

**ASSESSMENTS OF THE MATERNAL CARE KNOWLEDGE AND PRACTICES OF
TRADITIONAL BIRTH ATTENDANTS IN IBADAN, OYO STATE, NIGERIA**

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DEDICATION

This project work is dedicated to:

The Awesome God, the maker of Heaven and Earth, the giver of life and all wisdom

Generations of health care providers

My lovely wife, Ibitola and children, Faith, Faithful and Faithfulness

The director and staff of the Institute of Child Health, University of Ibadan

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CERTIFICATION

I hereby certify that this project is the original work of Ezekiel Adekunle Olukotun and was carried out under my supervision.

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ABBREVIATIONS

CBA	- Community Birth Attendants
CMF	- Christian Missionary Foundation
FGM	-Female Genital Mutilation
LGA	- Local Government Area
NGO	- Non-Governmental organizations
PHC	- Primary Health Care
TBA	- Traditional Birth Attendants
TM	- Traditional Midwives
TTBA	- Trained Traditional Birth Attendants
UNDP	- United Nations Development Programme
UNFPA	- United Nations Population Fund
UNICEF	- United Nations International Child Emergency Fund
WHO	- World Health Organization
YOFALS	- Youth and Family Life Survival Foundation

DEFINITIONS

- **Obstructed labour** - Obstructed labour is said to occur when labour comes to a halt in the active phase, despite good uterine contractions, as a result of a mechanical factor (either because of failure of the cervix to dilate further or after full dilatation, the presenting part of the fetus fails to descend through the birth canal) and further progress is not possible without assistance.
- **Failure to progress in labour, Prolonged labour** - Labour of > 24 hours duration in a primigravida or > 18 hours in a multipara.
- **Abnormal lie** - An abnormal relationship of the fetus to the long axis of mother .i.e. any lie other than the longitudinal lie. It could be a transverse lie or oblique lie.
- **Malpresentation** - Presentation of a part of a fetus other than the occiput during delivery.
- **Ante partum haemorrhage** - Bleeding from the uterus during a pregnancy, particularly after the 28th week.
- **Postpartum haemorrhage** - Blood loss of 500ml or more within 6 weeks after delivery. PPH can be divided into (1) early PPH that occurs within 24 hours after delivery and (2) late PPH that occurs 24 hours to 6 weeks after delivery.
- **Anaemia of pregnancy** - A condition of pregnancy characterized by a reduction in the concentration of haemoglobin in the blood below 11g/dl.
- **Retained placenta** - The failure of the placenta to be delivered during an appropriate period, usually 30 minutes, following birth of the infant.
- **Prolonged Rupture of Membranes (PROM)** – Rupture of the fetal membrane for a period greater than 24 hours prior to the onset of labour.

- Hypertension in pregnancy – Blood pressure in pregnancy $>140/90$ mm/Hg. It comprises of chronic hypertension, pre-eclampsia-eclampsia, gestational hypertension and superimposed pre-eclampsia.
- A neonate – A child within the first 28 days of life.
- Regular TBA supervision - At least one supervisory visit by a skilled health-care worker every 6 months.
- Trained TBA – A TBA who has had formal training either by the state ministry of health, the Local Government Primary Health Care department, relevant NGOs or other recognised health training institutions.
- Untrained TBA- A TBA who has not had any formal training by any of the above bodies.
- Skilled health-care worker- An accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns.

ABSTRACT

Traditional Birth Attendants (TBAs) are lay persons who attend to deliveries and concerted efforts have been made to train them. Anecdotal reports suggest that many expectant mothers patronize TBAs in Ibadan. However, there is dearth of information relating to the TBAs' maternal care knowledge and practices. This study was therefore conducted to assess TBAs' knowledge and practices relating to maternal care in Ibadan, Oyo State.

A cross-sectional survey of 407 out of 608 TBAs who consented to be involved in the survey, in the 11 Local Government Areas (LGAs) in Ibadan was conducted. The three categories of TBAs were; 93 local government trained-TBAs, 221 church-based TBAs and 93 TBAs who practice in herbal homes. A semi-structured questionnaire was used to obtain information on respondents' demographic characteristics, knowledge and practices of maternal care. Knowledge and practice scores were computed with the maximum obtainable scores being 43 and 47 respectively. Data were analyzed using descriptive statistics, Independent *t*- test, correlation and Chi-square statistics.

Respondents' mean age was 47.0 ± 10.8 years, 86.0% had at least primary education and majority (84.8%) were females. Seventy-eight percent had formal TBA training; of these 63.0% reported that they were regularly supervised by skilled health workers. None of the untrained TBAs had regular supervision. Overall mean knowledge score was $79.7 \pm 20.3\%$. Majority (80.6%) of TBAs recognized blood pressure measurement as an essential aspect of Antenatal Care (ANC). Majority were aware of the necessity of wearing sterile gloves in taking delivery (83.0%) and prompt referral of high risk cases (76.7%). Trained TBAs had a significantly higher maternal care knowledge score compared with the untrained TBAs ($p < 0.05$). Blood pressure measurement during ANC visits, wearing of sterile gloves, and

referral of high risk cases were reported by 66.0%, 44.0% and 51.8% respectively. Trained TBAs had a significantly higher mean practice score compared to the untrained TBAs ($p < 0.05$). A significantly higher proportion of the regularly supervised trained TBAs reported referring of high risk cases (83.8%) compared with unsupervised trained TBAs (53%) ($p < 0.05$). There was a poor correlation between the maternal care knowledge and practice of the trained TBAs ($r = 0.435$, $p < 0.05$).

The practices of untrained and unsupervised traditional birth attendants fell short of professional expectation and knowledge-practice gaps were identified among all categories of traditional birth attendants. Training and regular retraining of traditional birth attendants as well as supportive supervision by health staff of the State Ministry of Health, Local Government Area Primary Health Care departments and relevant non-governmental organizations are needed to enhance maternal care practices of traditional birth attendants in Ibadan.

Key words: Traditional birth attendants, Maternal care, knowledge-practice deficit.

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CHAPTER ONE

INTRODUCTION

Traditional birth attendants (TBAs) are persons (usually women) who assist mothers at childbirth and who initially acquire her skills by delivering babies herself (self-taught) or by working with other TBAs (apprenticeship) (Verderese, Turnbull, 1975). They are traditional, independent (of the health system), non-formally trained, community-based providers of care during pregnancy, childbirth and the postnatal period (WHO, 1997). When a TBA receives any form of formal midwifery training, they are referred to as trained TBAs (TTBAs).

They are usually women, who learn from experience or under the tutelage of an older and more experienced TBA. They may be full-time workers, a woman's elderly relative, neighbour, or a family birth attendant. They may be paid in cash or kind. Some assist with a small number of births per year; others do frequent deliveries (Cochrane Update, 2007). They may be faith-based or private practitioners. The faith-based TBAs operate in the 'faith homes', most of which are affiliated with churches, a few with mosques and others with traditional healing institutions. TBAs provide their clients health services that range from child delivery abortion to family planning and cures for vaginal bleeding (Izugbara, Ukwai, 2003).

In most resource-poor countries, a large proportion of the population does not have access to health services. They rely on traditional healers or TBAs to meet their health needs (Izugbara et al, 2003). Traditional birth attendants may be responsible for approximately a quarter of births in developing countries (Cochrane Update, 2007). In Nigeria, traditional midwives are indispensable to delivery services (Oyebola, 1980). A significant proportion of births occur in churches and homes of traditional birth attendants. Between 60-85 per cent of births delivered in

the country especially in the rural communities are by the TBAs (Edem, Samuel, Asuquo, Margaret, 2005).

TBAs still have a large impact on the health of the mother and child, as the introduction of modern health services has not eradicated the functions they serve, especially in rural areas. It has been customary for the expectant mother to register with a local TBA to facilitate easy birth, and to avoid high fees, bribes, unreliable transport and un-cooperative drivers; poor and uncomfortable roads; lack of drugs and essential supplies, and negative staff attitudes at the government and private hospitals (Mufutau, 2008). Women are attracted to TBAs because the services are low cost and they require privacy about their conditions. The TBAs are close by, and the women are confident in the abilities of TBAs because they live in the neighbourhood (Izugbara et al, 2003).

Over the years however, a high level of maternal and perinatal morbidity and mortality have been associated with deliveries at traditional birth homes (Orimadegun, Akinbami, Tongo, Okereke, 2007). A lot of complicated cases of obstructed labour have been associated with deliveries in spiritual churches (Edem et al, 2005). Lack of appropriate obstetric knowledge by the TBAs is said to be responsible for these high morbidity and mortality associated with their practice (Oyebola, 1980).

In their efforts to reduce maternal and perinatal morbidity and mortality, many national and international agencies make considerable investments in the training of traditional birth attendants (TBAs) (Jason, Nii, Judith, Joseph, Dan, Thomas, 2000). In Nigeria many governmental and non-governmental organizations have been involved in the training of TBAs. TBAs who have been trained are supposed to contribute to improving maternal and child health care, as they offer the only means by which many women in rural communities access delivery.

In Oyo state, Nigeria, the ministry of health, as well as the various local government primary health care (PHC) departments are involved in the training and retraining of TBAs. At the local government level, a session of training lasts for 3 weeks, while a retraining lasts for a week. A trained TBA is expected to have a retraining at least yearly. Training cost is N2, 000.00 and this is borne by the participants. Upon completion of training, each TBA is given a delivery kit. Each local government has a TBA program officer who co-ordinates the training programme and supervises their practices. The program officer in most cases is a Chief Nursing Officer with the local government PHC department. The trained TBAs are registered with the local government and are expected to meet with the program officer on a monthly basis, for a review of their activities.

Non-governmental organizations (NGOs) are also involved in TBA training in Ibadan. Some of them include Youth and Family Life Survival Foundation (YOFALS) and Christian Missionary Foundation (CMF).

However, since 2009, in Nigeria, the National Primary Health Care Development Agency (NPHCDA) established the Midwives Service Scheme (MSS), a public sector collaborative initiative, designed to mobilize midwives, including newly qualified, unemployed and retired midwives, for deployment to selected primary health care facilities in rural communities. The aim is to facilitate an increase in the coverage of Skilled Birth Attendance (SBA) to reduce maternal, newborn and child mortality (NPHCDA, 2012).

Study Justification and Rationale

TBAs are indispensable to childbirth and maternal care in developing countries. Anecdotal reports suggest that many expectant mothers patronize TBAs in Ibadan. Over the past three decades, efforts have been made to train them, in order to reduce, the high level of maternal and perinatal morbidity and mortality associated with their practices. However, TBA training does not appear to have translated to the desired reduction in maternal and perinatal morbidity and mortality.

Assessing the knowledge and practices of TBAs could provide information that may form the basis for formulating better training programmes. It may also serve as a means of evaluating the need for retraining and improvement in their training curriculums.

Objectives

General Objective

The general objective of this study is to assess the maternal care knowledge and practices of traditional birth attendants (TBAs) in Ibadan, Oyo state, Nigeria.

Specific Objectives

The specific objectives of this study are to:

1. compare the knowledge of formally trained with untrained TBAs.
2. compare the practices of formally trained with untrained TBAs.
3. determine any knowledge- practice gap among the TBAs.
4. compare the practices of faith -based with non faith-based TBAs.

5. compare the practices of regularly supervised TBAs with those who are not.
6. compare the knowledge of TBAs with formal education with those without formal education.

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CHAPTER TWO

LITERATURE REVIEW

Definition

Traditional birth attendants (TBAs) are persons (usually women) who assists mothers at childbirth and who initially acquires her skills by delivering babies herself (self taught) or by working with other TBAs (apprenticeship) (Verderese, Turnbull, 1975). Traditional birth attendants (TBA) – trained or not – are excluded from the category of skilled health-care workers. The term “skilled attendant” refers to “an accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns” (World Health Organization, 2004).

In south western Nigeria, they are called '*agbebi*' (Yoruba language) and in south eastern Nigeria '*ndi ne nime*' (Igbo language). In Guatemala, they are called '*comadronas*' and in Afghanistan '*dai*', in Spain '*empirica*' and '*daya*' in Palestine. (Plan, 2008).

In most parts of the world, one of the criteria for assuming the office of a traditional midwife is experience as a mother. Many traditional midwives are older mothers; many are post-menopausal. In Palestine, many of them are divorced or widowed and needed to become economically independent to support their children (Wick, 2002, Verderese, Turnbull, 1975). They often serve as a bridge between the community and the formal health system, sometimes accompanying women to health facilities (Verderese, Turnbull, 1975). TBAs are also known as traditional midwives (TM) or community birth attendants (CBAs).

TBAs are more commonly found in rural than urban areas. They may work at considerable distances from health facilities. Most traditional midwives travel to the pregnant woman's house to provide care; women may also travel to them to obtain care. They are usually assisted by the birthing woman's relatives (Verderese, Turnbull, 1975). They may be paid in cash or kind. Some assist with a small number of births per year; others do frequent deliveries. TBAs are not usually licensed but after receiving training, could be certified by the training body (Cochrane Update, 2007).

Historical Background

Traditional Birth Attendants have been valuable members of the birthing process, long before the advent of modern medicine, and its institutions (Mufutau, 2008). In the Bible times, reference was made to Shiprah and Puah who were midwives in Egypt (Thomas Nelson Inc, 1982). Women have given birth for millennia, usually attended by other women who have given birth themselves and/or have helped other women during birth and in the arts of self-care. The primary arts of the traditional non-medical labor companion, or midwife, were devoted nutritional education, herbal wisdom, hygiene, physical mobility techniques, meditative guidance for the psyche of the laboring woman, and newborn parenting support. There have always been traditional midwives in native and/or rural peasant cultures varying in their specific arts according to cultural beliefs that were faith-based, and often involved meditations and prayer formulas. Traditional birth attendants typically had longstanding social relationships with birthing women often elderly midwives had helped two generations or more in one family (Ceallaigh, 2009).

In Nigeria, history of traditional birth attendants could be traced from the pre-colonial period: an era of traditional medicine in its full course. Health care was basically provided by the traditional

bonesetters, traditional surgeons, traditional birth attendants, diviners, Quranic healers etc. During the colonial period, the colonial authorities provided health care to colonial administrators and their families only. A vast majority of the people had no access to orthodox health care. They depended largely on traditional medicine. But the postcolonial period witnessed an era of independence and strategic development plans that culminated in the provision of basic health facilities and services, especially in urban centers (Godwin, 2001).

In malnourished lower class Europe of recent history, (as in present day famine/poverty zones the world over) where pelvic bone deformities, anemia, and pelvic floor muscle malfunction was common - birth was indeed a perilous journey that many of these women did not survive. Midwives in those circumstances, without cesarean surgery options, often faced maternal mortality and sick babies (Ceallaigh, 2009). In the mid-18th century, debates in France surrounded the royally mandated childbirth trainings for “an audience of rustics” (i.e. rural women) (Cynthia, 2011).

Fifty years ago, most births in Palestine took place at home as they had for centuries and were assisted by respected and experienced women in the community called *dayas* in Arabic, or in today's development rhetoric, 'traditional birth attendants'. In the 1950s, the Jordanian government, which ruled the West Bank, began licensing the *dayas* in order to train and supervise them and to report the births (Wick, 2002).

Faith Based TBAs

TBAs may be faith-based or private practitioners. Faith based TBAs are those who have affiliation with particular religious groups. They operate in the so-called ‘faith homes’ most of

which are affiliated with churches, a few with mosques. Many others are herbalists, or traditional healers who practice in herbal homes.

