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Enhancing Integration of TBAs Into Modern Primary Health Care System in Oyo State: Lessons from A Community-Based Intervention for Maternal Child Health Services in Nigeria

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Abstract

Traditional Birth Attendants (TBAs) have long played a crucial role in child birthing within African communities, adhering to traditional birthing protocols before the introduction of stern medicine. Highly respected and trusted, TBAs were integral to home-birthing practices. The 1978 United Nations meeting at Alma Ata validated their role and recommended their training in orthodox practices until the WHO's Safe Motherhood Initiative in 1997 called for their replacement with skilled birth attendants. Despite this, 27 years later, a critical shortage of skilled birth attendants persists, particularly in rural and underserved areas. Women of reproductive age (WRA) often choose TBAs for their availability, accessibility, and affordability. This study assesses the capabilities of TBAs in providing services along the continuum of care from prenatal to postnatal periods to explore their potential integration into the Primary Health Care (PHC) system in Oyo State. A quasi-experimental and cross-sectional survey captured quantitative data from 274 WRAs utilizing both formal and informal attendants for maternal childcare in four LGAs of Ibadan Metropolis. Additionally, 187 TBAs practising in these LGAs received interventions on maternal and child health (MCH) risk factors. The study also gathered perceptions from 24 experienced TBAs and 12 policymakers. The end-line data demonstrated significant improvements, leading to the rejection of the null hypotheses. The findings support exploring the integration of TBA services into the PHC system to enhance maternal mortality reduction and achieve UHC.

***Keywords**: Integration, Maternal Mortality, Skilled Birth Attendants, Traditional Birth Attendants, Universal Health Coverage.*

Introduction

The maternal mortality rates for Nigeria and Oyo State remain abysmally high at 1047 deaths per 100,000 and 262 per 100,000 live births, respectively. This places Nigeria as the third highest in the world after India and Sudan [1]. The critical shortage of skilled frontline workers is a major factor contributing to these figures [2]. The ratio of skilled birth attendants to clients drastically falls short of the recommended level, with evidence that showed

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a direct relationship between the density of the health workforce and health outcomes [3].

Huge disparities exist in availability of nursing-midwifery personnel per 10,000 people, creating a significant gap in women's access to quality care. This shortage has made the presence of Traditional Birth Attendants (TBAs) a welcome stopgap option in many Nigerian communities. According to the Alma Ata Declaration of 1978, "Traditional medicine, as practised in many developing countries, is part of the cultural heritage of those countries and has a significant role to play in the provision of healthcare. Traditional birth attendants (TBAs) are an important part of this tradition and have a valuable role to play in the healthcare system [4]. Since then, the WHO has provided manuals and resources to train TBAs across developing countries [5].

However, a technical report by WHO and World Bank officials recommended the discontinuation of TBA training in favour of the Safe Motherhood Initiative's "skilled" attendants. Scholars and anthropologists critiqued this recommendation, arguing that it overlooked the high social and cultural skills of TBAs, which have earned them community trust and respect [6]. The case of TBAs as a significant factor in high maternal mortality rates in Nigeria and other sub-Saharan African countries remains an issue deserving of in-depth research. Studies have shown that TBAs and other informal Healthcare service Providers offer significant inputs that cannot be overlooked, while Informal health service providers IHSPs are also demanding their recognition and rewards [7,8]. Some evidence from Pakistan, Bangladesh, Samoa and Uganda demonstrated the cultural relevance, and huge investments of their tacit skills as issues worthy of consideration as we look for pragmatic interventions to redress the recurring challenge. [9,10].

Interestingly, IHSPs especially the TBAs are now being recalled as part of the solution rather than the problem in global health [11,12].

Some studies have argued about how modern, trainable TBAs could be integrated into the existing Primary Health Care (PHC) system through capability enhancement and necessary motivation, aligning with the WHO's recommendation at the Astana Declaration and the "Health for All" slogan birthed at the 1978 Alma Ata conference. The importance of collective efforts and partnerships among stakeholders, including government health workers, civil society, the private sector, and individuals, have been deemed crucial for achieving Universal Health Coverage (UHC). [13,14]. Skilled healthcare providers continue to migrate out of Nigeria due to several factors, while the IHSPs are demanding recognition as the stopgaps while trained health workers are not available [15,16].

The government cannot continue to attribute poor maternal and child healthcare outcomes to a sector it does not regulate. The WHO has also been criticized for not mandating governments to retain skilled birth attendants within their countries, while developed countries continue to attract these professionals from Africa.

