

# INCREASING THE UPTAKE OF SKILLED CARE THROUGH TRADITIONAL BIRTH ATTENDANTS IN NIGERIA: A SCOPING REVIEW

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**Abstract:** The advocacy to increase skilled care services uptake for pregnant women has become part of the fight against reducing maternal mortality, particularly in developing countries. Using traditional birth attendants, this approach has initiated formal training sessions aimed at changing their mindsets and increasing accessibility of maternity services for all women in communities through this strategy. Therefore, the aim of this study is to identify gaps that exist within the formal training programmes conducted in Nigeria to understand approaches that can further assist in integrating TBAs into the healthcare system. Using a scoping review approach, a protocol was developed from the Arksey and O'Malley framework and Joan Briggs Institute guidelines for a detailed search strategy. 5 databases were searched including, CINAHL, MEDLINE, PubMed, Scopus, Web of Science and Psyche App. 16 articles were identified, which met the inclusion criteria developed. Data was analysed using thematic analysis through continuously mapping and reviewing of information to develop 4 themes. These are HIV coverage programmes to improve MTCT, Postnatal referral practices, Immunisation strategy uptake and Infection control practices. The findings suggest that implemented strategies and policies on formal training are not generalized despite evidence of training conducted across several regions. Furthermore, methods of post-training assessment are not equal due to independent agencies having control over training sessions. Moreover, community-based level research was mostly conducted while assessing the overall impact of the intervention rather than specific to TBAs opinions. Therefore, future recommendations are to focus on understanding TBAs perceptions towards sustainability of the training programmes and increasing skilled care services for all women.

**Keyword:** maternal mortality, Nigeria, traditional birth attendants, training introduction

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## Introduction

The training of traditional birth attendants (TBAs) has been accepted worldwide as part of a strategy necessary to reduce maternal mortality (MacDonald, 2022). Influenced by their cultural practices and beliefs, these individuals, are majorly situated within developing countries, with a focus to assist women during pregnancy period. Countries including, Ghana, Guatemala, India, Nigeria, Pakistan, Sierra Leone have taken measures aimed at increasing universal skilled care coverage for maternal and child healthcare services by involving TBAs in various intervention programmes (Nacht et al, 2022). The Sustainable development goals [SDGs] target, to increase quality of care and provision of trained skilled workers are the key factors to nearly covering the gaps that exist amongst various continent with improved maternal services.

With 69% of global maternal burden coming from Africa and affecting women of reproductive age in 2020, Nigeria ranks the third highest nations in West Africa with about 28.5% of maternal mortality (The world Health Organisation [WHO], 2024, The Nigerian Economic Summit Group, 2023). Recent

evidence suggests the maternal mortality rate [MMR] in Nigeria has increased significantly resulting in the WHO categorising it under 'Extremely high' groups with warnings for tentative examination. From 2018 to 2020, the MMR increased from approximately 902 deaths to 1047 deaths per 100 000 live births resulting in 14% raise in pregnancy related death. Despite decades of efforts to reduce the nations burden, various factors have slowed down the fight against complications that lead to women's death. Therefore, constant interventions are encouraged to strategically reduce the tragedy of maternal mortality by at least 70 deaths per 100 000 live births based on 2030 set out SGDs goals.

At 75%, common obstetric complications are the main factors that account for women's death during pregnancy. This includes, severe post-partum bleeding, pregnancy related hypertension, infection and unsafe abortion, that are all preventable if specific guidelines on maternal and child healthcare [MCH] services are followed (WHO,2024). Various challenges hinder the delivery of maternity services offered to women in their pregnancy state, particularly in regions like Nigeria (Ope, 2020). A lack of developed infrastructural health facilities, shortage of skilled care providers, cultural and religious practices and economic and political instability are all aspects that affect the provision of MCH services (Meh et al, 2019). As such, continuous efforts to increase skilled care through a skilled birth attendant [SBA] has been constant.

A SBA is an accredited health professional, educated and trained to proficiency level in skills needed to manage pregnancies, childbirth and postnatal period (WHO, 2004). These include identification, management and referral of complications during delivery. They are classed as competent health personnel, meant to provide universal healthcare coverage, such as doctors, nurses, or midwives (WHO 2004). Thereby having the certified approved medical approach to assist patients as agreed by professional bodies developed from years of research studies and experiences. Midwives, for instance, are trained for at least 3 years to acquire knowledge and skills from theoretically and medical approved environment, which regrettable is not the same for TBAs (Kumakech et al, 2020). The WHO marked a calling known as 'To make pregnancy safer', in 1996 with a major campaign that all pregnancy should be managed by a SBA (WHO 1996), however, the current estimated global delivery by SBAs is approximately at 87%, with Nigeria reporting 50.7% service delivery (NESG, 2023; WHO, 2023). Hence, signifying a massive gap for the nation to cover an improved healthcare system for pregnant women.

The chances of high quality MCH services to be delivered in Nigeria is scare within the rural settings. Majority of the residences sort to using other means of assistance within the society to manage pregnancy period as a result of various beliefs and practices. For example, it is strictly prohibited for a woman's body to be seen by a male person that is not her husband (Kaoje et al, 2018). As such, priority is given to having home birth assisted by a female birth attendant. TBAs became an alternative way to provide care during maternity period due to their experiences in childbirth. Gradually, Women in those regions believed TBAs to be competent enough to manage and assist with pregnancy related issues regardless of availability of SBAs, thus increasing the demand for TBAs (Garces et al, 2019). Furthermore, it is customary for every woman giving birth to a first child to deliver at her parents' house regardless of the outcome. The norm here is that a new mother requires an ample amount of care and support during the 40 days postpartum period. TBAs are then hired to assist all through the process whilst also teaching the new mother necessary skills to care for herself and the newborn (Abdulhamid

et al, 2017). Additionally, a substantial number of births that occur outside health facilities are assisted by TBAs, due to convenience of service delivery, cost effectiveness and other infrastructural challenges in the rural societies (Aradeon and Doctor, 2016). This demonstrates TBAs influence in the society on delivery of maternity services for women in Nigeria.