A Calabar study showed that 44.3% of the antenatal clinic defaulters delivered in spiritual churches (Etuk, Itam, Asuquo, 1999). Also the analysis of data from available delivery registers in a Yoruba community; Nigeria suggests that about a half of recorded births between 1983 and 1990 were delivered in 'faith clinics' and not in a maternity centre. The modes of operation of these faith clinics were reported. It was observed that the faith clinics were under the control of church-trained midwives all of who claimed divine calling as the reason for taking up the job. The midwives also listed prayer, fasting and guidance from the Holy Spirit as their main tools of trade. Pregnant women that come for prenatal care are required to attend weekly prayer meetings for expectant mothers, take weekly baths in a particular river and maintain inward and outward cleanliness in their behaviour (Adetunji, 1992).

A group of 106 Yoruba traditional healers who practiced midwifery were interviewed, by means of a semi structured questionnaire, regarding their knowledge of various aspects of perinatal care. The study revealed earlier reports that these herbalists are indispensable to delivery services in Nigeria. Their procedures for assisting at births were described and the healers were found to be ignorant in such important areas as normal duration of labour, causes of various obstetric complications and functions of the placenta. It was concluded that the lacunae in their knowledge could be responsible for the high morbidity and mortality associated with their practice, and might also explain their unscientific and sometimes magico-religious approach to management of perinatal health problems. The need to provide them with appropriate training was emphasized (Oyebola, 1980).

Functions of TBAs

Although it has been widely documented that traditional birth homes (TBHs) do more than deliver babies, little is known about the other functions performed in addition to child delivery. Drawing on in-depth individual interviews with 13 traditional birth attendants (TBAs) and 147 users of TBHs, the characteristics and health conditions of users of TBHs in four rural communities in southeastern Nigeria was studied. It was found that TBHs provide their clients, who are mainly less educated women and girls, health services that range from child delivery and abortion to family planning and cures for vaginal bleeding (Izugbara et al, 2003).

TBAs not only assist mothers before and during birth, they also speak regional and local languages and dialects and provide emotional support, advice and practical help in cleaning, cooking and caring for the households of pregnant women and new mothers. They work hard to gain the confidence of the families assisted and most of the time travel for miles to reach patients in need (Plan, 2008).

Traditional midwives also provide health advice, education and health care beyond the field of maternity. Frequently their assistance also included helping with household chores (Verderese, 1975). In a recent report, one of the functions of TBAs was to facilitate female genital mutilation (FGM) (Mufutau, 2008).

In Rwanda, out of hospital births are regulated by custom. In an uncomplicated delivery, the women are assisted by trusted companions, usually the mother-in-law. Difficult deliveries are blamed on infractions of social rules, offenses against the ancestors, or bad spirits seeking vengeance against the woman by impeding the birth. Offerings or animal sacrifices may be used to correct these situations (Nkundakozera, 1985).

The typical Palestinian *daya* (TBA) puts a great emphasis on psychological support and traditional methods of pain relief such as massage with olive oil and drinking herbal teas. She calms women in labour with readings from the Qur'an or distracts them from the pain by telling stories. Massage (*tamlis*), herbal treatments (*a'shaab*), spiritual healing with the Qur'an (*'ilaj bil-Qur'an*) and cupping (*kassat hawa*) are some of the indigenous practices still used by a large number of the Palestinian *dayas*. The herbs that are used during childbirth to strengthen the contractions are sage (*mayramieh*) and cumin (*kammoun*), prepared in an infusion with sugar. The birthing mother is often given dates (*tamr*) to eat. The traditional foods that the mother is given after the birth are chicken soup and rice pudding with raisins, nuts, and cinnamon. Fenugreek (*hilbeh*) and anis (*yansoun*) are used to increase the mother's milk supply. The practice of rubbing salt on the baby's skin dates back to Biblical times and is still a custom today in some areas in spite of efforts of modern medicine to change the habit. The old *dayas* continue to use salt water to disinfect the cord of the new-born. One of the midwives claims that she has rarely seen an infection with this method, "The cord withers like a flower without water." The *daya* regularly massages the baby's body with olive oil when she visits the mother in the post-partum, and the majority continues to swaddle the new-born (Wick, 2002).

Contribution of TBAs to Maternal and Child Health care

More than 50% of births in the world are attended by traditional midwives (Tritten, 2006). TBAs are indispensable to delivery services in the developing countries, as studies have shown that they deliver at least two third of all babies of Africa, Asia, and Latin America (Lefeber, 1997). About 60-85% of births delivered in Nigeria and especially in the rural communities were by the TBAs (Mufutau, 2008). Only about 20% of Rwanda's mothers give birth at hospitals, and many of the rest deliver at home, by older women with experience of childbirth but no scientific obstetrical

knowledge (Nkundakozera, 1985). Over 90% of deliveries in Bangladesh occur at home attended by TBAs and relatives (Abdul Halim, Monira, 2003). In Guatemala TBAs attend roughly 60% of births nationwide and over 90% in some rural areas (Jill, 2007).

Millions of women around the world seek traditional midwives and give birth in their homes, in many cases because they don't have any other options. Most of these births occur in remote communities, distanced from urban hospital centres (Tritten, 2006). Without the presence of these TBAs in such communities, maternal and perinatal mortality might have been worse. In Netherlands, Norway, and Sweden, low maternal mortality rates were reported by the early 20th century and were believed to be a result of an extensive collaboration between physicians and locally available midwives (Hogberg, 2004).

Also TBAs have played a significant role when it comes to cultural competence, consolation, empathy and psychosocial support at birth with important benefits for the mother and also for the new-born child (Goodburn, Bergstrom, 2000).

In 2002, birth attendants in rural Cameroun were trained to provide Prevention of Maternal-to-Child HIV Transmission (PMTCT) services, including counseling, voluntary testing, performing HIV tests, posttest counseling, and administering single-dose nevirapine to HIV-positive women, to be taken in labor, and to their newborns. Ongoing supervision is provided by nurse supervisors (HRH, 2008).

Factors Responsible for High Patronage of TBAs

Etuk et al (1999) found out in Calabar, Nigeria that 44.3% of the antenatal clinic defaulters delivered in spiritual churches and the major reasons for this act were fear of spiritual attack by wicked people, prophetic warning in church and high hospital bills. A similar study was conducted to assess the role of TBAs in modern health care delivery in Edo State, Nigeria; the result showed that rural dwellers prefer to use the service of TBAs as compared to their urban counterparts. Reasons for their preference included TBAs availability, accessibility, cheap service and rural dwellers' faith in the efficacy of their services (Imogie, Agwubike, Aluko, 2002).

The type and amount of payment for deliveries were investigated in two districts in Sierra Leone. The total average payment for a delivery was highest for professional birth attendants and lowest for untrained TBAs. Payments in kind were mostly given to trained traditional birth attendants (Edwards, Birkett, Sengeh, 1989). However, it was not stated in the study whether women were more attracted to TBAs because of their cheaper services.

Another report showed that women are attracted to TBAs because the services are low cost, the women require privacy about their conditions, are close by, and the women are confident in the abilities of TBAs. Rural women are bound by poverty, culture, and local values in their choices of services (Izugbara et al, 2003). Abioye-Kuteyi et-al (2001) reported that in Atakumosa west LGA in Southwestern Nigeria, 61% of former clients of TBAs would use TBAs in a future pregnancy and 49% would recommend TBAs for other pregnant women. Personalized care, strong family influence and easy access to TBA service were strong factors promoting traditional midwifery in the LGA (Abioye-Kuteyi, Elias, Familusi, Fakunle, Akinfolayan, 2001).

In West Java Province, Indonesia, a qualitative study using focus group discussions (FGDs) and in-depth interviews was conducted in six villages of three districts showed that the use of traditional birth attendants and home delivery were preferable for some community members despite the availability of the village midwife in the village. Physical distance and financial limitations were two major constraints that prevented community members from accessing and using skilled health workers and institutional deliveries. A number of respondents reported that trained delivery attendants or an institutional delivery were only aimed at women who experienced obstetric complications. The limited availability of health care providers was reported by residents in remote areas. In these settings the village midwife, who was sometimes the only health care provider, frequently travelled out of the village (Titaley, Hunter, Dibley, Heywood, 2010).

Preferences of women living in remote areas regarding delivery place and attendant were surveyed in Saudi-Arabia. Home deliveries and TBAs were preferred by approximately 24% and 38% of the women respectively. The fact that they were women and psychological comfort were the main reasons for preferring TBAs (Khattab, Khan, Al-Khaldi, Al-Gamal, 2000).

Wick (2002) reported that women emphasized how much they trust the *daya* (TBA) and how she talks "sweet words" and comforts them in a nice way. In a study among Palestinian women, the fact that the *daya* is of the same gender and social class as the birthing women she attends, and lives in the same locality, facilitated the process of support during childbirth. The home birth takes place in the context of daily family life. In a focus group discussion, women who had chosen to give birth at home reported how much they appreciated the fact that they knew the midwife well, that she respected their privacy and intimacy, that the surroundings for birth were familiar and that they did not have to leave their other children when they were in labour or worry about getting to the hospital on time. The *daya* also helped them with their housework and

childcare after birth. Also frequent and severe closures in hospitals, extended curfews and the unpredictable emergency situations in Palestine led to a considerable increase in childbirth at home (Wick, 2002).

Contrary to the findings above, a significant percentage of women in Kasulu district in Tanzania expressed dissatisfaction with the TBA practices. Two-thirds of women who gave birth in a health facility reported being very satisfied with the experience, compared with 21.2% of women who delivered at home with TBAs. A sizeable proportion of women felt that TBAs had poor medical skills (23.1%), while only 0.3% of women felt the same about doctors' and nurses' skills. Of women who delivered with a TBA, 16.0% reported that TBAs had poor medical skills whereas 0.5% stated the same for doctors and nurses. It was concluded that although many women delivered at home in this rural study district, women and their partners reported higher confidence in doctors and nurses than in TBAs and that Policymakers and program managers should not assume that women prefer TBAs to trained professionals for delivery, but should consider system barriers to facility delivery in interventions aimed at reducing maternal mortality (Mbaruku, Msambichaka, Galea, Rockers, Kruk, 2009).

Maternal, Perinatal Morbidity and Mortality –The role of TBAs

According to the 2005 report on maternal mortality released jointly by WHO, UNICEF, UNFPA (United Nation Population Fund) and the World Bank, in Nigeria alone, up to 59 000 women may have died nationwide in cases related to maternity.

Ninety nine percent of all maternal mortality is in the developing countries (Rana, 1999), where 60 million women give birth at home without skilled care every year (HRH, 2008). There are an estimated 4 million neonatal deaths and 500,000 maternal deaths worldwide each year. The vast

majority of these deaths occur in developing countries where 43% of births are attended by TBAs (Abdul, 2005). A disquietingly small number (17%) of Nigerian women are delivered by personnel with modern obstetric knowledge; 83% are delivered by TBAs, the maternal mortality ratio being around 800/100,000 live births, and the perinatal mortality is about 60/1000 (Ogunbode, 1984).

Approximately 250 out of 100,000 women die while giving birth or following complications after childbirth in Ghana. The figures are higher in some rural areas where health education is poor and the facilities inadequate and where traditional birth attendants provide the only healthcare service available to mothers and their children (Plan, 2008). In Pakistan, more than 89% of deliveries and 80% of maternal deaths occur at home, and 80% of deliveries are attended by only a TBA (Abdul, Heather, Kar, 2005). Approximately 40% of deliveries in Indonesia were assisted only by TBAs. This practice is the predominant contributing factor to the country's high maternal mortality rate – one of the highest in the region (UNICEF, 2008).

Between 1990 and 1996, 31% and 9% of births were attended by trained personnel in Nigeria and Afghanistan respectively and within that same period maternal mortality ratios were 1000 and 1700 per 100,000 live births in the two countries respectively. Whereas in countries like USA and Sweden where 97% and 100% of births were attended by trained personnel respectively, maternal mortality ratios were 12 and 7 per 100,000 live births respectively (UNICEF, 2007).

Perineal tear, primary PPH, prolonged labour, birth asphyxia, birth trauma, maternal deaths and perinatal mortality were found to be associated more with deliveries in church than hospital deliveries, home deliveries or deliveries by other TBAs (Etuk, Itam, Asuquo, 1999). Frequent vaginal examination with unclean hands and application of animal dung and herbal medicines to the vulva or the vagina are some of the practices of TBAs, which may cause genital infection. Pelvic sepsis may follow after these deliveries or abortions and when untreated may lead to

chronic pelvic inflammatory disease which is the underlying cause of many cases of infertility, menstrual disorders and ectopic pregnancies (Rana, 1999).

Perinatal/maternal mortality rates in St. Mary's Hospital Urua Akpan, in south- south Nigeria, from the period of 1979-1985 showed that 70% of maternal deaths were among unbooked Annang women who lived within a radius of 15-20 miles from the hospital. They had been attended to by TBAs and referred late (Brennan, 1988). Also, in a questionnaire- based study conducted on 189 TBAs in Lagos, Nigeria, only 9.5% of respondents refer difficult cases to hospitals (Ahmed, Odunukwe, Akinwale, Raheem, Efiemokwu, Ogedengbe, Salako, 2005).

Using a structured case record form, data was prospectively collected on place of birth, morbidity, and outcome of all neonates admitted to the Emergency Ward, University College Hospital, Ibadan, Nigeria, in the first week of life. Of the 541 admitted in the early neonatal period, 61.8% and 38.2% were delivered outside and inside the hospital setting, respectively. Babies were delivered at religious or mission house (46.7%), house of residence (38.0%), traditional birth attendants' homes (8.4%), and on the way to the hospital (6.9%). Over half of the out-of-hospital deliveries took place under personnel whose primary responsibilities did not include labour care. Out-of-hospital births were significantly associated with many complications, namely, hypothermia (53.6%), perinatal asphyxia (48.5%), hemorrhage (26.5%), cephalhematoma (12.9%), prematurity (9.9%), and neonatal tetanus (4.2%). Neonatal mortality rate of 12.6% in the out-of-hospital group was significantly higher than 6.3% obtained in the hospital birth group. It was concluded from the data that out-of-hospital births had greater risk of morbidity than hospital births and that there is need to retrain and monitor the activities of birth attendants and midwives involved in births outside the hospitals closer than it is presently done (Orimadegun et al, 2008).

Comparison was made between the health outcome in two different populations of Senegal (Saint-Louis and Kaolack), where 3,777 pregnant women were followed through pregnancy, delivery and puerperium. Maternal morbidity was assessed from the women's recall and from obstetric complications diagnosed by the birth attendant within health facilities. Maternal mortality was higher in the Kaolack area where women gave birth mainly in district health care centers, most often assisted by traditional birth attendants, than in Saint-Louis where women giving birth in health facilities were principally referred to the regional hospital and were generally assisted by midwives (874 and 151 maternal deaths per 100,000 live births respectively) (Dumont, De Bernis, Bouillin, Gueye, Dompnier, Bouvier-Colle, 2002)

Training of TBAs

Owing to the high level of maternal and perinatal mortality associated with the practices of TBAs and the high level of patronage they enjoy, concerted efforts have been made at TBA training globally in order to reduce the high mortality rate.

TBAs have been trained since the late 1800s, although credit for the first formal training programme is usually given to a British missionary midwife, Miss M.E. Wolfe, working in Sudan in 1921. The Inter-Governmental Conference of Far-Eastern countries, held in Bangkok in 1937, called for the integration of TBAs into rural health programmes. By 1952, the United Nations Children's Fund (UNICEF) began to supply trained TBAs with delivery-kits. The goal of these early programmes was to improve perinatal healthcare. Nearly 20 years later, interest in primary healthcare and in traditional medicine in relation to primary healthcare had grown to the extent that the UNICEF and WHO sponsored a technical consultation on TBA training. By the time of the 1978 Alma Ata Declaration, the WHO was fully in support of training TBAs to extend the

reach of primary healthcare services. At that time, the WHO recommended that trained TBAs work side-by-side in 'articulation' with the modern health system, so that the informal traditional and formal modern health systems could presumably co-exist without conflict. The success of the WHO's encouragement can be measured by the rapid increase in the number of countries undertaking TBA training. For example, in 1972, only 20 countries had TBA training programmes. It is now estimated that 85% of developing countries have some form of TBA training. With the advent of the safe motherhood initiative and without evidence to show that the risk approach and trained TBAs can reduce maternal mortality, there has been a gradual waning of enthusiasm for TBAs (Sibley, Sipe, 2006).