Several studies have been conducted on the various roles of IHSPs especially the Traditional Birth Attendants and their role in the provision of MCH services, and implications for maternal and neonatal mortality and morbidity outcomes in Nigeria and other LMICs [17,18]. However little or no studies have been conducted about specific policy positions on the subject. This study assessed the capacities of the TBAs on six domains of care along the continuum of prenatal to postnatal care for women and their neonates from time of conception to 42 days post-delivery. Based on the findings, it explores how their services could be integrated into the formal health system using empirical data to inform decisions and to examine the implications of such integration for achieving UHC in Ibadan Municipal LGAs, Oyo State, Nigeria. This would aid timely referral of complicated cases, leaving skilled birth attendants to address more

complex situations. Given the need for more immediate and workable solutions to these enduring challenges facing urban poor and rural women of low-resource settings, it could be worthwhile to reconsider the engagement of the TBA as a valuable member of our maternal care in developing countries, even if as an interim solution to bridge the gap till the desirable every delivery by a skilled attendant becomes feasible. Some sociocultural studies in Vanuatu have demonstrated the feasibility [19].

The study proposed the application of an interim solution of applying a conceptual framework that combines the Andersen health utilization model [20] with the COM-Behaviors model [21] to facilitate a community-based intervention promoting equitable access to healthcare services at the ward level in consonance with the Nigerian Primary Health Care Policy framework, as indicated in the Nigerian Health Act of 2014 [22]. This aligns with the Ward Level Minimum Health Supply Package as the recommended strategy to ensure the implementation of PHC in Nigeria and by extension the UHC. Accordingly [23], UHC is a legal framework that mandates every county's national government to provide healthcare to all residents, using appropriate affordable packages in partnership with relevant significant others within the communities and the country [24, 25].

Methodology

Study Area

The study area was in Ibadan, Oyo State Nigeria. It is the capital and most populous city in Oyo State and in the southwestern part of Nigeria. It is the largest city in West Africa by geographical area, covering 3,080 square kilometres, and the third-largest city by population in Nigeria, with 2,649,000 residents as of 2021. The Ibadan metropolitan area comprises 11 Local Government Areas (LGAs), including five urban LGAs and six semi-urban LGAs. This research study was conducted within the Ibadan Metropolis communities with ward-level representation from the 42 wards of the four LGAs: Ibadan North East, Ibadan South East, Akinyele, and Ona Ara.

North East Predominantly urban with a population of 220,110 (2006 projection with a 2.3% annual growth rate) and an area of 14.31 square kilometres. The population includes 75,410 males and 78,619 females, with 65,499 individuals of reproductive age. It has 54 TBA/CBAs registered with the Oyo State Ministry of Health. (National Population Commission).

Ibadan South East is One of the five urban LGAs headquartered at Mapo, covering 17 square kilometres, with a population of 380,800 (2006 Census). It comprises 130,334 men and 136,123 women, with 108,748 individuals of reproductive age. It has 36 mapped TBAs/CBAs.

Akinyele: With a population of 302,000 (based on projections from the 2006 census) and a 2.9% annual growth rate, it includes 12 rural and urban wards and over 182 communities. Its headquarters is at Moniya. It has 97 mapped Traditional/Community-Based attendants.

Ona Ara: An agrarian community with 11 wards, covering 3,570 square kilometres, with a population of 265,059 (2006 Census), comprising 131,471 men and 113,588 women. The LGA has 56 mapped TBAs/CBAs.

Study Design

Information about the study area was obtained from literature and government publications, including geographical size, socio-economic activities, and population. The population was analysed to determine the proportion practising as TBA or Community Birth Attendants, (CBA). This study utilized a quasi-experimental design and a mixed-method approach for data collection. It was carried out in three major phases: assessment, intervention, and evaluation.

Study Population

The study population comprised informal health service providers, including Traditional

Birth Attendants (TBAs)/Community Birth Attendants (CBAs) who render antenatal, childbirth, and postnatal services for women of reproductive age (187), women of reproductive age who use formal and informal health services (274), 12 health professional policymakers, and 24 elderly TBAs.

Inclusion Criteria

Anyone working as a Traditional/Community Birth Attendant and rendering services in the selected LGAs as a TBA, who is willing to participate, and who is of childbearing age and residents within Ibadan the Metropolis.

Exclusion criteria

Traditional/Community birth Attendants who have not operated for up to 6 months to the time of data collection, any woman who is not pregnant nor has a child under five and has not utilized TBA services. It also included women who were visiting the study area at the time of the study.

