*Afr. J. Med. Med. Sci.* (2019) **48**, 563-574

# Referral practices of trained Traditional Birth Attendants in selected Local Government Areas of Ibadan, Nigeria.

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**Abstract**

*Background:* Traditional birth attendants (TBAs) represent an important component of the healthcare system and are present at 50% of deliveries in developing countries. Despite the training given to TBAs by significant organisations on timely referrals, maternal deaths attributed to delay in referrals persists. The aim of this study was to assess the reported referral practices of trained TBAs in Ibadan.

*Methods:* A cross-sectional study was conducted among trained TBAs in Ibadan North and Lagelu Local Government Areas of Ibadan, Oyo state utilising mixed methods. A total of 114 trained TBAs were randomly selected and completed a questionnaire. Eight TBA leaders were interviewed using a key informant interview guide. The quantitative data was analysed using the Statistical package for social sciences (SPSS) version 22 and t-test at $\alpha$= 0.05.The qualitative data was analysed with NVivo version 12.

*Results:* Findings revealed that 61.4% of the TBAs had good referral practices. The leading perceived factors influencing the referral practices of the TBAs was rejection of referral by the pregnant women, cost and attitude of health care workers. A strong theme that emerged during the KIIs indicated that referral decisions were made by the TBAs although that did not guarantee compliance. There was no significant difference in the referral practice of TBAs located at semi urban or urban area (t=0.429, p=0.669).

*Conclusion:* There is need to subsidise cost of health care for pregnant women, improve attitude of health care workers and to target the pregnant women when developing policies on referral.

**Keywords:** *Traditional birth attendants, Health Personnel, Referral, Pregnant women, Delivery, Health Facilities*

**Résumé**

*Contexte :* Les accoucheuses traditionnelles représentent un élément important du système de santé et sont présentes dans 50% des accouchements dans les pays en développement. En dépit de la formation donnée aux accoucheuses traditionnelles par des organisations importantes sur la référence en temps voulu, les décès maternels attribués à un retard de référence persistent. Le but de cette étude était d'évaluer les pratiques de référence signalés des accoucheuses traditionnelles formées à Ibadan.

*Méthodes :* Une étude transversale a été menée parmi les accoucheuses traditionnelles formées dans les communes d'Ibadan North et de Lagelu à Ibadan, État d'Oyo, à l'aide de méthodes mixtes. Un total de 114 accoucheuses traditionnelles formées a été sélectionné au hasard et elles ont rempli un questionnaire. Huit dirigeantes d'accoucheuses traditionnelles ont été interrogés à l'aide d'un guide d'entrevue avec informateur clé (KII). Les données quantitatives ont été analysées à l'aide du logiciel SPSS (Statistical package for social sciences) version 22 et le test t à $\alpha$ = 0,05. Les données qualitatives ont été analysées à l'aide de NVivo version 12.

*Résultats :* Les résultats ont révélé que 61,4% des accoucheuses traditionnelles avaient de bonnes pratiques en matière de référence. Les principaux facteurs qui ont influencé les pratiques de référence des accoucheuses traditionnelles ont été le refus de la référence par les femmes enceintes, le coût et l'attitude des agents de santé. Un thème fort qui a émergé au cours des KII indiquait que les décisions de référence étaient prises par les accoucheuses traditionnelles, bien que cela ne garantisse pas la conformité. Il n'y avait pas de différence significative dans la pratique de référence des accoucheuses traditionnelles situées dans des communes semi-urbaines ou urbaines (t = 0,429, p = 0,669).

*Conclusion :* Il est nécessaire de subventionner le coût des soins de santé pour les femmes enceintes, d'améliorer l'attitude des agents de santé et de cibler les femmes enceintes lors de l'élaboration de politiques sur la référence.

**Mots-clés :** *Accoucheuses traditionnelles, personnel de santé, référence, femmes enceintes, accouchement, établissements de santé*

## Introduction

The importance of effective and timely referrals in an obstetric emergency is related to the unpredictability of pregnancy complications and their potential to progress rapidly to become severe

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and life threatening [1]. Prompt access to facility-based skilled birth attendance and emergency obstetric care have been considered as one of the primary ways that the challenge of maternal mortality and morbidity can be tackled [2]. Tabatabaie, Moudi and Vedadhir [3] reiterated that one factor identified to contribute to high maternal mortality in developing countries is a delay in accessing Emergency Obstetric care services (EmOC) when life-threatening complications arise during childbirth.

The use of unskilled birth attendants such as Traditional Birth Attendants (TBAs) has contributed significantly to maternal deaths in Nigeria and other developing countries [4]. The Traditional Birth Attendant is described as a person who assist the mother at childbirth and who initially acquired her skills in delivering babies by herself or working with other TBAs [5]. Although TBAs are not regarded as skilled birth attendants, they have become an important provider of maternity care in developing countries and are highly patronised [6-8].

