

## Intrapartum Referrals from Traditional Birth Attendants in Southeast Nigeria: Patterns and Outcomes

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### Abstract

**Context:** Traditional birth attendants (TBAs) play a pivotal role in maternity care delivery in rural areas where modern health facilities and personnel are scanty. Referrals to modern medical institutions are poor. Assessing the pattern and outcomes of such referrals is important to evaluate services provided by the TBAs and the ability of orthodox facilities to offer emergency obstetric care.

**Objectives:** To examine the nature and outcomes of referred cases from TBAs to a rural hospital.

**Methods:** Data were collected prospectively on parturients presenting from the TBAs over two years in a rural mission hospital. The hospital serves as a referral centre for the population in the host community and her neighbours.

**Main Outcome Measures:** Maternal and perinatal morbidity and mortality among the subjects.

**Results:** Two hundred and forty one (32.2%) of the 747 maternities were referred from the TBAs. One hundred and twenty eight of these attended antenatal clinics at the mission hospital; 76.8% had obstructed labour, thirteen (5.4%) had ruptured uterus. Referrals were late and patients presented in extreme conditions, with two dead on arrival. They accounted for 61.1% of mortalities with a specific MMR of 4603/100,000 live births. The perinatal mortality rate was 133 per 1000 births.

**Conclusion:** Maternal mortality figures among TBAs-referred patients are alarming. There is need to re-examine the continued need of TBAs in rural communities. In the short term, there may be need to train them to recognize obstetric danger signs and be encouraged to initiate early referrals.

**Key Words:** Referrals, Mortality, Obstructed Labour, Ruptured Uterus, Rural

### Introduction

Nigeria with a national average maternal mortality ratio (MMR) of 1000/100,000 live births<sup>1</sup> is one of the six countries worldwide that bear the heaviest burden of maternal mortality<sup>2</sup>. The unbooked expectant mothers account for majority of these deaths<sup>3</sup>. Currently, higher figures are returned from the rural populations in Nigeria<sup>4,5</sup>.

Orthodox/modern and traditional forms of medical practice are the main modes of health care system in Nigeria<sup>6</sup>. Trained health personnel and modern health facilities are concentrated in the urban centres creating a vacuum in the rural areas<sup>6</sup>. The traditional health practitioners, herbal practitioners and spiritualists fill the vacuum. The traditional birth attendants (TBAs) undertake a greater proportion of deliveries in such areas and render a wide range of reproductive health services<sup>7</sup>. They have little or no formal training and acquire their skills mainly through family inheritance or apprenticeship with older practitioners<sup>7</sup>. They are well integrated within the communities, are culturally acceptable, readily available and render affordable services<sup>8</sup>. Training programs for the TBAs were integral components of the Safe Motherhood Initiative

to make them more relevant in the fight against maternal mortality in the developing countries<sup>9</sup>. In Nigeria, the impact of such programs are yet to be seen hence the current controversy surrounding their continued relevance and desirability<sup>10,11</sup>. The Nigerian government does not formally recognize the TBAs<sup>6</sup>.

Globally, the major causes of maternal mortality though with varying relative weighting in different centres remain the same<sup>5</sup>, maternal deaths resulting invariably from delay in accessing emergency obstetric services<sup>12</sup>. In the rural areas, most obstetric patients sojourn through the traditional birth attendants who do not appreciate antenatal risk factors, understand or use the partograph or monitor maternal or fetal vital signs in labour<sup>13</sup>, before presentation to modern health facilities in critical conditions<sup>5</sup>. This present study evaluated the pattern of referrals and outcomes of cases that presented from the TBAs to a mission hospital in rural Nigeria.

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## Materials and Methods

### *Study Background*

The St. Vincent's Catholic hospital in rural Ebonyi State, staffed with medical officers and an Obstetrician/Gynaecologist, accepts referrals from and around its host community. A Primary Health Care Centre about 20 kilometers from the hospital also serves these communities. The State's teaching hospital is about 40 kilometers from the hospital. The terrain is rough and transportation difficult. Communication facilities are virtually non-existent. The population is mainly agrarian, poor and illiterate; myths and superstitions about health issues are rife; medical attention is sought mainly from traditional and herbal practitioners and spiritualists. Maternal health indices are poor.