Due to the massive demand and high number TBAs in the communities, the training to reform their skills and knowledge were promoted. With a basis to address the major obstetric complications that occurred and result to maternal death, formal training programmes were developed for TBAs by the WHO. As defined by WHO, a 'traditional birth attendant' is a person who assists the mother during childbirth and initially acquired their skills by delivering babies herself or through apprenticeship from other TBAs (WHO et al, 1992). Referred to as unskilled care from zero or minimal formal educational skills learned from experienced predecessors, cultural practices or even spiritual calling (Bucher et al, 2016; Aziato and Omenyo 2018). Whilst they are commonly known as TBAs, some countries refer to them in different names, including, traditional healers or traditional midwifery (Sarmiento 2014, Aziato and Omenyo 2018). Majority of TBAs are found in rural areas due to the nature of lifestyle and cultural practices that are rooted, and govern the lives of the people. According to the 2019 National demographic health survey [NDHS] from Nigeria, approximately 20% of birth are still assisted by TBAs with a concentration of higher numbers in the rural regions (NDHS, 2019). As such, preventative measures of training TBAs tend to focus more on rural locations than urban (Amutah-Onukagha et al, 2017). A trained TBA is an individual who receives any formal training on maternal and child health care management as compared to an untrained one (Sibley et al, 2012). Therefore, the difference between TBAs and SBAs is in the capacities to treat medical situations in a more certified approach than using unconventional practice (Sibley et al, 2012b).

Targeted at shifting and improving TBAs informal skills and knowledge, the training curriculum was designed to focus on improving and shifting their mindset (Nyamtema et al, 2011; Sibley et al, 2012b). Examples of such formal training included how to identify signs and symptoms of severe postpartum haemorrhage and manage it at, understanding the implication of infection and preventative approaches to using medical equipment to prevent contamination during contact with bodily fluids (Hundley et al, 2012; Mobein et al, 2011). In addition, TBAs were used as means to promote and provide intermittent preventative treatment of malaria using Sulfadoxine-pyrimethamine [IPTp-SP] medication for pregnant women in Nigeria (Okedo-Alex et al, 2020). Other training focus for TBAs was to constantly refer women to health facilities for skilled care (Sibley et al, 2012). Despite these types of interventions in place, there are restrictions on the level of medical care TBAs could render due to limitation of medical knowledge and inconsistency of training programs.

Whilst it is important to focus on increasing the number of women that deliver through formal healthcare system, it is also vital to review ways towards utilising human resources available in Nigeria to facilitate the uptake of such services like the TBAs. Moreover, since health facilities in rural areas struggle to keep up with MCH provision as a result of skilled shortage, empowering TBAs into having more knowledgeable insight on evidence-based practice system is of utmost importance. Therefore, integration of TBAs is a part of these strategies to facilitate the accessibility of maternal services specifically within rural areas since evidence demonstrates an alarming increase of maternal mortality in Nigeria. Therefore, the aim of this study is to identify gaps that existing within the training

programmes conducted in Nigeria to understand approaches that can further assist in the integration of TBAs into the healthcare system.

## Materials and Methods

### *Protocol framework:*

The scoping review approach initially developed a protocol using the methodological framework from Arksey and O'Malley and the updated guidelines from the Joan Briggs Institute (JBI). These included first 1. Identifying a focused research question 2. Finding relevant studies 3. Selection of final papers 4. Data charting and mapping 5. Collating, analysing, and synthesising the findings 6. Discussion on the review. These stages of guidelines were systematically followed to achieve the overall goal of the study.

### *Stage 1: Identifying a focused research question:*

A consolidated research question was developed based on the target to identify and capture relevant existing literature on the topic of interest. The following research question is 'exploring gaps that exist on training programmes for TBAs in Nigeria: Towards establishing ways of improving skilled care provision. This assisted in selecting the main keywords and synonyms to be used for the search strategy.

Table 2.1. Keywords and Synonyms

KEYWORDS	Synonyms		
<b>TBAs</b>	Cultural Birth Attendants	Traditional midwives	Lay midwives
<b>Training</b>	Teaching	Coaching	Education
<b>Nigeria</b>	Nigeria	Sub-Saharan African	

### *Stage 2: Finding relevant studies:*

Searching through 5 databases, namely, Medline, Scopus, ProQuest, Web of Science and Cochrane relevant publications were identified at the initial process in an attempt to find published articles representing the research topic. Using these databases were seen as an appropriate baseline for material search to obtain variety of research strategically organised whilst simultaneously applying the inclusion and exclusion [I&E] criteria which were developed based on the SPIDER tool guideline of Sample, Phenomenon of Interest, Design, Evaluation and Research Type as illustrated on figure 2.1. The tool was used due to its ability to systematically guide and provide specific criteria important to select required articles for a review.



Figure 2.1. SPIDER guidance and developed Inclusion and exclusion criteria

The screening stage reviewed grey literature materials from websites directly involved with similar areas of study for example the National Population Commission (National Population Commission), National Primary Health Care Development Agency (NPHCDA), HACEY Health initiatives, Federal Ministry of Health, Nigeria, BASE (Bielefeld Academic Search Engine) and MacArthur Foundation who have history on previously conducted studies related to TBAs training programmes in Nigerian (WHO, 2019). Although most of the grey literature websites did not account for any relevant papers to be used due to not meeting the I&E criteria.

### Stage 3: Selection of final papers

Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyse (PRISMA) flowchart on Figure 2.2, a total number of 814 records were discovered from all 5 databases accessed. Out of this, 389 duplicates were eliminated from the results using EndNote. During the screening stage, the remaining 425 with 13 grey literature papers were assessed, based on the title, aims, objectives through the abstract which reduced the sources to 377. About 74 full text articles that did not meet the I&E criteria were removed after being assessed. Then 303 papers were then fully read and vigorously assessed before finally selecting the main research articles to be used for the review. Finally, 16 articles were accepted in the review after reassessing the eligibility criteria. Based on the preliminary search: all papers needed to be studies associated with TBAs training conducted within Nigeria, as an intervention or prevention research, that was published within the last 10 years in English language (Aveyard 2019). Existing guidelines and policies on TBAs training and practices were also searched across the grey literature websites previously mentioned. No critical assessment of the quality, relevance and importance of articles was done due to the main purpose of capturing all existing literature within a selected research topic (Arksey and O'Malley 2005). Table 2.2. Presents the list of final selected papers with derived variables (words) from each article that granted the collating and extracting of information as required for a scoping review approach and the finding stage (Arksey and O'Malley 2005).

