeds and deliver the afterbirth products (placenta). It is not by choice we conduct deliveries at home but just challenges of no hospital and sometimes no transport money. We encourage those with money to deliver at hospital and also to attend antenatal care.

Researcher: Are there any challenges you encounter during your practice as a TBA?

Z-TBA10: So far only those that I already stated, no support from government. We work with bare hands sometimes, or use plastics which are not even strong. We use reeds to cut the cord because we do not even have blades to use.

Researcher: Any challenges with health workers as you assist with deliveries in the communities?

Z-TBA10: No, no problems with health workers.

Researcher: Is there a need to train TBAs and certify them

Z-TBA10: Yes, there is a need and it should come with incentives.

Part V: Focus group discussion TBA Ohangwena

Researcher: What role do you play in your communities as Traditional Birth Attendants?

OH-TBA11: I just assist with childbirth process

OH-TBA12: I also conduct deliveries, mostly at night because we live very far from the hospital.

OH-TBA13: I conduct deliveries only.

OH-TBA14: I help women with childbirth, I also treat infertility and offer massages to pregnant women.

Researcher: any other role you perform that is related to the health of women?

OH-TBA11: we advise them to attend antenatal care so that they can get help from nurses.

OH-TBA12: Just like what my fellow said, we also tell to deliver at the hospital and then we can only deal with emergency births in the community

OH-TBA13: All that was mentioned I also do, plus if a woman was previously operated to deliver her baby, I advise she goes to the hospital. As TBAs we also know that we do not temper with a pregnancy for a woman with previous caesarean section scar.

OH-TBA14: what my colleagues said is what we all do. Perhaps I just forgot to add that when I treat infertility, I work with women alone, not their spouses/partners.

Researcher: Do you have any challenges while performing your duty?

OH-TBA11: we need training, maybe things have changed and we are still stuck with how we use to do it or maybe after being trained we can be supplied with gloves and other essentials.

OH-TBA12: Ministry of health staff at the hospitals should stop negative criticism when we send a woman we have assisted to the hospital. Our aim is also just to help someone who is unable to reach the hospital.

OH-TBA13: We help for free, no payment.

OH-TBA14: We conduct 5-20 deliveries in a year with limited resources, no gloves, no blades and we get diseases from this noble job.

Researcher: Do you think it is necessary to train you and certify you so you assist freely?

OH-TBA11: Yes, it is a good idea.

OH-TBA12: Yes

OH-TBA13: Yes, it will serve as proof of recognition.

OH-TBA14: Yes, that will be good.

Annexure 3: Online Interview guide for Healthcare Professionals

Title: An Investigation of Indigenous knowledge among Traditional Birth Attendants (TBAs) and their role in reproductive health in Namibia

Information for participants (Health Care Professionals)

The candidate for this study, Hertha Kasiku Haikera is a PhD student in the field of Health sciences at the Namibia University of Science and technology. You are approached to participate in this study based on the criteria set by the researcher and that it is believed your contribution will add value to the study.

Her research aims to explore the traditional knowledge of TBAs and their role in reproductive health. Your role as health care professionals is to:

1. Recommend/suggest/Propose how TBAs can assist Ministry of Health and Social Services in health promotion in their communities.

The envisaged outcome of the study is to develop a framework for possible collaboration of TBAs with the formal health system.

Ethical clearance for this study was granted by the High Degree Committee at NUST and The Executive Director of the MoHSS, Namibia.

This survey can only take five minutes to complete.

herthakasiku@gmail.com (not shared) [Switch account](#)

* Required

1. Do you agree to participate in the study? select yes/no

- ☐ Yes
- ☐ No

2. Select your region of work

- ☐ Kavango East
- ☐ Kavango West
- ☐ Zambezi
- ☐ Ohangwena

3. What is your gender?

- ☐ Male
- ☐ Female

4.What is your job title?

- ☐ Specialist gynecologist/obstetrician/medical officer
- ☐ Chief/senior health program officer
- ☐ PHC supervisor
- ☐ Registered Nurse/midwife
- ☐ Enrolled nurse/midwife

5.State your years of experience in health services?

.....

6.Do you think TBAs are relevant in their communities?

- ☐ Yes
- ☐ No

7.Propose the areas in which Traditional Birth Attendants can assist the MHSS for health promotion in their communities. *

Your answer

8. Do you think TBAs in Namibia need to be trained and certified?*

- ☐ Yes
- ☐ No

9. Propose the topics for TBAs training *

Your answer

Submit

Clear form

Thank you for participating.

Annexure 3.1: Descriptive Responses from HCPs from Google forms

Propose areas in which Traditional birth attendants can assist the MHSS in the area of health promotion.

HCP code	Response
HCP1	In the areas of identifying the pregnant mothers in their territories, identifying pregnant risks in these mothers, advice on the importance of attending ANC, ensure that they attend ANC too, assist mothers to plan for birth together with their families and finally they should be able to recognise complicated deliveries cases for early referral. Most importantly good relationships between the TBA (skilled) and MHSS.
HCP2	Assist in delivering those who find it hard to reach Health facilities. Provide Health education related to mother- child issues to the community. They are also a link between the community and Health facility.
HCP 3	The important of ANC, PNC, Immunisation. Help in calling the ambulance for mothers in labour or home delivery in case the mother did not get time to reach health facility.
HCP 4	Early identification of pregnant women in the community and referring them to their nearest health facilities for ANC - Provide first aid to pregnant women with complicated delivery before referral Educate pregnant women on danger signs of pregnancy - Avoid giving traditional oxytocin to pregnant women
HCP 5	Maternal and Child health care
HCP 6	TBA's they need to assist MOHSS in health promotion by encouraging women to start early ANC and by encouraging them to deliver at the hospital and teach them the danger signs in pregnancy and early sign of labour
HCP 7	Antenatal and postnatal with danger signs and emergency deliveries
HCP 8	Typical community members who believe in home delivery still exist and they need to be assisted by a skilled TBA in terms advocate and convincing women the importance of facility delivery as well as how dangerous is to deliver at home.
HCP 9	Awareness campaigns
HCP 10	Collaboration and sharing their experiences with midwives
HCP 11	In home births
HCP 12	If they are trained well they will be able to detect complications early and refer patients to the hospital
HCP 13	Prolonged labour

HCP 14	Early detection of potential problems in maternal health and early referral of such cases. They can continue the good work they are doing in other areas. They can also assist in educating the pregnant ladies as they are well respected and listened to
HCP 15	Harmful practices during pregnancies and delivery
HCP 16	health education during pregnancy, to direct pregnant human to seek for early help
HCP 17	To identify high risk pregnancies in the community and encourage the patients to seek help early
HCP 18	Recognition of early complications
HCP 19	Pregnant women that attended all ANC contacts and declared not high risk i.e. HIV status negative, normal foetal lie, no medical conditions
HCP 20	Health education and making sure all pregnant women in villages get to attend antenatal care
HCP 21	Sensitise community leaders to encourage their population to seek for health care services and discourage malpractice of traditional birth attendees and traditional healers.
HCP 22	TBAs can help the MOHSS by giving information to the women of childbearing age and pregnant women on the importance of attending ANC, Family planning, and postnatal care. They can also talk of the importance of breastfeeding. They can also help the MOHSS by giving the information on the importance of breastfeeding. Lastly the danger of delivering at home

Suggest topics for TBA Training

HCP code	Response
HCP 1	Basic principles of obstetrics
HCP 2	Danger signs in pregnancy - Identification of High-risk mothers - Labour and its management - postnatal follow up check.
HCP 3	Signs of true labour, how to conduct a normal delivery, how to help a baby breath.
HCP 4	How to identify danger signs of pregnancy - how to do sterile/ clean delivery to avoid infections - Equipment and materials for delivery - Referring pregnant mothers to health facilities - Dangers of traditional oxytocin and other traditional practices e.g putting cow dung or charcoal ashes on the newborn's umbilical - Hand hygiene
HCP 5	Maternal and Child Health care, Infection Prevention and Control

HCP 6	ANC, SIGNS OF LABOUR, DELIVERY PROCESS (HOW TO CONDUCT DELIVERY FROM STAGE ONE TO STAGE THREE
HCP 7	Prevention of mother to child transmission of HIV. Danger signs in pregnancy and postnatal, Danger signs in newborns and nutrition.
HCP 8	Orientation for TBA on safe delivery in Namibia
HCP 9	First aid to a mother and newborn.
HCP 10	MAMA I-CARE (Maternal Assistance & Motherhood Aid for Improved Child-birth, Ante-Natal, and Reproductive Education) Proposed topics: 1. Haemorrhage (ante- and postpartum) 2. Puerperal sepsis and general Infection prevention and control 3. HIV PMTCT 4. Complications of labour 5. Ethics (in modern society)
HCP 11	Neonatal first aid resuscitation, abdominal palpations.
HCP 12	Process of labour Danger signs in anti-natal and labour Safe practices while assisting a woman in labour Baby care.
HCP 13	Signs of prolonged labour.
HCP 14	Early detection of maternal complications and referral. Early detection of pregnancies that need referrals that might need surgical intervention or blood transfusion amongst other things. Continual communication with the hospitals midwives and doctors in cases that might be difficult. Team work is key in success for the benefit of both mother and child and overall reduction in maternal/neonatal mortality and morbidity
HCP 15	Harmful practice.
HCP 16	high risk pregnancy obstetrics complications risk and complications of traditional herbs during pregnancy, labour and postpartum.
HCP 17	Training in how to conduct sterile deliveries On the normal progress of normal labour To pick-up abnormal labour When to refer to the health facility On the importance of immunisation, danger signs in neonates.
HCP 18	Training on conducting save delivery.
HCP 19	Obstetrics warning signs, EMOC, Help baby breath.
HCP 20	Early pregnancy complications and early referral to the health centre, Birth preparedness and mental preparations of expectant mothers for both delivery and postpartum period
HCP 21	None
HCP 22	1. Antenatal care 2. Labour and delivery 3. Postnatal care 4. Breastfeeding 5. Family planning

Annexure 4 Interview guide for the women

For each question, make a circle around the number that corresponds to the answer; fill the blanks space with the answer.

Participant's code number: _____

Part 1: Socio-demographic characteristics

Sr. No	Question	Response	Skip
101	How old are you?	_____(completed years)	
102	What is your marital status?	1. Single 2. Married 3. Widowed 4. Divorced 5. Separated	
103	Age at first marriage?	_____	
104	What is your level of education?	1. Can't read and write 2. able to read and write 3. Primary (1-8) 4. Secondary (9-12) 5. Diploma and above	
105	Educational status of your partner?	1. Can't read and write 2. Able to read and write 3. Primary (1-8) 4. Secondary (9-12) 5. Diploma and above	
106	What is your current occupation status?	1. Housewife 2. Merchant 3. Daily laborer 4. Governmental employee 5. Private/NGO employee 6. Self-employed 7. student 8. Others (specify_____)	
107	Occupation of your partner?	1. Farmer 2. Merchant 3. Daily laborer	

		4. Gov't. employee 5. Private employee 6. Self-employed 7. student 8. Other specify_____	
108	Residence of the women?	1. Rural 2. Urban	
109	What is your religion?	1. Christian 2. Muslim 3. Protestant 4. Others(specify_____)	
110	How many persons are living at home?	_____	
111	Have you ever read newspapers/ health IEC pamphlets?	1. Yes 2. No	
112	If yes, how often did you read?	1. Every day 2. One time per week 3. Two times per week 4. Three and more	
113	Do you ever listen to the radio?	1. Yes 2. No	
114	If yes, how often?	1. Every day 2. One time per week 3. Two times per week 4. Three and more	
115	How long does it take from your home to the nearby health facility on foot?	_____	

Part-II Relevance of the services of TBAs in the communities.

- a) what are your views regarding the relevance of traditional birth attendants in your community?
- b) Do you think women will make use of the services of TBAs if they will be trained and certified by the ministry of health?
- c) What sort of services do you prefer women seek from TBAs and why?

All questions will be followed by probes based on responses from participants.

Thank you for your cooperation!!