### *Study Design*

This was a prospective study conducted over a two-year period- July 2003 to June 2005. Parturients who upon self-referral or verbal referral from TBAs presented at the hospital were recruited into the study. The hospital's management gave permission for the study. Where possible, consent was obtained from the patient or the accompanying relative. They were interviewed on admission and during the postpartum period using the study proforma. Information was obtained about their socio-biological variables and obstetric history. They were managed according to the hospital protocol with recording of the diagnosis on admission, state at presentation, the mode of management and the outcome thereupon. Postpartum referrals were excluded from the study.

Data was analyzed manually and presented in simple frequency tables.

## Results

Two hundred and forty-one (32.2%) of the 747 maternities during the study period presented from the TBAs. There were 68 teenagers and 12 parturients aged 40 years and above. The majority, 53.9% were within the 20-29 years age bracket. While 31.5% were nulliparous, 9.2% were grandmultiparous (table 1). Some of the patients registered for antenatal clinics in more than one facility. A hundred and twenty-eight (53.1%) respondents had booked with the Missions hospital and 185 (76.8%) also received prenatal care from the TBAs. Nineteen parturients made no antenatal visits anywhere. Two hundred and twenty-

five had primary or no formal education. Most respondents belonged to strata IV and V of the socio economic ladder (22.0% and 71.0% respectively). Urban dwellers constituted 15.4% of the patients who presented from the TBAs.

The past obstetric history of the patients was evaluated in table 2. 126 (50.8%) had delivered previously in an orthodox medical facility. History of obstructed labour and previous Caesarean section was obtained in 19.1% and 15.3% of the respondents. Two had 2 previous Caesarean sections. None of the patients had a written referral from the birth attendants involved; most, 79% came on self-referral while 20.7% were referred verbally. 12.8% sojourned through other facilities including spiritual homes, private clinics and herbal practitioners before eventual presentation at the hospital (table 3). The diagnoses and clinical states at presentation are shown in table 4.

Obstructed labour accounted for 76.8% of the referrals. Two (0.8%) were dead on arrival while 2.1% had intra uterine death. Five of the respondents were moribund on admission and twenty-eight were in a state of shock. Management modalities and outcomes are shown in table 5. Two of the patients died before intervention. One hundred and forty-six (62.1%) had Caesarean delivery after resuscitation. This was mainly for obstructed labour and antepartum haemorrhage. Fifteen (6.4%) achieved spontaneous vaginal delivery and another 4.7% achieved vaginal delivery after labour was augmented with oxytocin. A total of forty-eight patients were referred to the teaching hospital. Eighty were transfused. Eleven maternal deaths giving a MMR of 4603/100,000 were recorded. The hospital MMR during this period was 2410/100,000 live births. Puerperal sepsis and wound breakdown were postpartum complications found in 21.6% and 5.8% respectively. There were seven twin births. The perinatal mortality rate was 133/1000. Forty-four babies suffered birth asphyxia, 20.6% had neonatal sepsis and 19.0% developed pathological neonatal jaundice. The hospital perinatal mortality rate was 54/1000.

Analysis of maternal deaths revealed that uterine rupture consequent upon obstructed labour accounted for 27.3%. Two patients died from haemorrhage (18.2%) and one (9.1%) from hypertensive disorder. Three deaths (27.3%) occurred within 6 hours of presentation while only two deaths (18.2%) were recorded after 48 hours of admission.

**Table 1: Socio biological variables of the Respondents**

PARAMETER	Number (n=241)	Percentage (%)
Age (years) <20	68	28.2
20 - 29	130	53.9
30 - 39	31	12.9
≥ 40	12	5.0
Parity 0	76	31.5
1 - 4	143	59.3
≥ 5	22	9.2
Social Class: I	0	0.0
II	7	2.9
III	10	4.1
IV	53	22.0
V	171	71.0
Height (cm) ≤150	23	12.3
151- 154	101	44.5
155- 159	92	40.5
≥160	6	2.6
Not recorded	14	
Place of Residence		
Urban	37	15.4
Rural	204	84.6
Religion		
Christianity	182	75.5
African Traditional Religion	52	21.6
Nil	7	2.9

**Table 2: Obstetric History of the Respondents**

Obstetric History	Number (n=241)	Percentage(%)
Delivered in a hospital previously	126	50.8
Previous Caesarean section	37	15.3
Previous ruptured uterus	1	0.4
History of bleeding in Pregnancy	21	8.7
Blood transfusion previously	8	3.3
Previous severe PE*/Eclampsia	8	3.3
Previous Obstructed/difficult labour	46	19.1
Previous stillbirth/ENND	30	12.4
Facilities for ANC visits in index pregnancy		
Primary Health Center	5	2.1
Mission hospital	128	53.1
Private clinics	22	9.1
TBAs	185	76.8
Nil	19	6.1