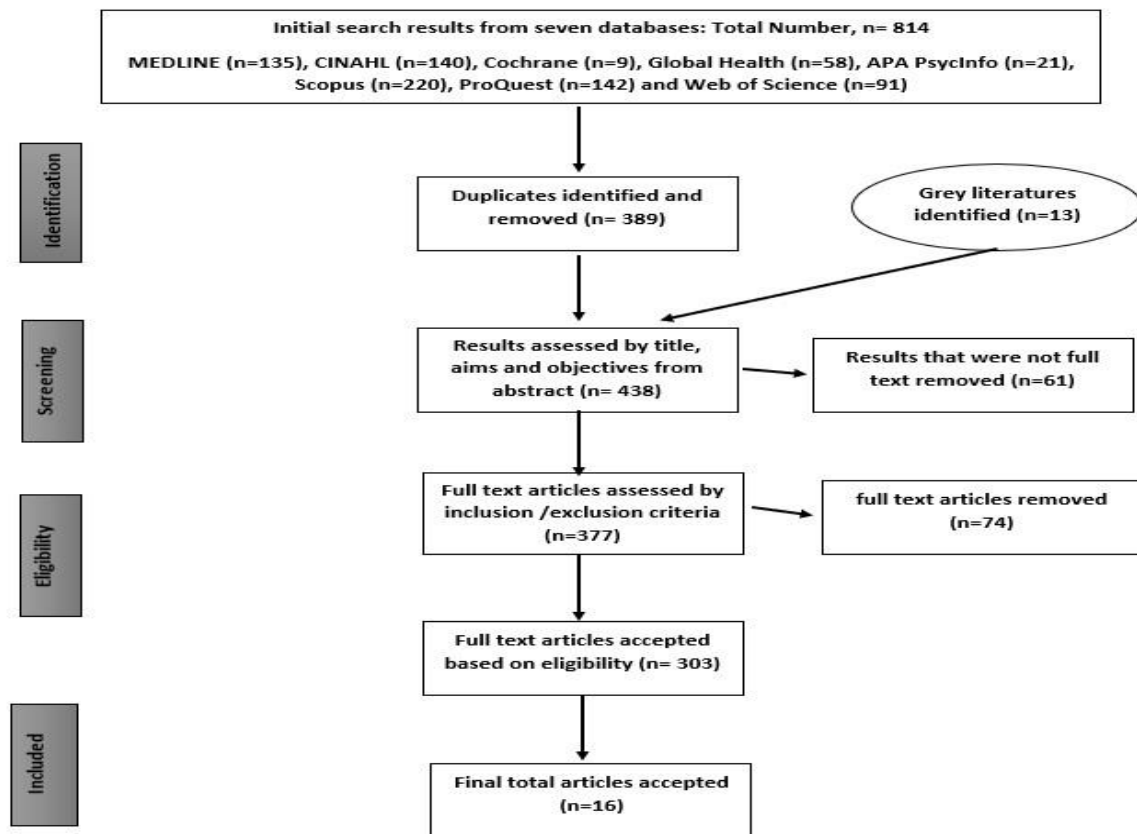


Figure 2.2 PRISMA flow chart of search history

#### Stage 4: Data charting and mapping:

The review aimed to extract data using a method called ‘data charting.’ This process assisted in exploring the detailed nature and breadth of the information evidenced in chosen papers, which was then recorded in a graphical presentation as illustrated in table 2.3. (Pham et al, 2014). Additionally, data extraction is seen as a way to identify variables that are appropriate in answering the targeted review question (Levac et al, 2010). Two major categories of variables originated these are Intervention and evaluation. Whilst intervention was identified by 3 studies, evaluation accounted by 6 studies, with a mixture of both variables seen across 7 papers as showed on Table 2.2. These generated 4 sub-variables which are also referred to as themes.

Table 2.2. Final selected papers with variables extracted

	Papers by authors names	Variables Identified from Articles
1.	Abegunde <i>et al.</i> (2017)	<b>Evaluation:</b> Delivery Practices, Community Inclusion, Infection Control, Linkage
2.	Chizoba <i>et al.</i> (2017)	<b>Evaluation:</b> Incentives, Community Inclusion, Monitoring, Assessment
3.	Chukwuma <i>et al.</i> (2017)	<b>Evaluation:</b> Community Inclusion, Sensitisation, Health Linkage, Referral Practices
4.	Chukwuma <i>et al.</i> (2019)	<b>Evaluation:</b> Referral, Community Interaction, Incentives, Guidelines (Who), Monitoring, Service Delivery, Infrastructural Problems.
5.	Ejembi <i>et al.</i> (2014)	<b>Intervention/Evaluation:</b> Community Engagement, Bleeding, Distribution, Referral, Attendance, Follow-Up
6.	Iwu <i>et al.</i> (2021)	<b>Intervention/Evaluation:</b> Health Promotion, Linkage, Sensitisation, Sustainability, Workshop, Services, Cost.
7.	Nsirim <i>et al.</i> (2015)	<b>Intervention:</b> Community Inclusion, Monthly Engagement, Linkage, Advocacy, Language, Male Inclusion, Primary health care centres
8.	Obi-jeff <i>et al.</i> (2020)	<b>Intervention:</b> Community Inclusion, Sensitisation, Stakeholders, Advocacy, Incentives, Linkage to Health facility, Referral, Mapping, Mobilization
9.	Oguntunde <i>et al.</i> (2018)	<b>Intervention/Evaluation:</b> Services Utilization, Community Inclusion, Sensitization, Practical Driving Test, Referral, Monthly Meeting, Language Barrier, Trust Built by Tbas, Stakeholders, Linkage, Health facility Incentives: Prioritisation Of Services
10.	Okafor <i>et al.</i> (2015)	<b>Intervention/Evaluation:</b> Referral, Socio Demographic Status, Monitoring, Personal Choices, Financial Constraints, Frequency of Complications
11.	Onigbogi <i>et al.</i> (2015)	<b>Intervention/Evaluation:</b> Community Engagement, Training, Sensitisation, Vaccine, Survey, Infection Control, Service Uptake, Assessment
12.	Osuji <i>et al.</i> (2015)	<b>Evaluation:</b> Assessment, Impact, Community Volunteers, Demographic Status, Guidelines, Frequency of Training
13.	O Olakunde <i>et al.</i> (2017)	<b>Intervention/Evaluation:</b> Mapping, Linkage, Workshop, Monitoring, Referral, Incentives Paid, Prevalence and Trust.
14.	Oyeneyin <i>et al.</i> (2021)	<b>Evaluation:</b> Referral, Complications, Registration, Sensitisation, Accompany, Incentives-Vouchers, Workshop, Legal Actions
15.	Ogunyemi <i>et al.</i> (2024)	<b>Intervention/Evaluation:</b> Training, Case Managers, Meetings, Registered, Counseling, Referral Practices
16.	Una <i>et al.</i> (2017)	<b>Intervention:</b> Referral, Assessment of Repost Knowledge, Sensitization, Socio-Demographic Factors