In Nigeria, only 38% of births are delivered by a skilled health provider [8]. The persistent and large patronage of TBAs has necessitated significant health organisations and the government to recognise and incorporate traditional birth attendants into the health care system. Trained TBAs are expected to focus on promotion of maternal health services with emphasis on prompt referral of pregnant women especially those with complications in their communities [9-11]. The training usually involves recognition of previous bad obstetric histories and obstetric danger signs during pregnancy, labour and puerperium, and the need for prompt referral of such cases.

However, some TBAs carry out several maternal and child health services meant for skilled birth attendants such as deliveries [9]. In addition, some inappropriate practices like poor management of labour, management of mal-presentations, conducting deliveries for women with previous caesarean delivery as well as unhygienic practices have been observed in their activities [12, 13].

Furthermore, the involvement of Traditional birth attendants (TBAs) during delivery has also been observed to delay hospital referral during any maternal complications [14, 15]. Okafor and colleagues [9] opined that prolonged delays of more than 24 hours in TBA homes occurred in 36.6% of the patients in their study with 48.8% of the patients presenting in a poor clinical state. The most commonly reported situations in which trained TBAs referred women to orthodox facilities included when labour is delayed or contractions are too far apart or too close together and contractions occurred without rupture of membranes [16]. Culture and religious beliefs, availability of health facilities, rejection of referral by mothers and attitude of workers in referral centres are some of the factors associated with the referral decisions and practices of trained TBAs [17, 18].

Crucial factors in maternal care are the recognition of complications, timely referral to a higher level of care which ultimately results in timely management of complications. In many developing countries including Nigeria, this referral relies largely on TBAs as they are highly patronised and are very close to the women in the community. With the high level of utilisation of the services of TBAs and the renewed integration of TBA in formal health services through training, there is need to assess the referral practices of these trained TBAs, how it varies based on urbanisation, their criteria for referral and factors perceived to influence their referral decisions. This will help to identify possible reasons and influencers of their referral decisions which may be contributing to persisting poor referral practices and hence increasing mortality and morbidity.

## Materials and methods

This study adopted a cross sectional descriptive design utilising mixed methods (qualitative and quantitative method). The study was conducted from March, 2018 to April, 2018.

### *Study setting*

This study was carried out in Ibadan North Local Government and Lagelu Local Government areas of Oyo state, Nigeria. Ibadan North Local Government area covers a landmass of 132.500 square kilometres with a population density of 2,626 persons per square kilometre.

Lagelu Local Government area was created in 1976 with its administrative headquarters located at Iyana Offa. The Local Government area has a land mass of 310.850 square kilometres. The 2010 estimated population was projected to be 167,828 with a population density of 540 persons per square kilometres.

### *Study population*

Trained TBAs were selected for this study because they have received formal training on the importance of referral and are recognised by the Government. Eligible respondents were Traditional birth attendants who were registered and trained by the government, those who were currently practicing

during the study period and TBAs who had been working for at least 2 years after training. Retired or sick Traditional Birth Attendants and TBAs not resident in the selected communities were excluded from the study.

*Sample size determination/Sample Selection*
Ibadan has 11 LGAs classified into five urban LGAs and six semi urban LGAs. Random sampling technique (balloting) was employed in selecting one local government each from the two divisions. From the five local governments in the city, Ibadan North Local Government was randomly selected while Lagelu Local Government was randomly selected from the six Local Government areas in the semi urban areas.

A sample frame was collected from the Ministry of Health, Oyo State Community Birth Attendant focal person and combined with the list of the head TBA for each Local government. Ibadan North Local Government had 67 TBAs and Lagelu Local Government had 71 TBAs making a total number of 138 TBAs.

Sample size was calculated using Araoye [19] sample size statistical formula. A hundred and fourteen (114) TBAs participated in the questionnaire survey (Table 1). These TBAs were randomly selected from both local Government Areas. Eight TBA leaders were purposefully selected from the total TBAs to participate in the Key Informant Interviews. Four TBA leaders were selected from each Local Government Area.

*Instrument and procedure for data collection*
A structured researcher administered questionnaire (TBAQ) was developed for the trained TBAs. The key informant interview guide was also developed for the key informant interviews with the TBA leaders. A reliability coefficient of 0.82 was obtained for the TBAQ after a test retest was done to ensure reliability of the questionnaire.

Data was collected over a period of 6 weeks with the assistance of 4 trained field assistants. On the chosen day for data collection, informed consent was obtained and the questionnaires were administered.