The Safe Motherhood Initiative (launched in Nairobi, 1987), a global effort aimed at reducing maternal mortality and morbidity has as part of its strategies, the improvement of training for healthcare providers in order to ensure that every birth is attended by a trained personnel (The Royal College of Midwives, 2006). Since then, many governmental and non-governmental organizations have been involved in TBA training.

The major areas of training of TBAs are; increased safety in their practice, such as cleanliness, especially washing of the hands and clean or sterile cord-cutting procedures; non-interference during labour; care of mothers before, during and after delivery; identification and referrals of mothers at risk; doing away with traditional harmful practices and leaving alone or supporting those that contribute to psychosocial support (Rana, 1999).

To improve Maternal and Child Health services especially in the rural areas, a programme to train traditional birth attendants was established by the Sokoto State government of Nigeria in 1975. The impact of the training programme on the knowledge and practices of traditional birth attendants (TBAs) in a rural community in the state was studied. Seventy-four TBAs, consisting of 43 trained and 31 untrained attendants were interviewed. Differences were observed in the

proportion of both groups of TBAs' ability to recognize high risk pregnancies and deliveries for referral to health institutions. In contrast to the trained attendants, none of the untrained TBAs offered any of the following Maternal and Child Health services; antenatal care, advice on immunization of children or their mothers during pregnancy, and family planning (Akpala, 1994).

In Mkuranga District of Tanzania, a cross-sectional study was carried out with the aim of comparing the ability of trained and untrained traditional birth attendants (TBAs) in identifying women with danger signs for developing complications during pregnancy and childbirth as well as their referral practices. The study revealed that majority of the TBAs (86.5%) had not received any training. Trained TBAs were more knowledgeable on danger signs during pregnancy and childbirth and were more likely to refer women with complications to a health facility, compared to untrained TBAs (HRH, 2008).

In a rural community in Bangladesh, comparison of the maternal outcome, in terms of postpartum infection, of deliveries conducted by trained traditional birth attendants (TBAs) with those conducted by untrained birth attendants was done. Trained TBAs were found to be significantly more likely to practice hygienic delivery than untrained TBAs (45.0% vs. 19.3%). However, no significant difference in levels of postpartum infection was found when deliveries by trained TBAs and untrained TBAs were compared. The practice of hygienic delivery itself also had no significant effect on postpartum infection. Logistic regression models showed that TBA training and hygienic delivery had no independent effect on postpartum outcome. Other factors that significantly worsened outcome, such as pre-existing infection, prolonged labour and insertion of hands into the vagina were found to be highly significant (Goodburn, Chowdhury, Gazi, Marshall, Graham, 2000). Lack of significant effect of hygienic delivery on postpartum infection as found in this study is contrary to the general knowledge that clean delivery prevents postpartum infection. This fact is corroborated by Ali et al (2006), in their study in Karachi,

Pakistan where they found that women who reported perceived vaginal infection had higher proportion of deliveries by non-medical personnel and used unhygienic material (cloth or cotton) for staunch of lochia as compared to women who did not perceive vaginal infection (Ali, Fikree, Rahbar, Mahmud, 2006). Also frequent vaginal examination with unclean hands and application of animal dung and herbal medicines to the vulva or the vagina were some of the practices of TBAs, which could cause genital infection according to Rana (1999).

Fourteen church based clinics were visited between 1st January 2001 and 31st January 2003 in Akwa Ibom state, Nigeria, to examine the outcome of training of spiritual church based midwives on maternal morbidity. Structured interview proforma and focus group discussion were used to collect data on the midwives knowledge of 20 risk factors in pregnancy, labour and puerperium and practice of referral. Formal teaching was also given for one month on midwifery practices. After the training, they were asked to keep proper records of all pregnant women. High risk cases were referred to Anua General Hospital in Akwa Ibom State, Nigeria. The records were checked at six and twelve month's interval. The knowledge and practice of referral increased significantly after training and there were no maternal deaths during the study (Edem et al, 2005).

Also, in a cluster-randomized, controlled trial involving seven sub districts (talukas) of a rural district in Pakistan. In three talukas, women were randomly assigned to the intervention group, traditional birth attendants in these Talukas were trained and issued disposable delivery kits; Lady Health Workers linked traditional birth attendants with established services and documented processes and outcomes; and obstetrical teams provided outreach clinics for antenatal care. Women in the four control talukas received usual care. The primary outcome measures were perinatal and maternal mortality. Of the estimated number of eligible women in the seven talukas, 10,114 (84.3 percent) were recruited in the three intervention talukas, and 9,443 (78.7 percent) in the four control talukas. In the intervention group, 9,184 women (90.8

percent) received antenatal care by trained traditional birth attendants, 1,634 women (16.2 percent) were seen antenatally at least once by the obstetrical teams, and 8,172 safe-delivery kits were used. As compared with the control talukas, the intervention talukas had a cluster-adjusted odds ratio for perinatal death of 0.70 (95 percent confidence interval, 0.59 to 0.82) and for maternal mortality of 0.74 (95 percent confidence interval, 0.45 to 1.23). It was concluded that training traditional birth attendants and integrating them into an improved health care system were achievable and effective in reducing perinatal mortality (Abdul et al, 2005).

Among 60 traditional birth attendants in Uyo Nigeria, who constituted about 15% of the local number of TBAs available, findings indicated a high level of illiteracy and low levels of training by a health professional (13%). Religious beliefs and unsafe practices were identified as obstacles to proper treatment of obstetric emergencies. A programme was developed for the training of traditional birth attendants (TBAs) about safe childbirth practices and risk identification through pictures. The training was adapted to local conditions and beliefs. Birth cards were developed for use in reporting pregnancy history, month of initiation of antenatal care, immunization, and maternal and birth outcomes. Analysis of record keeping revealed difficulties. TBAs were unfamiliar with moon signs for the months of the year, and older TBAs had sight and hearing deficits. Another pictograph card was developed which showed the record of 14 high risk complications. Twelve educational sessions were used to explain the high-risk record card. The outcome of this training was an increase in rapport between midwives and birth attendants (even those not participating in the education project), and between TBAs and hospital staff, who had previously held negative attitudes toward TBAs. After seven months and the completion of training, 110 of the TBAs in the project were surveyed. Findings show that 70% were able to recognize all the 14 symbols of complications. 89 TBAs had used at least one card, and 816 cards were collected for the group. 97% of the cards reported parity, and 98.5% reported type of delivery. 92% had gestation at initiation of prenatal care, and 89% had gestation at delivery.

Fourty-six referrals were made in an 8 month period. Fifteen referrals were attempted, but the mother refused. 170 mothers should have been referred. The maternal mortality rate of 245 per 100,000 live births and the perinatal mortality rate of 25 per 1000 were significantly below regional rates. The evaluation provided evidence for the importance of integrating TBAs into the health system (Matthews, Walley, Ward, Akpaidem, Williams, Umoh, 2005).

A combined narrative review and metanalytic review was conducted to summarize published and unpublished studies completed between 1970 and 2002 on the relationship between traditional birth attendant (TBA) training and increased use of professional antenatal care (ANC). Fifteen studies from 8 countries and 2 world regions were analyzed. There are, to varying degrees, positive associations between TBA training and TBA knowledge of the value and timing of ANC services, TBA behavior in offering advice or assistance to obtain ANC, and compliance and use of ANC services by women cared for by TBAs or living in areas served by TBAs. There is a serious lack of information about TBA training program characteristics. Although the findings cannot be causally attributed to TBA training, the results suggest that training may increase ANC attendance rates by about 38%. This magnitude of improvement could contribute to a reduction in maternal and perinatal mortality in areas where women have access to quality antenatal and emergency obstetric care (Sibley, Sipe, Koblinsky, 2004).

Gaps in TBA Training

Since the launching of the Safe Motherhood Initiative much has been done, especially in the area of TBA training. Yet, there are still an estimated 600,000 known maternal deaths each year, and for every maternal death there are at least a further thirty women, approximately 15 million a

year, so severely damaged by pregnancy/childbirth that they never regain their full health (WHO 1997).

TBA training, policymakers say, simply has not led to significant reductions in maternal mortality rates worldwide (World report, 2007). Training TBAs may have had a positive effect on the rate, detection, and referral of postpartum complications. However, the evidence is less convincing for overall increases in the detection of complications, in referral to the formal health care system, and in the utilization of essential obstetric services among women attended by TBAs (Patricia, 2002).

While the focus in the past three decades has been on training TBAs, studies on training impact has shown conflicting results in maternal outcomes with many studies showing little or no impact on high maternal mortality outcomes (Gloyd, Floriano, Seunda, Chaqreque, Nyangezi, Platas, 2001).

Data from a random sample survey of 1961 clients of TBAs were subjected to logistic regression to determine the effect of training on maternal outcomes, controlling for other independent variables. Of eight outcomes modeled, three were associated with training and five were not. Three additional outcomes were not modeled, primarily due to low prevalence. Despite some inherent design limitations, this study found that the evidence for a beneficial impact of TBA training was not compelling (Jason, Nii, Judith, Joseph, Dan, Thomas, 2000).

The following six issues were identified as being associated with TBA training programmes by Piper (1997); 1) training TBAs without providing appropriate referral back-up will not necessarily strengthen services, 2) the impediments caused by the fact that TBAs often lack formal education, 3) it may not be cost-effective to train TBAs who have small case loads, 4) TBA training is expensive, 5) trained TBAs remain limited in their ability to perform life-saving

interventions, and 6) training of TBAs cannot be used as a single approach to reduce maternal mortality.

A small-scale training programme for birth attendants in a remote area of Burkina Faso was evaluated two years after it had been started. The evaluation methods included interviews with trained birth attendants and the analysis of health service statistics and survey data. The findings showed that the programme had been moderately successful in imparting knowledge and overcoming cultural inhibitions about assisted deliveries. However, the effectiveness of the programme was severely curtailed by structural deficits in the health system, especially lack of skilled staff, supervision and transport. It was concluded that in deprived areas such as the Sahel, it is probably the health centre, the hospital and the referral system that should be the first priority for improvement, rather than grass-roots practices (Dehne, Wacker, Cowley, 1995).

Support Services for TBAs

While TBAs concept is becoming more popular day by day there are still some problems to be addressed; lack of an organized system to supervise trained TBAs and lack of availability of basic supplies, such as cord care kits. Supervision of TBAs constitutes the major link between them and the formal health care system. A shortage of supervisory health personnel, inadequate transportation systems and insufficient financial resources are the primary obstacle to good supervision. The more rural the TBA is the less frequent she reported been visited by supervisors (Rana, 1999, UNFPA, 1996).

Teaching and equipping traditional birth attendants made a difference in women's health in Pakistan. Birth kits which contained sterile gloves, soap, gauze, cotton balls, antiseptic solution, umbilical cord clamp and a sterile blade were given to them, and this reduced the perinatal death rate from 1.2% to 0.8% (Rlaan, 2008).

Fauveau (1993) found in Bangladesh that neonatal deaths due to tetanus resulting from births attended by trained TBAs was reduced to 6% (control 24%) and by vaccinating expectant mothers the deaths were reduced to mere 1% (Fauveau, 1993). Therefore, just training TBAs cannot solve all the problems, but provision of back up services will further help in reducing the high maternal mortality in developing countries (Thayaparan, 1998).

Planned home birth with a skilled birth attendant, available transport and a back-up hospital in the vicinity has been shown in many countries to be equally safe for healthy low-risk pregnant women as birth in the hospital (Wick, 2002). Chalo et al (2005) in their study of trained traditional birth attendants (TTBAs) in Buikwe County, Mukono District, Uganda, found that the single most important need of TTBAs was transportation. On average, the distance between the residence and the workplace of a TTBA was 7 km, and lack of transportation hampered the actual transfer of cases to a higher level of care. To remedy this, they recommended the introduction of a practical, cheap and sustainable single-ambulance-multiple-cellular phone system to facilitate prompt referral of complicated obstetric cases within the entire Health District (Chalo, Salihu, Nabukera, Zirabamuzaale, 2005).

In 1992, the WHO emphasized that, if TBAs were going to contribute to safe motherhood, they must be 'integrated' into the modern health system through training, supervision, and technical support. However, by 1997, the WHO and many safe motherhood advocates turned from TBA training to promote skilled birth attendance for all, most recently calling for a 'new' and

‘expanded role’ for TBAs, where TBAs act as ‘link workers’ to skilled birth attendants rather than as primary care providers (Sibley, Sipe, 2006).

The integration of TBAs with formal health systems increases skilled birth attendance. The greatest impact is seen when TBA integration is combined with complementary actions to overcome context-specific barriers to contact among Skilled Birth Attendants, TBAs, and pregnant women (Byrne, Morgan, 2011).

Okafor and Rizzuto (1994) documented extensive hostility between the traditional birth attendants and midwives in Nsukka, Nigeria. This resulted in deliberate attempts to discourage women from seeking higher levels of care and refusals to accept referrals or treat patients. This could be an impediment to the supervision of TBAs and the integration of their services into the formal health sector.

In Zimbabwe, since 1982, the Manicaland rural health programs have trained 6000 women in 12-week courses to change their practices of using unsterilized razor blades, shards of glass, or knives to sever the umbilical cord. TBAs learned from state certified nurses, the basics of personal and domestic hygiene, identification of pregnancy and associated risk factors, the importance of good nutrition, rest, and immunization for pregnant women, and safe practices in labor and delivery. Refresher courses and additional training in prenatal care and family planning have been added recently to the program. Completion of the program leads to a public recognition of their graduation in the base village. Maternity care services are provided as back up. This includes village based maternity waiting homes for women in labor, community health workers, and auxiliary midwives with higher level training. A district health center has been set up for more complicated cases. This access to better health care has led to a 50 and 66% reduction in maternal and infant mortality rates, respectively. A 1988 government survey shows

increases in the use of contraceptives and the number of women receiving prenatal care (Jacobson, 1991).

In 2007, in Indonesia, a joint partnership between local midwives and TBAs was spearheaded by the 'Improving Maternal Health in Indonesia' programme. A meeting was organized by the district government and UNICEF for the two groups to share their concerns about maternal mortality and to pledge to work together. Under the agreement, the traditional roles of TBAs, which include reciting prayers, providing herbal drinks and providing postpartum care, would remain intact. However, all the medical procedures would be handed over to the midwives, who also agreed to pay the birth attendants' fees out of their own compensation. This new partnership is already gaining traction and having a positive impact on the community. Before the partnership was established, midwives and TBAs would compete for clients. Now they are working together to save mothers' lives. TBAs are part of the community and provide important services like psychological and spiritual support, so the partnership aims to respect local values and seek win-win solutions (UNICEF, 2008).

CHAPTER THREE

METHODOLOGY

Study Design

The study was cross sectional in design. It involved the use of semi-structured questionnaires. A direct observation of practices was also done in order to verify data collected with questionnaires.

Study Area

The study was conducted in Ibadan, the capital city of Oyo state, located in south western Nigeria, with a population of 3,565,108 (Mogabay.com, 2012). It is made up of 11 local government areas (LGAs). The study was conducted in the 11 LGAs which are divided into two; Ibadan municipality (an urban population) and the lesser city (a sub-urban population). The LGAs that constitutes the urban population includes- Ibadan North, Ibadan North-West, Ibadan North-East, Ibadan South-East and Ibadan South-West, while the sub-urban population is made up of Ona-ara, Akinyele, Ido, Lagelu, Oluyole and Egbeda LGAs. All the 3 tiers of health facilities are well represented in Ibadan, with more of the Primary Health Care (PHC) centers in the sub-urban areas (Federation of Ibadan students union, national council, 2008).