## Results and Discussion

### Stage 5: Collating, analysing, and synthesising the findings

All 16 papers included in the review were analysed using a thematic approach while focused on frequently appeared words from the extracted variables. Using this approach assisted in generated patterns and meanings from the information analysed, which resulted in 4 main themes being generated. These includes 1. HIV coverage programmes to improve MTCT 2. Postnatal referral practices 3. Immunisation strategy uptake and 4. Infection control practices. Table 2.3. summarises the characteristics of all selected papers. A detailed explanation of all themes is accounted for below in the results subsection.

Table 2.3. Summary & characteristics of final papers

Author/date:	Title of paper	Aims/objectives	Research design	Findings	Gaps identified/Comments
<b>1. Abegunde et al,2017</b>	Trends in newborn umbilical cord care practices in Sokoto and Bauchi States of Nigeria: the where, who, how, what and the ubiquitous role of traditional birth attendants: a lot of quality assurance sampling survey	To examine the trends in umbilical cord care practices between 2012 and 2015 that coincided with the introduction of chlorhexidine Di gluconate 7.1% gel.  In Bauchi and Sokoto States.	Used Lot Quality Assurance Sampling (LQAS) methodology, with closed ended questions to establish certain behavioural patterns.  Quantitative study. Survey was conducted over 3 year's period. From two states. Sample no. was 817	This study emphasises the need for TBAs to be trained in a proper way, as there is increase usage of their services. It highlighted the role they played towards cultural practises.	Guidelines from WHO on the daily application of chlorhexidine could reduce umbilical cord infection. There is evidence of significant home delivery within these states, though cord care was assisted by TBAs, thus putting them in centre of recommendations. Also, there statistical evidence demonstrates an increase involvement of TBAs in delivery between 2012 and 2015 in Sokoto.  The study was sponsored by the Targeted State High Impact Project (TSHIP)  The approach used is significantly in refugee camps to determine if quality, accessibility, measure, health seeking behaviour of a prevention is possible.
<b>2. Chizoba et al,2017</b>	Increasing HIV testing among pregnant women in Nigeria: evaluating the traditional birth attendant and primary health centre integration (TAP-In) model	To evaluate an intervention that integrated TBAs into Primary Health Centres (NPHCDA) and provided TBAs with PMTCT and HCT training.  In Ebonyi State	A quasis-experimental design quantitative research for 74 PHC (Primary health care centres) (Primary health care centres). 34 were into the TAP-In program and 40 PHCs were the control group. Study lasted for a period of 6 months.  46 TBAs were used.	There was an increase in the uptake of HIV services for communities' ones PHC centres were included. Hence, demonstrating the usefulness of using TBAs to facilitate service delivery.	The study managed to record the number of changes that occurred within identified Health facilities. These included the significant increase in women accessing health facilities for HCT services.  Though documentation was encouraged for TBAs, there were still issues with recording.  Incentives were offered to TBAs (N 800=2\$).

<p><b>3. Chukwuma et al,2017b</b></p>	<p>"Once the delivery is done, they have finished": a qualitative study of perspectives on postnatal care referrals by traditional birth attendants in Ebonyi state, Nigeria</p>	<p>This study explores postnatal care referral behaviour by TBAs in Nigeria, including the perceived factors that may deter or promote referrals to skilled health workers.</p> <p>In Ebonyi State.</p>	<p>Using a qualitative design, a FGD with 28 Participants (10 TBAs ,10 Clients &amp; 8 Health Workers)</p>	<p>The finding suggests certain factors included having the knowledge on the benefits of skilled care, understanding the implications of referral for women regarding maternal services provided and the use of incentives to encourage TBAs for their referral services (either financial or use of medical equipment).</p>	<p>Drawing from the Fishbein &amp; Ajzen theory that reflects on an individual perception of centre outcomes becoming positive or negative. It explores those factors on what happens to TBAs who refer and why they do. Amongst other things there was evidence that preference to TBAs has to do with cost, services, relationship with skilled staff and even the fear of losing clients. They hypothesized the determinants of referral attitudes by TBAs and it was evidenced by data collected during the study.</p>
<p><b>4. Chukwuma et al,2019a</b></p>	<p>The impact of monetary incentives on referrals by traditional birth attendants for postnatal care in Nigeria</p>	<p>This study estimates the impact of monetary incentives for maternal referrals by TBAs on early maternal and neonatal postnatal care use (within 48 h of delivery) in Nigeria.</p> <p>In Ebonyi State.</p>	<p>An individually randomised controlled study was conducted with 207 participants (quantitative research).</p> <p>An interview-led survey to determine the demographic characteristics of TBAs attitudes.</p> <p>A baseline data was collected before the intervention was initiated.</p>	<p>The results found that TBAs were more determined to refer clients after being paid some incentives compared to control group. This meant that regardless of the services provided by TBAs a form of motivation assists in increasing skilled care provision.</p>	<p>Study assessed the average number of postnatal cares given within 48hrs of delivery. This study is both an intervention strategy towards informing TBAs of benefits of postnatal care and finding ways to encourage that practice of referral within the groups. Over a 6-month period. First field experimental study was to determine the impact of monetary incentives.</p> <p>Training model was adopted from WHO guidelines, which helped to educate TBAs on the benefits of referring women. Though incentives were a stronger determinant for the referral even after understanding the medical impact.</p> <p>At baseline incentives were N 200= \$0.70. During interventions it was (N 600= \$2) per each person referred. There was a follow-up survey that helped determine women referrals.</p>