Eight face to face key informant interviews lasting between 45minutes to an hour took place on the selected date and convenient time and place for the key informants. These were audio recorded and notes also taken.

**Ethical consideration**
Institutional Permission to conduct the study was obtained from the Oyo State Ministry of Health ethical review committee Ibadan before commencement of the study. Informed consent was obtained from the participants. Participants had the right to withdraw at any time during the study. Anonymity was ensured by using codes for identification of the participants. The soft copy of the collected data was pass-worded to ensure that unauthorised individuals did not have access to it. Additionally, the hard copy of data and other files were kept locked in a safe.

**Data management and analysis**
Quantitative data was sorted, coded, and entered into the computer and checked for errors using Statistical Package for the Social Sciences (SPSS) version 22. The data was subjected to analysis using both inferential and descriptive statistics. Independent t test was used to ascertain the difference in the referral practice between TBAs in both Local Government Areas. The level of significance was set at $P < 0.05$.Qualitative data was analysed with NVivo version 12.

**Results**
The sample comprises 114 TBAs (Table 2). About 9 in 10 of the TBAs were aged above 34 years with mean ±SD age 45.6±7.6 years. About 75.0% were married and 20.2% had no formal education. Majorly, 40.4% of them ran religious TBA center and

Table 1: Proportionate allocation of sample of Trained Traditional Birth Attendants

| S/N | Local Government Area | Number of TBA | Proportional Allocation of Sample | Sample size |
|---|---|---|---|---|
| 1 | Ibadan North Lga | 67 | $\frac{67 \times 114}{138}$ | 55 |
| 2 | Lagelu | 71 | $\frac{71 \times 114}{138}$ | 59 |
| | Total | 138 | | 114 |

**Table 2:** Socio-demographic Variables of the TBAs

| Variable | Categories | Frequency | Percentage (%) |
|---|---|---|---|
| Age group (years) | 20 – 34 | 7 | 6.1 |
| Mean ±SD = 45.6±7.6 | 35 – 49 | 71 | 62.3 |
| | 50 and above | 36 | 31.6 |
| Location of TBA | Ibadan North | 55 | 49.1 |
| | Lagelu | 59 | 50.9 |
| Marital status | Married | 85 | 74.6 |
| | Single | 7 | 6.1 |
| | Divorced | 9 | 7.9 |
| | Widowed | 13 | 11.4 |
| Educational status | No formal | 23 | 20.2 |
| | Primary | 31 | 27.2 |
| | Secondary | 60 | 52.6 |
| Type of TBA | Religious | 46 | 40.4 |
| | Traditional/Herbal | 36 | 31.6 |
| | Others (Community) | 32 | 28.1 |
| Mode of Practice | Part time | 1 | 0.9 |
| | Full time | 113 | 99.1 |
| Closest health facility for referral | Private\ | 24 | 21.1 |
| | Gen. Hospital | 43 | 37.7 |
| | Teaching hospital | 47 | 41.2 |
| Year of Practice | 1 – 10 | 13 | 11.4 |
| | 11 – 20 | 66 | 57.9 |
| | 21 – 30 | 29 | 25.4 |
| | Above 30 | 6 | 5.3 |

**Table 3:** Reported Referral Practice of TBAs

| Statement | Response | Frequency | Percentage (%) |
|---|---|---|---|
| When do you refer a pregnant woman to the hospital? | Correct | 110 | 96.5 |
| | Incorrect | 4 | 3.5 |
| What do you do when a woman's pregnancy exceed the normal gestational age? | Correct | 113 | 99.1 |
| | Incorrect | 1 | 0.9 |
| What do you do when a woman exceeds the normal duration of labour? | Correct | 103 | 90.4 |
| | Incorrect | 11 | 9.6 |
| What do you do when you observe any danger or signs of complication in a woman's pregnancy? | Correct | 102 | 89.5 |
| | Incorrect | 12 | 10.5 |
| Who do you inform when you need to refer a pregnant woman to the hospital? | Correct | 105 | 92.1 |
| | Incorrect | 9 | 7.9 |
| Who makes the final decision to refer a pregnant woman experiencing difficulty to the hospital? | Correct | 111 | 97.4 |
| | Incorrect | 3 | 2.6 |

approximately all practiced on full time, 41.2% had the teaching hospital as the closest health facility for referral and about 11.4% had less than 11 years of experience.

Table 3 shows the reported referral practice of participants. Majority 110 (96.5%) of the TBAs correctly responded that a pregnant woman should be referred to a hospital immediately danger signs in pregnancy and labour is recognised. A total of 103 (90.4%) of the respondents correctly understand that when a woman exceeds the normal duration of labour the pregnant woman should be sent to a health facility. Among the TBAs, 105 (92.1%) informed supervising skilled birth attendant when there was need to refer pregnant woman. Majority, 111 (97.4%) of the TBAs said they were in charge of decision making on referrals.