Sample Size

The sample size was calculated using the formula for calculating sample size with two proportions for Traditional Birth Attendants (TBAs)

$$\mathbf{N} = \frac{(Z\alpha/2\sqrt{2p(1-p)} + Z1-\beta\sqrt{(p1(1-p1)p2(1-p2))^2}}{(p1-p2)^2}$$

$$P = \frac{(\mathbf{p1} + \mathbf{p2})}{\mathbf{2}}$$

p2 = Proportion of TBAs with formal training; p2 = 15.0 % (Atulomah *et al.*, 2020)

Zα/2 = 1.96

$Z_{1-\beta}$ = 0.84 (80% power).

N = 76 for each group (N = n1 +n2)

= 76 +76 = 152

20% non-response/attrition rate = 152/ (1-0.2) = 190 participants

One hundred and ninety (190) TBAs were engaged in this study

Data Analysis

The qualitative data generated were transcribed verbatim and translated into English for comparison with the transcribed data. The data was entered into the NVIVO-14 and processed and 5 thematic and sub-themes were generated. The quantitative data was pretested in neutral LGAs and yielded a 0.7 Cronbach alpha coefficient score that ascertained reliability and validity and was processed with SPSS Version 27.

Results

This study examined the knowledge and capacities of the informal health workers who serve as TBAs in Ibadan Metropolis, Oyo State. The study included 24 elderly TBAs who attended four 2-hour focus group discussions and worked as TBAs between 1980 and 2015. Most respondents considered their profession a spiritual assignment and a service to their community. One participant expressed, "It was a ministry from God" (65 years old, 44 years of experience, Akinyele LGA).

Socio-Demographic Characteristics of Women of Childbearing Age

The study engaged 274 respondents with a 91.3% response rate. The majority (65.0%) were between 21-30 years old, with a mean age of 28.8±7.0 years. Almost all respondents (96.4%) were Yoruba, and many (55.8%) were Muslims. Most respondents (90.9%) were married, over two-thirds (71.5%) had a secondary education, and nearly half (45.3%) were traders. More than half (51.3%) had been married for 0-5 years. Many (73.6%) were in monogamous marriages, and most (89.7%) had between 1-4 children (Table 1).

Table 1. Socio-Demographic Characteristics (N=274)

Variables	Frequency (N)	Percentage (%)
Age (years)		
Up to 20	20	7.3
21-30	178	65.0

31-40	62	22.6
Above 40	14	5.1
Ethnicity		
Hausa	3	1.1
Igbo	7	2.6
Yoruba	264	96.4
Religion		
Christianity	119	43.4
Islam	153	55.8
Traditional	2	0.7
Marital Status		
Single	13	4.7
Married	249	90.9
Separated	10	3.6
Widowed	2	0.7
Highest Level of Education		
None	6	2.2
Primary	56	20.4
Secondary	196	71.5
Tertiary	16	5.8
Occupation		
Trader	124	45.3
Civil Servant	5	1.9
Student	10	3.6
Artisan	85	31.0
Self-employed	44	16.1
Unemployed	6	2.2
Type of Marriage		
Monogamy	192	73.6
Polygamy	69	26.4
Years of Marriage		
0-5 years	134	51.3
6-10 years	74	28.4
11 years and above	53	20.3
Number of Children		
0	4	1.5
1-4	234	89.7
5 and above	23	8.8

Perception of Informal Health Services by Women of Reproductive Age

The perception of the 274 community women of reproductive age was scored on a 14-point scale. Most respondents (70.8%) had a positive perception, while 29.2% had a negative perception. A large majority (91.6%) agreed that TBAs had adequate skills to take delivery, and 88.3% agreed that informal health workers used sterile instruments for their services. Surprisingly, 87.6% believed that TBAs could easily recognize and treat complications. Most (88.3%) disagreed with banning TBAs from practising at the community level. Almost all respondents (91.6%) expressed a desire for TBAs to be incorporated into the modern healthcare system, and many (71.9%) agreed that TBAs were patronized because there was no alternative for the urban poor and those living in rural communities. Half of the respondents (50.0%) disagreed that TBA services were patronized because they were cheap. Most respondents (90.1%) agreed that TBA services were prompt with no delay, and almost all (93.1%) agreed that TBAs exhibited compassionate care with their clients (Table 2).