Source: <https://doi.org/10.1371/journal.pone.0277504>

Annexure 4.1: Mothers perspectives

Part II: Relevance of TBA services in the communities

Region	P-code	View on relevance of TBAs	Will women access if trained and certified	Services sought from TBAs and Reasons
Zam	Z-W01	They are helpful, especially for us who only have a clinic nearby that operates during the day. The clinic has no maternity services. To reach maternity hospital, we have to travel 114km and it is costly.	Yes, they will	Usually, here TBAs are consulted for emergency deliveries. Also, during pregnancy, the women need to get 'funga' from TBAs to prevent complications during delivery.
Zam	Z-W02	Yes, they are helpful to some of those who believe in those cultural things. But myself I do not believe in it.	Yes, if certified women will make use of their services because they will work accordingly	I do not know anything about that because I do not believe in it.
OH	OH-W03	Yes, they are relevant as they assist those in need.	Yes, women will use the services even more	Emergency deliveries as some stay far from clinics and hospital. We

				stay very far from hospitals.
OH	OH-W04	Very relevant especially to those who are very far from health facilities	Yes, because if they are trained, they will even be able to tell the position of the baby and know what to do.	Some seek fertility treatment if struggling to fall pregnant and the TBAs are known to treat it successfully.
OH	OH-W05	Yes, they are relevant.	Yes, if trained they can help with deliveries because they will have more knowledge.	Pregnancy and delivery services and they do not charge a lot of money. Going to the hospital is too costly because you pay transport and hospital fees.
OH	OH-W06	Yes, they are important and very helpful especially at night when it is difficult to get transport, they can walk to the house and assist.	Yes, that will mean recognition from government and getting a birth certificate will not be a problem for babies born at home.	Mostly, emergency deliveries.
OH	OH-W07	Yes, they are needed in the communities	Yes, women will make use of the services as TBAs will have all necessary tools to	Mostly women go for assistance with fertility treatment.

			carry out their tasks.	
OH	OH-W08	Yes, they are relevant because they assist with emergencies in the community	Yes, people will make use of them more and in addition, if trained, they will have materials to use and prevent infections.	People, mostly seek assistance when in labour during the night and there are challenges getting transport to hospital during the night.
KE	KE-W09	They are needed as they assist in case you stay far from the clinic.	Yes, as they will be equipped with knowledge and skills to assist people	Fertility treatment, They assist traditionally with obstructed labour.
KE	KE-W10	Yes. Some stay far from hospital. At this village, there is only a clinic which does not operate at night. So if there is a TBA nearby, she can assist.	Yes, most people will be free to visit them and get assisted.	They assist with all pregnancy related emergencies, including retained placenta Emergency deliveries They give nsunga to have a safe delivery They treat breast related problems during pregnancy (etjupa). They also treat PPH using a hot stone with herbs, they dig a hole and let the blood drip in the pit and they add some herbs, blood stops immediately.

KE	KE-W11	Yes, they are relevant, sometimes they can assist with emergency deliveries. Due to transport challenges, they do come in handy.	Yes, people will use the services of TBAs	They give herbal concoctions to prepare a pregnant woman for labour and delivery. They also assist babies to be well after delivery by smearing herbal medicines. They also give newborn babies to prevent colic.
KE	KE-W12	Yes, they are relevant, they assist during emergencies to conduct deliveries.	Yes, most people will seek assistance. Some do not have elders that can assist them but when there is someone known then women will seek assistance there.	They give nsunga for wellness of baby in uterus. They also treat obstructed labour, cord around the neck, retained placenta. They treat all that.
KE	KE-W13	Yes, they are relevant. There is no hospital here. They assist so much with emergency deliveries.	Yes, people will utilise the services.	They assist give recommended cultural remedies when in labour. They also treat haemorrhoids, and also treat growths on genitalia, they also give <i>nsunga</i> to speed up labour.
KE	KE-W14	Sometimes they are relevant, they can assist	Yes because that means they will get	They go for <i>nsunga</i> They treat <i>kakenda</i>

		women who are far from hospital or no money for transport, they can help with deliveries.	assistance with essentials such as gloves. So people will not hesitate to seek for assistance.	
KE	KE-W15	They are not relevant, i do not see what they do.	No	I do not know because i don't go there.

Annexure 5 Approval letter from Institution/HDC



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FACULTY OF HEALTH AND APPLIED SCIENCES

DECISION/FEEDBACK ON RESEARCH PROPOSAL ETHICAL CLEARANCE

Dear Prof/Dr/Mr/Ms/Other(s):

Hantha Kasiku Halkera (220014329)

Student No (if applicable):

Research Topic:	Investigating indigenous knowledge among traditional birth attendants and their role in reproductive health care in northern Namibia
Supervisor (if applicable):	Dr Yapo G. Aboua
Co-supervisor(s): if applicable	Dr. Hilma Nangombe Dr. Michael Shirungu
Qualification registered for (if applicable):	PhD in Health Sciences

Re: Ethical screening application No:

FHA5/09/2022

The Research Ethics Screening

Committee has reviewed your application for the above-mentioned research project. Based on the recommendation of the expert reviewer, the research as set out in the application is hereby:

(Indicate with an X)

Approved: I.e. may proceed with the project	☒	
Approved provisionally: I.e. may proceed but subject to compliance with recommendation(s) listed below	☐	
Not approved: Not to proceed with the project until compliance with recommendation(s) listed below and resubmit ethics application for consideration	☐	
IS MINISTRY OF HEALTH & SOCIAL SERVICES (MoHSS) APPROVAL REQUIRED?	YES ☒	NO: ☐

It is important to note that as a researcher, you are expected to maintain ethical integrity of your research, strictly adhere to the ethical policy of NUST, and remain within the scope of your research proposal and supporting evidence as submitted to the REC. Should any aspect of your research change from the information as presented, which could have an impact or effect on any research participants/subjects/environment, you are to report this immediately to your supervisor or REC as applicable in writing. Failure to do so may result in withdrawal of approval. Kindly consult your supervisor or HoD if you need further clarification.

We wish you success in your research endeavour and are of the belief that it will have positive impact on your career as well as the development of NUST and the society in general.

Ethical issues that require compliance/ must be addressed: None		
No.	Ethical Issues	Comment/recommendation
1.	Patient Consent	
2.	Time between specimen collection and specimen analysis is not properly indicated.	

NB: May attach additional page as required

Reviewers name:..... Signature:

Date:

Full Name: Dr Yapo Guillaume Aboua
Acting Chair: Ethics Screening Committee

Signature:



Date: 15/06/2022

Annexure 6 Approval letters from MHSS


REPUBLIC OF NAMIBIA

MINISTRY OF HEALTH AND SOCIAL SERVICES

Ministerial Building
Harney Street
Private Bag 13198, Windhoek

OFFICE OF THE EXECUTIVE DIRECTOR

Tel: No: 061 - 200 2507
Fax No: 061-222 558
Andreas.Shipanga@mhss.gov.na

Ref: 10KH2022
Date: 26 July 2022

Enquiries: Mr. A. Shipanga

Mrs. Hertha K. Halkern
P.O. Box 2367
Rundu

Dear Mrs. Halkern

Title: Investigating the indigenous knowledge among traditional birth attendants and their role in Reproductive Health Care in Northern Namibia.

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for completion of Doctor of Philosophy Degree in Health Sciences;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 No any specimen should be collected from Human Subjects;

3.4 Stipulated ethical considerations in the protocol related to the protection of Human Subjects' information should be observed and adhered to; any violation thereof will lead to termination of the study at any stage;

3.5 A quarterly report to be submitted to the Ministry's Research Unit;

3.6 Preliminary findings to be submitted upon completion of the study;

3.7 Final report to be submitted upon completion of the study;

3.8 Separate permission should be sought from the Ministry for the publication of the findings.

4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely,


BEN NANGOMBE
EXECUTIVE DIRECTOR



All official correspondence must be addressed to the Executive Director.


THE NAMIBIA
GOVERNMENT



REPUBLIC OF NAMIBIA

MINISTRY OF HEALTH AND SOCIAL SERVICES

Ministerial Building
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OFFICE OF THE EXECUTIVE DIRECTOR

Tel No: 061-200 1597
Fax No: 061-222 558
Andreas.Shipanga@mhs.gov.na

Ref: 22/4/23

Enquiries: Mr. A. Shipanga

Date: 25 August 2023

Ms. Bertha Haikera

PO Box 2367

Rundu

Namibia

Dear Ms. Haikera

Re: Request for approval for the amendment titled "Investigating the indigenous knowledge among traditional birth attendants and their role in Reproductive Health in Northern Namibia"

1. Reference is made to your application of the above mentioned amendment on a study that was approved on 26 July 2022.
2. Kindly be informed that approval for the amendments titled "Investigating the indigenous knowledge among traditional birth attendants and their role in Reproductive Health in Northern Namibia" has been granted.
3. Any other amendments to be added to this protocol must be submitted to the Ministry for approval.

Yours sincerely,


BEN NANGOMBE

EXECUTIVE DIRECTOR

All official correspondence must be addressed to the Executive Director.



10:22:305

Exploring Sociocultural Maternal Care Roles of Traditional Birth Attendants in Northern Namibia

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Abstract

Traditional birth attendants (TBAs) provide care that is deeply rooted in the cultural values and beliefs of their communities. Moreover, TBAs play an important role in assisting women during antepartum, intrapartum and postpartum by rendering cultural care. This study examined the sociocultural roles of Traditional Birth Attendants (TBAs) in four selected regions of Northern Namibia. An exploratory, descriptive qualitative (EDQ) design was employed. The purposive sampling method was used to select participants for the focus group interviews. Latent content analysis was utilised to analyse data. With the assistance of the relevant traditional and health services authorities in Kavango East, Kavango West, Ohangwena and Zambezi, 14 TBAs participated in the study. The following four themes emerged from the findings, depicting the roles of TBAs: preconception care, antepartum care, intrapartum care, and postpartum care. The sociocultural roles of TBAs include rendering treatment for couples that are struggling to conceive, providing herbal remedies across all stages of pregnancy, caring for pregnant women, assisting with emergency homebirths, as well as managing intrapartum and postpartum-related complications. Some of the TBAs use reeds to cut the umbilical cord and perform minor surgery-related procedures similar to haemorrhoidectomy in their homes, which can cause sepsis and bleeding. Similarities have been noted in the sociocultural roles of TBAs across the regions. The study recommends further research on herbal remedies as assumptions are being made that the medicinal care offered by TBAs speeds up the labour progress. There is a need to



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explore, filter and regulate the sociocultural roles of TBAs to ensure the practice does not endanger the well-being of the women during antepartum, intrapartum, and postpartum and also does not harm the newborn in any way. This study was limited to a few settings, thus reducing the population due to its qualitative nature.

Keywords: herbal remedies; Namibia; roles; sociocultural; traditional birth attendants

Introduction

As early as 1975, the World Health Organization (WHO) defined a traditional birth attendant (TBA) as “a person (usually a woman) who assists the mother at birth and initially acquired her skills by delivering babies on her own or by working with other TBAs” (Gurara et al. 2019; MacDonald 2022; Verderese and Turnbull 1975). The United Nations Children’s Fund (UNICEF), other United Nations (UN) agencies, and national ministries of health have been training Traditional Birth Attendants (TBAs) for decades. During the 1970s, the WHO conducted several international and regional technical consultations to explore the potential of TBAs in maternal health, aiming to expand the reach of limited health services in developing countries (Mangay-Maglacas and Simons 1986; WHO 1979; WHO 1985; MacDonald 2022). The WHO recommends a ratio of one midwife for every 175 pregnant women (Turinawe et al. 2016). However, this standard remains largely unmet in developing countries, including Namibia. Despite notable progress in maternal and child healthcare, there is still much work to be done. For instance, approximately 66% of pregnant women (aged 15–49 years) in Namibia attended at least four antenatal care visits during their pregnancy, while 88% of pregnant women received assistance from a skilled birth attendant during delivery (UNICEF 2018). This provides evidence that despite the availability of health services in Namibia, 10% of pregnant women in the country continue to attend TBAs for childbirth. Hence, it is clear that some of the women, especially in rural areas where this study was conducted, still require the assistance of TBAs.

TBAs play an important role in assisting women during pregnancy, labour and puerperium (Ngunyulu et al. 2020). Studies like those by Kruske and Barclay (2004) emphasised the importance of TBAs’ social and cultural skills, while Sibley et al. (2004) and Sibley et al. (2006) found positive associations between TBA training and antenatal care (ANC) attendance, as well as improvements in maternal care practices. In light of the above global discourses on TBA, it is evident that the sociocultural role of TBAs is rooted in cultural values and beliefs that prioritise the care of women and infants (Ngunyulu et al. 2020). According to Mwoma et al. (2021), the extensive role of TBAs includes assisting with uncomplicated deliveries that occur outside health facilities, but they are also known to accompany labouring women to health facilities for specialised care. Furthermore, Mwoma et al. (2021) state that TBAs have limited knowledge in handling complicated births. Statistics cited by Kassie et al. (2022) reveal that in rural Africa, 60 to 90 per cent (%) of pregnant women consult TBAs. Studies conducted in Nigeria found that 80% of women prefer the services of TBAs, and 64% of pregnant women utilise TBAs despite the availability of primary healthcare services (Ogechukwu

et al. 2019, 99). In Tanzania, more than half of the deliveries occur outside the health facilities, as a result, the women are assisted by TBAs, according to Shimpuku et al. (2021). The study further reports that TBA roles include conducting emergency home deliveries, providing advice and caring for the newborn (Shimpuku et al. 2021). In Namibia, the policy for community-based health care (CBHC), according to which TBAs were identified as healthcare providers in their respective communities, was launched in 2009. However, there is a lack of information on why the initiative was halted (Ministry of Health and Social Services (MHSS) 2009). Currently, TBAs in Namibia practise clandestinely due to a lack of recognition and support from the government. A study that was conducted in the Kavango East and West region in Northern Namibia revealed some of the varied roles of TBAs, *inter alia*, treating infertility, providing herbal concoctions to pregnant women, assisting with emergency childbirth and caring for newborns (Haikera et al. 2023). Despite the existence of these findings, the researcher identified a gap in the results, as they were limited to one setting, while TBAs assist in other settings that were not part of the initial study, thus limiting generalisation. This study thus explored the sociocultural roles of TBAs in expanding to four northern regions in Namibia.

Methods

This study employed an exploratory, descriptive, qualitative (EDQ) design and utilised a non-probability, purposive sampling method to select the study participants. A qualitative exploratory design was preferred because it permits the researcher to explore a topic or phenomenon with limited coverage within the literature, and it allows participants in the study to contribute to the development of new knowledge in that area (Reid-Searl and Happell, as cited in Hunters et al. 2019).