Target Population

The target population comprised of TBAs resident and practicing within the 11 LGAs in Ibadan. The TBAs were divided into two; TBAs registered with any of the 3 available TBA associations (association of local government trained TBAs, association of church based TBAs and association of midwives who practice in herbal homes) and those who were not registered.

Inclusion criteria:

- Any TBA in Ibadan who consented to participate in the study, whether trained or untrained.

Exclusion criteria:

- Auxiliary nurses, community health officers/extension workers, registered nurses/midwives or other skilled health workers who take deliveries were not considered as TBAs.

Sample Size Determination

The number of participants in the interviewer administered questionnaire was derived from the equation for sample size estimation for cross sectional study (population >10,000) below:

$$n = \frac{Z^2 pq}{d^2}$$

n = desired minimum sample size

Z = standard normal deviate (1.96) with 95% confidence interval

P =population in target. Assuming a population with the worst situation, 50% of TBAs with bad practices; p= 0.50)

$$q = 1 - p$$

d = degree of accuracy (0.05)

Hence,

$$n = \frac{(1.96)^2 (0.50) (0.50)}{(0.05)^2}$$

$$= 384$$

If response rate is assumed to be 95%, allowing for 5% non response rate,

$$n = \frac{384 \times 100}{95} \approx 405$$

$$95$$

Sampling Procedure

A total sampling of all TBAs registered with any of the 3 available TBA associations (association of local government trained TBAs, association of church based TBAs and association of midwives who practice in herbal homes) in the 11 Local Government Areas (LGAs) in Ibadan was attempted. A total of 608 TBAs were registered with these associations, however 407 of them responded (66.9% response rate). The others were not traceable. The TBAs were interviewed during their various association meetings having given prior notification. Some others were interviewed in their birth homes. All interviews were done over a 6 month period.

Instrument for Data Collection

Data collection instruments employed included:

- (a) Semi structured questionnaires
- (b) Direct observation of practices

A 101 item semi structured questionnaire was used to collect information from participants who met the inclusion criteria. The questionnaire was translated to Yoruba (as most of the TBAs were not fluent in English and were Yoruba speaking) and “back-translated” to English (to ensure accuracy). The questionnaire was divided into four sections. Section 1 consisted information about the demographic characteristics of the respondents. Sections 2 and 3 seek information about the respondents’ practices and knowledge of antenatal, intrapartum and postnatal care respectively (based on the 38 indicators listed below). Section 4 consisted information about the level of supervision of practices. The questions were based on the indicators of maternal care (Appendix 4). The questionnaire was pre-tested among a group of trained TBAs from Ibafo in Ogun state (a neighbouring state). A minor analysis of the events and data collected during the pre-test were carried out. The errors detected were corrected and modifications were made on the questionnaire as appropriate. The questionnaire was given to the project supervisor for correction.

The questionnaires were interviewer administered. The interviews were done by a team comprising of 7 research assistants (2 university graduates, a nurse/midwife and 4 secondary school leavers) who were well versed in Yoruba language. The team was trained by the principal investigator on the research objectives, data collection instruments, need for accuracy, diligence and management of data collected. The choices of answer to each of the questions in the questionnaire were known only to the interviewers. They were not divulged to the respondents.

The interviewers asked the questions, listened to the responses of the respondents and then ticked the answer choice that best matched the response. This was done to ensure accuracy of response.

A direct observation of the practices of 10% of the TBAs was done to verify data collected through questionnaires. Those observed were randomly selected. Every 10th respondent interviewed was selected for observation. The observers included the principal investigator and a nurse/midwife (one of the research assistants). The checklist used for observation contained parameters in the indicators of antenatal care, intrapartum care and postnatal care (Appendix 4). The birth homes of TBAs who were observed were visited as many times as possible until all the parameters on the checklist had been observed.

Ethical Considerations

Approval was obtained from the University of Ibadan/University College Hospital Ethics Committee. Respondents to questionnaires and TBAs whose practices were observed were informed about the reason for the study. They were assured of confidentiality of the information as well as their right to withdraw their participation without fear of being sanctioned. Written informed consent was then obtained from them.

Data Analysis

The questionnaires were checked for errors, omissions, which were corrected before the data were entered into the computer. Data entry, cleaning and analysis was done using SPSS 13 for

windows (SPSS Inc., Chicago, USA). Knowledge and practice scores were computed giving maximum obtainable scores of 43 and 47, respectively. These were then converted to percentages. Data was analyzed using descriptive statistics, independent *t*- test, bivariate correlation and Chi-square statistics.

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CHAPTER FOUR

RESULTS

Background characteristics

Four hundred and seven TBAs were interviewed, from the 11 local government areas in Ibadan. The age of participants ranged from 25 to 79 years, with a mean \pm SD of 47.0 \pm 10.8 years. Figure 4.1 shows the age distribution of respondents. TBAs within the age group of 40-49 constituted the majority (31.2%), while those within the age group of 70-79 were the fewest (2.2%). Majority were females (84.8%), the remaining 15.2% were males (M: F=1: 5.6). Eighty seven percent of respondents have had one form of formal education or the other. Figure 4.2 shows the highest level of school attended by respondents. Majority of the respondents attained secondary education (45%).

Participants comprised 319 (78.4%) trained TBAs and 88 (21.6%) untrained TBAs. Forty six percent of the trained TBAs were trained by the state ministry of health, 77% by the local government PHC department, 54.8% by non-governmental organizations (NGOs) and 17.6% had training in other health training institutions such as schools of health technology, school of hygiene etc. (Some of the TBAs had training by more than one agency). Majority of the respondents were faith-based (82.1%), while the remaining TBAs were non faith-based (17.9%). Church-based TBAs constituted the majority (66.2%) of the faith-based TBAs (Table 4.1). Ninety-two percent of the untrained TBAs were traditional healer midwives compared with 8% of the church-based TBAs, 0% of the mosque based TBAs and 0% of the non faith-based TBAs respectively.

Percentage
of TBAs

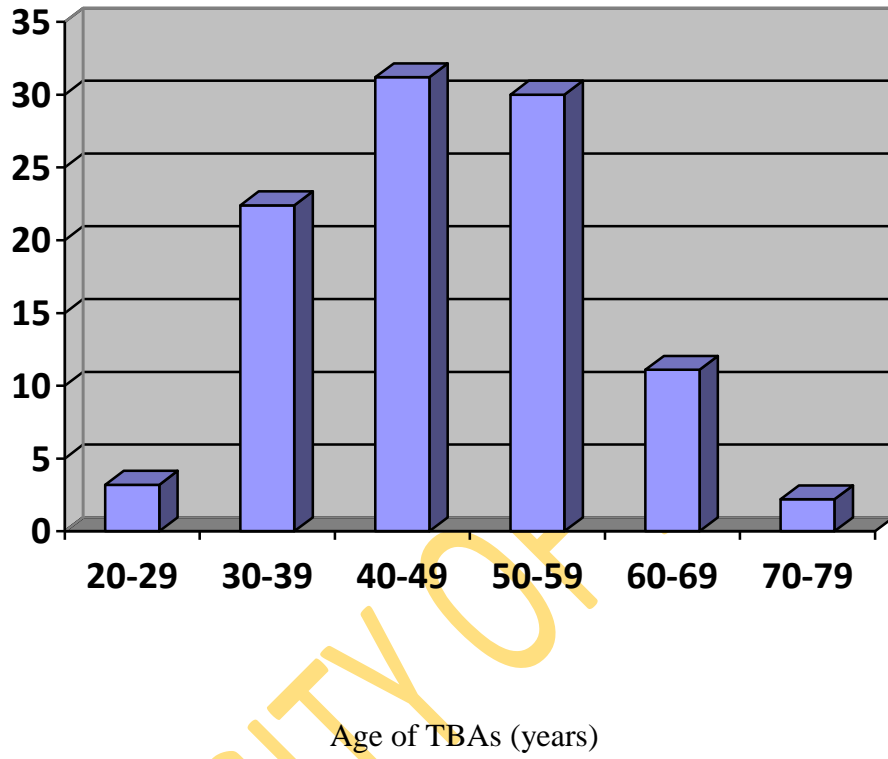


Figure 4.1 Age distribution of TBAs

Mean =47.0 years

Standard deviation =10.8 years

Percentage

of TBAs

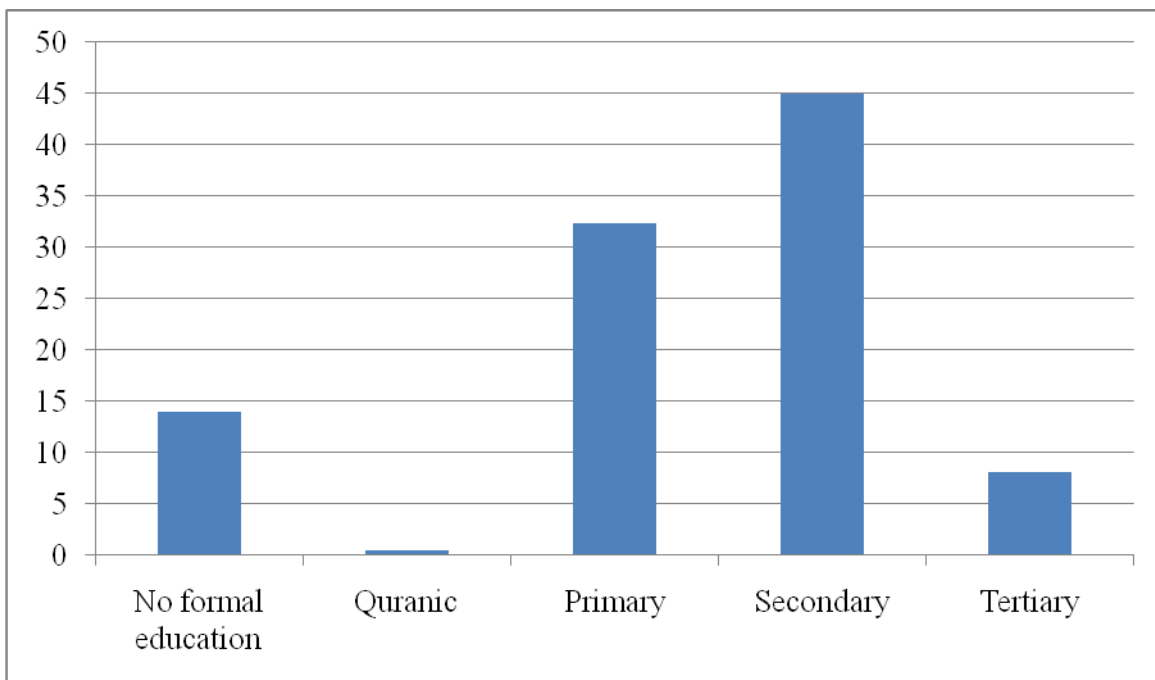


Figure 4.2 Highest level of education attained by TBAs

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Table 4.1 Distribution of faith based TBAs

Faith affiliation	n	%
Church based TBAs	221	66.2
Mosque based TBAs	20	6.0
Traditional healer- midwives	93	27.8
Total	334	100.0

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Only 49% of the respondents had regular supervision (that is, at least one supervisory visit by a skilled health worker every 6 months). The remaining 51% were not regularly supervised. Table 4.2 shows the various cadres of health workers supervising the practices of the TBAs. Forty-four percent of the respondents had nobody supervising their practices at all. Of those who had supervision by skilled health workers, majority reported being supervised by the local government TBA officials (27.6%). Table 4.3 shows the frequency of supervisory visit by a skilled health worker. Forty-eight percent of the respondents had no supervision by a skilled health worker, while 22.3% reported monthly supervision by skilled health workers.

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Table 4.2 Cadre of health worker supervising the practices of TBAs

Cadre of health worker supervising TBA practices	n	%
Nobody	177	44.0
Another TBA	15	3.5
A local government TBA official	111	27.6
A community health officer	9	2.2
A nurse	3	0.7
A midwife	10	2.5
A doctor	77	19.4
Total	402	100.0

Table 4.3 Frequency of supervisory visit by a skilled health worker

Frequency of supervisory visit by a skilled health worker	n	%
Weekly	48	11.4
Monthly	92	22.3
2-5 months	43	10.3
Every 6 months	20	5.0
Yearly	6	2.4
> 1 year	2	1.1
Not at all	191	47.5
Total	402	100.0

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The maternal care knowledge of trained and untrained TBAs

Seventy eight percent of the respondents have had one form of formal training or the other, while the remaining 21.6% of the respondents were untrained TBAs. Overall mean \pm SD knowledge score was $79.7 \pm 20.3\%$. Trained TBAs had a significantly higher mean knowledge score compared with the untrained TBAs of $94.7 \pm 5.3\%$ and $24.4 \pm 2.9\%$, respectively ($p = 0.000$). Table 4.4 shows a comparison of the antenatal care knowledge of trained and untrained TBAs. A significantly higher proportion of trained TBAs knew that all the 8 indicators were essential parts of antenatal care than their untrained counterparts ($p = 0.000$).

Table 4.5 shows a comparison of the intrapartum care knowledge of trained and untrained TBAs. A significantly higher proportion of trained TBAs had correct knowledge regarding 8 indicators of intrapartum care than their untrained counterparts ($p = 0.000$). There was no significant difference regarding the knowledge of the ideal material to be used in cutting the cord of babies at birth. 97.8% of trained TBAs and 97.7% of the untrained TBAs respectively knew that scissors (boiled or soaked in antiseptic solution) or new blades were ideal for cord cutting ($p = 0.081$).

Table 4.4 Comparison between the antenatal care knowledge of trained and untrained TBAs

List of antenatal care indicators	N=407	N=319	N=88	X ²	P
	All TBAs with expected knowledge n (%)	Trained TBAs with expected knowledge n (%)	Untrained TBAs with expected knowledge n (%)		
Weight measurement	323 (79.9%)	313 (98.1%)	10 (11.4%)	327.305	0.000
Blood pressure measurement	328 (80.6%)	316 (99.1%)	12 (13.6%)	338.780	0.000
Breast examination	328 (80.6%)	316 (99.1%)	12 (13.6%)	338.780	0.000
Abdominal palpation	328 (80.6%)	316 (99.1%)	12 (13.6%)	338.780	0.000
Listening to fetal heart beat	328 (80.6%)	316 (99.1%)	12 (13.6%)	338.780	0.000
Referral for PCV Check/ urinalysis	326 (80.3%)	315 (98.7%)	11 (12.5%)	338.788	0.000
Haematinics administration	317 (78.1%)	306 (95.9%)	11 (12.5%)	311.179	0.000
Referral for tetanus toxoid immunization	326 (80.1%)	314 (98.4%)	12 (13.6%)	327.297	0.000

Table 4.5 Comparison of the intrapartum care knowledge of trained and untrained TBAs

List of intrapartum care indicators	N=407	N=319	N=88	X ²	P
	All TBAs with expected knowledge n (%)	Trained TBAs with expected knowledge n (%)	Untrained TBAs with expected knowledge n (%)		
Use of disinfected containers for delivery instruments	221 (54.3%)	209 (65.7%)	12 (13.6%)	327.675	0.000
Use of a scissors (boiled or soaked in antiseptic solution) or a new blade for cord cutting	398 (98.3%)	312 (97.8%)	86 (97.7%)	8.295	0.081
Use of a new cord clamp or a thread (boiled or soaked in antiseptic solution) for cord clamping	327 (80.3%)	315 (98.3%)	12 (13.6%)	322.162	0.000
Use of a pair of sterile gloves for delivery	337 (82.8%)	309 (97.2%)	28 (31.8%)	188.686	0.000
Use of a new mucous extractor or a pipette (boiled or soaked in antiseptic solution)	314 (77.1%)	286 (89.7%)	28 (31.8%)	201.469	0.000
Cleaning of the lying-in / delivery rooms before and after delivery	345 (84.8%)	317 (99.4%)	28 (31.8%)	249.381	0.000
Use of disinfectants for cleaning	333 (81.8%)	307 (96.2%)	26 (29.5%)	225.352	0.000
Hand washing before and after delivery	281 (69.0%)	269 (84.3%)	12 (13.6%)	161.280	0.000
Clean cord care	314 (77.1%)	291 (91.2%)	23 (26.1%)	249.143	0.000

Table 4.6 shows a comparison of the postnatal care knowledge of trained and untrained TBAs. A significantly higher proportion of trained TBAs knew that counseling of their clients on both exclusive breastfeeding and family planning respectively, were part of their responsibilities, compared with their untrained counterparts ($p = 0.000$). There was no significant difference regarding the knowledge of counseling and referral of clients for immunization ($p = 0.237$).