Table 2. Perception of Informal Health Services by Women of Reproductive Age (N=274)

Variables	**Agree N (%)**	**Undecided N (%)**	**Disagree N (%)**
TBAs have adequate skills to take delivery	251 (91.6)	19 (6.9)	4 (1.5)
Informal health workers use sterile instruments for their services	242 (88.3)	20 (7.3)	12 (4.4)
Can easily recognize and treat complications.	240 (87.6)	23 (8.4)	11 (4.0)
Support that the TBAs be banned from practising at community level.	6 (2.2)	26 (9.5)	242 (88.3)
Will like TBAs to be incorporated into the modern health care system.	251 (91.6)	20 (7.3)	2 (1.1)
TBAs are patronized because there is no alternative for the urban poor and those living in rural communities.	197 (71.9)	52 (19.0)	25 (9.1)
TBA's Services are patronized because it is cheap	120 (43.8)	17 (6.2)	137 (50.0)
TBAs are patronized because they are readily accessible	229 (83.6)	21 (7.7)	24 (8.8)
TBA services are more effective	242 (88.3)	21 (7.7)	11 (4.0)
TBAs are hygienic in their practices	235 (85.8)	20 (7.3)	19 (6.9)
They recognize birth complications and know how to handle them.	235 (85.8)	25 (9.1)	14 (5.1)
They are supported by the presence of God/Spirit	208 (75.9)	62 (22.6)	4 (1.5)
The services are prompt with no delay	247 (90.1)	23 (8.4)	4 (1.5)
They exhibit compassionate care with their clients.	255 (93.1)	17 (6.2)	2 (0.7)

The logistic regression analysis indicates that individuals with a positive perception are 4.8 times more likely to utilize TBA services (95% CI: 2.354 – 9.848) with a p-value of less than 0.001. This indicates a strong and statistically significant effect compared to those with a negative perception, who served as the reference group.

Socio-Demographic Characteristics of the TBAs in the Intervention Study

This study engaged 187 practising TBAs, comprising an intervention group of 92 participants (with a 3.2% attrition rate) and a control group of 95 participants. The majority of respondents in the control group (88.4%) and the intervention group (77.2%) identified as Christians. Almost all the control group respondents were married (94.7%), compared to 87.0% in the intervention group. The facility managing authority showed that 92.6% of the control group facilities were privately managed, while 70.7% of the intervention group facilities were mission-managed. Regarding education, over two-thirds of both the control (72.6%) and intervention (68.5%) groups had completed secondary education. Many in the control group (73.7%) were trained through God's gift/talent/calling, while in the intervention group, many (79.3%) were trained through apprenticeship organized by the Ministry of Health or orthodox private clinics and maternity homes.

The Knowledge and Skills of the Traditional Birth Attendants

The TBAs were asked questions pertinent to maternal and child health from the prenatal period to 42 days post-delivery, covering six domains of maternal and child health.

In the control group, the overall knowledge mean score was 29.3±5.2. The level of skill had a mean score of 12.7±2.5, and the quality of care provided had a mean score of 6.4±1.3.

In the intervention group, the overall knowledge improved from 28.5±6.8 at baseline to 32.4±5.0 at endline.

Level of skill increased from 12.9±2.7 at baseline to 15.2±2.0 at endline.

Quality of care improved from 6.6±1.8 at baseline to 7.2±1.5 at endline.

Association Between Control and Intervention Groups

Using independent T-test analysis, significant differences were revealed between the control and intervention groups across various domains of knowledge, skill level, and quality of care in maternal and child health care services:

Knowledge Domain

1. Prenatal care: Mean difference of 0.428 (95% CI: 0.077 to 0.780, $t = 2.42$, $p = 0.018$).
2. Intra-labour care: Mean difference of 1.526 (95% CI: 1.217 to 1.835, $t = 9.82$, $p < 0.001$).
3. Immediate newborn care: Mean difference of 0.157 (95% CI: 0.013 to 0.326, $t = 1.84$ $p = 0.070$) [Not statistically significant].
4. Managing infection complications: Mean difference of 0.626 (95% CI: 0.541 to 0.711, $t = 14.69$, $p < 0.001$).
5. Postpartum care: Mean difference of 0.359 (95% CI: 0.286 to 0.431, $t = 9.82$, $p < 0.001$).
6. Referral system: Mean difference of 1.663 (95% CI: 1.408 to 1.919, $t = 12.93$, $p < 0.001$).
7. Overall knowledge: Mean difference of 3.146 (95% CI: 2.109 to 4.182, $t = 6.03$, $p < 0.001$).
8. Level of Skill: Mean difference of 2.539 (95% CI: 2.121 to 2.957, $t = 12.07$, $p < 0.001$).
9. Quality of Care: Mean difference of 0.763 (95% CI: 0.453 to 1.074, $t = 4.88$, $p < 0.001$).

Overall, most domains showed statistically significant improvements in the intervention group compared to the control group. The results indicate that TBAs have adequate skills to take delivery and can recognize and treat complications. Additionally, women of reproductive age using TBAs believe they have the spirit of God, with 91.6% expressing a desire for their incorporation into the modern

healthcare system. They rated TBA services as prompt and affordable, unlike the formal health system.