The interviews revealed that the TBA often refer danger signs and complications to the hospital immediately although some of the TBAs stated that they refer pregnant women to orthodox hospital based on spiritual leading.

*beginning but as time goes by you will see that there is a problem. A young girl in labour once came to my house in the midnight...the baby was hooked and could not come out. I had to take her to the hospital myself and on getting there,*

**Table 4:** Cumulative Level of Reported Practice

| Value | Score | Frequency | Percent (%) | Remark |
|---|---|---|---|---|
| Mean Score = 14.6±2.2 | ≤15 | 44 | 38.6 | Below average |
| | >15 | 70 | 61.4 | Above average |
| Total | | 114 | 100.0 | |

*"The best person to take care of pregnant woman during complication in pregnancy and delivery is a doctor. Whenever I recognise any sign of complication, I organize how to take them to big house (Teaching hospital)" (KII TBA leader 2, Ibadan north).*

Although most of the TBAs recognise that the hospital is the best place to handle a pregnant woman with danger signs and complications, they reported experiencing difficulty in convincing the women that the decision is the best for them.

*"Most of them do not want to go to the hospital, they only rely on us. But during hard labour, they will be regretting not going to the hospital. Some pregnancy and delivery look normal in the she said I kept her since morning. She almost died. I have learnt that whether it's a known case or not, I refer if there is danger" (KII TBA leader 1, Ibadan north).*

The TBA often accompanied the women to the hospital to ensure compliance. More commonly though, referral is only after the TBA attempts to treat the complication and realises she cannot manage it.

*"Yes, I refer them to hospital as soon as we can even though sometimes we try to see what we can do first. Sometimes we ask other TBA for help but if we notice that it is very serious we will now tell them to go to hospital". (KII TBA leader 3, Ibadan north).*

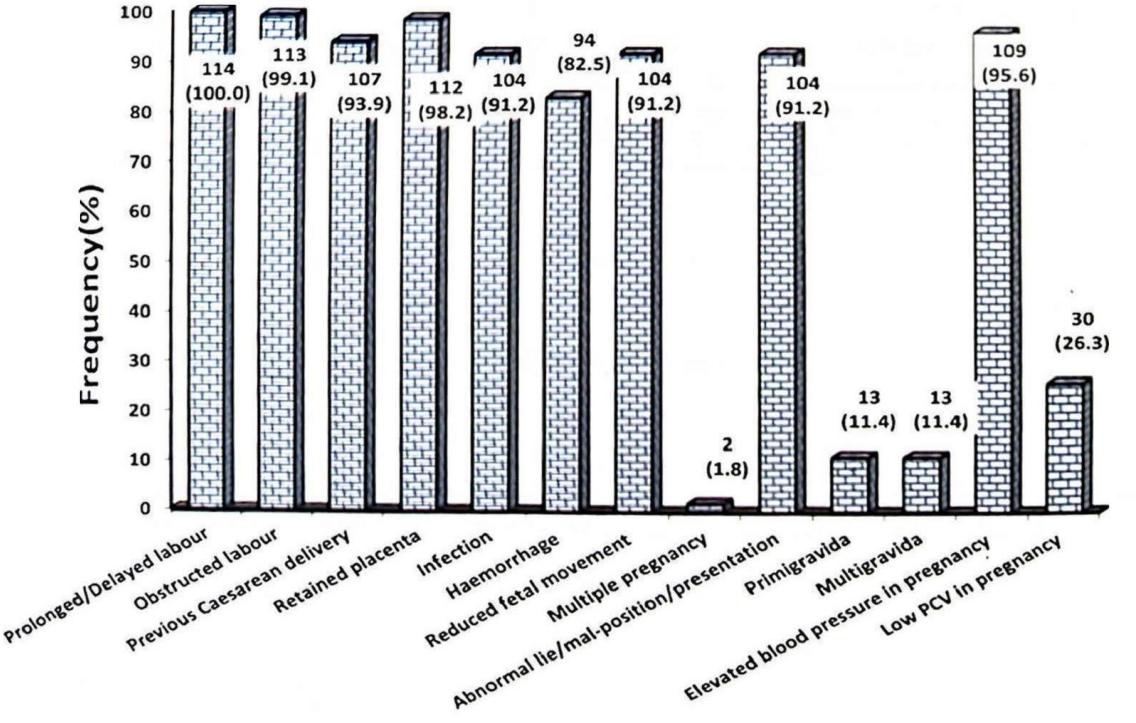


**Fig.1:** Criteria/indicators for referral

Furthermore, most of the TBAs felt that the conditions listed were criteria for referral (Fig 1). Some of the conditions were seen to be more serious than the other by individual TBAs as evidenced by this quote.