Table 4.7 shows a comparison of the knowledge of trained and untrained TBAs relating to referral of high risk patients. A significantly higher proportion of trained TBAs knew they should refer all the 17 categories of high risk patients to hospitals, compared with their untrained counterparts ($p = 0.000$).

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Table 4.6 Comparison of the postpartum care knowledge of trained and untrained TBAs

List of postpartum care indicators	N=407	N=319	N=88	X ²	P
	All TBAs with expected knowledge n (%)	Trained TBAs with expected knowledge n(%)	Untrained TBAs with expected knowledge n(%)		
Counseling clients on exclusive breast feeding	279 (68.6%)	272 (85.3%)	7 (8.0%)	329.239	0.000
Counseling and referral of clients for immunization	402 (98.8%)	314 (98.4%)	88 (100%)	1.396	0.237
Family planning counseling	317 (77.9%)	305 (95.9%)	12 (13.6%)	276.946	0.000

Table 4.7 Comparison of the knowledge of trained and untrained TBAs regarding referral of high risk patients

List of high risk patients expected to be referred by TBAs	N=407	N=319	N=88	X ²	P
	All TBAs with expected knowledge n (%)	Trained TBAs with expected knowledge n (%)	Untrained TBAs with expected knowledge n (%)		
Primigravidae	295 (72.7%)	284 (89.0%)	11 (12.5%)	296.349	0.000
Women<18 years	312 (76.7%)	300 (94.0%)	12 (13.6%)	311.230	0.000
Women>35 years	304 (74.7%)	292 (91.5%)	12 (13.6%)	296.274	0.000
Grandmulti-gravidae	308 (76.2%)	298 (93.4%)	10 (11.4%)	301.108	0.000
Illness during pregnancy	323 (79.4%)	311 (97.5%)	12 (13.6%)	316.397	0.000
APH	328 (80.6%)	316 (99.1%)	12 (13.6%)	321.759	0.000
Anaemia in pregnancy	326 (80.1%)	315 (98.7%)	11 (12.5%)	321.758	0.000
Hypertension in pregnancy	326 (80.1%)	314 (98.4%)	12 (13.6%)	316.373	0.000
Multiple pregnancy	311 (76.4%)	301 (94.4%)	10 (12.5%)	216.231	0.000
Abnormal lie/malpresentation	324 (79.6%)	312 (85.3%)	12 (13.6%)	311.129	0.000
Obstructed labour	322 (79.1%)	310 (97.2%)	12 (13.6%)	316.405	0.000
Previous operative delivery	320 (78.6%)	311 (97.5%)	9 (10.2%)	311.137	0.000
Prolonged rupture of membranes	328 (80.6%)	316 (99.1%)	12 (13.6%)	327.281	0.000
Prolonged labour	328 (80.6%)	316 (99.1%)	12 (13.6%)	327.281	0.000
Retained placenta	323 (79.4%)	311 (97.5%)	12 (13.6%)	327.321	0.000
A sick neonate	320 (78.6%)	309 (97.2%)	11 (12.5%)	327.486	0.000
PPH	325(79.9%)	313 (98.4%)	12 (13.6%)	326.447	0.000

The maternal care practices of trained and untrained TBAs

Trained TBAs had a significantly higher mean practice score compared with the untrained TBAs of $86.8 \pm 12.9\%$ and $17.9 \pm 2.3\%$, respectively ($p = 0.000$). Table 4.8 shows a comparison of the antenatal care practices of trained and untrained TBAs. A significantly higher proportion of trained TBAs reportedly practiced all the 8 indicators of antenatal care than their untrained counterparts ($p = 0.000$).

Table 4.9 shows a comparison of the intrapartum care practices of trained and untrained TBAs. A significantly higher proportion of trained TBAs reportedly practiced 8 indicators of intrapartum care than their untrained counterparts ($p = 0.000$). There was no significant difference regarding the material used in cutting the cord of babies at birth. 95.7% of trained TBAs and 95.5% of the untrained TBAs respectively reported always using scissors (boiled or soaked in antiseptic solution) or new blades for cord cutting ($p = 0.053$). Sixty eight percent of the untrained TBAs reportedly used their bare hands for taking deliveries as opposed to 1.3% of their trained counterparts ($p = 0.000$).

Table 4.8 Comparison of the antenatal care practices of trained and untrained TBAs

List of antenatal care indicators reportedly practiced always by TBAs	N=407	N=319	N=88	X ²	P
	All TBAs with expected practices n (%)	Trained TBAs n(%)	Untrained TBAs n(%)		
Weight measurement	275 (67.6%)	268 (84%)	7 (8.0%)	237.564	0.000
Blood pressure measurement	271 (66.6%)	264 (82.8%)	7 (8.0%)	206.132	0.000
Breast examination	300 (73.7%)	288 (90.3%)	12 (13.6%)	282.320	0.000
Abdominal palpation	319 (78.4%)	304 (95.3%)	15 (17%)	261.507	0.000
Listening to fetal heart beat	322 (79.1%)	307 (96.2%)	15 (17%)	271.996	0.000
Referral for PCV Check/urinalysis	285 (69.8%)	274 (85.8%)	11 (12.5%)	253.549	0.000
Haematinics administration	271 (66.3%)	255 (79.9%)	16 (18.2%)	170.902	0.000
Referral for tetanus toxoid immunization	316 (77.6%)	296 (92.8%)	20 (22.7%)	236.263	0.000

Table 4.9 Comparison of the intrapartum care practices of trained and untrained TBAs

List of intrapartum care indicators reportedly practiced always by TBAs	N=407	N=319	N=88	X ²	P
	All TBAs with expected practices n (%)	Trained TBAs n(%)	Untrained TBAs n(%)		
Use of disinfected containers for delivery instruments	175 (43.0%)	169 (53.0%)	6 (6.8%)	309.666	0.000
Use of a scissor (boiled or soaked in antiseptic solution) or a new blade for cord cutting	389 (95.5%)	305 (95.7%)	84 (95.5%)	9.363	0.053
Use of a new cord clamp or a thread (boiled or soaked in antiseptic solution) for cord clamping	322 (79.1%)	306 (96.0%)	16 (18.1%)	261.929	0.000
Use of a pair of sterile gloves for delivery	179 (44.0%)	168 (52.7%)	11 (12.5%)	212.905	0.000
Use of a new mucous extractor or a pipette (boiled or soaked in antiseptic solution)	248 (60.9%)	241 (75.5%)	7 (8.0%)	201.469	0.000
Cleaning of the lying –in / delivery rooms before and after delivery	198(48.6%)	177 (55.5%)	21 (23.9%)	251.901	0.000
Use of disinfectants for cleaning	333 (81.8%)	307 (96.2%)	26 (29.5%)	225.352	0.000
Hand washing before and after delivery	270 (66.3%)	244 (76.5%)	26 (29.5%)	108.230	0.000
Clean cord care	314 (77.1%)	291 (91.2%)	23 (26.1%)	249.143	0.000

Table 4.10 shows a comparison of the postnatal care practices of trained and untrained TBAs. A significantly higher proportion of trained TBAs reportedly counseled their clients on both exclusive breastfeeding and family planning respectively compared with their untrained counterparts ($p = 0.000$). There was no significant difference regarding the practice of counseling and referral of clients for immunization ($p = 0.237$).

A significantly higher proportion of trained TBAs reportedly always referred all the 17 categories of high risk patients, compared with their untrained counterparts ($p = 0.000$) (Table 4.11)

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Table 4.10 Comparison of the postpartum care practices of trained and untrained TBAs

List of postpartum care indicators practiced always by TBAs	N=407	N=319	N=88	X ²	P
	All TBAs with expected practices n (%)	Trained TBAs n(%)	Untrained TBAs n(%)		
Counseling clients on exclusive breast feeding	239 (58.7%)	232 (72.7%)	7 (8.0%)	119.384	0.000
Counseling and referral of clients for immunization	402 (98.8%)	314 (98.4%)	88 (100%)	1.396	0.237
Family planning counseling	319 (78.4%)	308 (96.6%)	11 (12%)	287.533	0.000

Table 4.11 Comparison of the practices of trained and untrained TBAs regarding referral of high risk patients

List of high risk patients referred always by TBAs	N=407	N=319	N=88	X ²	P
	All TBAs with expected practices n (%)	Trained TBAs n(%)	Untrained TBAs n(%)		
Primigravidae	168 (41.3%)	163 (51.1%)	5 (6.0%)	122.488	0.000
Women<18 years	235 (57.7%)	229 (71.8%)	6 (6.8%)	173.470	0.000
Women>35 years	199 (48.9%)	198(62.1%)	1 (1.1%)	176.882	0.000
Grand-multigravidae	221 (54.3%)	220 (69.1%)	1 (1.1%)	182.790	0.000
Illness during pregnancy	287 (70.5%)	280 (87.8%)	7 (8.0%)	272.054	0.000
APH	299 (73.5%)	292 (91.5%)	7 (8.0%)	287.821	0.000
Anaemia in pregnancy	294 (72.2%)	283 (88.7%)	11 (12.5%)	254.592	0.000
Hypertension in pregnancy	297 (73.0%)	286 (89.7%)	11 (12.5%)	262.322	0.000
Multiple pregnancy	211 (51.8%)	211 (66.1%)	0 (0.0%)	216.231	0.000
Abnormal lie/malpresentation	279 (68.6%)	272 (85.3%)	7 (8.0%)	309.582	0.000
Obstructed labour	284 (69.8%)	277 (86.8%)	7 (8.0%)	305.039	0.000
Previous operative delivery	263 (64.6%)	258 (80.9%)	5 (5.7%)	224.244	0.000
Prolonged rupture of membranes	287 (70.5%)	276 (86.5%)	11 (12.5%)	274.676	0.000
Prolonged labour	306 (75.2%)	298 (93.4%)	8 (9.1%)	284.853	0.000
Retained placenta	300 (73.7%)	289 (90.6%)	11 (12.5%)	278.840	0.000
A sick neonate	279 (68.6%)	272 (85.3%)	7 (8.0%)	309.582	0.000
PPH	294 (72.2%)	287 (90.0%)	7 (8.0%)	287.837	0.000

Comparison of the practices of trained faith based TBAs and trained non- faith based TBAs

All (100%) of the non faith based TBAs studied have had one form of formal training or the other compared with 73.9% of their faith based counterparts. Table 4.12 show distribution of the TBAs' faith affiliation and training. Only 12.9% of traditional healer midwives have had any form of formal midwifery training or the other as opposed to 96.8% of the church based TBAs and 100% of their mosque based counterparts. A significantly higher proportion of trained non faith-based TBAs reportedly had regular supervision by skilled health workers (75.8%), compared with their trained faith-based counterparts (53.9%) ($p = 0.014$). There were significant differences between the practices of trained faith based TBAs and that of their non faith based counterparts regarding 6 out of the 38 maternal care indicators (Table 4.13). A significantly higher proportion of trained non faith-based TBAs reportedly referred pregnant women older than 35 years, patients with multiple pregnancies, previous operative deliveries, abnormal lie/malpresentation, and prolonged rupture of membranes compared to their trained faith-based counterparts ($p < 0.05$). A significantly higher proportion of trained non faith-based TBAs also reportedly used sterile gloves for taking deliveries compared to their trained faith-based counterparts ($p = 0.046$).

Table 4.12 Distribution of faith affiliated TBAs and training

Faith affiliation	Trained TBAs (%)	Untrained TBAs (%)	Total
Church based TBAs	96.8%	3.1%	100%
Mosque based TBAs	100%	0%	100%
Traditional healer- midwives	12.9%	87.1%	100%
Non- faith based TBAs	100%	0%	100%
Total	78.4%	21.6%	100%

Table 4.13 Comparison of the practices of trained faith based TBAs and trained non- faith based TBAs.

List of indicators practiced always by TBAs	N=247	N=73	X ²	P
	Trained faith-based TBAs n (%)	Trained non faith-based TBAs n (%)		
Referral of pregnant women >35 years	144(58.6%)	54(74.3%)	6.226	0.044
Referral of pregnant women with multiple pregnancies	150(61.0%)	62(84.3%)	14.044	0.001
Referral of pregnant women with Previous operative deliveries	191(77.5%)	68(92.9%)	10.144	0.006
Referral of pregnant women with abnormal lie/malpresentation	201(81.9%)	71(97.1%)	10.239	0.017
Referral of pregnant women with prolonged rupture of membranes	205(83.5%)	71(97.1%)	8.967	0.030
Use of a new mucous extractor or a pipette (boiled or soaked in antiseptic solution)	122(49.6%)	49(66.7%)	8.009	0.046

Comparison of the practices of regularly supervised trained TBAs and unsupervised trained TBAs

None of the untrained TBAs had any form of supervision by a skilled health worker. Sixty three percent of the trained TBAs studied had regular supervision. A significantly higher proportion of regularly supervised trained TBAs reported always referring all the 17 high risk pregnant women compared with trained TBAs who did not have regular supervision ($p < 0.05$). This is shown in table 4.14 below. There were no significant differences between their practices regarding all the other indicators studied.

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Table 4.14 Comparison of the practices of trained TBAs who are regularly supervised and those who are not

List of high risk patients always referred by TBAs	N=201	N=117	X ²	P
	Regularly supervised trained TBAs n(%)	Trained TBAs who are not regularly supervised n(%)		
Primigravidae	119(59.4%)	44(37.6%)	47.736	0.000
Women<18 years	168(83.6%)	63(53.0%)	47.810	0.000
Women>35 years	150(74.6%)	50(42.7%)	56.491	0.000
Grandmultigravidae	165(82.2%)	55(46.2%)	50.724	0.000
Illness during pregnancy	189(93.9%)	91(76.9%)	20.054	0.000
APH	194(96.4%)	98(82.9%)	17.601	0.000
Anaemia in pregnancy	191(94.9%)	92(77.8%)	21.297	0.000
Hypertension in pregnancy	192(95.4%)	94(79.5%)	20.497	0.000
Multiple pregnancy	157(78.2%)	53(45.3%)	57.326	0.000
Abnormal lie/malpresentation	190(94.4%)	82(69.2%)	38.181	0.000
Obstructed labour	191(94.9%)	86(72.6%)	33.551	0.000
Previous operative delivery	190(94.4%)	68(57.3%)	65.751	0.000
Prolonged rupture of membranes	189(93.9%)	87(73.5%)	28.032	0.000
Prolonged labour	198(98.5%)	100(84.6%)	23.569	0.000
Retained placenta	195(97.0%)	94(79.5%)	26.663	0.000
A sick neonate	192(95.4%)	103(87.2%)	21.732	0.000
PPH	188(93.4%)	99(83.8%)	10.834	0.013

Comparison of knowledge of trained TBAs with formal education with those without formal education

Ninety two percent of the formally educated TBAs have had formal TBA training as opposed to 43.1% of those without formal education. Trained TBAs with formal education had a significantly higher mean \pm SD knowledge score compared with trained TBAs without formal education; $87.4\pm 11.8\%$ and $76.42\pm 16.8\%$, respectively ($p<0.05$).