The intervention group showed significant improvements in knowledge, skill level, and quality of care compared to the control group:

1. Knowledge: Improved from 76.1% to 85.9% ($p < 0.001$).
2. Skill level: Improved from 79.3% to 89.1% ($p < 0.001$).
3. Quality of care: Improved from 75% to 91.3% ($p < 0.001$).
4. Domains of Knowledge, Skill Level, and Quality of Care
5. Significant improvements were seen in the intervention group across various domains:
6. Prenatal care ($p = 0.018$)
7. Intra-labour care ($p < 0.001$)
8. Managing infection complications ($p < 0.001$)
9. Postpartum care ($p < 0.001$)
10. Referral system ($p < 0.001$)
11. Overall knowledge ($p < 0.001$)
12. Level of skill ($p < 0.001$)
13. Quality of care ($p < 0.001$)

Table 3. Association between Control and Intervention Group on Domains of Knowledge, Skill Level and Quality of Care on Maternal and Child Health Care Services

Variables	**Paired Differences**			**T**	**p-value**
	Mean Difference	**95% Confidence Interval**			
		Lower	**Upper**		
Knowledge Domain					
Prenatal Care	0.326	0.191	0.460	4.83	<0.001*
Intra-labour score	1.793	1.536	2.051	13.82	<0.001*
Immediate Newborn Care	0.119	0.137	0.376	0.93	0.357
Managing Infection Complication	0.467	0.269	0.665	4.69	<0.001*
Postpartum score	0.250	0.141	0.359	4.55	<0.001*
Referral system score	1.543	1.280	1.807	11.66	<0.001*
skill score	2.457	2.088	2.825	13.22	<0.001*
Quality of care score	0.609	0.429	0.788	0.43	<0.001*
Final endline knowledge	4.500	3.709	5.291	3.71	<0.001*

**Statistical significance*

Table 3 shows that the intervention was effective in improving the knowledge, skill level, and quality of care of Traditional Birth Attendants (TBAs) in maternal and child healthcare services. The findings support the integration of TBAs into the formal healthcare system and highlight the need for training and capacity-building programs to enhance their skills and knowledge.

Perception of Policy Makers from Key Informant Interviews

Twelve Key Informant Interview sessions were held with senior career health officers of the Ministry of Health, the Primary Health Care Board, the MCH LGA coordinators, and a retired Zonal Coordinator of the Federal National Primary Health Care Development Agency (NPHCDA) within the Southwest geopolitical zones. All the policymaker respondents are familiar with TBAs and their activities in the community.

Role of TBAs: Policymakers highlighted the significant roles TBAs play in maternal and newborn care, serving as key intermediaries between health facilities and the community. They are particularly vital in areas with limited access to formal healthcare.

Concerns about Regulation: 60% of respondents expressed concerns about the lack of regulation and monitoring of TBAs. It was agreed that the unregulated nature of TBA practices contributes to higher maternal and neonatal mortality rates. Issues such as TBAs prescribing medications and providing treatments without adequate training were identified as significant health risks.

Community Trust: All respondents asserted the high regard and trust that communities place in TBAs. They believed that many pregnant women prefer TBA services over formal healthcare, even if they are registered with hospitals.

"T*here is a crucial need to take a stance at regulating the TBA services to prevent further damages even if not included in the PHC system. They remain a force at the community level because of their high social and cultural skills, which have earned them the trust of the community." (Female, RH Coordinator, PHCDB).*

"We will not integrate TBAs and allow them to continue performing deliveries or providing other maternal services. Instead, we will integrate them to work according to the standard procedures we establish, helping to mobilize pregnant women into health facilities. Essentially, they can act as health rangers, scouting for and encouraging pregnant women to seek care at health facilities, ensuring that deliveries are handled by skilled birth attendants. Since TBAs are not regarded as skilled by WHO standards, their role should be to link women to these structured facilities. By serving as connectors and facilitators, TBAs can align with us and perform their primary function without continuing their current delivery practices." (Male, the Executive Secretary of Oyo State Primary Healthcare Board).

"Yes, we cannot do without them. Let's encourage, train, and monitor them." > (Male, National *Primary Health Care Development Agency, NPHCDA).*

Existing Models of Collaboration

Respondents highlighted various efforts and collaborations aimed at integrating TBAs into the formal healthcare system: Oyo State Currently established a school of Community Nursing and Midwifery under its College of Nursing and Midwifery, with the approval of the Nursing and Midwifery Council of Nigeria. The first set of 100 participants drawn from amongst the wards and children of practicing TBAs have been trained and registered with the Nursing Council of Nigeria. The Government hopes to employ them to increase skilled birth attendants in the state.