*"The common causes of referral is bleeding in pregnancy, prolong bleeding after delivery, baby in wrong position or not moving, convulsion, high blood pressure and retained placenta. I feel bleeding is more dangerous for both mother and child". (KII TBA leader 2, Lagelu).*

About 61.4% of the TBAs had above average level of reported referral practice as they scored 15 marks and above out of 19 maximum obtainable marks (Table 4). Most of the TBAs (94.7%), rarely refer pregnant woman for antenatal care in a hospital while majority always refer for investigations and tetanus injection (Table 5). The mean rate of referral score was approximately 11.3±1.5 standard deviation. Majority 69.3% of the TBAs scored above 11 marks

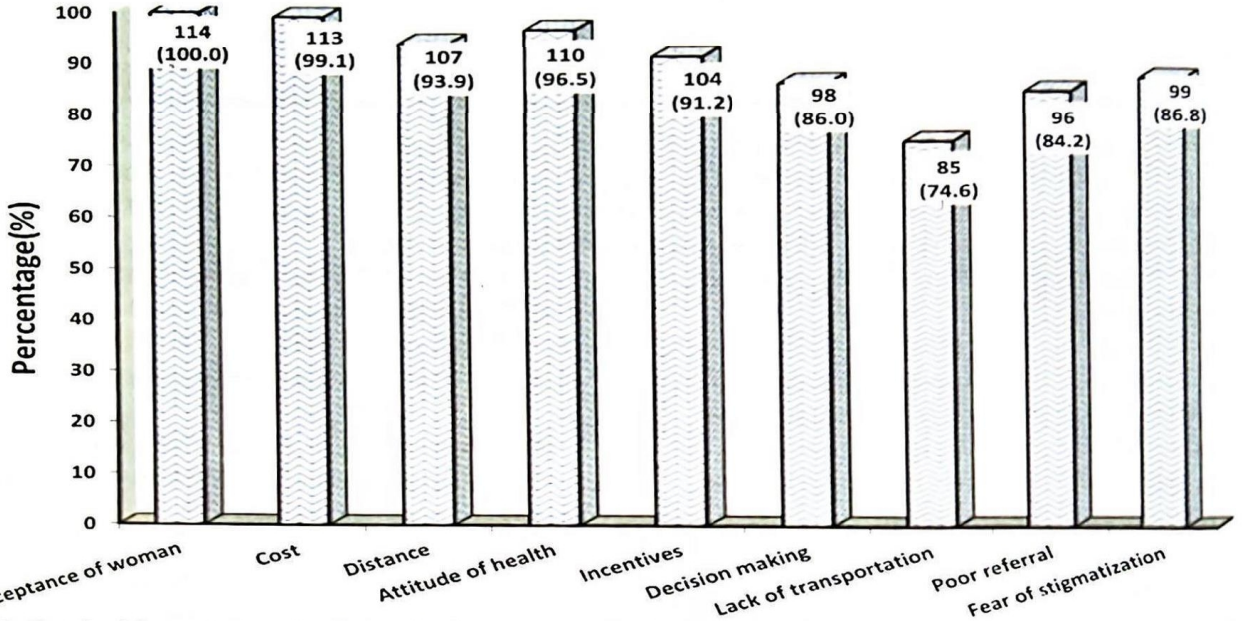


**Fig. 2:** Perceived factors influencing Referrals of pregnant women by trained TBAs

**Table 5:** Rate of Reported Referral for Services or Conditions

| Service | Frequency (%) Always | Often | Rarely | Never |
|---|---|---|---|---|
| Antenatal care | 1(0.9) | 4(3.5) | 108(94.7) | 1(0.9) |
| Investigation | 90(78.9) | 24(21.1) | 0(0.0) | 0(0.0) |
| To get tetanus injection | 103(90.4) | 10(8.8) | 1(0.9) | 0(0.0) |
| For delivery | 6(5.3) | 5(4.4) | 103(90.4) | 0(0.0) |
| Routine pregnancy drug | 6(5.3) | 7(6.1) | 98(86.0) | 3(2.6) |
| X-ray/ultrasound to check the size and position of the baby | 95(83.3) | 14(12.3) | 5(4.4) | 0(0.0) |
| Complication | 92(80.7) | 20(17.5) | 2(1.8) | 0(0.0) |
| Postnatal care | 11(9.6) | 94(82.5) | 9(7.9) | 0(0.0) |
| Treatment of malaria including IPT | 14(12.3) | 97(85.1) | 3(2.6) | 0(0.0) |
| Immunization | 78(68.4) | 33(28.9) | 3(2.6) | 0(0.0) |
| Bleeding in pregnancy | 103(90.4) | 11(9.6) | 0(0.0) | 0(0.0) |
| Prolonged bleeding after delivery | 101(88.6) | 11(9.6) | 2(1.8) | 0(0.0) |
| Retained placenta | 102(89.5) | 8(7.0) | 4(3.5) | 0(0.0) |
| Convulsions in pregnancy or delivery | 110(96.5) | 3(2.6) | 1(0.9) | 0(0.0) |
| Infection after delivery | 6(5.3) | 108(94.7) | 0(0.0) | 0(0.0) |
| Septic abortions | 104(91.2) | 10(8.8) | 0(0.0) | 0(0.0) |
| Obstructed labour | 56(49.1) | 58(50.9) | 0(0.0) | 0(0.0) |