The knowledge and practices of TBAs

Overall mean \pm SD knowledge score was $79.7\pm 20.3\%$ and mean \pm SD practice score was $72.0\pm 28.0\%$. There was a strong correlation between the knowledge and practices of all TBAs ($p=0.000$, $r=0.935$). Trained TBAs had a mean \pm SD knowledge score of $94.7\pm 5.3\%$ and a mean \pm SD practice score of $86.8\pm 12.9\%$. There was a weak correlation between the knowledge and practices of trained TBAs ($p=0.000$, $r=0.435$). Untrained TBAs had a mean \pm SD knowledge score of $24.4\pm 2.9\%$ and a mean \pm SD practice score of $17.9\pm 2.3\%$. There was a strong correlation between the knowledge and practices of untrained TBAs ($p=0.000$, $r=0.928$).

Comparison of data obtained through questionnaires with that obtained through direct observation of practices

The reported practices (obtained through questionnaires) of 41 TBAs were compared with their directly observed practices. Their mean \pm SD practice score obtained through questionnaires was $71.8 \pm 28.2\%$, while that obtained through direct observation of practices was $66.5 \pm 30.2\%$. There was no significant difference between the reported and the observed practices ($p=0.000$). There was also a strong correlation between the reported practice scores and the directly observed practice scores ($p=0.000$, $r=0.896$). Tables 4.15, 4.16 and 4.17 below show a comparison of data obtained through questionnaires with that obtained through direct observation of practices.

Table 4.16. Comparison of data obtained through questionnaires with that obtained through direct observation of practices regarding antenatal care practices

List of antenatal care indicators	N=41	N=41
	Directly observed TBAs with expected practices n(%)	Interviewed TBAs who reported expected practices n(%)
Weight measurement	28 (68.3%)	30 (73.2%)
Blood pressure measurement	30 (73.2%)	34 (82.9%)
Breast examination	36 (87.8%)	39 (95.1%)
Abdominal palpation	33 (80.5%)	33 (80.5%)
Listening to fetal heart beat	33 (80.5%)	36 (87.8%)
PCV Check/ urinalysis	29 (70.7%)	35 (85.4%)
Haematinics administration	27 (65.9%)	27 (65.9%)
Referral for tetanus toxoid immunization	39 (95.1%)	40 (97.6%)

Table 4.17. Comparison of data obtained through questionnaires with that obtained through direct observation of practices regarding intrapartum care practices

List of intrapartum care indicators	N=41	N=41
	Directly observed TBAs with expected practices n(%)	Interviewed TBAs who reported expected practices n(%)
Use of disinfected containers for delivery instruments	32 (78.0%)	33 (80.4%)
Use of scissors (boiled or soaked in antiseptic solution) or a new blade for cord cutting	37 (90.2%)	37 (90.2%)
Use of a new cord clamp or a thread(boiled or soaked in antiseptic solution) for cord clamping	33 (80.4%)	35 (85.4%)
Use of a pair of sterile gloves for delivery	20 (48.8%)	25 (61.0%)
Use of a new mucous extractor or a pipette (boiled or soaked in antiseptic solution)	33 (80.4%)	34 (82.9%)
Cleaning of the lying –in / delivery rooms before and after delivery	32 (78.0%)	35 (85.4%)
TBAs personal cleanliness	37 (90.2%)	38 (92.7%)
Hand washing before and after delivery	38 (92.7%)	39 (95.1%)
Clean cord care	38 (90.5%)	39 (95.1%)
A clean environment	29 (70.7%)	33 (80.4%)

Table 4.18. Comparison of data obtained through questionnaires with that obtained through direct observation of practices regarding postpartum care practices.

List of postpartum care indicators	N=41	N=41
	Directly observed TBAs with expected practices n(%)	Interviewed TBAs who reported expected practices n(%)
Counseling clients on exclusive breast feeding	30 (73.2%)	31 (75.6%)
Counseling and referral of clients for immunization	34 (82.9%)	39 (95.1%)
Family planning counseling	38 (92.7%)	38 (92.7%)

CHAPTER FIVE

DISCUSSION

Eighty five percent of the TBAs in this study were women, with a mean \pm SD age of 47 ± 10.8 years. This agrees with Verderese et al (1975), who stated that in most parts of the world, TBAs were usually women with experience as mothers and are often post menopausal. According to Wick (2002), many of the TBAs in Palestine were also women, many of whom were divorced or widowed and needed to become economically independent to support their children. Khattab et al (2000) and Wick (2002) stated that one of the reasons why TBAs were preferred by women in labour was because they were of the same sex. However, in Salako's study in Ogun state Nigeria, more of the TBAs interviewed were men (84.3%). This could be as a result of a relatively small sample size of 51 TBAs, selected for his study.

Unlike some other literatures that reported a high level of illiteracy among TBAs (Matthew et al, 2005, Cochrane update, 2007), 86% of TBAs in this study had at least primary education. This could be a reflection of the relatively high literacy level in the south western Nigeria where the study was conducted (Ogunwale, 2008). Majority (92.2%) of the formally educated TBAs in this study have had formal TBA training as opposed to 43.1% of those without formal education. Also the formally educated had a significantly higher maternal care knowledge score. This shows that the better educated a TBA is, the more likely she will seek formal training and the more likely she will comprehend and retain what was taught.

This study revealed that a significant proportion of TBAs in Ibadan have had one form of formal training or the other (78.4%). This was contrary to the findings of Matthew et al (2005) and HRH (2008) who observed a low level of training among TBAs in Uyo, Akwa Ibom state, Nigeria(13%) and Mkuranga District of Tanzania (13.5%) respectively. The high level of training among TBAs in Ibadan could be attributed to concerted training efforts that have been made by

UNICEF, the state ministry of health, the LGA PHCs and relevant NGOs in the past. It is in fact on record that training has been on for over 30 years in the study area (Ministry of health, Oyo state).

The trained TBAs in this study had significantly higher maternal care knowledge and practice scores compared with the untrained ones. Also a significantly higher proportion of the trained TBAs reportedly practiced 35 out of 38 maternal care indicators compared with their untrained counterparts. Several other studies had similar findings (Akpala, 1994, HRH, 2008, Goodburn et al, 2000, Edem, 2005 and Abdul et al 2005). Akpala (1994) while evaluating the Sokoto State government TBA training programme observed that in contrast to the trained attendants, none of the untrained TBAs offered antenatal care, advice on immunization of children or their mothers during pregnancy, and family planning. HRH (2008) reported that trained TBAs in Mkuranga District of Tanzania were more knowledgeable on danger signs during pregnancy and childbirth and were more likely to refer women with complications to a health facility, compared to untrained TBAs. Goodburn et al (2000) also reported that trained TBAs in a rural community in Bangladesh were found to be significantly more likely to practice hygienic delivery than the untrained TBAs (45.0% vs. 19.3%). In Edem's (2005) experimental study conducted in Akwa Ibom State, Nigeria, the knowledge and practice of referral increased significantly after TBA training. Also in the randomized controlled trial conducted by Abdul et al (2005), perinatal and maternal mortality was less within the intervention group where the TBAs were trained as opposed to the control group that had untrained TBAs.

Trained TBAs in this study had relatively better referral practices than those in Sindiga's study. In this study 51.1% of the trained TBAs reported always referring primigravida to hospitals as opposed to 16% in Sindiga's study. Also 89.7% of TTBA's in this study reported always referring pregnant women with hypertension compared with 14% who refers pregnant women with

convulsions in Sindiga's study. However there were similar findings in both studies with regards to TBAs who recommend family planning for clients; 96.6% and 97% respectively.

Majority of the untrained TBAs in this study were traditional healer midwives (92%), most of them without regular supervision and with poorer practices than their trained counterparts. This is in line with the finding of Oyebola (1980) who reported lacunae in the knowledge of traditional healer midwives stated that it could be responsible for the high morbidity and mortality associated with their practice, and might also explain their unscientific and sometimes magico-religious approach to management of perinatal health problems.

Only 49% of the overall respondents had regular supervisory visit by a skilled health worker. Even among the trained TBAs, only 63% had regular supervisory visit by a skilled health worker. A significantly higher proportion of the regularly supervised trained TBAs reported always referring high risk pregnant women compared with trained TBAs who did not have regular supervision. According to Rana (1999) and UNFPA (1996) some of the problems yet to be addressed concerning TBA training include; a lack of an organized system to supervise trained TBAs and availability of basic supplies, such as cord care kits. Primary obstacles to good supervision that were enumerated included; a shortage of supervisory health personnel, inadequate transportation systems and insufficient financial resources. The effectiveness of a training programme in Burkina Faso was severely curtailed by structural deficits in the health system, especially lack of skilled staff, supervision and transport (Dehne et al, 2005).

There was a knowledge-practice gap among the trained TBAs in this study. This may agree with the statement made in World report (2007) that TBA training, has not led to significant reductions in maternal mortality rates worldwide. Inadequacy of training, lack of persistence of training, monitoring and evaluation, poor supervision, concrete referral facilities and inadequate transport systems could be responsible for these. Thayaparan (1998) stated that by just training

TBAs we cannot solve all the problems, but by providing all the backup services we certainly can reduce the high maternal mortality in developing countries. Most training programmes have focused on training the traditional midwives with little attention paid to the environment in which they work. In line with this, according to Wick (2000) planned home birth with a skilled birth attendant, available transport and a back-up hospital in the vicinity has been shown in many countries to be equally safe for healthy low-risk pregnant women as birth in the hospital. Abdul (2005) also reported that training traditional birth attendants and integrating them into an improved health care system were achievable and effective in reducing perinatal mortality. Teaching and equipping traditional birth attendants made a difference in women's health in Pakistan. Birth kits which contained sterile gloves, soap, gauze, cotton balls, antiseptic solution, umbilical cord clamp and a sterile blade were given to them, and this reduced the perinatal death rate from 1.2% to 0.8% (Rlaan, 2008).

A significantly higher proportion of the trained non faith-based TBAs in this study had regular supervision and reportedly referred high risk patients compared with the trained faith-based TBAs. There is a dearth of literature comparing the practices of faith-based and non faith-based TBAs. However, Etuk et al (1999) had a similar finding where perineal tear, primary PPH, prolonged labour, birth asphyxia, birth trauma, maternal deaths and perinatal mortality were found to be associated more with deliveries in church than hospital deliveries, home deliveries or deliveries by other TBAs. This can be corroborated by lot of complicated cases of obstructed labour found by Edem et al (2005) to be associated with deliveries in spiritual churches. Reliance on other tools of trade by faith-based TBAs such as prayer, fasting, weekly baths and guidance from the Holy Spirit (as enumerated by Adetunji, 1992) at the expense of obstetric knowledge could be a reason for not referring certain high risk patients to hospitals. Matthew et al reported religious beliefs as part of the identified obstacles to proper treatment of obstetric emergencies by TBAs.

There was a strong correlation between the practice scores obtained through questionnaires and that obtained through direct observation of practices. This ensures reliability of data obtained through questionnaires.

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Conclusions

From the study, the following conclusions can be made;

1. A significant number of TBAs in Ibadan are untrained. Majority of these are traditional healer midwives.
2. Trained TBAs had better practices than their untrained counterparts.
3. Among the trained TBAs a knowledge- practice gap was found.
4. TBAs that were regularly supervised had better practices than their counter parts that were not regularly supervised especially in the area of referral of high risk pregnant women to hospitals.
5. The trained non faith-based TBAs had better supervision compared with their trained faith-based counterparts. The trained non faith-based TBAs were also found to have better practices compared with their trained faith-based counterparts, especially in the area of referral of high risk patients.
6. Trained formally educated TBAs had better maternal care knowledge than trained TBAs who were not formally educated.

Recommendations

1. There is the need for the health staff of the State Ministry of Health, Local Government Area Primary Health Care departments and relevant non-governmental organizations to mobilize more TBAs for training, especially the traditional healer midwives.
2. Regular refresher courses for previously trained TBAs are also needed.
3. Supportive supervision of the practices of the TBAs is needed. This should involve the provision of back up services such as concrete referral facilities, adequate transport systems, equipments and financial resources.

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Limitations of the study

1. Respondent's sincerity in divulging information may not be 100% accurate. Some information may have been inaccurately reported.
2. Inability to observe the practices of not more 10% of the respondents for logistic reasons.
3. During direct observation of practices, there is the tendency for TBAs to adjust their practices to the meet the expectations of the observer, knowing fully well that they were being observed.

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APPENDICES

APPENDIX 1

INFORMED CONSENT FORM

This study is being conducted by Ezekiel A. Olukotun, a Master of Public Health (MPH) Student at the Institute of Child Health, College of Medicine, University of Ibadan.

The study is self sponsored as part fulfillment of the award of MPH degree, Institute of Child Health, College of medicine. The study is going to be for a period of 6 months.

We are interviewing you traditional birth attendants in Ibadan, to assess your knowledge and practices. Please note that your answers will be kept very confidential. You will be given a number and your name will not be written on the form, so that your name will never be used in connection with any information, you tell me. The information you and other people give us will help us assess your knowledge and practices. Results obtained from this study will be made available to appropriate authorities for prompt intervention.

Your participation in this study will not cost you anything.

Your honest answers to the questions will be highly appreciated.

You are free to refuse to take part in this study and you have a right to withdraw at any given time if you choose to. We will greatly appreciate your help in responding to the questions and taking part in the study.

Consent: Now that the study has been well explained to me and I fully understand the content of the study process. I will be willing to take part in the study.

.....
Signature/Thumbprint of participant/Date

.....
Signature of interviewer/Date

IWE IGBAAYE (the Yoruba translation of the informed consent form)

Eniti o n se iwadi yi ni Ezekiel A. Olukotun, o je akeko ti ilera ti gbogbo gbo tie ka ti awon omode ni UCH ni ilu Ibadan.

Oluwadi ni oje olugbowo ara re fun iwadi yi. Iwadi yii yio lo fun osu mefa.

An fi oro wa eyin agbebi ni ilu Ibadan wo nipa imo ati ise yin. Esi tie ba funwa yio wa ni gbokele. A o ni ko oruko yin sile. A o fun yin ni nomba kan ni. A o ni mo oruko yin mo esi tie ba fun wa. Esi tie ba fun wa yio ran wa lowo lati se ayewo ise ati imo yin. A o fi esi iwadi sowo si awon ijoba lati gbe igbese toba ye.

Iwadi yi ko ni na yin ni nkan kan.

Inu wa yio dun tie ba fun wa esi tooto.

Eni aanfani lati kopa tabi lati ko lati ma kopa mo nigba to ba wu yin lai so ere iwadi nu. Sugbon inu wa yio dun tie ba le kopa ninu iwadi naa.

Oro agbebi: Niwon igba ti alaye iwadi yi ti ye mi ,mo se tan lati kopa ninu e.

.....

Ibowoluwe agbebi/ojo

.....

Ibowoluwe oluwadi/ojo

APPENDIX 2

QUESTIONNAIRE ON THE ASSESSMENT OF THE KNOWLEDGE AND PRACTICES OF TRAINED TRADITIONAL BIRTH ATTENDANTS (TBAs) IN IBADAN, OYO STATE, NIGERIA

Serial No: _____

Local Government Area: _____

Address _____

SECTION 1-BACKGROUND CHARACTERISTICS

- Q 1. How old were you as at last birthday?
Age (in completed years)
- Q 2. Sex
Male 1
Female 2
- Q 3. What is your religion?
Christianity 1
Islam 2
Traditionalist 3
Others (specify) 4
- Q 4. Have you ever attended school?
Yes.....1
No 2
- Q 5. If yes, what was the highest level of school you attended?
Primary 1
Quranic 2
Secondary 3
Tertiary 4
Others(specify).....5
- Q 6. Which of the following kind of practice is yours?
Church based.....1
Mosque based 2
Traditional healer-midwife3
Private practitioner.....4
- Q 7. (a)Have you ever had any formal TBA training?
Yes 1
No 2
- (b)If yes, where?
- | | Yes | No |
|----------------------------------|-----|----|
| (1)State ministry of health..... | 1 | 2 |
| (2)LG PHC Dept. | 1 | 2 |

(3)NGOs.....	1	2
(4)Others(specify).....	1	2

SECTION 2 – RESPONDENT’S PRACTICES

SECTION – 2A. ANTENATAL PRACTICES

Q 8. When patients come to your birth home for antenatal care, do you do the following?