Other government effort according to the Directorate of Planning Research and Statistics, is recognition of their services and retrieval of their monthly data. All practising TBAs in the state have been mapped according to their local government of residence. A total of 1,008 have been captured from the 33 LGAs. This database generates a working structure by which the TBAs are engaged in other public health promotion and disease prevention activities at the community level.

Discussion

From the findings of this study and the reviewed literature, it is evident that there exists a pocket of human health resource providers whose roles in the primary health care delivery system in Nigeria need redefinition. Currently, the government adheres to the WHO decision of 1997 that recommended the use of skilled birth attendants alone for every delivery, despite a critical shortage of this cadre throughout Nigeria [25]. The evolving landscape of leaving no one behind on any of the stipulated 17SDGs which hones the

prevention of diseases, and the promotion of affordable good health for all demands on us as policymakers to look for permanent feasible solutions to make health for all a possibility. [26, 27].

The current health index for Nigeria is worrisome, with a severe shortage of skilled staff, the Nigerian government aims to retrain 120,000 frontline health workers by 2027, as indicated by Nigeria's Hon. Minister of Health. The World Bank has also highlighted the global challenge, noting that 10 million skilled attendants are needed before the 2030 end date of SDG 17 (Ajay Banga, World Bank President). This substantial gap and the embargo on the training and use of available manpower require global rethinking and policy redirection for local in-country actions. The need for intercultural health policy for the Nigerian society has become expedient in the face of current realities of Global health as demonstrated by the Ecuadorian Andes [24].

Currently, skilled birth attendants are migrating to fill the significant health resource needs in developed economies of Europe and North America, depleting Nigeria's health manpower., consequently, the urban poor and rural dwellers are left to rely on unskilled birth attendants, Margaret Macdonald [28], at a policy retreat, emphasized the importance of TBAs in global maternal health and the need for their return. Similarly, the literature questions WHO's role in the continuous poaching of highly skilled health workers by developed countries from LMICs.

Some recent innovations by the Nursing and Midwifery Council of Nigeria aim to make skilled birth attendants more available. These innovations, which Oyo State has started to scale up, include training the wards and apprentices of older TBAs as Community Nurses and Midwives. At an inaugural lecture in 2023, Christianah Sowunmi a professor of maternal health, described efforts to reduce Nigeria's abysmal maternal mortality rate as a herculean task and recommended community engagement as part of the solution based on evidence of past capacity-building interventions with TBAs in Oyo, Ogun and Lagos States of Nigeria [26].

It therefore becomes necessary to revisit policies to consider integrating Trained Traditional Birth Attendants (TTBAs) into the PHC team delivery system to reduce maternal mortality rates. The findings from this study highlighted that TBAs have adequate skills to take delivery, with 91.6% scores on the risk factors of pregnancy on which they received training.

Acceding to the return of the TBAs, as requested by Lane and Garrod [27], Miller & Smith is crucial. The continuous decline in policymakers' efforts to outlaw or reorganize TBAs' operations has done nothing to stop the silent carnage of maternal health, with Oyo State experiencing 262 deaths per 100,000 live births and Nigeria's national average at 1,047 per 100,000 [16]. It is essential to reconsider positions from erudite researchers and public health opinions [28] [29] which recommend reconsidering and engaging TBAs in PHC services in LMICs to increase access to healthcare for the urban poor and rural residents lacking modern city-based healthcare delivery.

Studies report high social and cultural skills among TBAs, often missing in modern skilled birth attendants in formal healthcare. The lack of policy guidelines respecting traditional providers and visible resistance from formally skilled health workers needs redress. In Nigeria, the Primary Health Care Framework recommends revisiting the Ward Level Essential Care Package for maternal and child health as PHC support should begin at the household level as recommended by Tilley Gidado *et al.,* [30]. Identifying, training, monitoring, and motivating TBAs practising in each local community ward by ward can reduce maternal mortality rates and achieve Universal Health Coverage (UHC).

Improvement in communication between TBAs and formal health workers is also

desirable. The government should establish rules and regulations guiding the activities of these informal workers, fostering mutual respect to enhance health for all and mitigate quackery in the health industry.