out of 17 maximum obtainable marks which shows that they frequently practiced adequate referral of pregnant woman (Table 6).

Table 6: Classification of Rate of Reported Referral

| Value | Score | Frequency | Percent (%) | Remark |
|---|---|---|---|---|
| Mean Score = 11.3±1.5 | ≤11 | 35 | 30.7 | Infrequent |
| | >11 | 79 | 69.3 | Frequent |
| Total | | 114 | 100.0 | |

Table 7: Illustration of the statistical difference in Reported Referral Practice based on Location of TBA Independent Sample Test

| | Location | N | Mean | Std. Deviation | Std. Error Mean | T | df | p-value | Remark |
|---|---|---|---|---|---|---|---|---|---|
| Practice score | IbN | 55 | 14.64 | .910 | .123 | 0.429 | 112 | 0.669 | Not Significant |
| | Lagelu | 59 | 14.54 | 1.369 | .178 | | | | |

Table 8: Matrix of Qualitative Analysis Showing Themes and Sub Themes Emanating from the Key Informant Interviews

| Main Theme | Subthemes |
|---|---|
| Referral practices and decisions | Decision making on referrals is made by TBAs, the pregnant women and significant others. |
| | Pregnant women often reject referral to orthodox facilities due to attitude of health care workers |
| | Skilled health workers are better at managing deliveries and complications |
| | Personal judgement and experience of TBA guides referral decisions |
| | Private hospitals collaborate with trained TBAs on referral. |
| Economic constraints during referrals | Provision of incentives to trained TBAs provides support and strengthen referrals |
| | Lack of funds for orthodox care encourages referral rejection |
| | Referrals often entails additional expenses |
| | Cost of initial care most times falls on the TBA |
| Faith and beliefs have a role in referrals | Pregnancy and delivery management are perceived to be combination of cultural, medical and spiritual factors. |
| | Complications in pregnancy can be solved by prayers or herbal treatment. |

All the TBAs identified acceptance of referral by the pregnant woman as a factor that influenced their referral practices and decisions. Lack of transportation to convey the pregnant woman to the hospital was the least criteria (74.6%) perceived to influence referral (Fig 2).Similarly, one of the themes from the interviews as shown by Table 8 was that a major difficulty that the TBAs experienced was rejection of referrals by the pregnant women or their family members.

*"They reject very well. Sometimes they even go to another TBA after you ask them to go to the hospital. They don't just want the hospital. They complain a lot about the staff attitude". (KII TBA leader 2, Lagelu)*

Other reasons given for referral rejection by the TBAs were the previous care many women have received from the hospital, attitude of health care workers, cost and distance (Fig 2). A TBA leader summarised this in the quote below.

*"I have heard such complaints but the common one is that the hospital demands for too much money and is sometimes too far for them. Some*

*people also say the nurses have little experience. One very interesting story was a woman who went to have her second baby in the General hospital, as she was vomiting in labour, the nurses kept saying she will pack it. She said she regretted it. Another woman said she was asked not to give birth on the floor when she wanted to pass faeces while someone else said she was in labour for a whole day and nobody examined her".(KII TBA leader 3, Lagelu)*

On getting incentives for every pregnant women referred, one TBA responded thus

*"Yes, I receive incentives from some of the private hospitals, because that is my sweat. But government too should give us incentives for the work we do". (KII TBA leader 4, Lagelu)*

Lack of transportation was not really seen as a strong influence on referral because some of the TBAs have their own cars and the private hospitals they work with provide ambulances during complications.