Study Setting

This study was conducted in parts of Kavango East, Kavango West, Ohangwena, and Zambezi regions in Northern Namibia. The regions were selected based on the fact that they have a district and/or intermediate hospitals, yet people still access services from the most remote areas. The discussions took place in a private and conducive environment. The actual venues where interviews took place were a shelter in Ohangwena, the boardroom at the King's Palace in Kavango West, as well as one group interview in the boardroom at the traditional authority office and another at the headman's house in Kavango East. In Zambezi, the interview took place under a tree outside the TBAs' house. The gatekeepers for this study included traditional leaders, such as headmen and clinic staff, who facilitated the identification of participants who met the study's criteria. The gatekeepers were the ideal persons to purposively select as participants because they had either worked closely with this cadre or were aware of their assistance in the community.

Population and Sample Size

Casteel and Bradier (2021, 343) are of the opinion that the population of interest for the study should comprise the individuals, dyads, groups, organisations, or other entities one seeks to understand and to whom or to which the study results may be generalised or transferred. The target population for this study comprised traditional birth attendants from four selected northern regions in Namibia. TBAs were selected based on their role in the community, and the traditional authorities and remote clinic staff are cognisant. Additionally, the traditional authorities and clinic staff should be convinced that the participants can contribute to the study based on their role in the communities. Although the selection was made by community leaders, the participants were all female because it appears that TBAs are mostly female-dominated. Six participants were from Kavango East, two from Kavango West, four from Ohangwena, and two from the Zambezi region. The number of TBAs in Namibia is not known; however, the sample size was determined by data saturation at 14 participants.

Data Collection Method

The researcher used a semi-structured interview guide during the data collection process. Data was collected through focus group interviews, which lasted 30 to 60 minutes. Data was captured through audio recordings and the use of field notes. In the Kavango East and West regions, the interviews were conducted in *Rukwangali*, a vernacular language spoken and understood by the majority, but in the Ohangwena Region, where *Oshiwambo* is the spoken language, the researcher sought assistance from a translator who is a nurse, midwife, educator and researcher based in the region. In Zambezi, the local health facility's senior nurse assigned a translator to assist the researcher. The translator in Zambezi is a health extension worker who works closely with TBAs known at the health centre, as they accompany women and infants to the clinic after a home delivery. The data captured in the local languages was later translated into English by language experts to facilitate the analysis process. A pilot study was conducted in Kavango West to address any logistical issues and assess whether the questions in the interview guide needed refinement. After the pilot study, sociodemographic variables such as age, years of experience, and level of education were added.

Data Analysis

Latent content analysis was employed to synthesise the data, generate codes from transcripts, categorise the data, and formulate themes (Kleinheksel et al. 2020). The steps used in the analysis included data preparation, familiarisation, coding, and analysis of coded data to identify patterns and themes.

Ethical Clearance

This study received ethical clearance from the Higher Degree Committee (HDC) of the Namibia University of Science and Technology (NUST) (Ref: FHAS09/2022). Furthermore, approval was obtained from the Ministry of Health and Social Services (MHSS) (reference: 22/4/2/3). The researcher ensured that participants were treated with respect by providing them with information about the study and informing them of their voluntary participation before they signed the consent form. Anonymity was ensured by assigning codes for each participant with region identification and participant number, e.g. K-TBA01 means (Kavango: traditional birth attendant: number 1); OH- for Ohangwena; Z- for Zambezi. The study did not impose any physical or psychological harm to the participants. Participants were also at liberty to decline to answer questions that they might have felt were too intrusive, if any.

Findings

Characteristics of Traditional Birth Attendants

From five traditional authorities (TA) in the Kavango East and West, Zambezi and Ohangwena regions, a total of 14 females were chosen to participate in the study. The ages of TBAs ranged from 50 to 96 years, and on average, most of them have been practising as TBAs for more than 30 years. They had experience in the field of assisting pregnant women with reproductive health issues, mostly relating to preconception care, antepartum, intrapartum and postpartum. The majority did not attend formal education, with the exception of two who reached the primary and secondary levels of education, respectively, and both of whom are unemployed. The TBAs provide services in their respective communities, although they do not receive immediate incentives for the care they offer. However, clients would usually return with a token of appreciation after a successful outcome.

Themes

The interview transcripts were analysed to identify patterns and generate themes, which are presented below:

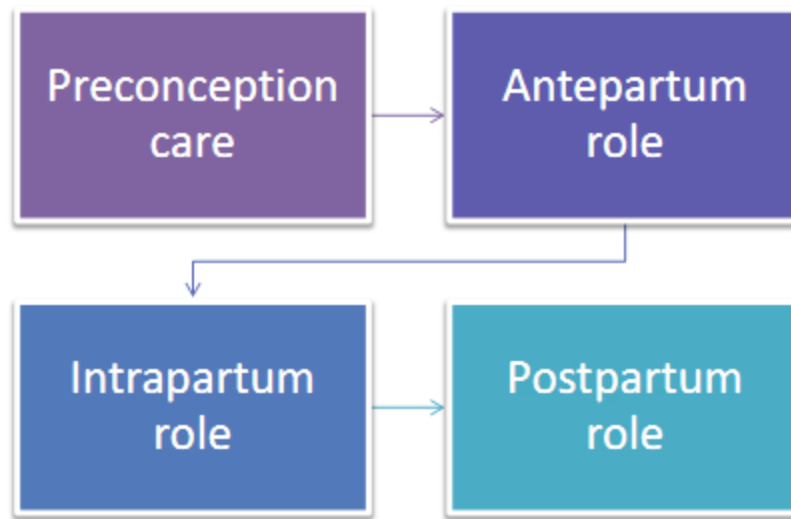


Figure 1: Themes derived from TBA interviews

Theme: Preconception care

One of the health motivations for women to seek TBA services is when they are struggling to conceive. The scope of knowledge for TBAs in the cultural context is broad; some of them indicated that they are knowledgeable about the treatment of infertility. According to the participants, their clientele is mostly women, but on rare occasions, they also render such services to men. According to the TBAs, infertility in the cultural context is diagnosed by failure to conceive after several attempts to fall pregnant. Below are some of the extracts from the translated conversations:

K-TBA01 said: "I can treat infertility. Some of the problems leading to difficulty to become pregnant is just a bended cervix, sometimes the cervix is hiding at the back (posterior), hence the woman cannot conceive. I can successfully realign it to make it straight and if that rectification is done, the woman can easily conceive."

K-TBA02 also revealed she can treat infertility in both women and men. She further added that: "for a man, we give treatment comprising of a concoction to drink so that the unhealthy sperm is flushed out with urine whereby yellow discharge will be dripping, thereafter, there won't be problems conceiving."

K-TBA04 also affirmed to treatment of infertility that results from a folded cervix. In the Zambezi Region, both Z-TBA09 and Z-TBA10 stated that they do treat infertility using “*mushunga*.” (local name, scientific name unknown).

In Zambezi, *mushunga* is a combination of a consumable concoction and a ritual stick used to treat infertility. The concoction is prepared by the TBA and given to the woman to drink while the stick is tied to her back. This treatment is taken with strict instructions that the woman should take the concoction until she misses her menstrual period; then, she can visit the TBA for confirmation. There are signs a TBA checks for to confirm pregnancy, namely a growing abdomen, white eyes and other pregnancy-related symptoms such as spitting too much.

The majority of the TBAs that took part in the study in the Ohangwena Region only render pregnancy and childbirth aid, with the exception of OH-TBA14, who indicated that she could treat infertility by providing herbal concoctions.

Theme: Antepartum role

The majority of the TBAs reported that pregnant women approach them for cultural care that is applicable to pregnancy. It is perceived that in the cultural context, if a woman is pregnant, she needs to find an elderly woman to assist her in order to avoid complications during pregnancy and childbirth. TBAs expressed that they render a variety of services in their communities to pregnant women. Some of the services rendered to women and their families include providing herbal concoctions to treat minor ailments such as lower abdominal pain, backache, nauseous and vomiting; palpating the uterus to assess foetal growth; and employing manoeuvres to correct foetal positioning in the uterus.

K-TBA01 said: “I assess by palpating the abdomen to check growth of the baby in the womb.”

K-TBA02 added that: “I assess the growth of the baby at every visit and in case the baby is in transverse lie in the womb, I can also perform some manoeuvres to position the baby in a normal way.”

K-TBA03, who also renders similar services as those the other TBA narrated, stated as follows: “I attend to pregnant women. If they have morning sickness, I attend to it too.”

Z-TBA09 stated that: “I care for pregnant women, I educate them on how they should behave during pregnancy, and I also advise them to deliver at the hospital.”

The services rendered by OH-TBA11, OH-TBA12, and OH-TBA13 during the antepartum period are similar to those previously reported by the participants.

The TBAs revealed that the concoctions they give during antepartum comprise roots, leaves, the bark of a tree, and other remedies, such as elephant dung mixed with roots.

The concoctions are also given in case the woman or her partner has extra sexual affairs. Cultural beliefs are that if a woman fails to drink the concoction while she knows she has other affairs, she can bleed to death. Below are some of the quotes:

K-TBA01 gives herbal concoction to “ensure safe pregnancy and safe delivery.”

K-TBA03 said: “I give herbal concoction known as “mpindu” (scientific name: *Ancylanthus Bainesii*). Mpindu can be translated as medicine that stimulates something. This medicine is given for safe pregnancy, and for morning sickness, I also give “rwaso” if vomiting. All these are mixtures of various herbs we collect in the forest. Some of the herbs are crushed and smeared on the abdomen.”

Another K-TBA04 also said: “If a woman is bleeding early in pregnancy, I give “mundwere” (*Lannea zastroviana*) concoction mixed with “nompeke” (*Ximema caffra*) roots.”

K-TBA05 added that some cultural remedies help relax the perineal muscles so that during birth, a woman will not sustain any tears or lacerations in the birth canal.

K-TBA06, K-TBA07, and K-TBA08 all stated that they provide herbal concoctions to ensure a safe pregnancy and a smooth delivery during labour.

They stated the following: “I give ‘ntunga’, give remedies to stop bleeding after birth.”

In Zambezi, Z-TBA09 and Z-TBA10 revealed that they provide what is locally known as ‘funga’ to drink and some crushed herbs to smear on the pregnant woman’s body so that she will not have any complications during delivery.

Some pregnant women often complain of growths on the genitals (from the description, it might possibly be warts) and on the anus (piles). Both TBAs from Kavango West indicated that they manage the growths by cutting them off.

Theme: Intrapartum role

The role of TBAs during the intrapartum period is to help women give birth in emergency situations. TBAs revealed that the home births conducted are unplanned but rather circumstantially driven. However, TBAs are approached for assistance during emergencies, which mostly occur at night due to a lack of transport and the long distance to health facilities.

The narratives below are some of the expressions and views of the participants:

K-TBA01 said: “I conduct deliveries and also in situations where the afterbirth products (refers to the placenta) get stuck after the baby is born, I can remove them manually” She laughed and added that “we use a technique that involves pricking on the vaginal opening with dry grass.”

K-TBA07 and K-TBA08 shared the same sentiments and summarised it this way: "It is not by choice that we conduct deliveries at home, but just emergencies (sic) and people approach us because they know we can do it."

K-TBA07 also shared that "I can manage stuck afterbirth products successfully."

The narratives above were echoed in almost all TBA views. However, the TBAs indicated that they render these services selflessly without charging a cent, but the anticipation is that when the women finally deliver, and everything turns out well, they should at least return with a token of appreciation. It is clear, therefore, that the women benefit from the TBAs' generosity, as they are not required to pay upfront.

K-TBA07 and K-TBA08 stated that: "However, we have challenges such as lack of gloves, blades, and strings to tie cord."

In the Zambezi Region, there is only one district hospital, which is in Katima Mulilo. This creates a situation where pregnant mothers residing furthest from the town have to travel long distances to access a maternity unit when in labour. The TBAs that participated narrated their experience and views as follows:

Z-TBA09 stated that: "I attend to emergency deliveries and when that happens, I make sure to escort the woman to the clinic the following day."

Z-TBA10 also concurred with her counterpart above, saying she renders assistance with emergency deliveries and further elaborated on how she performs the procedure: "I was once trained here in Zambezi, there was a programme supporting us, but now, it stopped (she takes out a bag she was given as evidence and it reads 'Caprivi Home Based Care Glvers.'). Now I use what is available to help with the delivery, such as using reeds to cut the umbilical cord."

In the Ohangwena Region, there were 4 TBAs that participated, and their experiences were not different from the TBAs in the Kavango and Zambezi. They also assist with emergency deliveries, as some of their clients live far from the hospital, and in some cases, labour starts at night, and there is no transport available. Below are some of the narratives:

OH-TBA11, OH-TBA12 and OH-TBA13 all shared the same narrative: "I assist with emergency deliveries in the community especially during night time."

OH-TBA14 indicated that: "I help to assist (sic) women give birth by receiving the baby and care for the new born. In the morning the mother can go to the hospital for further care."

Theme: Postpartum role

During the postpartum period, the role of TBAs is to ensure that the women they have assisted are in good condition. TBAs advise women to go to the clinic after delivery so

that they can be assessed and their infants be registered and immunised. Referral is also done for cases that show complications, such as postpartum bleeding, and some of the TBAs accompany their patients to the health facility.