**Table 3: Pattern of Referral**

	Number	%
Self referral	191	79.3
Verbal referral	50	20.7
Written referral	0	0
<b>Distance from hospital (km)</b>		
≤5	88	36.5
5-10	116	48.1
≥10	37	15.4
<b>Time of arrival at referral facility</b>		
8am - 4pm	41	7.0
4pm - 12midnight	171	71.0
12midnight - 8am	29	12.0
Reported directly	190	89.2
Via a 2 <sup>o</sup> facility	28	10.8
Not stated	23	

**Table 4: Diagnosis and Clinical state of Respondents at Presentation**

	Number (n=241)	Percentages(%)
<b>Diagnosis</b>		
Obstructed labour	185	76.8
Antepartum haemorrhage	17	7.1
Ruptured Uterus	13	5.4
Severe PE/Eclampsia	5	2.1
Latent phase labour	9	3.7
*PROM/Preterm labour	2	0.8
Retained 2 <sup>nd</sup> twin	3	1.2
Intrauterine death	5	2.1
Death on Arrival	2	0.8
<b>Clinical State (n=239)</b>		
Moribund	5	2.1
Shock	28	11.7
Septic	11	4.6
Exhausted/dehydrated	115	48.1
Stable	80	33.5
*PROM - Premature Rupture of Membranes		

**Table 5: Management Modalities and Outcomes**

Management (n=237)	Number	Percentage (%)
Spontaneous Vertex delivery	15	6.4
Augumented labour with S VD*	11	4.7
Caesarean delivery	146	62.1
Laparotomy with uterine repair	6	2.6
Laparotomy with Hysterectomy	5	2.1
Instrumental delivery	6	2.6
Referred	48	20.4
Transfused	80	34.0
<b>Outcome</b>		
<b>Maternal n=241</b>		
Maternal death	11	4.6
Puerperal sepsis	52	21.6
Wound breakdown	14	5.8
Other complications	9	3.7
Stable postpartum	105	45.6
<b>Fetal n=248</b>		
Still birth	16	6.5
Died in utero	2	0.8
Early neonatal death	15	6.0
Late neonatal death	4	1.6
Birth Asphyxia	44	17.7
Neonatal sepsis	51	20.6
Neonatal jaundice	17	6.9

SVD\* - Spontaneous vertex delivery

## Discussion

Almost a third of parturients managed at the Missions hospital were sourced from the TBAs and they cut across all age groups, religious inclinations, parity and social standing. They came from both the rural and urban centers. This high level of acceptance of TBAs by the population has been recorded in other studies<sup>6,9,14</sup> and derived mainly from the confidence and trust reposed in them by members of the communities. They are usually older women with long years of experience and well integrated within the society, are readily available and accessible providing affordable services believed to be in tune with the cultural and traditional dictates of the communities<sup>6</sup>. A significant proportion of the women concurrently received prenatal care from the TBAs and other orthodox health facilities. The implicit faith on the TBAs and the distrust of modern medicine in rural communities<sup>6,7,9</sup> implies that compliance with antenatal prescriptions from the orthodox health facilities may largely depend on the endorsements by the TBAs. This pattern was confirmed in previous studies by the increased uptake of tetanus toxoid injections and malaria prophylaxis based upon recommendations by the TBAs<sup>6,15</sup>.

Economic considerations influence the health seeking behaviour of any population, with the poorer section

unable to procure services offered by modern medical practice, resorting to the various cadres of traditional practitioners<sup>7,16</sup>. TBAs are often rewarded for their services in cash and/or kind with food materials, clothing etc. and even give long drawn out credit facilities. These make them attractive to the rural communities. The TBAs are poor in recognizing and managing antenatal and intrapartum complications in a Guatemalan study even after some training<sup>9</sup>. Over half of the parturients had antenatal risk factors but these did not prompt any referral through the prenatal period or in early labour. Cases of latent phase labour were not even recognized. In some cases they were treated as prolonged/obstructed labour, the woman having had 'labour pains' for upwards of three days without delivery.