5. Ejembi et al, 2014	Community-level Distribution of Misoprostol to Prevent Postpartum Haemorrhage at Home Births in Northern Nigeria	<p>The goal of this study was to provide empirical evidence to inform policymakers on the administration of misoprostol to prevent PPH, the leading cause of maternal deaths, at home births in Nigeria.</p> <p>In Zaria, Kaduna State</p>	<p>41 TBAs were trained for 6 days. Using structured interview-administered questionnaires information was collected after implementation of interventions.</p> <p>Prior to that, baseline studies were conducted to collect data for comparison. Women who consented also were included in the interviewing sessions (those who received interventions).</p>	<p>A majority of women who received the medication stated the usefulness of distribution within the community.</p> <p>The accessibility of the medication around different drug providers was a reason for increase uptake.</p>	<p>An intervention to target distribution of misoprostol in 5 societies. It began with an interventional approach to increase the availability of the drug, then trained TBAs on how to apply it. The tablet was also available to any woman who was pregnant and close to term. They aimed at showing how easily management at community level could be effective and pragmatic. Suppliers kept medication records, after two weeks of delivery and follow-up visit was conducted by TBAs.</p>
6. Iwu et al, 2021	Empowering traditional birth attendants as agents of maternal and neonatal immunization uptake in Nigeria: a repeated measures design	<p>To empower TBAs and assess the use of a culturally adapted audio-visual workshop intervention to change their knowledge, attitude and willingness to promote immunization uptake.</p> <p>In Imo State</p>	<p>A quantitative study, which used a convenience sampling within 3 zones which lasted for 3 months.</p> <p>90 TBAs were engaged through a culturally adapted audio-visual workshop-1<sup>st</sup>-effects of the unvaccinated and 2<sup>nd</sup> a drama to depicts what roles TBAs could play. Then data was collected via pretested semi-structured interview-administered questionnaire.</p>	<p>Via 3 months period, the results showed a significant increase in a willingness to promote the uptake of vaccines within that region after training programs.</p>	<p>Data was collected before and immediately after intervention using a pretested questionnaire, it is seen as a prevention measure focused on immunization health promotion.</p> <p>Only untrained TBAs were included in the study.</p>
7. Nsirim et al, 2015	Integration of traditional birth attendants into prevention of mother-to-child transmission of HIV at primary health facilities in Kaduna, North-West Nigeria	<p>Sought to increase demand for HIV counselling and testing services for pregnant women at 25 supported primary health centres (PHCs).</p>	<p>Community dialogues involvement with approval from village leaders, women group &amp; TBAs from 25 facilities. Monthly data was collected using a Sample size of 100 TBAs for a period of 4 months. Data collected was via sample data forms of all referred women to facilities for HIV testing by TBAs. Forms were filled every time a woman was referred and accessed the program. The cumulative data was mapped to estimate the number of people across all facilities.</p>	<p>A substantial number of people were identified to be positive with HIV via the program. These illustrated the ability to use TBAs to encourage individual to understand and access skilled care available for HIV prevention.</p>	<p>This study like others targeted training TBAs on the knowledge of HIV and PTCTM, with agreement and encouragement to refer for counselling and testing.</p> <p>An issue during the intervention was that the process was discontinued due to the lack of testing kits for people. This caused the distrust between medical facilities and communities. Therefore, accessibility is a problem for interventional projects.</p>

<p><b>8. Obi-Jeff et al, 2020</b></p>	<p>Vaccine indicator and reminder band to improve demand for vaccination in Northern Nigeria: A qualitative evaluation of implementation outcomes</p>	<p>The first to assess the acceptability of this innovation, as a precursor to further assess the effectiveness to improve demand for infant vaccination.</p> <p>In Kebbi State</p>	<p>Focus group discussions and in-depth interviews were conducted at baseline (May 2016) and end-line (July 2018) with purposively selected participants by Qualitative research.</p> <p>Collaborative research with health facilities and community. It included community-gatekeepers (33 communities reached 798 individuals), TBAs (64, 53 were trained to educated women) and facility health workers (14).</p>	<p>There was a referral slip provided for TBAs to use in completing to get paid for the services provided by them.</p> <p>Stipend was \$3-\$16 based on number of referral of mothers with new-borns.</p>	<p>This study focused on increasing vaccine intake through engaging 3 categories of health workers. Which include, TBAs as a link for referral services, the gatekeeper's sensitisation and prepare health workers towards managing duties.</p> <p>To try out a new medical device on infants that was used to promote and serve as a reminder for vaccinations uptake in 3 local government in Kebbi State (Pilot study).</p> <p>A massive study considering that it is a pilot study for testing an approach.</p>
<p><b>9. Oguntu nde et al, 2018</b></p>	<p>Emergency transport for obstetric emergencies: integrating community-level demand creation activities for improved access to maternal, new-born, and child health services in northern Nigeria</p>	<p>This qualitative study assessed the perceptions of stakeholders and beneficiaries of ETS in two states in northern Nigeria, comparing two models of ETS: one in which the ETS were introduced as a stand-alone intervention, and another in which ETS were part of a package of interventions for increasing demand and improving utilization of maternal and new-born health services.</p> <p>In Jigawa &amp; Kaduna State.</p>	<p>We conducted 24 FGD and 50 in-depth interviews, with ETS drivers, mothers who delivered in the past year and utilized ETS, husbands of women who benefited from the schemes in the past year, health care providers, TBAs, and religious leaders.</p>	<p>Two different approaches were evaluated, the standard method of stand-alone ETS and then the integrated version of ETS with demand creation activities (these are safe support groups for Married adolescents' girls and married men, sensitising religious leaders and training TBAs).</p>	<p>Although the focus was on ETS, it integrated TBAs to contact drivers whenever a suspected case of Emergency in obstetrics arises. Even helping to cross barriers with husbands to facilitate referral to health facilities.</p> <p>The framework was a based-on demand-generating activity at community level.</p>