*"I have one doctor that helps with his car for transportation, any time I call on him he do answer". (KII TBA leader 2, Lagelu)*

## Discussion

In our study, majority of the TBAs were aged 35years and above. They were mostly married older women with experience in child bearing. This bears similarity with previous studies which shows that TBAs meet the commonly established community criteria of being middle aged with experience in child bearing [20, 21 22]. The level of education of TBAs in this study was low as majority of the TBAs had no formal education and none had tertiary education although they had all received trainings. Other studies [22] showed similar results.This suggests that the level of education as well as the training received by these TBAs contribute to the nature of care provided. Most of the trained TBAs in this study had been in practice for over 10 years. In the same vein, a recent study in Kenya showed the average years of experience of the TBAs to be about 24years [23]. The years of experience of the TBAs possibly influenced their knowledge of recognition of obstetric emergencies.

A large number of TBAs in this study were religious based. According to Adegoke & Jegede [24], spirituality and religion is said to form the basis of purpose and meaning for many people especially during pregnancy which is termed a period of heightened spiritual awareness. Similarly, an earlier study [25] in Enugu Nigeria reported that the choice of health facility or non-health facility deliveries among pregnant women was found to be statistically significant with religion. Religious leaders and organizations should therefore be involved in developing policies for pregnant women and skilled birth attendance.

Although the teaching hospital was the closest facility for referral for majority of the TBA, the number of referrals directly to the teaching hospital volunteered in this study was low compared to that of private hospitals. Our study findings reveal that the TBAs who accompany their clients to the tertiary hospitals experienced discrimination and stigmatisation and that private hospitals were preferred due to previous arrangement with them. In the same vein, findings from the work of Moudi, Tabatabaie, Saeedi, & Vedadhir, [14] also revealed that some TBAs did not refer mothers to EmOC as soon as the TBAs perceived a serious delivery complication due to the process of stigmatisation. Considering the difficulty the TBAs have to go through when there is need for a referral, it is most likely that they will prefer to send their clients to a place that treats them with respect. Professional reorientation and training of health care workers midwives on the need to treat women at childbirth with empathy, respect and dignity should be emphasized.

*Level of reported referral practices of Traditional Birth Attendants.*

Objectively, the study finding revealed that the reported referral practice of most TBAs to orthodox facilities especially during complications in pregnancy and delivery was far above average. Recent study findings reported that TBAs always referred women to formal health care and did not mind losing their jobs because they believe formal health care have more expertise than they do and has better equipment to diagnose and treat problems [26, 27].

The qualitative analysis findings also complimented the report that most TBAs refer pregnant women at the slightest danger sign or complication or even send them to orthodox facilities when they are pregnant. These findings also agree with that of Keri, Kaye and Sibylle [16] who reported that some TBAs encouraged their pregnant clients to attend prenatal sessions at a local health clinic or hospital. Vyagusa, Mubyazi, & Masatu [28] also documented that TBAs considered it appropriate to send a woman to a hospital under certain problematic circumstances. In contrast, Okafor *et al.* [9] reported

that delays at TBA centers are common before referral and most patients are referred in poor clinical state. Likewise, Moudi, Tabatabaie, Saeedi, and Vedadhir [14], revealed that TBAs prefer to keep their patients under observation' at home as long as possible, often beyond what is reasonable. The adequate practice of referral among TBAs in our study could be as a result of better understanding of skilled birth attendance gained during trainings or as a result of previous negative experiences that have occurred due to poor referral practices. This was supported by Abodunrin, Akande, Musa, and Aderibigbe [29] that TBAs with some previous training were more likely to suggest referral of pregnant women with many risk factors or complications to skilled care. The current and previous studies [16, 28, 29] show a positive view of how trained TBAs perceive skilled birth attendance thus leading to the improvement of maternal health. Consequently, training and retraining of TBAs should be sustained and encouraged.

With regards to obstetric emergencies, TBAs in this study commonly reported referring women to hospitals as soon as danger signs such as obstructed or prolonged labour are noticed. Similarly other studies [16, 28], documented that TBAs in their study refer when labour is prolonged or obstructed. Almost all TBAs in this study inform supervising skilled birth attendant when there is need for referral and they decide when to refer the pregnant women which is consistent with the findings of Reeve *et al.* [23]. This could be attributed to the knowledge gained during training programs and the positive relationship between the TBAs and some skilled birth attendants.

Despite the good reported referral practice in this study, there was notably low referral due to primiparity, multiparity, multiple pregnancy and low PCV in pregnancy. Similarly, other study findings [30] revealed that TBAs were found to be managing high risk pregnancies at extremes of reproductive age. This indicates poor risk assessment and can result in high maternal and perinatal mortality and morbidity. In the opinion of Bisika [31]; Lucey, Andriatsihosena, and Matthew [32], these poor practices were attributed to overconfidence gained during trainings. On this note, the services of TBAs should also be checked to ensure it conforms to stipulated recommendations regardless of training.