K-TBA03 said: "I encourage my clients to go to the hospital, especially those with complications."

K-TBA07 said: "When I finish to assist with delivery and remove the 'afterbirth' (referring to placenta) successfully, I take the woman and her baby to the hospital for further care."

Similarly, Z-TBA09 stated that: "I assist with childbirth because it is an emergency, but once the job is done, I escort the mother and baby to the clinic."

Discussion

This study explored the sociocultural maternity care roles of TBAs in Northern Namibia. Evidently, it is a reality for Namibia that the field of TBAs is mostly female-dominated; there was not a single male that was identified to partake in the study. This finding is supported by previous studies which indicate that TBAs around the globe are mostly women (Kassie et al. 2022; Ofili and Okojie 2005). On the contrary, Esan et al. (2023) argue that a significant number of male TBAs exist in some countries. Participants in this study accessed the government literacy programme to learn the basics of reading and writing. Similarly, Kassie et al. (2022) report that most TBAs did not receive any formal education, which is consistent with the findings of this study.

This study found that TBAs have varied sociocultural reproductive and maternity care roles in their communities. The roles include preconception, antepartum, intrapartum and postpartum care. They render services mostly in reproductive health matters, such as treating infertility among couples that are struggling to conceive, educating pregnant women on the importance of attending ANC and hospital deliveries, providing herbal concoctions and also assisting with homebirths. The study further found that TBAs are able to identify complications and provide care for the situations they encounter. Additionally, they can advise the client to seek advanced care at the hospitals. These findings are consistent with previous research conducted on the role of TBAs in remote rural communities of the West Omo Zone (Kassie et al. 2022; Ofili and Okojie 2005). Similarly, in Kenya, Mwoma et al. (2021) also highlighted that TBAs play a vital role in assisting pregnant women and providing them with herbal treatment. In Ethiopia and Nigeria, TBAs render antepartum care, provide herbal treatment, conduct deliveries, treat infertility, and manage threatening miscarriages (Kassie et al. 2022; Ofili and Okojie 2005).

The participants in the study under consideration include health education provision across all stages of care, which aligns with the findings in the research that explored the role of TBAs in Kenya, as reported by Mwoma et al. (2021). In the antepartum role,

TBAs render the following services: advice to pregnant women regarding nutrition, self-care during pregnancy, and breastfeeding. They also encourage women to visit health facilities and adhere to the relevant prescribed treatment (Kassie et al. 2022; Mwoma et al. 2021). Furthermore, the findings of the current study align with those of Kassie et al. (2022), highlighting that TBAs counsel pregnant women to deliver at health facilities and assist women in emergencies.

It is during the antepartum period that TBAs manage minor ailments, such as nausea and vomiting, lower abdominal pain, and backache, as noted in a study by Kassie et al. (2022), which highlights that TBAs utilise roots and herbs to treat morning sickness. TBAs further provide herbal concoctions, which are prepared for the woman to drink at the onset of labour to facilitate the childbirth process and prevent and manage complications. The idea of herbal concoction administered as treatment is also discussed by Kassie et al. (2022), i.e. that herbal remedies are prepared to manage postpartum bleeding due to retained placenta. These findings challenge the existing literature, which associates herbal concoctions with obstetric complications (Haikera et al. 2023). Thus, the findings of these collective studies in this field suggest that further research to be conducted to establish the efficacy of the traditional concoctions.

The intrapartum and postpartum roles, which involve assisting with emergency childbirth and escorting to a health facility for further care, are also supported by the literature. For instance, Gurara et al. (2020) report that TBAs assist with emergency homebirths when women are unable to reach the health facilities. In addition, Kassie et al. (2022) agree that TBAs escort homebirth cases to the hospital. Similarly, Chi and Urdal (2018), Mwoma et al. (2021), and Shaikh et al. (2014) found that TBAs conduct deliveries in their communities, with almost all reported as successful deliveries. Although TBAs play a role in assisting where the need arises, their practice is not fully supported or recognised in countries such as Uganda, Nigeria, and Namibia (Chi and Urdal 2018; Haikera et al. 2023). Although it remains paramount that skilled birth attendants should assist women, there are people living very far from health facilities; hence, they are circumstantially being assisted by TBAs. The study also revealed that women continue to consult TBAs for cultural care, as it is a tradition in Northern Namibia to do so. To mitigate any harm that might arise from traditional care, engaging and collaborating with TBAs should be considered by the relevant ministries of government to regulate and define their scope of practice.

Conclusion

This study explored the sociocultural maternity care roles of TBAs in the northern regions of Namibia. The study found that the sociocultural role of TBAs in their communities is culturally driven. Customarily, TBAs are approached by women to be assisted in reproductive health matters such as treatment for infertility, antepartum, intrapartum and postpartum care. Furthermore, their sociocultural role includes managing minor ailments during pregnancy, such as lower abdominal pain, backache,

and morning sickness, and treating haemorrhoids. TBAs also render counselling to pregnant women, assist with emergency childbirths, manage complications using cultural remedies and escort their clients to the hospital for further management. Some of the care rendered might pose a threat to the well-being of the women, for instance, the case of cutting piles, which could result in bleeding and using reeds to cut the umbilical cord, which could result in sepsis. Should the treatment cause further problems, they require modification. However, TBAs also fulfil commendable roles, for example, counselling pregnant women on a diet, encouraging antenatal attendance and health facility deliveries, and filling the gap between their communities and the formal health system by assisting with emergency childbirths. TBAs exist in many countries, fulfilling similar sociocultural roles even when not supported by the formal health system. Consequently, there is a need to train and regulate the roles of TBAs so that they will be equipped with basic scientific knowledge. Through training, TBAs will be empowered to render safe care to the women and their babies.

Recommendations

TBAs in this study expressed concern over the lack of recognition and support from the relevant authorities. They often provide care with limited resources, such as gloves, cord strings, and blades. The current practice can breed infections and other complications, like bleeding. Therefore, the study recommends that the MHSS consider supporting and integrating TBAs into the formal health system to foster teamwork and open communication, ensure timely referrals, and minimise harmful practices through education and regulation. The herbal concoctions consumed are not tested for their medicinal properties; thus, it is also vital to conduct an extensive study of the herbal remedies used by TBAs to establish their safety.

Limitations

Although Namibia is vast, this study was limited to some of the northern regions only; thus, the reduced population hinders generalisation to other settings. The researcher collected data from the available participants until data saturation was achieved. The regions selected are vast, and the researcher used their own funds to execute the research project and could, therefore, not reach other places. This was mitigated by ensuring that there was a voice from each of the selected regions.

Declaration of Conflict of Interest

The authors declare no conflict of interest.

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References

- Casteel, A., and N. L. Bradier. 2021. "Describing Populations and Samples in Doctoral Student Research." *International Journal of Doctoral Studies* 16 (1): 339–362. <https://doi.org/10.28945/4766>
- Chi, P. C., and H. Urdal. 2018. "The Evolving Role of Traditional Birth Attendants in Maternal Health in Post-Conflict Africa: A Qualitative Study of Burundi and Northern Uganda." *SAGE Open Medicine* 6 (1-9). <https://doi.org/10.1177/2050312117753631>
- Esan, D. P., O. H. Ayeniyoye, P. O. Ajayi, and A. A. Sokan-Adeaga. 2023. "Traditional Birth Attendants' Knowledge, Preventive and Management Practices for Postpartum Haemorrhage in Osun State, Southwestern Nigeria." *Scientific Reports* 13 (12314). <https://doi.org/10.1038/s41598-023-39296-y>
- Gurara, M., K. Muyldermans, Y. Jacquemyn, J. P. Van Geertruyden, and V. Draulans. 2019. "Traditional Birth Attendants' Roles and Homebirth Choices in Ethiopia: A Qualitative Study." *Women and Birth* 33 (5). <https://doi.org/10.1016/j.wombi.2019.09.004>
- Haikera, H. K., Y. G. Aboua, and L. Aku-Akai. 2023. "Scope of Medicinal Plants for Uterotonic, Tocolytic and Wellness Effect in Pregnant Women: A Cultural Perspective." In *Curative and Preventive Properties of Medicinal Plants: Research on Disease Management and Animal Model Studies*, edited by M. R. Goval, J. A. Malik, and A. O. Aveleso. Apple Academic Press. <https://doi.org/10.1201/9781003328544>
- Hunters, D. J., J. McCallum, and D. Howes. 2019. "Defining Exploratory-Descriptive Qualitative (EDQ) research and considering its application to healthcare." *Journal of Nursing and Health Care* 4 (1) ISSN (Online) 2345-7198 <https://eprints.gla.ac.uk/180272>
- Kassie, A., A. Wale, D. Girma, H. Amsalu, and M. Yechale. 2022. "The Role of Traditional Birth Attendants and Problem of Integration with Health Facilities in Remote Rural Community of West Omo Zone 2021: Exploratory Qualitative Study." *BMC Pregnancy and Childbirth* 22 (1): 425. <https://doi.org/10.1186/s12884-022-04753-5>
- Kleinheksel, A. J., N. Rockich-Winston, H. Tawfik, and T. R. Wyatt. 2020. "Qualitative Research in Pharmacy Education: Demystifying Content Analysis." *American Journal of Pharmaceutical Education* 84 (1) <https://doi.org/10.5688/ajpe7113>

- Kruske, S., and L. Barclay. 2004. "Effect of Shifting Policies on Traditional Birth Attendant Training." *Journal of Midwifery & Women's Health* 49 (4): 306–311. [https://doi.org/10.1016/s1526-9523\(04\)00006-6](https://doi.org/10.1016/s1526-9523(04)00006-6)
- MacDonald, M. E. 2022. "The Place of Traditional Birth Attendants in Global Maternal Health: Policy Retreat, Ambivalence, and Return." In *Anthropologies of Global Maternal and Reproductive Health: From Policy Spaces To Sites Of Practice*, edited by L. J. Wallace, M. E. Macdonald, & K. T. Storeng. Springer. https://doi.org/10.1007/978-3-030-84514-8_6
- Mangay-Maglacas, A., J. Simons, and World Health Organisation. 1986. *The Potential of the Traditional Birth Attendant*, edited by A. Mangay-Maglacas, J. Simons. World Health Organization. <https://iris.who.int/handle/10665/38813>
- Ministry of Health and Social Services. 2009. *National Policy on Community-Based Health Care*. MHSS, Windhoek. <https://mhss.gov.na>
- Mwoma, T., J. Kituku, J. Gitome, N. Kahumbi, P. Ndegwa, M. Maina, and J Bagelman. 2021. "Role of Traditional Birth Attendants in Providing Pre and Postnatal Care to Mothers in Refugee Camps: A Case of Ifo Camp Dadaab Kenya." *International Journal of Pregnancy & Child Birth* 7 (3): 58–62. <https://doi.org/10.15406/ipcb.2021.07.00229>
- Ngunyulu, R. N., F. M. Mulaudzi, and M. D. Peu. 2020. "Traditional Birth Attendants' Experiences during the Provision of Post-Natal Care in Mopani District, Limpopo Province of South Africa." *Health SA Gesondheid* 25. <https://doi.org/10.4102/hsag.v25i0.1468>
- Ofili A. N., and O. H. Okojie. 2005. "Assessment of the Role of Traditional Birth Attendants in Maternal Health Care in Oredo Local Government Area, Edo State, Nigeria." *Journal of Community Medicine and Primary Health Care* 17 (1): 55–60. <https://doi.org/10.4314/jcmphe.v17i1.32428>
- Ogechukwu, E. O., B. A. Rhenua, R. N. Ezeokoli, and O. S. Adegbite. 2019. "Perception and Utilization of Traditional Birth Attendants by Pregnant Women Attending Primary Health Care Clinics in a Rural Local Government Area in Ogun State, Nigeria." https://www.researchgate.net/publication/357689931_PERCEPTIONS_ON_TRADITIONAL_BIRTH_ATTENDANTS_INTEGRATION_INTO_THE_PRIMARY_HEALTH_CARE_SYSTEM_IN_IKENNE_LOCAL_GOVERNMENT_AREA_OGUN_STATE_NIGERIA
- Shaikh, B. T., S. Khan, A. Maab, and S. Amjad. 2014. "Emerging Role of Traditional Birth Attendants in Mountainous Terrain: A Qualitative Exploratory Study from Chitral District, Pakistan." *BMJ Open* 4 (11): e006238. <https://doi.org/10.1136/bmjopen-2014-006238>
- Shimpuku Y., F. E. Madeni, K. Shimoda, S. Miura, and B. Mwilike. 2021. "Perceived Differences on the Role of Traditional Birth Attendants in Rural Tanzania: A Qualitative Study." *BMC Pregnancy and Childbirth* 21 (1). <https://doi.org/10.1186/s12884-021-03611-0>

- Sibley, L., and T. A. Sipe. 2006. "Transition to Skilled Birth Attendance: Is There a Future Role for Trained Traditional Birth Attendants?" *Journal of Health Population and Nutrition*, 24(4), 472–478. PMID: 17591344; PMCID: PMC3001151
- Sibley, L., T. A. Sipe, and M. Koblinsky. 2004. "Does Traditional Birth Attendant Training Improve Referral of Women with Obstetric Complications: A Review of the Evidence." *Social Science & Medicine* 59 (8): 1757–1768.
<https://doi.org/10.1016/j.socscimed.2004.02.009>
- Turinawe, E. B., J. T. Rwemisisi, L. K. Musinguzi, M. de Groot, D. Muhangi, D. H. de Vries, D. K. Mafigiri, A. Katamba, N. Parker, and R. Pool. 2016. "Traditional Birth Attendants (TBAs) as Potential Agents in Promoting Male Involvement in Maternity Preparedness: Insights from a Rural Community in Uganda." *Reproductive Health* 13: 24.
<https://doi.org/10.1186/s12978-016-0147-7>
- UNITED NATIONS CHILDREN FUND, NAMIBIA. 2018. *Saving Mother and Newborn Lives: Towards Integrated Maternal, Neonatal and Child Health Services to End Preventable Deaths*. <https://www.unicef.org/namibia/saving-mother-and-newborn-lives>
- Verderese, M. L., L. M. Turnbull, and World Health Organisation. 1975. "The Traditional Birth Attendant in Maternal and Child Health and Family Planning: A Guide to Her Training and Utilization." World Health Organisation.
<https://iris.who.int/handle/10665/37515>
- World Health Organization (WHO). 1979. *Traditional Birth Attendants: A Field Guide to Their Training, Evaluation and Articulation with Health Services*. WHO offset publication 44. World Health Organization.
- World Health Organization (WHO). 1985. *Report of the Consultation on Approaches for Policy Development for Traditional Health Practitioners, Including Traditional Birth Attendants*. World Health Organization.
- World Health Organization (WHO). 2019. *WHO Global Report on Traditional and Complementary Medicine 2019*. World Health Organization.