<b>10. Okafor et al, 2015</b>	Audit of Childbirth Emergency Referrals by Trained Traditional Birth Attendants in Enugu, Southeast, Nigeria	The aim was to audit childbirth emergency referrals by trained TBAs to a specialist hospital in Enugu, Nigeria	A quantitative retrospective 2 and half year's study, which trained 45 TBAs to refer pregnant women with signs of complications towards encouraging referral to a private hospital in Enugu.	From the study the results showed an increase in women participation through tbas, it audited 219 cases, with 11 referred to more equipped HF	During the study, they held meetings after every 3 months to review client's cases towards referral. They estimated the condition of every woman based on certain factors, like the ability to walk without support, having normal vital signs.
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		In Enugu State		Though it was found that cases referred by TBAs were mostly at a critical and late stage.	no associations of complications related to any side-effects from received treatment by the facility. Evidence suggested that women refuse consent to deliver by CS but rather practicing certain acts to reduce the risk of delivery through that route.
<b>11. Ogunye mi et al, 2024</b>	Impact of training and case manager support for traditional birth attendants in the linkage of care among HIV-positive pregnant women in Southwest Nigeria: a 3-arm cluster randomized control trial	<p>This study compared the effectiveness of usual care (control arm), PMTCT training of TBAs alone versus a combination of training and community support service providers (case managers)</p> <p>In Ondo State</p>	<p>3-arm parallel design cluster randomized controlled trial to assess and compare the effectiveness of two interventions.</p> <p>Semi-structured interviews were used to collect data through a questionnaire.</p> <p>The analysis was conducted with Stata IC version 16.877.</p>	<p>There was evidence of improvements in the TBAs HIV and PMTCT-related knowledge within the intervention groups. The referral of pregnant women was seen more frequently for TBAs who received both combined interventions.</p> <p>clients for HIV testing were highest (93.5%) within cluster 2 TBAs, who received both PMTCT training and case manager</p> <p>Moreover, TBAs with more experiences are likely to practice what was taught to them.</p>	<p>There were 3 groups, those that were only trained on PMTCT, those that had a combination with case managers to monitor practices and the control groups with no treatment.</p> <p>All TBAs in the area belong to 3 different registered associations. Declared using method to determine size required, even though the size was double with no apparent rational. 240 were included into the study.</p>
<b>12. Onigbo gi et al, 2014</b>	Effect of training of faith-based traditional birth attendants on tetanus toxoid vaccination coverage among pregnant women in Ibadan, Nigeria.	<p>To improve the knowledge of TBAs and the uptake of TT among pregnant women through training TBAs</p> <p>In Enugu State</p>	<p>A quasi-experimental (quantitative) research with 90 TBAs and 325 pregnant women were included via simple random and purposive sampling technique.</p> <p>Data was collected in 2 phases: baseline for TBAs &amp; women via interviewed administered questionnaires &amp; FDGs. Then post-</p>	<p>Finding <u>suggest</u> a gap in vaccine coverage across region even after increase in awareness for both TBAs and women.</p> <p>However, there was tremendous evidence of more understanding and trust built for vaccine uptake. Other factors might have contributed to low</p>	<p>This study was conducted on a large scale for period of 4 months.</p> <p>Training conducted for TBAs was focused on introductory program on vaccine. Though selected participants had to be registered under the faith-based facilities within those regions. The training was divided into two distinct aspects just as the location were sample was identified. The control group had a different topic taught (infection &amp; prevention control), to</p>

			<p>intervention was via administered questionnaires.</p> <p>Data analysis was conducted via descriptive and inferential technique for quantitative aspect.</p>	<p>intake of vaccines for women.</p>	<p>compared outcome of the knowledge provided.</p> <p>A fascinating encounter was that women between 26-35 years were found to be more open to vaccine uptake.</p>
<b>13. Osuji et al,2015</b>	Impact of HIV Testing and Counselling (HTC) Knowledge on HIV Prevention Practices Among Traditional Birth Attendants in Nigeria	<p>The purpose of this study was to determine the impact of HIV testing and counselling (HTC) knowledge on the HIV prevention practices among TBAs in Nigeria</p> <p>In Delta State</p>	<p>A cross-sectional quantitative studies, which developed a survey tool to assess the knowledge but not skills. Using the developed tool healthcare workers were used to collect information from 500 sample size of TBAs.</p>	<p>Results showed that Trained TBAs were more likely to participate in concordant guidelines, than untrained ones.</p>	<p>There are evidence connecting reasons why trained TBAs are more productive in society. Even though the study was not related to a specific type of training, the knowledge they had was in-relation to HIV prevention means. It included How to wear gloves, sterilizations and disposal of clinical waste, screening of HIV + clients.</p>
<b>14. O Olakunde et al,2017</b>	Improving the coverage of prevention of mother-to-child transmission of HIV services in Nigeria: should traditionally birth attendants be engaged?	<p>The goal is to summarise the process of engaging TBAs in Abia and Taraba States under the National Agency for the Control of HIV/AIDS testing rate from Comprehensive AIDS Program, Nigeria (NCAPS).</p> <p>In Abia and Taraba State</p>	<p>A systematic approach to recruiting TBAs through snowball sampling. Sample size was 407 in Abia State and 313 in Taraba State. The outreach used a capacity-building workshop to train TBAs and determine the level of interest they have in engaging with communities. The workshop took 2 days and focused on training TBAs to identify standard precautions and safe assisted delivery practices, including the purpose of HIV on PMTCT.</p>	<p>An outreach, establishing a relationship and referral program between health workers and TBAs was done. It compared outputs records against an existing system (Nigeria Comprehensive AIDS Program State -NCAPS).</p> <p>Results were collected based on records of number of women referred to assigned health facilities in both states. It showed a massive increase in the number of people counselled and tested in the outreach.</p>	<p>This study gives an account of the positive impact of training TBAs, through training in certain aspect of HIV/PMTCT program.</p> <p>Monthly stipends were paid to both focal workers (N1500=\$5) and TBAs who referred (N500=\$2).</p> <p>TBAs identified Pregnant women in regions and verbally informed those on the outreach which help facilitate the process.</p>