	Always	Sometimes	Not at all
a. Weighing	1	2	3
b. Blood pressure measurement	1	2	3
c. Breast examination	1	2	3
d. Palpation of the abdomen	1	2	3
e. Listening to the fetal heart beat	1	2	3
f. Asking patients to do PCV/urine tests	1	2	3
g. Asking patients to buy blood tablets	1	2	3
h. Referral for tetanus immunization	1	2	3

Q 9. What do you normally do, if the following kinds of patients come to your birth home for antenatal care?

	Always manage	Sometimes manage	Refer	Others (specify)
a. A woman with her first Pregnancy	1	2	3	4
b. Women less than 18 year old	1	2	3	4
c. Women greater than 35 year old	1	2	3	4
d. Women with four or more previous Pregnancies	1	2	3	4
e. A sick pregnant women	1	2	3	4
f. Bleeding per vaginum during pregnancy	1	2	3	4
g. Anaemia in pregnancy	1	2	3	4
h. Hypertension in pregnancy	1	2	3	4
i. Multiple pregnancy	1	2	3	4
j. Previous operative delivery	1	2	3	4

SECTION – 2B
INTRANATAL PRACTICES

Q 10. Where do you normally keep your delivery instruments or materials?

- Anywhere 1
- Any container 2
- Any clean container 3
- A boiled or disinfected container 4

Q 11. What do you normally use in cord clamping or tying?

- Any thread 1
- A boiled thread or thread soaked in antiseptic solution ... 2
- A used cord clamp 3
- A new cord clamp 4
- A new cord clamp + a sterile thread 5
- Others (specify) 6

Q 12. What do you normally use in cord cutting?

- A used blade 1
- A new blade 2
- Any scissors 3
- A scissors soaked in antiseptic solution or boiled 4
- Others(specify)..... 5

Q 13. You use your bare hands to take delivery. Don't you?

- Yes, I do 1
- No, I don't 2

Q 14. If no, what do you use?

- Nylon disposable gloves..... 1
- Latex disposable gloves..... 2
- Sterile gloves..... 3
- Others (specify)..... 4

Q 15. How often do you clean the surrounding of your birth home?

- Monthly..... 1
- Weekly 2
- Every other day 3
- Once daily 4
- Others (specify)..... 5

Q16. How often do you clean your lying – in and delivery rooms?

- Monthly 1
- Weekly 2
- Every other day 3
- Once daily 4
- After every delivery 5

- Q 17. How do you clean your lying –in and delivery rooms?
 Sweeping and dusting alone 1
 Mopping with water alone 2
 Mopping with soap alone 3
 Moping with disinfectants 4
 Others (specify) 5
- Q 18. Do you wear uniforms or aprons in your birth home?
 Yes 1
 No 2
- Q 19. If yes, how often do you wash your uniform/apron?
 Monthly 1
 Weekly 2
 Every other day 3
 Daily 4
 Others(specify).....5
- Q 20. Do you wash your hands at work?
 Yes 1
 No 2
- Q 21. If yes, how often do you wash your hands?
 Once daily 1
 Before & after every delivery2
 Anytime3
- Q 22. Do you suck the mouth /nose of every baby immediately after delivery?
 Yes 1
 No 2
- Q 23. If yes, with what do you suck?
 Your mouth 1
 A used mucous extractor 2
 A sterile mucous extractor 3
 Others (specify)..... 4
- Q 24. How do you advice mothers to care for the cord?
 Hot water fomentation 1
 Cleaning with methylated spirit 2
 Others (specify) 3

Q 25. What do you normally do if you have the following kind of patients in labour?

	Always manage	Sometimes manage	Refer	Others (specify)
a. A woman with abnormal lie / presentation	1	2	3	4
b. Labour lasting for more than 24 hours	1	2	3	4
c. Labour lasting for more than an hour after 'head on perineum'	1	2	3	4
d. A new born who fails to cry at birth or becomes blue in colour	1	2	3	4
e. A woman bleeding profusely in labour or after delivery	1	2	3	4
f. Failure of delivery of placenta after 30 minutes post delivery	1	2	3	4
g. After 24 hours of liquor drainage, labour has not commenced.	1	2	3	4

SECTION 2 C
POST-NATAL PRACTICES

Q 26. How long after delivery, do you normally encourage mothers to initiate breast-feeding?

Within 30 minutes	1
1 hour	2
2 hours	3
3-24 hours	4
> 24 hours	5

Q 27. In addition to breast milk, what do you normally advise mothers to give their newborn?

Water	1
Other feeds	2
Unprescribed drugs	3
Herbs	4
Nothing	5
Others specify	6

Q 28. If (5) above, for how long do you normally encourage mothers to exclusively breast feed their newborn babies?

Less than 1 month	1
1-3 months	2
4-5 months	3
6 months	4
More than 6 months	5

Q 29. What do you normally do, if a sick neonate is brought to your 'birth home'?

Treat with drugs	1
Treat with herbs	2
Pray & watch	3
Refer	4
Others (specify)	5

Q 30. Post delivery, do you refer babies for immunization?

Yes 1
No2

Q 31. Do you normally counsel your clients on family planning?

Yes 1
No 2

SECTION 3
RESPONDENT'S KNOWLEDGE

SECTION 3A – KNOWLEDGE OF ANTENATAL CARE

Q 32. During antenatal care, do you think the following are necessary?

	Yes	No	I don't know
(a) Weight measurement	1	2	3
(b) Blood pressure measurement	1	2	3
(c) Breast examination	1	2	3
(d) Palpation of the abdomen	1	2	3
(e) Listening to the fetal heart beat	1	2	3
(f) Urine test / PCV	1	2	3
(g) Blood tablets	1	2	3
(h) Tetanus immunization	1	2	3

Q 33. What do you think you should do, if the following kinds of patients come to your birth home for antenatal care?

	Always manage	Sometimes manage	Refer	others (specify)
a. A woman with her first pregnancy	1	2	3	4
b. A woman above 18 years	1	2	3	4
c. A woman above 35 years	1	2	3	4
d. A woman with 4 or more previous pregnancies	1	2	3	4
e. A sick pregnant woman	1	2	3	4
f. Bleeding per vaginum during pregnancy	1	2	3	4
g. Anaemia in pregnancy	1	2	3	4
h. Hypertension in pregnancy	1	2	3	4
i. Multiple pregnancy	1	2	3	4
j. Previous operative delivery	1	2	3	4

SECTION 3B- KNOWLEDGE OF INTRAPARTUM CARE

Q 34. What do you think of using bare hands for taking delivery?

It is appropriate 1
It is not appropriate 2

- Q 35. Do you think, the use of a pair of sterile gloves is necessary for a safe delivery?
 Yes 1
 No 2
- Q 36. Which of the following do you think is ideal for cord clamping or tying?
 Any thread 1
 A boiled thread or thread soaked in an antiseptic solution .. 2
 A used cord clamp 3
 A new cord clamp 4
 A new cord clamp + a sterile thread.....5
 Others (specify) 6
- Q 37. What do you think is ideal for cutting the cord?
 A used blade 1
 A new blade 2
 Any scissors 3
 A boiled scissors or scissors soaked in antiseptic solution 4
 Others (specify) 5
- Q 38. Do you think it is necessary to wash your hands at work?
 Yes 1
 No 2
- Q 39. How often do you think it is necessary to wash your hands at work?
 Anytime 1
 Once a day 2
 Before & after every delivery 3
- Q 40. Where do you think you should keep your delivery instruments or materials?
 Anywhere 1
 Any container 2
 Any clean container 3
 A boiled or disinfected container 4
- Q 41. The following have nothing to do with the outcome of deliveries. Do they?
- | | Yes | No | I don't know |
|--|-----|----|--------------|
| a. The cleanliness of the environment around your birth home | 1 | 2 | 3 |
| b. Your personal cleanliness | 1 | 2 | 3 |
| c. The cleanliness of your lying- in /delivery rooms | 1 | 2 | 3 |

Q 42. What do you think you should do if you have the following kind of patients in labour?

	Always manage	Sometimes manage	Refer	others (specify)
a. A woman with abnormal lie / presentation	1	2	3	4
b. Labour lasting more than 24 hours	1	2	3	4
c. Labour lasting more than an hour after ' head on perineum'	1	2	3	4
d. A newborn who fails to cry at birth or becomes blue in colour	1	2	3	4
e. A woman bleeding profusely in labour or after delivery	1	2	3	4
f. Failure of delivery of placenta after an hour post delivery	1	2	3	4
g. After 24 hours of liquor drainage, labour has not started	1	2	3	4

Q 43. Do you think it is necessary to suck every newborn's nose and mouth at birth?

- Yes 1
 No 2

Q 44. If yes, what do you think should be used in sucking?

- Your mouth 1
 A used mucous extractor 2
 A sterile mucous extractor 3
 Others (specify) 4

SECTION 3 C
KNOWLEDGE OF POSTNATAL CARE

Q 45. How long after delivery, is a mother expected to commence breast-feeding?

- Within 30 minutes 1
 Within 1 hour 2
 Within 2 hours 3
 3 hour – 24 hour 4
 > 24 hours 5

Q 46. In addition to breast milk, what do you think a newborn should be given by mouth?

- Water 1
 Other feeds 2
 Drugs (unprescribed) 3
 Herbs 4
 Nothing 5
 Others (specify) 6

- Q 47. If (5) above, for how long is a mother expected to exclusively breastfeed her newborn?
- | | |
|--------------------------|---|
| Less than 1 months | 1 |
| 1-3 months | 2 |
| 4-5 months | 3 |
| 6 months | 4 |
| More than 6 months | 5 |
| I don't know | 6 |
- Q 48. What do you think you should do, if a sick baby, within the 1st month of life is brought to your birth home for care?
- | | |
|------------------------|---|
| Treat with drugs | 1 |
| Treat with herbs | 2 |
| Till recovery | 3 |
| Refer | 4 |
| Others (specify) | 5 |
- Q 49. It is not so important to immunize a child. Is it?
- | | |
|-------------------------------|---|
| Yes, it is important | 1 |
| No, it is not important | 2 |
- Q 50. Do you think it is part of your responsibility to counsel your patients on family planning?
- | | |
|-----------|---|
| Yes | 1 |
| No | 2 |

SECTION 4
LEVEL OF SUPERVISION OF PRACTICES

- Q 51. Who supervises your practices?
- | | |
|---------------------------------------|---|
| Nobody | 1 |
| Another TBA | 2 |
| A local government TBA official | 3 |
| A community health officer | 4 |
| A nurse | 5 |
| A midwife | 6 |
| A doctor | 7 |
- Q 52. How often does your supervisor visit you?
- | | |
|-----------------------|---|
| Weekly | 1 |
| Monthly | 2 |
| 2-5 months | 3 |
| Every 6 months | 4 |
| Yearly | 5 |
| > 1 year | 6 |
| Not at all | 7 |
| Others (specify)..... | 8 |

QUESTIONNAIRE ON THE ASSESSMENT OF THE MATERNAL KNOWLEDGE AND PRACTICES OF TRAINED TRADITIONAL BIRTH ATTENDANTS (TBAs) IN IBADAN, OYO STATE, NIGERIA (YORUBA TRANSLATION)

Serial no:

LGA:

Address:

SECTION 1 – BACKGROUND CHARACTERISTICS

Q1. Omo Odun melo ni yin?

Q2. Okunrin.....1
Obinrin.....2

Q3. Esin wo le n sin?
Kristiani.....1
Musulumi.....2
Esin Abalaye/Ibile.....3

Q4. Se e ti lo ile iwe ri?
Bee ni 1
Rara 2

Q5. To ba je beeni, ile iwe wo lo gaju t e ti lo ri?
Ile Eko alokobere 1
Ile keu2
Ile Eko girama3
Ile eko giga 4
Nkan miran 5

Q6. Se ise agbebi yin nise pelu soosi, mosalasi tabi esin ibile?
▪ Soosi 1
▪ Mosalasi 2
▪ Esin ibile 3
▪ Aladani 4

Q7.(a) Nje e ti keko to yeki kooro ri nipa bi a se n gbebi?
▪ Beeni1
▪ Beeko 2

(b) To baje beeni, nib o leti keeko naa?

SECTION 2 – RESPONDENT’S PRACTICES

SECTION 2A – ANTENATAL PRACTICES

Q8. Ti alaboyun ba wa si ile agbebi iyin fun itoju oyun se e maa n se awon nkan wonyi?

	Nigbogbo igba	Igba miran	Rara
a) Iwon	1	2	3
b) Ifunpa	1	2	3
c) yiye oyan wo	1	2	3
d) yiye ikun wo	1	2	3
e) Gbigbo mimi omo	1	2	3
f) Siso fun alaboyun ko se ayewo ito ati eje	1	2	3
g) Siso fun alaboyun ko ra ogun eje	1	2	3
h) siso fun alayoun ko lo gba abere ajesara (tetanus) eran ipa	1	2	3

Q9. Igbese wo le maa n gbe ti iru awon alaboyun won yii ba wa fun itoju ni ile agbebi yin?.

	Mo maan toju won nigbogbo Igba	Mo maa n toju won nigbami ran	Mo maa n fi won sowo si hosipitu
a. Alakobi/eniti o bi mori	1	2	3
b. Akiboyun ti ko iti pe omo odun mejidinlogun(18)	1	2	3
c. Alaboyun to tiju omo odun marun din logoji lo	1	2	3
d. Alaboyun to ti ni oyun merin tabi ju bee lo seyin	1	2	3
e. Alaboyun ti ara re o ya	1	2	3
f. Ti eje ban da lati oju ara ninu Oyun	1	2	3
g. Ti eje ko alaboyun ko ba to	1	2	3
h. Eje ruru ninu oyun	1	2	3
i. Ti oyun inu baje eyo kan lo (ibeji talo ju beelo)	1	2	3
j. Eniti won ba ti fi abe bi mo fun ri	1	2	3

SECTION 2B INTRANATAL PRACTICES

Q10. Ibo lee ma n ko awon irinse igbe bi yin si?

- Ibi kibi 1
- Inu abo to ba wu mi 2
- Inu abo to mo 3
- Inu abo ti a ti se tabi ti a jo sinu ji abi dettol 4

Q11. Ki le maa fin so iwo omo?

- Owu to ba wumi 1
- Owo ti ati se tabi tia ju sinu jik abi dettol2
- Rubber mu dodo ti ati lo tele ri 3
- Rubber mu dodo tuntun 4
- Rubber mu dodo tuntun pelu owu5
- Tiati se tabi tia jo sinu jik abi dettol
- Nkan mii salaye 6

Q12. Ki le maa fin ge iwo omo?

- Blade ti ati lo tele 1
- Blade tuntun 2
- Scissors eyi keyi 3
- Scissors ti ati se tabi ju sinu jik/dettol 4
- Nkan mii (salaye) 5

Q13. E maan fi owo lasan gbebi. Abi beeko?

- Beeni 1
- Bee ko 2

Q14. To ba jo beeko kile maan lo?

- Ibowo nylon 1
- Ibowo inu paali 2
- Ibowo toma nda dawa 3
- ninu paper
- Nkan mii salaye 4

Q15. Igbawo si gba wo le maan toju ayika ile igbebi yin?

- Osoosu 1
- Osose 2
- Ojo meji meji 3
- Eekan lojumo 4
- Nkan mii (salaye) 5

Q16. Igbawo sigbawo le maan toju yara irobi ati yara igbebi yin.