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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



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 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



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



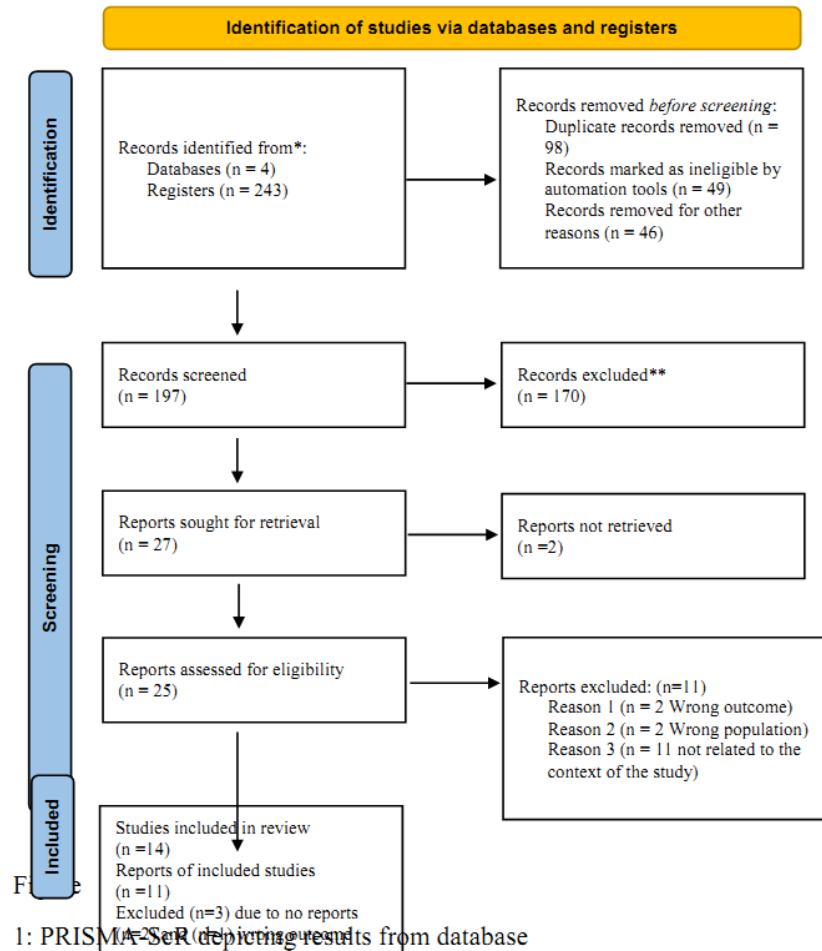
eligible articles and full text screening of all the articles that were included in the review. Data from the articles included in the review was summarised in a table with details regarding; authors, year of publication, country in which the study was conducted, the aim of the study, method and design, population and sample size as well as key findings pertaining to integration frameworks.

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.



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.



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 collaboration with TBAs equipped with mHealth technology to improve their detection of high-risk	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	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.



			pregnancies and birth complications		process control methods.		
Eze, I. I., Mbachu, C. O., Ossai, E. N, Nweze, C. A. & Uneke, C. J.	2020	Rural Nigeria	The study assessed ways of improving birth preparedness and complication readiness using community-driven behavioural change intervention among pregnant women in rural Nigeria	Quantitative	pre-post intervention study	158 pregnant women	The study found that community 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	Qualitative	Exploratory design that adopted the interpretivist paradigm and	29 Ghanaian participants comprising of 16	Intercultural healthcare policy supported but not fully implemented highlighting the need to strengthen institutional support, regulating and training



			implementation of intercultural healthcare policy in Ghana		subjectivist epistemology.	health service users, 7 traditional healers, 6 healthcare practitioners	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.,	2022	Ethiopia	The role of	Explorator	descriptive	6 TBAs	Study participants highlighted



Girma, D., Amsalu, H. & Yechalo, M.			TBAs in feto-maternal care and integration with Health professionals in West Omo, Ethiopia	y Qualitative Approach	with triangulation of data sources	6 HCPs 18 pregnant mothers Total: 30	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: antenatal, delivery and postnatal	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



						care interventions as a continuum	Healthcare interventions by Community Health workers on antenatal, delivery and postnatal care.
Odi, A., Arize I., Agwu, P., Mbachu, C. & Onwujekwe, O	2024	Sub-Saharan Africa	The paper highlights the collaborations that exist between informal providers and the formal health system and examines how these collaborations have contributed to strengthening urban health systems in sub-Saharan Africa	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 inclusive, responsive, and resilient healthcare system yielding improved health outcomes.
Ohaja, M., Murphy-Lawless, J. & Dunlea, M.	2020	Nigeria	Exploring the midwives' views of	Qualitative	Exploratory	7 midwives	The study found that the practice of traditional birth attendants remains



			traditional birth attendants' place in the formal healthcare settings.				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 the quality care of women and infants and	Mixed-method approach	Systematic reviews	35 series co-authors from low-middle and high income settings	This study developed a framework that can be used to assess the quality of care, plan workforce development, resource allocation, education curriculum and identify gaps in research. This framework can be customised to meet



			the role of midwives and others				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.



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 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. Rutledge 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 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.

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.

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REFERENCES

- Amutah-Onukagha, N., Rodriguez, M., Opara, I., Gardner, M., Maame Araba Assan, M. A., Hammond, R., Plata, J., Pierre, K. & Farag, E. (2017). Progresses and challenges of utilizing traditional birth attendants in maternal and child health in Nigeria. *International Journal of MCH and AIDS* (2017), 6 (2), 130-138. <https://doi.org/10.21106/ijma.204>
- Aromataris, E., Lockwood, C., Porritt, K., Pilla B., Jordan Z., editors. (2024) JBI Manual for Evidence Synthesis. JBI; 2024. Available from: <https://synthesismanual.jbi.global>. ISBN: 978-0-6488488-0-6
- Austad, K., Juarez, M., Shryer, H., Maratoya, C. & Rohloff, P. (2020). Obstetric care navigation: results of a quality improvement project to provide accompaniment to women for facility-based maternity care in rural Guatemala. *BMJ Qual Saf*, 43,169–178. <http://dx.doi.org/10.1136/bmjqs-2019-009524>
- Aziato, L. & Omenyo, C. N. (2018). Initiation of traditional birth attendants and their traditional and spiritual practices during pregnancy and childbirth in Ghana. *BMC Pregnancy Childbirth*, 18 (64). <https://doi.org/10.1186/s12884-018-1691-7>



- Choguya, N. Z. (2015). Traditional and Skilled Birth Attendants in Zimbabwe: A Situational Analysis and Some Policy Considerations. *Journal of Anthropology* 2015 (1).
<http://dx.doi.org/10.1155/2015/215909>
- Eze, I. I., Mbachu, C. O., Ossai, E. N., Nweze, C. A. & Uneke, C. J. (2020). Unlocking community capabilities for addressing social norms/practices: behavioural change intervention study to improve birth preparedness and complication readiness among pregnant women in rural Nigeria. *BMC Pregnancy Childbirth* 20, 369. <https://doi.org/10.1186/s12884-020-03061-0>
- Gyasi, M. R., Poku, A. A., Boateng, S., Amoah, P. A., Mumin, A. A., Obodai, J. & Agyemang-Duah, W. (2017). Integration for co-existence? Implementation of intercultural health care policy in Ghana from the perspectives of service users and providers. *Journal of integrative medicine*, 15 (1).
[https://doi.org/10.1016/S2095-4964\(17\)60312-1](https://doi.org/10.1016/S2095-4964(17)60312-1)
- Haikera, H. K., Aboua, Y. G. & Aku-Akai, L. (2023). Scope of Medicinal Plants for Uterotonic, Tocolytic and wellness effect in Pregnant women: A cultural perspective. Book Chapter in Curative and Preventive Properties of Medicinal plants: Research on Disease Management and Animal Model Studies. 1st Ed. Editors: Goyal, M.R., Malik, J.A., & Ayeleso, A.O.: Apple 5 Academic Press. New York. <https://doi.org/10.1201/9781003328544>
- Jean-Baptiste, M., Millien, C., Pogonon, P. R. & Jean-Baptiste, M. C. (2023). Reframing the Three Delays framework: factors influencing referrals to facilities by matrones in rural Haiti. *BMJ Glob Health* 2023, (8), e011957. <https://doi.org/10.1136/bmjgh-2023-011957>
- Kassie, A., Wale, A., Girma, D., Amsalu, H. & Yechale, M. (2022) The role of traditional birth attendants and problem of integration with health facilities in remote rural community of West Omo Zone 2021: exploratory qualitative study. *BMC Pregnancy and Childbirth* 22:425.
<https://doi.org/10.1186/s12884-022-04753-5>
- Kayombo, E. J. (2013). Impact of training traditional birth attendants on maternal mortality and morbidity in Sub-Saharan African countries. *Tanzania Journal of Health Research*, 15(2).
<https://doi.org/10.4314/thrb.v15i2.7>
- Mak, S & Thomas, A. (2022). Steps for conducting a scoping review. *Journal of Graduate Medical Education*. <http://dx.doi.org/10.4300/JGME-D-22-00621.1>
- Mathole, T. & Lindmark, G. (2005). Competing knowledge claims in the provision of Antenatal care: A qualitative study of Traditional Birth Attendants in Rural Zimbabwe. *Health Care for Women International* 26, 937-956. <https://doi.org/10.1080/07399330300301796>
- Mendhi, M. M., Cartmell, K. B., Newman, S. D., Premjic, S. & Pope, C. (2019). Review of educational interventions to increase traditional birth attendants' neonatal resuscitation self-efficacy. *Women and Birth*, 32 (2019). <https://doi.org/10.1016/j.wombi.2018.04.016>
- Ministry of Health and Social Service. (2009). National Policy on Community-Based Health Care. Government of the Republic of Namibia, Windhoek.
- Namibia Statistics Agency. (2024). Namibia vital statistics report. Births, Marriages and Deaths 2018-2021. Windhoek. NSA
- Namibia Vital Statistics Report. (2020). Registered Births, Deaths and Marriages for Period 2016-2017. Windhoek Namibia
- Ngotie, K. T., Kaura, D. K. M. & Mash, B. (2022). Awareness of cultural practices by skilled birth attendants during pregnancy and birth in Kenya: An interpretive phenomenological study. *Journal of Africa Nursing Science*, 16 (2022), 100394. <https://doi.org/10.1016/j.ijans.2022.100394>