<p><b>15. Oyeney in et al,2021</b></p>	<p>Incorporating traditional birth attendants into the mainstream maternal health system in Nigeria - An evaluation of the Ondo State Agbebiye program</p>	<p>This study aims to evaluate the incorporation of TBAs into the mainstream maternal health system via the Agbebiye program.</p> <p>In Ondo State</p>	<p>A quantitative study of a retrospective descriptive pilot study from 2013-2016.</p> <p>Data was collected from online database which has excess to national data from Ondo State for the intervention known as District Health Information Software 2 (DHIS2).</p> <p>A correlational analysis was done to compare relationships across facilities involved in the intervention.</p>	<p>The 7 months referral program showed an increase in of facilities birth through registering trained TBAs. Though this positive change was prominent in primary health facilities compared to individual going to secondary facilities for ANC services.</p>	<p>To bring TBAs on board this program, they were first registered, then sensitisation in the community. When an early referral was made, a reward of N2000=(\$4) dollars was offered. It included an extra bonus of training around other business development to serve as a means of income for TBAs. Early referral was advocated to reduce complications for post-natal period.</p> <p>The known Agbebiye Project was funded by HACEY.</p> <p>This study seeks to monitor the involvement of TBAs in delivery aspect, while also finding means to improve the economic status of TBAs.</p>
<p><b>16. Una et al,2017</b></p>	<p>Training of Traditional Birth Attendants on Prevention of Mother to Child Transmission of HIV: Effect on Their Knowledge and Delivery of Prevention of Mother to Child Transmission.</p>	<p>To assess the traditional birth attendants' (TBAs') knowledge of HIV and prevention of mother to child transmission (PMTCT) of HIV and their practice of PMTCT of HIV services delivery.</p> <p>In Ebonyi State</p>	<p>It used a cross-sectional descriptive study (Quantitative design) with an interventional component for 8 months. Questionnaire were developed to assess the knowledge pre and post intervention sampling of 37 TBAs. Recruitment was done via a snowball technique.</p> <p>SPSS was used for descriptive and inferential analysis.</p>	<p>Results showed a significant impact in trained tbas for 3 days.</p> <p>Study called for retraining to improve TBAs knowledge. There is possibility that compliance for referral practices will increase with further retraining.</p>	<p>It targeted HIV/PMTCT of HIV pre and post training assessment, then trained and evaluated the percentage of HIV service usage by women. There was a detailed explaining of how the training program was conducted.</p> <p>A tally was provided to TBAs to give women for referral to keep track of numbers. While some were brought to health facilities for by TBAs.</p> <p>There was a need to find ways to build a formal relationship between health workers and TBAs due to noticed encounter during the project.</p>

### *Results:*

#### **Theme 1: HIV coverage programmes to improve MTCT**

In the process of training TBAs, majority of the studies used them as a health promotion coverage system for HIV prevention. The main goal was to increase screening services, establish treatment plans and record statistical data of the current number of diagnosed individuals with HIV. As a community-based project, five different states in Nigeria initiated this programme across various selected rural settings (Chizoba et al, 2017; Nsirim et al, 2015; Ogunyemi et al, 2024; Osuji et al, 2015; Una et al, 2017). TBAs became a linkage for referral of pregnant women to the health care centres for HIV testing. Prior to that, all recruited TBAs were trained on basic knowledge on HIV/AIDS, how mother-to-child-transmission occurred (MTCT) and the current free treatment available. Brief assessment conducted across several of the studies, declared majority of TBAs being able to understand and executed the role given to them within the study. Whilst some focused on evaluating their knowledge immediately after the training, others reported giving a gap before assessing the level of understanding regarding what was taught. Nonetheless, all interventions and evaluations were reported to have been developed from the WHO guidelines on MTCT.

The final outcomes demonstrated increased awareness on HIV transmission and treatment accessibility by TBAs involved (Chizoba et al, 2017; Nsirim et al, 2015; O Olakunde et al, 2017; Osuji et al, 2015; Una et al, 2017). Moreover, the increased in referral practices of all women across the states became a key evidence of the inclusion of TBAs (Nsirim et al, 2015). Many HIV positive pregnant women were identified and received treatment according to the health status (Olakunde et al, 2017). This was regardless of how long the studies were conducted (ranging from 4 to 12 months period). Nsirim et al, (2015) attributed that the shortage of rapid testing equipment in health facilities was a major drawback to the declining in the uptake of HIV services. Una et al, (2017), on the other hand, discovered a relationship between TBAs and health workers as medium to increase number of understandings about HIV infection within community members by approximately 68%.

#### **Theme 2: Immunization strategy uptake**

Using various technology, three studies demonstrated evidence of vaccination acceptance by new mothers (Iwu et al, 2021, & Onigbogi et al, 2014). Focusing to educate the society on the importance of vaccination for newborns and facilitate completion of childbirth required vaccine doses. A digital device known as Vaccine Indicator and Reminder (VIR) band was given to new mothers to serve as a reminder for immunisation periods for the newborns, whilst including community workers (CWs) and TBAs as promoters to simplify the process (Obi-Jeff et al, 2020). From Iwu et al, (2021) interventional study, an audio-visual workshop strategy was implemented to educate and change TBAs mindset on immunisation uptake. This yields a positive outcome of changing TBAs former thoughts regarding the prevention of childhood diseases for newborns. Additionally, Onigbogi et al, (2014) main target was on

improving the coverage of tetanus vaccine for pregnant mothers. Spread across three states, moderate change in accessing devices for the vaccine promotion and administration was recorded at 71.1% in health facilities (Onigbogi et al,2014).

In conclusion, attitudinal shift was moderate for TBAs and residences within all regions including acceptability of VIR band within the communities as means of reminder for due dates on immunisations. Despite the results, 89% of hospital visitations were amongst TBAs clients as compared to CWs or direct engagement by the researchers. Besides, majority of TBAs with more experiences and training knowledge were more likely to recommend vaccinations for both mothers and newborns.