- Osoosu 1
- Osese2
- Ojo meji meji 3
- Eekan lojumo 4
- Lehin igbebi kookan 5

- Q17. Bawo le se maa n toju yara irobi ati yara igbebi yin?
- Ile gbigba ati idoti ninu nikan 1
 - Ninu pelu omi nikan 2
 - Ninu pelu ose nikan 3
 - Ninu pelu dettol tabi jik.....4
 - Nkan mii (salaye)5
- Q18. Se e maa n wo aso ise (uniform) ni ile agbebi yin?
- Beeni 1
 - Beeko 2
- Q19. To ba je beeni, igbawo sigbawo le maan fa aso ise yin?
- Osusu 1
 - Osese 2
 - Ojo meji meji 3
 - Ojoojumo 4
- Q20. See e maan fo aso yin ni ibise?
- Beeni 1
 - Beeko 2
- Q21. To baje beeni, igbawo sigbawo le maan fo owo yin?
- Eekan lojumo 1
 - Lehin igbebi kokan 2
 - Igba to ba wu mi 3
- Q22. See maan fa ikun kuro ni imu ati enu omo ti won sese bi?
- Beeni 1
 - Beeko 2
- Q23. To ba je beeni, ki le fin fa ikun ni imu ati enu omo?
- Enu 1
 - Ifakun ti ati lo tele ri 2
 - Ifakun tuntun 3
 - Nkan mii (salaye) 4
- Q24. Bawo le se maan gba awon iya niyanju lati toju iwo omo?
- Biba iwo pelu omi gbigbo na 1
 - Ninu Iwo pelu spirit 2
 - Nkan mii (salaye) 3

Q25. Ki le maa n se ti won ba gbe iru awon alagboyun wonyi ti won n robi lowo was si ile igbebi yin?

	Mo maa n toju won Won nigbogbo igba	Mo maa n toju won won nigbe mii	Mo maa n fi won sowo si hosipitu	Nkan mi (salaye)
a. Omo to dabu tabi to fi idi wa (ige)	1	2	3	4
b. Rirobi to ti ju ojo kan lo	1	2	3	4
c. Rirobi to ti ju wakati kan lo lehin ti ori omo de le	1	2	3	4
d. Omo tuntun to ko lati sunkun 1 tabi ti awo re tin dudu (blue)	1	2	3	4
e. Alaboyun ti eje n da lara e nigba to n robi lowo tabi Lehin ibi mo	1	2	3	4
f. Ti ibi omo (ikeji omo) ba ko lati jade lehin iseju ogbon ti omo ti jade.	1	2	3	4
g. Ti omo o ba ti mu alaboyun lehin ojo kan to ti n damira	1	2	3	4

SECTION C
POST-NATAL PRACTICES

Q26. Lehin ibi mo, wakati tabi isejo melo le maa n gba iya omo ni yanju lati bere fifun omo lo yan?

- Ogbon iseju 1
- Wakati kan 2
- Wakati meji 3
- Wakati mefa ti ti di ojo kan 4
- Lehin ojokan 5

Q27. Yato si omo oyan ki le tun maa n gba iya omo niyanju lati fun omo tuntun je tabi mun?

- Omi 1
- Ounje mii 2
- Ogun (ti dokita ko ko) 3
- Agbo 4
- Kosi 5
- Nkan mii (salaye) 6

Q28. Teeba ni kosi (above), Osun melo ni e maa n gba iya omo tuntun ni iyanju fun omo loyan nikan?

- Koto Osu kan 1
- Osu kan si osu meta 2
- Osu merin si maarun 3
- Osu mefa 4
- Oju osu mefa lo 5

Q29. Kile maa n se ti won ba gbe omo to din ni osu kan ton se aisan wa si ile igbebi yin?

- Maa toju e pelu ogun 1
- Maa tojun e pelu agbo 2
- Maa gbadura fun titi ara re yoo fi ya..... 3
- Maa fi sowo se hosipitu 4
- Nkan mii (salaye) 5

Q30. Lehin ibi mo see maa n gba awon iya omo niyanju lati gbe omo won lo fun abere ajesara?

- Beeni 1
- Beeko 2

Q31. Se e maa n gba awon iya omo niyanju lati lo fetu si omo bibi

- Beeni 1
- Beeko 2

SECTION 3
RESPONDENTS' KNOWLEDGE

SECTION 3A – KNOWLEDGE OF ANTENATAL CARE

Q32. Nipa itoju alaboyun se eyin rope awon nkan wonyi se Pataki

	Beeni	Beeko	Miomo
a. Wiwon alaboyun	1	2	3
b. Wiwon ifunpa	1	2	3
c. Yiye oyan alaboyun wo fun alebu	1	2	3
d. Yiye inu alaboyun wo	1	2	3
e. Gbigbo mimi omo	1	2	3
f. Sise ayewo eje tabi ito	1	2	3
g. Lilo Ogun eje	1	2	3
h. Gbigba abere ajesara fun eran ipa (tetanus)	1	2	3

Q33. Kini eyin rope oye ki e se ti iru awon alaboyun wonyi ba wa si ile igbebi yin fun itoju.

	Oye kin loju Won nigbogbo Igba	oye ki etoju won nigba mii	oye kinti won sowo si hosipita	nkan mi (salaye)
a. Alakobi	1	2	3	4
b. Alaboyun ti koiti pe odun mejidinlogun(18)	1	2	3	4
c. Alaboyun ti ojo ori re tiju marun din logoji (35 yrs) lo	1	2	3	4
d. Alaboyun toti loyun merin tabi ju bee lo seyin	1	2	3	4
e. Alaboyun ti onse aisan lowo ninu oyun	1	2	3	4
f. Alaboyun ti eje n da loju ara e lowo ninu oyun	1	2	3	4
g. Alaboyun ti eje o to lara re	1	2	3	4
h. Alaboyun ti o ni eje ruru	1	2	3	4
i. Alaboyun ti oyun inu re ju eyo kan lo	1	2	3	4
j. Alaboyun ti a ti fi abe bi mo fun ri	1	2	3	4

SECTION B – KNOWLEDGE OF INTRAPARTUM CARE

Q34. Kini ero ti yin nipa fifi owo lasan gbe bi?

- Ko dara to 1
- Ko si nkan to buru nibe 2

Q35. Se eyin ro pe lilo ibowo fi gbe bi se pataki fun alaafia omo abi iya?

- Beeni 1
- Beeko 2

Q36. Ewo ninu awon nkan wonyi ni eyin le ro pe o dara ju fun iwo siso?

- Owu kowu 1
- Owu tia ti se tabi tia ju sinu jik/dettol 2
- Rubber mo dodo ti a ti lo tele 3
- Rubber mo dodo tuntun 4
- Rubber mudodo tuntun pelu owu tiati se tabi ti a li ju sinu jik/dettol 5
- Nkan mii (salaye) 6

Q37. Ki le yin ro wipe o dara ju fun gige iwo?

- Blade ti ati lori 1
- Blade tuntun 2

- Scissors eyikeyi 3
- Scissors tiati se tabi tiati ju sinu jik/dettol 4
- Nkan mii (salaye) 5

Q38. Se eyin ro pe o se Pataki lati fo owo yin ni ibi se

- Beeni 1
- Beeko 2

Q39. Igbawo si igbawo leyin ro pe oye kie maa fo owo yin ni ibi ise?

- Igba to ba wo mi 1
- Leekan loju mo 2
- Leyin igbebi kookan 3

Q40. Ibo leyin ro pe o ye kie ko awon irin ise yin si ?

- Ibi kibi 1
- Inu abo to ba wumi 2
- Inu abo to ba mo 3
- Inu abo ti ati se tabi tiati ju sinu jik tabi dettol 4

Q41. Awon nkan wonyi koni nkan se pelu iyori si omo bibi, se won ni nkan se pelu e ni?

	Beeni	Beeko	Miomo
a. Imo toto ayika ile igbebi	1	2	3
b. Imo toto ti agbebi fun ara re	1	2	3
c. Imo toto ti inu yara irobi tabi yara igbebi	1	2	3

Q42. Kini eyin ro pe oye ki e se ti iru awon alaboyun bayi ti on robi lowo ba wa si ile igbe yin?

	Oye kin toju e nigbogbo igba	Oye kin toju e nigbamii	Oye kin fi sowo si hosipitu	nkan mii (salaye)
a. Omo to dabu tabi to fi idi wa (ige)	1	2	3	4
b. Rirobi ti o ti ju ojo kan lo	1	2	3	4
c. Rirobi ti oti ju wakati kan lo lehin ti ori omo ti de isale	1	2	3	4
d. Omotuntun to ko lati sunkun lehin ti a bi tabi ti awo re ti bere dudu (blue)	1	2	3	4
e. Alaboyun ti eje n da lara re nigba to n robi lowo tabi lehin ibimo	1	2	3	4
f. Ti ibi omo ba ko lati jade lehin ogbon iseju ti omoti jade	1	2	3	4
g. Lehin ojo kan ti alaboyun ti n damira ti omo ode tii mu	1	2	3	4

Q43. Se eyin so pe ose pataki lati pe ikun jade lati imu ati enu omo lehin ti won bi?

- Beeni 1
- Beeko 2

Q44. To ba je bee ni, kini eyin ro pe oye ki a fi pe ikun jade?

- Enu..... 1
- Ifakun ti a ti lo tele ri2
- Ifakun tuntun 3
- Nkan mii (salaye)4

SECTION 3D
KNOWLEDGE OF POSANTATAL CARE

Q45. Wakati tabi iseju melo lehin ibimo lo ye ki omo bere si mu oyan?

- Iseju ogbon 1
- Wakati kan 2
- Wakati meji 3
- Wakati meta si ojo kan 4
- Lehin ojo kan 5

Q46. Yato sii omi oyan kini eyin ro pe o ye kia fun omo tuntun mu tabi je?

- Omi 1
- Ounje mii 2
- Ogun (ti dokita ko ko) 3
- Agbo 4
- Kosi 5
- Nkan mii (salaye) 6

Q47. Ti eba ni kosi, osu melo lo ye kia fun omo tuntun ni oyan nikan?

- Odin ni osun kan 1
- Osun kan si meta 2
- Osu merin si marun 3
- Osu mefa 4
- Lehin osu mefa 5
- Mi o mo 6

Q48. Kini eyin rope oye kie se ti aba gbe omo tuntun ti koi ti e osu kan ti o n se aisan wasi ile igbebi yin?

- Oye kin toju e pelu ogun 1
- Oye kin toju e pelu agbo 2
- Oye kin gbadura fun titi ara re yio fi ya 3
- Oye kin ti sowo si hosipitu 4
- Nkan mii (salaye) 5

Q49. Ko se Pataki lati fun omo tuntun ni abere aje sara abi?

- Beeni o se Pataki 1
- Beeko ko se Pataki 2

- Q50. Se eyin ro pe ara ise yin ni lati gba alaboyun ni imoran nipa feto so omo bibi?
- Beeni 1
 - Beeko 2

SECTION 4

LEVEL OF SUPERVISION OF PRACTICES

- Q51. Tani on boju to ise yin?
- Kosi 1
 - Agbebi miran 2
 - Osise eto agbebi ti ijoba ibile (LGA) 3
 - Osise ilera ileto 4
 - Noosi 5
 - Agbebi Noosi (ti o lo ile-iwe giga agbebi) 6
 - Dokita 7
- Q52. Igba wo si gbawo ni alabojuto yin maa n be yin wo?
- Osoose..... 1
 - Osoosu 2
 - Osu meji si maarun 3
 - Osu mefa mefa 4
 - Odoodun 5
 - Oju odun kan lo 6
 - Ko kin wa rara 7

APPENDIX 3
OBSERVATIONAL STUDY CHECKLIST

SERIAL NO:

ADDRESS:

1. ANTENATAL CARE

	Always	Sometimes	Not at all
a. Weight measurement	1	2	3
b. Blood pressure measurement	1	2	3
c. Breast examination	1	2	3
d. Abdominal palpation	1	2	3
e. Listening to the fetal heart beat	1	2	3
f. PCV, urine sugar and protein	1	2	3
g. Haematinics	1	2	3
h. Tetanus toxoid immunization	1	2	3

2. INTRAPARTUM CARE

(i).	Yes	No
(i). Possession of the following:		
a. A sterile container	1	2
b. A sterile thread or a new cord clamp	1	2
c. A new blade/sterile scissors	1	2
d. A pair of sterile gloves	1	2
e. A new mucous extractor/ a sterile pipette	1	2
(ii). Cleanliness	Yes	No
a. A clean environment	1	2
b. A clean lying-in/deli-very rooms	1	2
c. TBA's Personal cleanliness	1	2
d. Hand washing	1	2
e. Clean delivery process	1	2
f. Clean cord care	1	2

3. POST-NATAL CARE

	Yes	No
a) Counseling and initiation of EBF	1	2
b) Counseling and referral for immunization	1	2
c) Family planning counseling	1	2

APPENDIX 4

Indicators of maternal care

Antenatal Care

- Weight measurement
- Blood pressure measurement
- Breast examination
- Abdominal palpation
- Listening to the fetal heart beat
- Referral for PCV check/ Urine sugar and protein estimation
- Routine heamatinics
- Referral for tetanus toxoid immunization

Intrapartum care

- Possession of a delivery kit containing at least the following;
 - a clean container
 - a sterile scissors or a new blade
 - a new cord clamp or a sterile thread
 - a pair of sterile gloves
 - a new mucous extractor/a sterile pipette
- Cleanliness
 - a clean environment
 - a clean lying – in –room/delivery room
 - TBA's personal cleanliness
 - hand washing

- clean cord care

Postnatal care

- Counseling and initiation of exclusive breast feeding
- Counseling and referral for immunization
- Family planning counseling

Danger signs for which TBAs are expected to refer:

- Primigravidae
- Women less than 18 years of age
- Women older than 35 years of age
- Grandmultigravidae
- Illness during pregnancy
- Antepartum haemorrhage (APH)
- Postpartum haemorrhage (PPH)
- Anaemia in pregnancy
- Hypertension in pregnancy
- Multiple pregnancy
- Abnormal lie/presentation
- Obstructed labour
- Previous operative deliveries
- Prolonged labour
- A sick neonate
- Retained placenta
- Prolonged rupture of membrane

APPENDIX 5
ETHICAL APPROVAL FORM



INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IMRAT)
COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN, IBADAN, NIGERIA.

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DIRECTOR: Prof. C. A. Adebamowo *BMChB Hons (Jos), FWACS, FACS, Dsc (Harvard)*



UI/UCH EC Registration Number: **NHREC/05/01/2008a**

NOTICE OF EXPEDITED REVIEW AND APPROVAL

Re: An Assessment of the Knowledge and Practices of Traditional Birth Attendants (TBAs) in Ibadan, Oyo State, Nigeria

UI/UCH Ethics Committee assigned number: UI/EC/08/0125

Name of Principal Investigator: Ezekiel A. Olukotun

Address of Principal Investigator: Institute of Child Health,
College of Medicine,
University of Ibadan, Ibadan.

Date of receipt of valid application: 06/11/2008

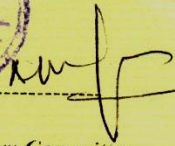
Date of meeting when final determination of research was made: N/A

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and given *expedited approval* by the UI/UCH Ethics Committee.

This approval dates from 17/11/2008 to 16/11/2009. If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the UI/UCH EC assigned number and duration of UI/UCH EC approval of the study.* In multiyear research, endeavour to submit your annual report to the UI/UCH EC early in order to obtain renewal of your approval and avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. No changes are permitted in the research without prior approval by the UI/UCH EC except in circumstances outlined in the Code. The UI/UCH EC reserves the right to conduct compliance visit to your research site without previous notification.





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APPENDIX 6
MAP OF IBADAN

UNIVERSITY OF IBADAN