- Nishimwe, C., Mchunu, G. G. & Mukamusoni, D. (2021). Community- based maternal and newborn interventions in Africa: Systematic review. *Journal of Clinical Nursing*, 2021 (30), 2514–2539. <https://doi.org/10.1111/jocn.15737>
- Odi, A., Arize, I., Agwu, P., Mbachu, C. & Onwujekwe, O. (2024). To What Extent Are Informal Healthcare Providers in Slums Linked to the Formal Health System in Providing Services in Sub-Sahara Africa? A 12-Year Scoping Review. *Journal of Urban Health*, 101, 1248–1258. <https://doi.org/10.1007/s11524-024-00885-5>
- Ohaja, M., Murphy-Lawless, J. & Dunlea, M. (2020). Midwives' views of traditional birth attendants within formal healthcare in Nigeria. *Women and Birth* 33 (2020), e111-e116. <https://doi.org/10.1016/j.wombi.2019.01.005>
- Peprah P., Abalo, E. M., Nyonyo, J., Okweyi R., Agyemang-Duah, W. & Amankwaa, G. (2018). Pregnant Women's perception and attitudes toward modern and traditional midwives and the perceptual impact on health seeking behavior and status in rural Ghana. *International Journal of Africa Nursing Sciences*, 8, 66-74. <https://doi.org/10.1016/j.ijans.2018.03.003>
- Peters, M. D. J., Marnie, C., Tricco, A. C., Pollock, D., Munn, Z., Alexander, L., McInerney, P., Godfrey, C. M., & Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. *JBIM Evidence Synthesis*, 18(10), 2119–2126. <https://doi.org/10.11124/JBIES-20-00167>
- Pollock, D., Peters, D., Khalil, H., McInerney, P., Alexander, L., Tricco, A., Evans, C., de Moraes, É. B., Godfrey, C. M., Pieper, D., Saran, A., Stern, C. & Munn, Z. (2023). Recommendations for the extraction, analysis, and presentation of results in scoping reviews. *JBIM Evidence Synthesis* 21(3):p 520-532, March 2023. <https://doi.org/10.11124/JBIES-22-00123>
- Renfrew, M. J., Mcfadden, A., Bastos, M. H., Campbell, J., Channon, A. A., Cheung, N. F., Audebert, D. R., Silva, D., Downe, S., Kennedy, H. P., Malata, A., McCormick, F., Wick, L. & Declercq, E. (2014). Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care. *Lancet*, 2014 (384), 1129-45. [https://doi.org/10.1016/S0140.6736\(14\)60789-3](https://doi.org/10.1016/S0140.6736(14)60789-3)
- Sarmiento, I., Paredes-Solis, S., Garcia, A. dJ., Paulino, N. M., de los Santos, F. R., Legorreta, J., Zuluaga, G., Cockcroft, A. & Anderson, N. (2022). Safe Birth in Cultural Safety in Southern Mexico: A pragmatic non-inferiority cluster randomised controlled trial. *BMC Pregnancy and Childbirth*, 22 (43). <https://doi.org/10.1186/s12884-021-04344-w>
- Shimpuku, Y., Madeni, F. E., Shimoda, K., Miura, S. & Mwili, S. (2021). Perceived differences on the role of traditional birth attendants in rural Tanzania: a qualitative study. *BMC Pregnancy Childbirth* 21, 137 (2021). <https://doi.org/10.1186/s12884-021-03611-0>
- Wilson, A., Lissauer, D., Khan, K. S., MacArthur, C. & Coomarasamy, A. (2011). Effectiveness of strategies incorporating training and support of traditional birth attendants on perinatal and maternal mortality: meta-analysis. *BMJ*. <https://doi.org/10.1136/bmj.d7102>
- World Health Organisation. (2013). WHO Traditional Medicine Strategy 2014-2023. Hong Kong, China. www.who.int
- World Health Organisation. (2016). Framework on Integrated, People-Centred Health Services: Report by the Secretariat. SIXTY-NINTH WORLD HEALTH ASSEMBLY A69/39 Provisional agenda item 16.1
- World Health Organisation. (2019). Framework for Action: Strengthening Quality Midwifery Education. Geneva: WHO; 2019. Licence: CC BY-NC-SA 3.0 IGO

ORIGINAL RESEARCH ARTICLE

Perceptions of healthcare professionals on collaborating with traditional birth attendants in reproductive health promotion in Northern Namibia

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Abstract

Traditional birth attendants (TBAs) render diverse culturally acceptable reproductive health services to women and the new-born babies. However, there is no collaboration between TBAs and healthcare professionals (HCPs) in Namibia. This study explored the perceptions of HCPs regarding the collaborative roles of TBAs. An exploratory, descriptive qualitative research design was utilized to purposively select and interview twenty-two (22) multidisciplinary HCPs. Latent content analysis was used to evaluate and synthesize the data thematically. HCPs agreed that TBAs are relevant in their communities and could complement the formal health system within the scope of health promotion. Collaboration can enable TBAs to encourage pregnant women to attend antenatal care and, where the need arises, may assist with emergency births in remote places in a safe manner. This study recommends developing a framework of collaboration that outlines the scope of practice for TBAs to inform regulation and recognition thereof. (*Afr J Reprod Health 2026; 30 [10]: 95-103*).

Keywords: collaboration, healthcare professionals, perceptions, roles, traditional birth attendants

Résumé

Les accoucheuses traditionnelles offrent divers services de santé reproductive culturellement acceptables aux femmes et aux nouveau-nés. Cependant, en Namibie, aucune collaboration n'existe entre les accoucheuses traditionnelles et les professionnels de santé. Cette étude a exploré les perceptions des professionnels de santé concernant le rôle collaboratif des accoucheuses traditionnelles. Une méthodologie de recherche qualitative descriptive et exploratoire a été utilisée pour sélectionner et interviewer vingt-deux (22) professionnels de santé multidisciplinaires. Une analyse de contenu latente a permis d'évaluer et de synthétiser les données de manière thématique. Les professionnels de santé ont convenu que les accoucheuses traditionnelles sont pertinentes dans leurs communautés et pourraient compléter le système de santé formel dans le cadre de la promotion de la santé. La collaboration peut permettre aux accoucheuses traditionnelles d'encourager les femmes enceintes à consulter pour des soins prénatals et, en cas de besoin, d'assister les accoucheuses traditionnelles lors d'accouchements d'urgence dans des zones reculées, et ce, en toute sécurité. Cette étude recommande l'élaboration d'un cadre de collaboration définissant le champ de pratique des accoucheuses traditionnelles afin d'éclairer la réglementation et la reconnaissance de leur rôle. (*Afr J Reprod Health 2026; 30 [10]: 95-103*).

Mots-clés: collaboration, professionnels de santé, perceptions, rôles, accoucheuses traditionnelles

Introduction

Traditional birth attendants (TBAs) provide reproductive healthcare services in rural communities.¹ By definition, TBAs are persons who assist women during childbirth in various communities and these traditional midwives acquired their skills by delivering their babies

through apprenticeship to other traditional birth attendants.² The role of TBAs in society varies. Firstly, a TBA can serve as a community-based provider of pregnancy-related care that works independently of the health system.¹ In addition, TBAs render cultural care in reproductive health, hence most women, regardless of their status in society still approach them for care believed to be

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relevant and a cultural necessity. The cultural care sometimes includes administration of traditional medicine (TM) or complementary medicine (CM) to augment labour progress amongst other indications.³ For many years, African people have handled certain health situations based on the indigenous knowledge (IK) they possess to assist those that needed care for various interventions. This kind of practice is as old as humankind, and it continued even after the introduction of modern healthcare systems, as it is believed some problems require cultural interventions.³ The World Health Organization (WHO) together with experts around the world, developed the 'WHO Traditional Medicine Strategy 2014-2023' in knowing that most people around the world make use of IK in health management. However, IK practice entails administration of traditional remedies which are consumed despite the uncertainty of dosage and safety, effectiveness, quality, availability, preservation, and regulation.⁴ Consequently, the development of the WHO Traditional Medicine Strategy was considered a necessity to enable those opting for health care using IK/TM/CM to access such care in a safe, respectful and cost-efficient manner.

Currently in Namibia, TBAs render services secretly and in fear of being blamed should anything go wrong as they are not certified nor regulated.³ While pregnant women approach TBAs for cultural services such as abdominal massages, herbal concoctions, remedies for new-born babies, amongst others, they are not yet recognized nor certified to render such care. A recent study conducted in Namibia revealed that some of the care rendered by TBAs are beneficial, while others could be harmful.³ Some of the complications that result from the administration of traditional concoctions include foetal distress, infertility, disseminated intravascular coagulation (DIC), haemolysis elevated liver enzymes and low platelets (HELLP) syndrome.³ These adverse maternal/neonatal health outcomes can be mitigated by collaborating with TBAs as members of the fundamental support system for mothers throughout pregnancy, childbirth and postpartum period.⁵

Guided by section 59 of Nursing Act 2004 (Act No. 8 of 2004) that encourages health

professionals to "identify and establish a working relationship with traditional birth attendants and community leaders to improve health services in the communities" and Article 19 of the Namibian constitution that gives authority to all citizens to practice, profess, maintain and promote any culture and language/tradition,⁶ this study aimed to explore the perception of HCPs regarding the role of TBAs in reproductive health in northern Namibia. The objectives of this study were: i) To explore the perception of HCPs on collaborating with TBAs in reproductive health services and ii) To suggest strategies that the ministry of health and social services can employ to empower TBAs on health promotion role in their communities.

Methods

Design

This study utilized an exploratory and descriptive qualitative research design to engage multidisciplinary categories of healthcare professionals. The study was conducted through an online platform in some selected regions in Northern Namibia.

Settings

Guided by the evidence that more than 50% of Namibia's population reside in rural areas and some are living far from health facilities,⁷ this study focused on HCPs to provide perceptions on the role TBAs can have in reproductive health to complement the formal health system. While the researcher is aware of the government's efforts to bring health services closer to the people, there are still reports of complications secondary to traditional medicine intoxications. The premises of the Ministry of Health and Social Services (MoHSS) in Kavango east and west, Zambezi and Ohangwena regions were used as study units.

Study population and sampling strategy

This study targeted multidisciplinary health professionals who directly or indirectly work with reproductive health programs at antenatal clinics, maternity wards and family health at district/regional level. The study utilised a

purposive sampling strategy to solicit data directly from practitioners who actively deal with maternal/neonatal health services and those managing these services at district/regional level. The total number of the targeted categories of healthcare professionals in the selected regions is estimated at 6 792,⁸ however, the qualitative nature of this study did not require a predetermined sample size. Therefore, sample size was influenced by the point of data saturation.

Data collection procedures

The researcher requested the regional health directors via the official Ministry of Health and Social Services' communication channels to identify the HCPs meeting the criteria and shared the link of the semi-structured interviews with HCPs through individual technology-mediated online interviews.⁹ A semi-structured interview guide comprised of two sections, A) sociodemographic data and B) questions related to the study. The interview guide elicited data on the perceptions of HCPs on collaboration with TBAs and to give suggestions that could contribute to the development of training materials, a framework and scope of practice for TBAs between May and July 2023. Participation in the study was entirely on voluntary basis and the data collection tool did not require entry of personal details of participants. The interviews shaped the formation of themes through the following questions:

1. What are the views of healthcare professionals regarding the relevance of traditional birth attendants in their communities?

2. What can be the health promotion role of traditional birth attendants to complement reproductive healthcare services in Namibia?

In addition, participants were requested to recommend reproductive health care topics that could be included in the training manual for TBAs. Responses were received from specialists in gynaecology and obstetrics, medical officers, primary healthcare (PHC) supervisors, family health programme officers at district/regional level and registered nurses/midwives/accoucheur. Only HCPs currently practicing in maternal and neonatal care units at district or regional hospitals over a period of twelve (12) month participated in the study. Pilot test was conducted to test validity of the

interview guide, in the same vein the research supervisor served as an expert who examined the interview guide ensure that the questions were relevant and in line with the objectives of the study.

Data analysis

The recorded responses were extracted and imported into a Microsoft Word document and subsequently analysed. Latent content analysis and qualitative data reduction and sense-making efforts were applied through reading and re-reading of the responses to generate codes from transcripts, and categorizing data into thematic areas. Credibility was ensured by adhering to the study design and methods, and the information received from the participants was not manipulated in anyway. The interview guide was scrutinized by the study supervisors and pretested on a smaller sample before the actual data collection commenced. In addition, reliability was ensured by cross-checking the transcribed data against the verbatim responses. The researcher further conducted the study in four regions, to enhance transferability.

Ethical considerations

This study obtained ethical approval from the High Degree Committee (HDC) at the Namibia University of Science and Technology (NUST) (reference: FHAS09/2022) and the Ministry of Health and Social Services in Namibia (MHSS) (reference: 22/4/2/3). After approval was granted by MHSS, the office of the regional director for the respective sites of study then purposively identified healthcare professionals in accordance with the inclusive criteria.

Results

Demographic characteristics of participants

Responses were received from twenty-two participants, in terms of gender, 64% were male, while 36% were female. Furthermore, the respondents were multidisciplinary, i.e. comprising of medical doctors and specialists in gynaecology and obstetrics, registered nurses/midwives, primary healthcare supervisors and chief health programme officers. The participants' years of experience in the

reproductive health field ranged between 4 and 29 years. Table 1 below shows a summary of the demographic variables.

Themes and subthemes

The researcher engaged with the text received through technology-mediated interviews using Google Forms from the healthcare professional that participated in the study. Majority of the participants stated that TBAs are relevant in society, but acknowledged that there is a need to train and certify TBAs in order to regulate their practices. The text trail extracted from narratives birthed the following themes and subthemes as depicted in Table 2.

Theme 1: TBAs are relevant for various roles in the communities

Subtheme: Facilitate communication with formal health system

Almost all of the healthcare professionals agreed that the TBAs are relevant in their communities while one (1) participant representing 4.5% differed from the rest. Additionally, it was also highlighted that TBAs can facilitate the communication between the communities and the formal health system. The HCPs further responded positively to the question whether TBAs need to be trained and further proposed the necessary topics.