Conclusion

The study revealed the evolving status of TBAs, who are no longer the old and illiterate women once associated with home birthing processes. Over 80% of those studied have secondary-level education and have received training in orthodox MCH practices. They can make informed decisions on risky MCH situations and refer cases to skilled attendants in private hospitals since the government discontinued their training. They have organized themselves into the Association of Community Birth Attendants and Voluntary Health Workers (ACOMBA/VHW) and even use YouTube to learn modern child-birthing methods. They run delivery homes where they deliver an average of 4-10 births monthly.

The intervention study significantly increased their knowledge and skills, as endline results on maternal childcare from prenatal to postnatal care and newborn care showed substantial improvements. This research provides evidence that TBAs, as informal health practitioners, should be integrated into the PHC system. Achieving the 70 maternal deaths /100000 per live births by 2030 and 90% availability of skilled birth attendants demands some pragmatic rethink.

Data with a p-value < 0.001 supports the hypothesis that if TBAs are trained, monitored, and motivated, they could become better-skilled birth attendants at the community level and refer complicated cases promptly to formal health centres. They should therefore be more available to complement formal healthcare providers, with necessary motivation in terms of recognition and remuneration to help reduce maternal mortality rates and achieve Universal Health Coverage.

Limitation

This study has some limitations. Firstly, participants' perceptions may be influenced by cultural beliefs, personal experiences, and socioeconomic status which might have introduced biases.

Also, the resistance from formal healthcare providers and the systemic barriers within the PHC system may complicate the integration of informal health services.

Furthermore, the study's timeframe constraints precluded in-depth longitudinal analysis, thereby limiting likely insights into changes over time and the sustainability of the proposed intervention. The cross-sectional design also restricts generalizability and the ability to establish causality and constraints due to lack of funding. Therefore, future research should address these limitations through a national longitudinal study, generating detailed empirical data to inform intervention design and implementation.

Suggestions

Considering the social and cultural skills of TBAs, improving their capabilities should be explored further to bridge the gap between the community and the formal health system. These findings underscore the importance of TBAs in providing MCH services, the need for their integration into the PHC system, and the strategies to overcome barriers to achieving UHC.

Gradual capacity building can upgrade the knowledge and skills of these informal health workers to provide basic health services at community levels in low-resource settings while referring cases complicated cases to formal health centres. From the findings of this study, it is suggested that the government should:

1. Provide training and capacity-building programs for TBAs.
2. Address cultural and social barriers to healthcare access.

3. Implement community engagement and education programs.
4. Provide necessary motivation incentives and,
5. Establish a functional regulatory system to monitor and evaluate activities continuously.
6. Integrate TBAs into the PHC system to improve access and quality of MCH services for vulnerable women.

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Conflict of Interest

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References

[1]. iAHO_Maternal_Mortality_Regional_Factsheet.pdf. 2020, WHO, Geneva.

[2]. Okonofua, F., Ntoimo, L., Ogu, R., Galadanci, H., Abdus-Salam, R., Gana, M., & WHARC WHO FMOH MNCH Implementation Research Study Team. Association of the client-provider ratio with the risk of maternal mortality.

[3]. Kassie, A., Wale, A., Girma, D., Amsalu, H., & exhale, 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. https://doi.org/10.1186/s12884-022-04753-5y in referral hospitals: a multi-site study in Nigeria. *Reproductive Health*, 15, 1-9.2018.

[4]. Ajayi-Lowo, E. O. 2021, "Natural Birth Movement." Women's Health: Understanding Issues and Influences, a 2-Volume Reference, *ABC-CL10 Press*.

[5]. World Health Organization. Declaration of Alma-Ata International Conference on Primary Health Care, Alma-Ata USSR, 6-12 September 1978.

[6]. Kassie, A., Wale, A., Girma, D., Amsalu, H., & exhale, 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*. https://doi.org/10.1186/s12884-022-4753-5.

[7]. Xu, S., & Hu, D. 2017. Barefoot Doctors and the "Health Care Revolution" in Rural China: A Study Centered on Shandong Province. *Endeavour*, 41(3), 136145. https://doi.org/10.1016/j.endeavour.2017.06.004.

[8]. Sudhinaraset, M., Ingram, M., Heather Kinlaw Lofthouse, & Montagu, D. 2013, What is the role of informal healthcare providers in Developing countries? A systematic review. *PLoS ONE*, 8(2), e54978. https://doi.org/10.1371/journal.pone.0054978.

[9]. Musie, M. R., Mulaudzi, Fhumulani Mavis, 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*. https://doi.org/10.1155/2022/9216500.

[10]. Esan, D. T., Ayenioye, Olabisi Helen, Ajayi, P. O., & Sokan-Adeaga, Adewale Allen. 2023, Traditional birth attendants' knowledge, preventive and management practices for postpartum haemorrhage in Osun State, Southwestern Nigeria. *Sci. Rep.*, 13, 1.