*Rate of reported referral*

The WHO recommendation outlined certain activities and interventions that are permitted to be carried out by trained TBA (lay workers) such as promotion of maternal and newborn care services [11]. The results of our study show that most TBAs did not adhere to this recommendation as they rarely send women to orthodox facilities for antenatal care, routine pregnancy drugs and delivery while the women are frequently sent to facilities for services such as obtaining tetanus injection, ultrasound scan, and treatment of malaria, immunization and any sign of complication like bleeding and retained placenta. Several studies carried out in Africa show similar practice as the TBAs in these studies generally provided antenatal care, delivery services and extensive postnatal care [23, 33, 34]. This shows that most TBAs still carry out delivery and antenatal services and refer only when complications are imminent.

In contrast, studies carried out in several communities in Kenya found out that the TBAs rarely go beyond providing massage, food and herbs to women. Their role was to hold and comfort the woman, rather than actively manage the birth. [20,35]. Although conducting antenatal care and deliveries may be necessary in areas where skilled birth attendants are absent, problems could arise from lack of equipment, absence of evidence-based interventions for complications, and delayed referral. Government, stakeholders and appropriate organizations should develop a strict guideline and recommendation showing the scope and limitations of the activities of trained TBAs. This should be made available to skilled and unskilled birth attendants.

*Perceived factors influencing referral of pregnant women by the Traditional Birth Attendants*

Rejection of referral by pregnant women stood out in both the qualitative and quantitative findings of this study as a major perceived factor influencing referrals of the pregnant women by the TBAs. This aligns with the findings of Sarmento [36] that compliance and rejection of referrals is a major problem experienced by TBAs making referral difficult. The TBAs stated that the women have to be deceived or forced to go to orthodox health facilities. This illuminates the need to involve the pregnant women, their spouses and leaders as stakeholders in policies to improve referral and promote its acceptability.

Not all the TBAs in our study saw transportation as a major barrier to referral because some of them had cars while others had prearranged transport in the community or with the skilled Birth

attendant. This finding was contrary to the results of Hussein, Kanguru, Astin and Munjanja [18] who reiterated that transportation has been noted as one of the most documented barriers to timely referral of pregnant women.

The TBAs expressed their displeasure during the interviews that they were not respected by skilled health workers. They strongly felt that if the Government has recognised and trained them, skilled health workers should also respect them. If TBAs are to remain integrated in the health system, they need to be accepted by skilled health workers. The health workers should be trained on good and professional attitude to encourage and motivate TBAs in order to achieve the ultimate goal of maternal mortality reduction.

An interesting contrasting finding in the key informant interview is that two TBA leaders believed that their level of experience and training determines how they are treated in the hospital as well as the time the pregnant woman is brought in. This finding agreed with that of Armstrong [37] that trained TBAs with certificates are treated better by medical staff when they refer a patient. Another possible reason for this could be that the TBAs referred pregnant women to facilities that were familiar with their practices.

Results from our quantitative data showed that a large number of the TBAs felt that provision of incentives can influence their referral decisions. The doctors in private hospitals usually provide them with tokens for their efforts. Themes revealed during the interviews showed that the TBAs believed that provision of incentives by government will help encourage referrals because the money they make from their practices is their only source of income. This could be largely due to the mode of practice as all the TBAs except one practiced full time.

There is no significant difference observed in the level of reported referral practices of TBAs in the urban areas and those in the semi urban areas. The statistical analysis showed no significant difference in the means of referral practice of the two locations. The location of the TBAs that did not reflect on their referral practices could be because all the TBAs used in this studies were trained and majority reported good referral practice. It could also be due to the proximity of orthodox facilities to the respective local Governments. This was corroborated by the findings of Vyagusa, Mubyazi, and Masatu [28] that there was no difference in the referral practices of TBAs who lived and practiced in semi urban areas and those who live in urban areas.

## Conclusion

Skilled birth attendance has been proven to be the key in the reduction of maternal mortality and morbidity among pregnant women especially those experiencing complications. Although TBAs are not skilled birth attendants, they carry out a range of maternal health services and they are highly patronized even during complications. This study has provided a view into understanding that despite the current positive referral practice of trained TBAs in these communities based on trainings, the contribution of the pregnant women to these practices is important and significantly influences the outcome of the condition and decisions. We recommend reduction in cost of health care for low income pregnant women, initiation and sustained payment of incentives to trained TBAs by government facilities and continuous training and retraining. Professional reorientation and training of health care workers/ midwives on the need to treat women at childbirth with empathy, respect and dignity. Proper definition of TBA roles should also be emphasized. Pregnant women and their significant others should be involved when developing policies on referral and skilled birth attendance.

## Acknowledgements

We would like to thank study participants at Ibadan north and Lagelu local government areas for their cooperation and willingness to take time out of their busy schedules to participate in this study.

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