Theme 2: Educate, support and assist pregnant women

Subtheme: Health promotion role

In this theme, most of the HCPs expressed through text that TBAs can play a vital role in health promotion. They can encourage women to initiate antenatal care early, plan for births, educate on postnatal care and immunization. Below are some of the expressions by HCPs:

HCP01 said: "TBAs can assist in the areas of identifying the pregnant mothers in their territories, advice on the importance of attending ANC, ensure that they attend ANC too, assist mothers to plan for birth together with their families, "good relationship

Table 1: Demographic variables

Demographic variable	Frequency (n)	Percentage (%)
Regional representation		
Kavango East	10	45
Kavango West	7	32
Ohangwena	3	14
Zambezi	2	9
Total	22	100
Sex		
Male	14	64
Female	8	36
Total	22	100
Work experience (in years)		
< / =5	3	14
6-10	3	14
11-20	13	59
>21	2	9
Not stated	1	4
Total	22	100
Job category		
Registered nurse/midwives	9	41
Primary healthcare supervisor	3	14
Health programme officers	2	9
Medical officers/specialists	8	36
Total	22	100

between the TBA (skilled) (sic) and MOHSS are important."

Sharing the same sentiments, HCP03 also wrote: "TBAs can assist educating the community about the important of antenatal care, postnatal care and the importance of immunisation."

Similarly, HCP04 shared the same opinion, noting the importance of: "Early identification of pregnant women in the community and referring them to their nearest health facilities for antenatal care."

The statements narrated above were echoed by some of the HCPs including HCP06, HCP07, HCP21 and HCP22. These HCPs concur that TBAs can play a role in encouraging women in their communities to seek reproductive healthcare and antenatal services early.

Subtheme: conduct safe emergency deliveries

Some of the healthcare professionals that took part in the study seemed to be well conversant with the fact that there are clients who live in the remotest

Table 2: Themes

Themes	Sub themes
Theme 1: TBAs are relevant for various roles in the communities	Facilitates communication with formal health system
Theme 2: Educate, support and assist pregnant women	Health promotion role Conduct safe emergency deliveries Encourage health facility deliveries
Theme 3: Risk assessment and identification of cases for referral	Recognize risks and refer timely
Theme 4: Training TBAs to improve service delivery and prevent infections	Training needs

areas and might face challenges reaching the health facilities on time when the need arises. Therefore, they recommend that where necessary and in cases of emergency, TBAs can assist with childbirth safely. However, they emphasised that TBAs should be in a position to perform risk assessments, identify danger signs and refer. The quotes below are based on the narratives expressed through text by individual HCPs. HCP02 stated the following:

"I propose that TBAs assist in delivering those who find it hard to reach Health (sic) facilities." On the other hand, HCP03 also suggested to get help by: "calling the ambulance for mothers in labour or home delivery in case the mother did not get time to reach health facility." (sic)

The quotes above were also noted in the statements expressed by HCPs 07, 08 and 11 supporting the idea of TBAs assisting with emergency deliveries at home. On the contrary, some of the HCPs were of the opinion that TBAs should be discouraged from conducting deliveries at home but should rather convince the women to go to the hospital. The next subtheme has the views on encouraging mothers to be assisted by skilled birth attendants at health facilities.

Subtheme: Encourage health facility deliveries

HCPs suggest that TBAs should discourage home deliveries and pregnant women should be referred

to the health facilities when having signs of labour. TBAs can play a role in calling ambulance services to assist in transportation to the nearest health center. HCP03, HCP06 and HCP08 respectively responded as follows:

"TBAs should assist in calling the ambulance so that the first option for place of delivery is a health facility." "TBAs should advocate and encourage hospital deliveries at all times."

"TBAs should advocate and convince women that it is dangerous to deliver at home."

Case in point is that some HCPs expressed concerns that allowing TBAs to conduct deliveries could open room for harmful practices. Below are quotes to illustrate their concerns:

HCP04 wrote: *"TBAs must stop giving herbal concoction (that works like oxytocin) to pregnant women."* Similarly, HCPs 15 and 21 both: *"TBAs should avoid harmful practices during pregnancy and labour."*

Theme 3: Risk assessment and identification of cases for referral

Subtheme: Recognize risks and refer timely

Another theme that was extracted in the narratives is that of risk assessment and identification of cases for referral. This emanated strongly in at least five (5) of the responses.

HCP01 wrote: *"TBAs can assist in identifying pregnant risks in these mothers, and they should be able to recognise complicated deliveries (sic) cases for early referral. Most importantly establish good relationships between the TBA (skilled) and MOHSS".*

Similar to the opinion narrated above, HCP04's sentiments were that TBAs should *"refer pregnant mothers to health facilities, be cautioned about dangers of traditional oxytocin and other traditional practices e.g. putting cow dung or charcoal ashes on the new-born's umbilical and importance of hand hygiene."*

Sharing the same sentiment, HCP12 wrote: *If TBAs are trained well they will be able to detect complications early and refer patients to the hospital."*

In addition, HCPs 14, 17 and 18 stated that TBAs should be able to recognise danger signs and complications and refer to the health facility for timely interventions

Theme 4: Training TBAs to improve service delivery and prevent infections

Subtheme: training needs

The healthcare practitioners were asked to indicate whether TBAs in Namibia need to be trained and certified, and 100% of respondents replied with a 'yes'. Based on that response they were further asked to suggest areas of training that TBAs should be given. The suggestions made mostly focused on infection control and prevention, recognition of danger signs, identification of high-risk mothers, communication and timely referral.

HCP01 suggested: *"the TBAs should be trained on the basic principles of obstetrics, danger signs in pregnancy, Identification (sic) of high-risk mothers, labour management and postnatal follow-up check."* However, HCP02 added: *"TBAs should be taught the signs of true labour, how to conduct a normal delivery and how to help a baby breath (sic)."*

HCP03 was of the opinion that TBAs be oriented on how to identify danger signs of pregnancy, and how to conduct a sterile/ clean delivery to avoid infections. The professional further added that TBAs should be familiarised with equipment and materials for delivery.

HCP05 and HCP11 both were of the opinion that TBAs should be trained on *"maternal and Child Health care, Infection Prevention and Control."*

HCP11 further added that TBAs should be trained on *"MAMA I-CARE (Maternal Assistance & Motherhood Aid for Improved Child-birth, Ante-Natal, and Reproductive Education) Proposed topics: Haemorrhage (ante and postpartum), Puerperal sepsis and general Infection prevention and control, HIV PMTCT, Complications of labour, Ethics (in modern society)."*

Discussion

HCPs in this study agree that TBAs are relevant and the varied role they play warrants the need to

collaborate with the formal health system if trained, certified and have their practice regulated. Similarly, a systematic review previously conducted identified TBAs, community and formal based skilled birth attendants, women and family members as stakeholders to improving maternal and neonatal health outcomes.¹⁰

It was done through interventions that include well defined roles for TBAs and TBA partnership.⁹ Several studies found TBAs as relevant and able to serve as auxiliary in support of conventional obstetric care.^{10,11} Some of the highlighted relevance of TBAs in the formal health system includes playing a role as birth companions, rendering traditional care, and serving as interpreters. Furthermore, research concluded that allowing TBAs in hospital is viewed as good public relations. Also, collaborating with TBAs improved the previously poor working relations to a more exclusively supportive role since 1973.¹⁰

One of the respondents in this study indicated that TBAs are not relevant in their communities. This view is supported by a study which found that some health workers could indeed have low opinions of TBAs,¹⁰ and absence of integration in the formal health system could lead to clandestine practices.¹² However, the majority of the respondents highlighted that TBAs can play a role in health promotion, assisting with identifying pregnant women in their communities and advice for early initiation of antenatal care, postnatal care and importance of immunisation. This finding is similar to a study that discussed TBAs as relevant and playing a role in caring for women with reproductive health matters.¹³ Further supporting this ideology, a study in Namibia revealed that TBAs are relevant in their communities although not yet recognised to play a role in the formal health system.³ In some settings, TBA integration meant allocating to them specific roles in providing antenatal care, conducting uncomplicated births, and creating links with upper-tier workers which aided to promote good partnerships.¹⁰ Most participants in this study highlighted that TBAs can assist with emergency deliveries in their respective communities when there are challenges accessing the health facility timely.

Moreover, TBAs can perform risk assessment by referring clients opportunely for

professional help. The previous view concurs with findings of another study, that while cognisant of the importance on the use of health facilities, TBAs can assist homebirths in situations in which the woman is not able to reach the health centre.¹⁴ TBA relevance is noted in some conflict affected countries. Although they carry out their role secretly, the TBAs are embraced as an alternative to skilled birth attendants (SBAs) during the conflict time as access to healthcare facilities is usually disabled.¹² While investigating the task shifting of TBAs, the study found that TBAs can act as village maternal health workers to promote perinatal care and institution-based delivery.¹⁵ The literature widely supports the various roles highlighted by participants in this study, indicating that TBAs can assist in their communities. Moreover, another study agrees with the findings of the previous studies highlighting that TBAs can promote ANC, accompany and attend facility births, and assist at home births when women cannot access the health facility.¹⁶

Although various studies support redefining the role of TBAs, they do not dispute the recommendation by the WHO that pregnant women being assisted by skilled birth attendants at health facilities is the best option. It is unassailable that access to a skilled birth attendant (SBA) is critical for improving maternal and new-born health.¹⁷ However, in settings with low-resources and rural areas, professionally trained staff are notably often in short supply and there is a tendency for women to rely on traditional birth attendants (TBAs) for delivery.¹⁸ Another study found that collaboration with TBAs can prevent some neonatal morbidity, thus prevent complications and deaths¹⁹. One of the findings of this study,¹⁹ namely, consideration for possible collaboration between TBAs and formal health systems is in line with recommendations made in previous studies. This finding is supported by the recommendation in another study that linking TBAs into formal health systems should be considered, with emphasis on the companionship role enabling TBAs to accompany pregnant women to antenatal care, labour and after childbirth services.²⁰ TBAs-formal health system collaboration is a necessity at an antenatal level where the TBAs will be able to identify complications arising early during pregnancy and

timeously refer the women to healthcare facilities for management.²¹

Statistics for Sub-Saharan Africa reveal that 23% of all births are attended by TBAs and only half of them were formally trained in modern medical childbirth techniques with a focus on clean delivery.¹⁶ Participants suggested that TBAs can be trained in order to complement the formal health system by assisting with some level of competence in their communities. In this regard, topics for training were suggested. In another study, HCPs also agreed that there is need for training TBAs, as educating them has an impact on reducing foeto-maternal death.¹⁶

In countries where TBAs are trained in basic midwifery care, the focus is on providing primary maternity care and supporting and promoting skilled birth attendance.¹⁸ In other settings, TBAs render advanced care through the support of the relevant Ministry to prevent postpartum haemorrhage. This care is rendered for deliveries that occur outside the health facility by availing misoprostol to TBA to administer to the women they assist in the community.¹⁷ Thus, training, collaborating and supporting TBAs can reduce maternal/neonatal mortality and morbidity. Some of the proposed topics of training highlighted by HCPs include infection prevention and control, conducting normal deliveries, caring for a new-born baby, recognition of danger signs in pregnancy, health education, harmful cultural practices, first aid, communication and referral. Similar topics of training echoed in other studies include identifying normal and abnormal pregnancy, care in pregnancy, labour and postpartum care, recognition of danger signs and referral.¹⁸ Other studies also recommend that TBAs be trained in accredited institutions according to the Traditional Health Practitioners (THPs) Act for a period of 12 months.

They should then receive certificates of competence on completion regarding issues of antenatal, intrapartum, and postnatal care.²² These suggestions are confirmed by another study. The proposed curriculum to train TBAs had the following aspects: (i) An overview of maternal-infant care; (ii) an introduction to ovulation, fertilisation, and the natural development of pregnancy; (iii) pregnancy complications and the

danger signs during pregnancy; (iv) an introduction to the stages of labour and complications; (v) lastly, neonatal resuscitation and care of the mother during the postnatal period.²¹.

Strengths

The utilization of Google Forms/technology-mediated platform to collect data enabled the researcher to collect data in various regions simultaneously. The healthcare professionals were able to complete the interview at their convenience. Getting opinions from multiple data sources also showed similarities in their perceptions based on similar challenges encountered. This study can thus serve as reference for future studies to improve the quality of care rendered in maternal and neonatal care.

Recommendations

Training TBAs to assist in health promotion activities is highly recommended, as empowering TBAs with relevant knowledge can address some of the challenges, e.g. harmful practices. The study further suggests the development of a framework for collaboration between TBAs and the formal health system, development of training manuals for TBAs in pursuit of recognition, and regulation of their practice.

Conclusion

In conclusion, although Namibia has various health facilities, there are also people who live in rural and remote areas with no health facilities. Consequently, these people are circumstantially assisted by TBAs. This study concludes that where TBAs are not regulated and recognized, there are reports of substandard care contributing to complications that can be costly for the formal health system. Hence the participating HCPs affirmed that TBAs are relevant. Furthermore, the study conforms to the ideology of a multifaceted approach to prepare TBAs for new roles in the formal health system and accentuate their relevance. TBAs can assist with health promotion on family planning by encouraging early booking for antenatal care. Additionally, in case of emergencies, they can assist with home deliveries

in a safe manner without risking the mother or neonate health.

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Authors contributions

Hertha Kasiku Haikera, conceptualised of the original idea; contributed to the data collection and analysis/interpretation, report writing and drafting the manuscript; Hertha Kasiku Haikera, Roswitha Mahalie contributed to the design of the study and revision of the work; Hertha Kasiku Haikera, Roswitha Mahalie, approved the final version to be published.