[11]. Kisangala, E., L, M. E., O, O. B., & A, K. M. 2023, Community and informal care providers at the heart of universal health coverage in Sub-

Saharan Africa: A position paper. *In South Eastern European Journal of Public Health*.

[12]. Lane, K. (2018). Pluralist risk cultures: the sociology of childbirth in Vanuatu. *In Risk, Pregnancy and Childbirth* (pp. 115-133). Routledge.

[13]. Sowunmi, C. O., Olajide, A. O., Olorunfemi, O., Iwaola, O. M., & Adeyemo, O. F. 2021, Enhancing knowledge of traditional birth attendants for the identification of selected labor emergencies. *Afr. J. Health Nurs. Midwifery*, 4(3), 1-14.

[14]. Mill, D., Seubert, L., Lee, K., Page, A., Johnson, J., Salter, S., Clifford, R., Murace, E., Fullerton, F., Halliday, M. D., Res, A., & D'Lima, D. 2023, Understanding influences on the use of professional practice guidelines by pharmacists: A qualitative application of the COM-B model of behaviour. *Research in Social and Administrative Pharmacy*, 19(2), 272-285. https://doi.org/10.1016/j.sapharm.2022.10.006

[15]. Okonofua, F., & Ogu, R. 2014. Traditional versus birth attendants in provision of maternity care: call for paradigm shift. *African Journal of Reproductive Health*, 18(1), 11-12.

[16]. Nnamuchi, O. 2018. Securing the Right to Health in Nigeria under the Framework of the *National Health Act. Med. & L.*, 37, 477.

[17]. Abiiro, G. A., & De Allegri, M. 2015. Universal health coverage from multiple perspectives: a synthesis of conceptual literature and global debates. *BMC international health and human rights*, 15, 1-7.

[18]. Lane, K. 2018. Pluralist risk cultures: the sociology of childbirth in Vanuatu. In Risk, Pregnancy and Childbirth (pp. 115-133). Routledge.

[19]. Shao, S., Wang, M., Jin, G., Zhao, Y., Lu, X., & Du, J. 2018. Analysis of health service utilization of migrants in Beijing using Anderson health service utilization model. *BMC Health Services Research*, 18, 1-11.

[20]. Michie, S., Van Stralen, M. M., & West, R. 2011. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implementation Science*, 6, 1-12.

[21]. Dada, S. 2023. An overview of the Primary Healthcare System in Nigeria. *Int. J. Agric. Sci. Res*, 1(3), 289-304.

[22]. Abah, V. O. 2022. Poor health care access in Nigeria: A function of fundamental misconceptions and misconstruction of the health system. In Healthcare Access-New Threats, New Approaches. *Intech Open.*

[23]. Dada, S. 2023. An overview of the Primary Healthcare System in Nigeria. *Int. J. Agric. Sci. Res*, 1(3), 289-304.

[24]. World Health Organization. 2015, WHO recommendations on health promotion interventions for maternal and newborn health 2015, *World Health Organization.*

[25]. Sowunmi, A.O. Olajide, O. Olorunfemi, O.M. Iwaola, & Adeyemo, O. F. 2021. Enhancing knowledge of traditional birth attendants for the identification of selected labor emergencies. African Journal of Health, *Nursing and Midwifery*, 4(3), 1–14. https://doi.org/10.52589/AJHNM-HL0BDMZJ

[26]. Rosen, H. E., Lynam, P. F., Carr, C., Reis, V., Ricca, J., Bazant, E. S., & Quality of Maternal and Newborn Care Study Group of the Maternal and Child Health Integrated Program. 2015, Direct observation of respectful maternity care in five countries: a cross-sectional study of health facilities in East and Southern Africa. *BMC Pregnancy and childbirth*, 15, 1-11.

[27]. 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 and Childbirth*. https://doi.org/10.1186/s12884-017- 1534-y

[28]. Lane, K., & Garrod, J. 2016. The return of the traditional birth attendant. *Journal of Global Health*, 6(2).

[29]. Nadelman, R., & Negrón, R. V. 2024. The World Bank and shrinking civic space. In The Elgar Companion to the World Bank (pp. 407-416). *Edward Elgar Publishing*.

[30]. Tilley-Gyado, R., Filani, O., Morhason-Bello, I., & Adewole, I. F. 2016, Strengthening the Primary Care Delivery System: A Catalytic Investment toward Achieving Universal Health Coverage in Nigeria. Health Systems & Reform, 2(4), 277–284. https://doi.org/10.1080/23288604.2016.1234427