Recognition and management of antenatal risk factors a component of comprehensive antenatal care directly reduces maternal and perinatal morbidity and mortality rates<sup>16</sup>. In some traditional African societies, childbirth is seen as natural and vaginal delivery, a proof of true womanhood expected to be accomplished by any woman with or without supervision. Obstetric complications when they arise are seen as punishment for misdeeds especially marital infidelity. TBAs are believed to be culturally and supernaturally empowered to supervise labour and ensure delivery even though they hardly understand nor effectively manage intrapartum complications<sup>9</sup>. Maternal deaths in the course of labour and delivery are also attributed to the 'gods'. Both the TBAs and orthodox health providers had divergent views about their (TBAs) desirability and integration into the formal health sector in the crusade against maternal mortality, Imogie<sup>6</sup> reported from rural Edo State. While the TBAs rated their services content high, orthodox medical practitioners rated them as stopgap and inadequate. Referrals from TBAs in such situation are difficult as they appear intimidated and fear recrimination<sup>9</sup>. When inevitable or on self-discharge by the patients, the referrals are verbal and late, the patient presenting in extremis. Some of them sojourn through other practitioners including spiritualists before eventual presentation in the medical facility. This was also evident in our study (table 4). Two patients were brought in dead, two others died before definitive intervention could be instituted, and many were in a state of shock. The consequent unfavourable outcomes thereupon add to the negative impression about the orthodox health system and decrease its acceptability<sup>6</sup>. The poor compliance with TBAs referrals to modern medical facilities in some cases is informed by the lack of confidence and trust in such facilities, transportation difficulties and economic considerations<sup>9</sup>. Some mothers equate orthodox health system with surgical cuts (episiotomy and Caesarean section), mortality and sterilization<sup>9</sup>. Fifteen point three percent of the

respondents had respondents had previous Caesarean section, two of whom had two sections. Delay in accessing emergency obstetric intervention is a key factor in the high rate of maternal mortality in developing countries<sup>10</sup>. Thaddeus and Maine (1990)<sup>12</sup> had enunciated the three levels of delay. Seeking medical help from untrained and illiterate TBAs might as well constitute level II delay.

Obstructed labour was by far the commonest diagnosis at presentation in parturients from the TBAs. These often typified the 'neglected infected obstructed labour', some resulting in uterine rupture. Literature on maternal mortality from Ebonyi State had documented the high contribution of complications of obstructed labour to maternal death in this environment<sup>5,17,18</sup>. Late presentation stretches the emergency response of the health facility and is further compounded in some cases by non-availability of necessary instruments, drugs and blood for transfusion<sup>17</sup>. This can also prompt further referral to a tertiary health institution engendering further delay. Forty-eight of our patients were so referred. The attendant high maternal mortality ratio of 4603 per 100,000 live births amongst these parturients was not unexpected; other workers have reported similar high rates<sup>9,14,17</sup>. The hospital MMR during this period was 2410/100,000. Other complications recorded included, puerperal sepsis another potent contributor to maternal death in Ebonyi State<sup>5</sup>. Perinatal mortality rate was also high at 133 per 1000, when the hospital perinatal mortality rate was 54 per 1000. This not only reflects the factors operating in utero but also the availability of adequate neonatal facilities and personnel for prompt and effective resuscitative actions.

This study was descriptive based on data obtained from consecutive patients recruited during the study period, there was no attempt at randomization nor control of confounding variables including patients'

characteristics and medical conditions that might have influenced the outcome measures. Again, only patients from the TBAs were assessed, a comparison with patients referred from other orthodox medical centers would have been more appropriate and representative. However, the above did not diminish the strength of the study, which drew from the prospective collection of data with adequate recording of needed information. The subjects also represented the de facto situation in maternity care delivery in the rural communities.

This study highlighted the prominence of TBAs in obstetric care services in the rural communities. Their place cannot easily be discountenanced but their continued relevance in the crusade against maternal mortality needs a re evaluation. Their activities need to be monitored on a regular basis while training them to recognize obstetric dangers to effect early referrals may be desirable in the short term. There is urgent need for further research on what prompts the health seeking behaviour of rural population especially in terms of maternity services. There is also need for auditing of the capacity of orthodox facilities in rural areas for emergency obstetric care.

#### *Conclusion*

A significant proportion of expectant mothers patronizes the TBAs for delivery and as such play crucial role in obstetric health care delivery in the rural communities. They do not adequately identify and manage antenatal and intrapartum risk factors. We suggest effective training and re training may in the short term to reposition them more effectively in the fight against maternal mortality. In Bangladesh, Skilled birth attendants drawn from more literate groups were trained and found very useful in obstetric care delivery<sup>8</sup>. This can be adapted to the Nigerian situation as long-term solution. Meanwhile, we suggest a well directed and coordinated enlightenment campaigns through the rural villages to increase their awareness of obstetric risk factors and impact a more

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