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References

1. Ogechukwu EO, Rhenua BA, Ezeokoli RN and Adegbite OS. Perception on Traditional Birth Attendants Integration in the Primary Health Care system in Ikene local government Area, Ogun State, Nigeria. Researchgate. 2019.
2. Aziato L and Omenyo CN. Initiation of traditional birth attendants and their traditional and spiritual practices during pregnancy and childbirth in Ghana. BMC Pregnancy Childbirth. 2018. Vol 18 (64). <https://doi.org/10.1186/s12884-018-1691-7>
3. Haikera HK, Aboua YG and Aku-Akai L. Scope of Medicinal Plants for Uterotonic, Tocolytic and wellness effect in Pregnant women: A cultural perspective. Book Chapter in Curative and Preventive Properties of Medicinal plants: Research on Disease Management and Animal Model Studies. 1st Ed. Editors: Goyal MR, Malik JA, and Ayeleso AO. Apple 5 Academic Press. New York. 2023. <https://doi.org/10.1201/9781003328544>

4. World Health Organization. WHO Traditional Medicine Strategy 2014-2023. Hong Kong, China. 2013. www.who.int
5. Rutledge, J. D., Kiyanda, A., Jean-Louis, C., Raskin, E., Gaillard, J., Morgan Maxwell, M., Smith, T., Kershaw, T. & Abrams, J. Recommendations for Integrating Traditional Birth Attendants to Improve Maternal Health Outcomes in Low- and Middle-Income Countries. *International Journal of Maternal and Child Health and AIDS*. 2024; 13 (e019). https://doi.org/10.25259/IJMA_16_2024
6. Constitution of the Republic of Namibia. Namibian Constitution 3rd Amendment Act 8 of 2014 (GG5589). Published 13 October 2014. Legal Assistance Centre, Windhoek.
7. Namibia Statistics Agency. 2023 Population and Housing Census: Preliminary Report. Namibia Statistics Agency, Windhoek. 2024
8. Ministry of Health and Social Services. Health care Workforce Status Report 2022. Republic of Namibia. 2022.
9. Lathen L and Laestadius L. 'Reflections on Online Focus Group Research with Low Socio-Economic Status African American Adults During COVID-19', *International Journal of Qualitative Methods* 2021; 20: 1–10. Available at: <https://doi.org/10.1177/16094069211021713>
10. Miller T and Smith H. Establishing Partnership with Traditional Birth Attendants for improved maternal and new-born health: A review of factors influencing implementation. *BMC Pregnancy & Childbirth*. 2017; 17 (365). <https://doi.org/10.1186/s12884-017-1534-y>
11. Sarmiento I, Paredes-Solis S, Garcia AJ, Paulino NM, de los Santos FR, Legorreta J, Zuluaga G, Cockcroft A and Anderson N. Safe Birth in Cultural Safety in Southern Mexico: A pragmatic non-inferiority cluster randomised controlled trial. *BMC Pregnancy and Childbirth*. 2022; Vol. 22 (43). <https://doi.org/10.1186/s12884-021-04344-w>
12. Chi PC and Urdal H. The evolving role of Traditional Birth attendants in Maternal Health in post-conflict Africa. A qualitative Study of Burundi and Northern Uganda. *Sage Open Medicine*. 2018; Vol 6 (1-9). <https://doi.org/10.1177/2050312117753631>
13. Ngunyulu RN, Mulaudzi FM and Peu MD. Traditional Birth Attendants' experiences during the provision of postnatal care in Mopani District, Limpopo province of South Africa. *Health South Africa Gesondheid*. 2020.
14. Gurara M, Muyldermans K, Jacquemyn Y, Van Geertruyden JP and Draulans V. Traditional birth attendants' roles and homebirth choices in Ethiopia: A qualitative study. *Women and birth*. 2020; e464-e472. <http://dx.doi.org/10.1016/j.wombi.2019.09.004>
15. Jiang H, Tang S, Li J, Chen L, Escobar E and Qian X. Task shifting of traditional birth attendants in rural China: a qualitative study of the implementation of institution-based delivery policy. 2015; Poster Abstract. www.thelancet.com
16. Kassie A, Wale A, Girma D, Amsalu H and Yechale M. The role of traditional birth attendants and problem of integration with health facilities in remote rural community of West Omo Zone 2021: exploratory qualitative study. *BMC Pregnancy and Childbirth* 2022; 22:425. <https://doi.org/10.1186/s12884-022-04753-5>
17. Hobday K, Hulme J, Homer C, Wate PZ, Belton S and Prata N. "My job is to get pregnant women to the hospital": a qualitative study of the role of traditional birth attendants in the distribution of misoprostol to prevent postpartum haemorrhage in two provinces in Mozambique. *Reproductive Health* 2018; 15:174 <https://doi.org/10.1186/s12978-018-0622-4>
18. Pyone T, Adaji S, Madaj B, Woldetsadik T and van den Broek N. Changing the role of the traditional birth attendant in Somaliland. *International Journal of Gynaecology and Obstetrics*. 2014; vol.127 41-46 <http://dx.doi.org/10.1016/j.ijgo.2014.04.009>
19. Lawn JE, Manandhar A, Haws RA and Darmstadt GL. Reducing one million child deaths from birth asphyxia – a survey of health systems gaps and priorities. *Health Research Policy and Systems* 2007; 5:4. <https://doi.org/10.1186/1478-4505-5-4>
20. Titaley CR, Chaerani S, Maelissa M, de Lima F, Saija A, Mainase Y, Kailola N and Que BJ. Antenatal care attendance and parental education are associated with utilization of non-trained delivery attendants in negeri lima health center catchment areas, Maluku province. *Molucca Medica*. 2019; Volume 12 (1) ISSN 25970246X (online)
21. Musie MR and Mulaudzi FM. Knowledge and attitudes of midwives towards collaboration with traditional birth attendants for maternal and neonatal healthcare services in rural communities in South Africa. *Midwifery*. 2024;130 103925 <https://doi.org/10.1016/j.midw.2024.103925>
22. Musie RM, Mulaudzi MF, Rafiat-Anokwuru R and Bhana-Pema V. Recognise and Acknowledge Us: Views of Traditional Birth Attendants on Collaboration with Midwives for Maternal Health Care Services. *International Journal of Reproductive Medicine*. 2022; Volume 2022, Article ID 9216500, 10 pages. <https://doi.org/10.1155/2022/9216500>

Annexure 10: Framework and Training Manual review feedback

REVIEW FEEDBACK FORM

PART A: FEEDBACK ON THE TRAINING MANUAL FOR TRADITIONAL BIRTH ATTENDANTS

This review based on the curriculum development in Mellish et al. (2009). Read the statements in the table and mark in the applicable box. The ratings are as follow: 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

	5	4	3	2	1
1. The training manual represents a training programme designed to meet specific goals.		X			
2. The concepts used in the manual are clear.	X				
3. Language used is not complex and can be translated in other languages easily.	X				
4. The objectives are clear and concise	X				
5. The content is tailored to cater for the intended audience	X				
6. Teaching methods in the module descriptor is acceptable for the intended audience		X			
7. The manual is valid for the proposed training		X			

Any comments regarding the manual that is not captured in the statement above: None

REVIEW FEEDBACK FORM

PART A: FEEDBACK ON THE TRAINING MANUAL FOR TRADITIONAL BIRTH ATTENDANTS

This review based on the curriculum development in Mellish et al. (2009). Read the statements in the table and mark in the applicable box. The ratings are as follow: 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

	5	4	3	2	1
1. The training manual represents a training programme designed to meet specific goals.	X				
2. The concepts used in the manual are clear.	X				
3. Language used is not complex and can be translated in other languages easily.	X				
4. The objectives are clear and concise	X				
5. The content is tailored to cater for the intended audience		X			
6. Teaching methods in the module descriptor is acceptable for the intended audience		X			
7. The manual is valid for the proposed training	X				

Any comments regarding the manual that is not captured in the statement above:

The Manual is written in Simple language
Short and to the point.
Trainers will Not have problems to
implement.

PART B: FEEDBACK ON THE FRAMEWORK FOR TRADITIONAL BIRTH ATTENDANTS INTEGRATION

This review based on the Elements of a Model in Mellish et al. (2009, 87). Read the statements in the table and mark in the applicable box. The ratings are as follow: 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

	5	4	3	2	1
1. The objectives of the framework are clearly outlined.	X				
2. The content/subject matter is appropriate for the intended group.		X			
3. The methods or procedures outlined in the framework are appropriate.		X			
4. The implementation plan is realistic.		X			
5. The monitoring and evaluation plan for the framework is acceptable.	X				
6. The framework can be adapted as it is.	X				
7. Revision of the framework is required.					X

If revision is required, state the reasons in the space provided:

PART B: FEEDBACK ON THE FRAMEWORK FOR TRADITIONAL BIRTH ATTENDANTS INTEGRATION

This review based on the Elements of a Model in Mellish et al. (2009, 87). Read the statements in the table and mark in the applicable box. The ratings are as follow: 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

	5	4	3	2	1
1. The objectives of the framework are clearly outlined.	X				
2. The content/subject matter is appropriate for the intended group.	X				
3. The methods or procedures outlined in the framework are appropriate.	X				
4. The implementation plan is realistic.	X				
5. The monitoring and evaluation plan for the framework is acceptable.		X			
6. The framework can be adapted as it is.		X			
7. Revision of the framework is required.					X

If revision is required, state the reasons in the space provided:

Comments: At the current moment, the framework looks to be addressing the content issues experienced by traditional birth attendants and can only be review after the implementation if there will be gaps.

Annexure 11: Language Editing Letter



Consultancy and language
editing services

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27 November 2025

To Whom It May Concern

LANGUAGE EDITING – HERTHA K. HAIKERA

This letter serves to confirm that a research project titled '**Investigating indigenous knowledge among traditional birth attendants and their role in reproductive health in northern Namibia**' was submitted to us for language editing.

The thesis was professionally edited, and track changes and suggestions were made in the document. The content or the author's intentions were not altered during the editing process, and the author has the authority to accept or reject our suggestions.
Yours faithfully

DR O. S. NAUYOMA (Chief editor)

PhD in English

M.A. in English

B. ED. Special Honours in English

Annexure 12: Table of Content for Training Manual

Table of Contents

Foreword (Dr. J. N. Kamwanyah)	3
Acknowledgement	6
Dedication	7
Acronyms/Abbreviations	8
Test your knowledge (Pre- and Post-test questions)	9
CHAPTER 1 INTRODUCTION	11
1. Course Introduction	11
2. Structure of the training	12
2.1. Program entry and exit requirements	12
3. Training mode	13
4. Training content	13
4.1. Goals of the training	13
4.2. Objectives	13
4.3. Implementation plan	14
4.4. Monitoring and Evaluation	14
5. Definition of terms	15
CHAPTER 2 HEALTH PROMOTION	16
2.0 Introduction	16
2.1 Promoting hand hygiene	16
2.2 Donning and Doffing of gloves	17
2.3 Cultural Practices and beliefs	18
2.3 Health Promotion roles	19
2.4 Activities for the chapter	20
CHAPTER 3 PREGNANCY AND CHILDBIRTH	21
3.0 Introduction	21
3.1 Risk Factors in Pregnancy	21
3.2 Assistance with delivery	22
3.3 Caring for a newborn	25
3.4 Caring for a mother after delivery	25
3.5 Referral to health facilities & Communication	26
3.6 Disposing of infectious materials	26
3.7 Review	27

Annexure 13: Pre and Post Test (Quiz for TBAs)

Test your knowledge (Pre- and Post-test questions)



Mode: Written/oral test

When: Day 1 and Day 5 of the training (Pre and Post-test)

Instruction: Facilitator reads the statements and allow the participants to choose the most appropriate practice:

1. My role as a traditional birth attendant is to:
 - a) Encourage pregnant women to go to the clinic for antenatal care.
 - b) Discourage clinic attendance because traditional treatment is the best.

2. Herbal concoctions given to pregnant women do not cause harm to mother and unborn baby.
 - a) True
 - b) False

3. When called to assist a pregnant woman, a traditional birth attendant should first prioritise getting the women to hospital.
 - a) True
 - b) False

4. My preparation for emergency home delivery include:

5. Before attempting to perform a delivery, a traditional birth attendant should:
 - a) Wash hands, air dry and wear gloves
 - b) Not wash hands, it can just be done later

6. When a baby is born, the traditional birth attendant should instruct the relative to take care of the baby so that the mother can rest a bit.
 - a) True, the baby must be taken away for the mother to rest
 - b) False, the baby should remain with the mother for warmth, bonding and initiate breastfeeding
7. The yellowish milk that come out of the breast is good for the baby.
 - a) True, encourage mothers to breastfeed as early as possible to allow the baby to benefit from this milk.
 - b) False, the baby should not be fed with this first milk (colostrum)
8. Traditional birth attendants should avoid giving herbal concoctions to pregnant women and mostly those who were operated during the previous pregnancy.
 - a) True, herbal concoctions might cause strong contractions and tear the womb (ruptured uterus)
 - b) False, these concoctions are safe.
9. Caring for the umbilical cord of the baby should exclude putting herbs, ash or cow dung on the stump.
 - a) True: herbs, ash and cow dung can cause infections
 - b) False: the herbs, ash and cow dung makes the cord fall off fast.
10. Items such as gloves and blades used during a delivery should only be used once and be treated as infectious waste.
 - a) True, these should be disposed of properly or burnt.
 - b) False, these items should be recycled for next use to avoid wasting.