### **Theme 3: Infection Control Practices:**

The goal was to examine hygiene practices within traditional birth homes and umbilical cord care trends in a specific environment (Abegunde et al, 2017). All outcomes proved that trained TBAs with knowledge on the medical awareness of cord care practices were more likely to approach clients' cases in a logical medical manner than untrained. Although there was still evidence to suggest TBAs practical approach to sanitation of environment was poor, this was more apparent from untrained individuals. Furthermore, inadequate provision of medical equipment necessary for infection control were seen as a contributor to reasons why TBAs manage facilities in a different way. These outcomes were determined using a Lot Quality Assurance Sampling Survey (LQAS) for Abegunde et al, (2017). Using a reliable study design to compare two variables, the openness and state results from the statistics that was referenced across declared aim, objectives and methods.

### **Theme 4: Referral Practices**

Evaluating referral practices between trained and untrained TBAs was one major finding. Between the two groups, trained TBAs had different perspectives on advising and referring pregnant women to hospitals. At antenatal and postnatal stages, women were constantly reminded of the benefits of accessing skilled care through health facilities by trained TBAs. Chukwuma et al, (2019), sorted to using incentives up to \$5 for any TBA that referred client within a specific timeframe. This might have been the main reason in motivating TBAs acceptance and regular behavioural change to refer women for maternity services. Furthermore, Oyeneyin et al, (202) implemented policies on any TBA that assist in home delivery rather than referring their clients. As law, it was required for all deliveries to be done by SBAs regardless of the circumstance surrounding the birth. Therefore, TBAs were left with minimal choices of either breaking the law or being charged with a crime, hence, leading to reduction in certain practices and dependency on hospitals services.

Additionally, emergency obstetric referral practices were targeted in some areas, specifically focused on postnatal haemorrhage within communities. Whilst engaging TBAs in the programme, community involvement was also adopted to expand on the population awareness. However, TBAs were trained on multiple accounts to identify postpartum haemorrhage signs and management skills. The studies sort to understand the driven rationale for TBAs full commitment to the research purpose. For instance, Chukwuma et al, (2017) used a Fishbein and Ajzen theory of reasoned action to understand the behavioural concepts of how TBAs analyse and refer their clients after birth. All the strategies that

explored managing of emergency obstetric services at community-level discover similar trends in TBAs attitudes since the results conclude that increased awareness to the complications of haemorrhage and possible outcomes on pregnant women was a driven factor.

#### *Stage 6: Discussion on review*

Majority of the fundamental part of the training conducted in Nigeria for TBAs were approached as a community-based intervention. As a large-scale intervention, it included, the community leaders, the residences, healthcare facilities and TBAs, thus, indicating prisonisation of resources according to priority and adopting quantitative research designs as the basis for the studies (Nsirim et al, 2015; Obijeff et al, 2020; Onigbogi et al, 2014). This warranted for the focus to be tailored to women in the communities who received the services provided rather than other groups involved, for instance the TBAs. Therefore, the impact of the training programmes was evaluated on a basic level for TBAs education. Midhet & Becker (2010) deduce similar issue from using a massive sample to dwell into increasing attendance by SBA with a turnout that did affect the way women received maternity services in health facilities.

Furthermore, TBAs recruitment are on different scales. Since NGOs are the key regulators and fundings of such trainings, number of trained TBAs accepted into a project is dependent on set of requirements for the project. Although it is proven that some take into account of educating more TBAs, this is still controlled by the kind of health issue that is targeted to be investigated in an area. Further elaboration can be seen from Hernandez et al, (2017) case study that deliberating selected TBAs according to the lay down expectations without considering the impact on unengaged groups. Moreover, assessment and evaluation of the level of understanding on the training is not fixed. Using various tools, all authors declared generating an assessment tool from just following a guideline that was recommended by the WHO, without specifically stating having a standard assessment tool to use.

The issue of inadequate supply of medical resources in the rural regions greatly influences TBAs ability to provide full services to women. Despite being supported with educational background on how to manage some obstetric complications, practicing such skills can be challenging considering supply of equipment are scare. Although evidence of medical supplies was provided during and after the training by the sponsors of the intervention, there was no account on how continuous access to these medical products would be possible for TBAs (Bell et al, 2014; Mobeen et al, 2011).

Despite this barriers, TBAs motivation to assist and adapt to various medical ways was proven through incentivising their role and understanding the advantage of receiving skilled care by trained professionals. Although this declaration was seen as a limitation that influenced some results, it still provided facts that TBAs are willing to be trained in evidence-based medicine as long as they were treated with equality. Similarly, a study conducted in Somaliland, Sierra Leone and Pakistan, reported the same approach to making TBAs feel accepted in the community (Orya et al, 2017, Sahito et al, 2020). An invested programme within the eastern region of Nigeria even implemented legal actions on TBAs who would receive delivery at home or provide other pregnancy services without the supervision of skilled workers (Oyeneyin et al, 2021). In doing so, the project avoided complications that normally would arise within that region, whilst also empowering TBAs to feel accepted. These measures included

into interventions demonstrated that TBAs deserve to be treated as would a skilled worker, since they are also human resources dedicated to rendering maternity services to best of their capacities nationwide.

### **Conclusion & Recommendations**

Using a scoping review, it is evident that TBAs have effectively increased maternal healthcare coverage across different areas in Nigeria. Through major public health strategies, this group have been engaged with communities to sensitise individuals, for health promotion purpose and by administering non-invasive clinical treatment. Nonetheless, the lack of consistency on variety of roles TBAs play within the society further underscores the progression and expansion of several implemented interventions with no specific efforts and records for sustainability. Moreover, considering all projects are funded by external regulatory bodies, makes it difficult to understand how future plan aim to maintain and motivating TBAs to be consistent with the skills and knowledge taught. Another gap revolves around the discrepancies seen in establishing a standard approach to assess the competency level of TBAs since individualised generic tools were generated separately.

To conclude, the study aimed at identifying gaps that exist within the training programs for TBAs towards finding ways to further integrate them into the healthcare system in Nigeria. Therefore, it should be acknowledged that interpreted findings were based on the area of concentration to identify the relevance and importance of including TBAs into maternal prevention strategy by educating them on medical knowledge and skills.

Future recommendations should focus on further exploring the use of a qualitative research design based on phenomenological stances so as to understand the perception of TBAs on the training programs conducted and identify the impact of the training on their general practices.

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### **Declaration of Interest**

The authors declare that they have no conflict of interests with this study.

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