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Obstructed Labor in South East Nigeria Revisited: A Multi-Centre Study on Maternal Socio-Demographic and Clinical Correlates

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Abstract

Objective: The objective was to identify the characteristics of women who developed obstructed labor, the facilities where they were managed before the progress of labor became obstructed labor and also identify short term morbidities associated with the condition. This study was necessitated by the burden of obstetric fistula reported in this population previously thought not to have the challenge.

Setting: The study was conducted in 3 tertiary centers including the Federal Teaching Hospital Abakaliki, the Ebonyi state University Teaching Hospital and Federal Medical Centre Owerri.

Population: This study involved 225 consecutive parturient managed for obstructed labor in 3 tertiary hospitals in southeast Nigeria.

Method: This was a retrospective study conducted between January 2004 and December 2008.

Results: Most of the women were between 20-34 years old and more than half (55.1%) had only primary or no formal education. About 33% have not delivered before, while about one quarter (26.7%) had 5 or more previous deliveries. Majority (62.7%) were managed in private maternity homes before referral while 27.6% were referred from informal care providers like churches. Most women (55.6%) spent between 24-47 hours in labour before they were referred. Emergency caesarean section was performed in 81.8% of cases while repair of uterine rupture was done in 11.6%. When asked about the place of their last delivery 25.3% reported it was at an informal provider's facility while 27 (12%) were in private maternities.

Conclusion: There is need to eliminate the existence and patronage of informal maternity care providers while strengthening the capacity of private maternity facilities to manage labor in order to reduce the problem of obstructed labor.

Keywords: Obstructed labor; Clinical correlates; Nigeria

Introduction

Obstructed labor remains a major cause of maternal morbidity and mortality worldwide in developing countries including Nigeria [1-3]. It is still a major public health problem in many developing countries and consumes scarce resources budgeted for healthcare. Labour is considered obstructed when the presenting part of the fetus cannot progress into the birth canal, despite strong uterine contractions [4].

Several interventions, such as advocacy for the use of the partograph to monitor labor and the provision of emergency obstetric care services have been proposed to reduce the scourge of obstructed labor and its sequelae. However, recent data suggests the prevalence remains high in sub Saharan Africa and Nigeria [5-7]. Perhaps there may be other factors and variables that seem to make obstructed labor a persistent and intractable condition unresponsive to interventions targeted at health facilities in developing countries.

This study was designed to identify the socio-demographic and clinical correlates of women managed for obstructed labor in three tertiary care facilities in south eastern Nigeria. The objective was to identify the characteristics of these women who developed obstructed labor, the facilities where they were managed before the progress of labor became obstructed labor and also identify short term morbidities associated with the condition. The identification of the facilities where the women were managed in labor before the progress was allowed to obstruct will facilitate the development of appropriate or additional interventions that may modify community/individual factors that are in operation outside health facilities which contributes to the development of obstructed labor.

Methods

A multi-centre retrospective cross sectional study from January 2004 to December 2008 among 225 consecutive parturient who were referred and managed for obstructed labor in 3 tertiary institutions from South East Nigeria. It was conducted at the Department of Obstetrics and Gynecology in Ebonyi State University Teaching Hospital, Federal Medical Centre Abakaliki and Federal Medical Centre Owerri, all located in south east Nigeria. They serve a population of about 4.5 million people as the apex referral health Institution and conduct a combined total of about 3,000 deliveries annually. Patients are referred to the obstetric units of these centers from Government health centers, private hospitals and informal maternal health care providers such as

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churches and traditional birth attendants. Ethical approval from the study was obtained from the ethical review board of the Institutions.

The study population comprised all cases of obstructed labor whose delivery and management was conducted in the hospitals. A data extraction proforma was developed and used to extract relevant information from the case notes and hospital records of the women. Patients with obstructed labor whose delivery were not in the hospitals were excluded.

Variables of interest were the socio-demographic and clinical characteristics of the patients including the age, parity, family structure, prior antenatal care during pregnancy, referring facility, duration of labour, type of intervention received and duration of hospital stay before discharge. Cases with incomplete records were excluded from the study. Continuous variables were stratified into appropriate class intervals while categorical data were presented as numbers and percentages.

Results

During the study period, there were 246 cases of obstructed labour managed in the hospitals. Of this number, the records of 225 (91.5%) was considered adequate and thus included in the study for analysis. The characteristics of the study population are shown in Table 1. Most of the women were between 20-34 years old with majority (36.9%) in the 25-29 years age group and 124 (55.1%) reporting only primary or no formal education. One third (33.3%) of the study population have not delivered before (Para 0), while more than one quarter (26.7%) have had 5 or more previous deliveries (>Para 4). More than half of them (54.2%) reported receiving antenatal care during pregnancy while 141 (62.7%) were managed in private maternity homes before referral to the study centers and 62 women (27.6%) were referred from informal care providers like churches and traditional birth attendant homes.

In Table 2, the maternal outcome of labour is presented. Most of the women (55.6%) spent between 24-47 hours in labour before they were referred while 10.2% spent 48 hours or more in labour. The commonest intervention for obstructed labour was emergency caesarean section in184 cases (81.8%) while repair of uterine rupture was the second most frequent intervention (11.6%). Out of the 225 women in the study, 179 (79.6%) spent more than 7 days in the hospital before discharge while 61 (27.1%) had bladder catheterization above 10 days.

Furthermore, 34 women (15.1%) reported having had at least a previous caesarean section. When asked about the place of their last delivery 57 (25.3%) reported it was at an informal provider's facility while 27 (12%) were in private maternities.

Discussion

The results from this study suggest that obstructed labor remains a public health problem that is still prevalent in south east Nigeria. The characteristics of the women managed for obstructed labour in this study is similar to previous reports from Nigeria and sub Saharan Africa [3,6]. Women whose age ranged from 20 to 34 years were mostly affected (more than 80%) and more than half had no formal education or only attended primary school. In addition, parturient who had not delivered before (nullipara) and those with five or more previous deliveries (grand-multipara) also constituted more than half of the study population that was managed for obstructed labor. Majority of the study population reported they received antenatal care during pregnancy and their labor was managed in private maternity health facilities before they developed obstructed labor. By contrast, less than one third reported their labor was managed by informal maternity care providers such as churches and traditional birth attendants. The relatively high number of referrals for obstructed labor from private maternity health providers that was observed in this study is a bit worrisome. It is expected that the use of the pantograph to monitor labor progress should serve as an early warning sign for prompt referral or interventional delivery and thus prevent obstructed labor. Since private health providers have been reported to provide health care to most of the population in Nigeria, strengthening their capacity to manage normal and abnormal labor is essential to prevent the occurrence of obstructed labor and its associated morbidities for the mother and fetus.

Prolonged labor has been defined as active phase of labor lasting

Variable	Number (N=225)	Percentage (%)
Age group		
<20	14	6.2
20-24	48	21.3
25-29	83	36.9
30-34	57	25.3
35-39	16	7.2
>39	7	3.1
Parity		
0	75	33.3
1-4	90	40
>4	60	26.7
Marital status		
Married	195	86.6
Separated	24	10.7
Single	6	2.7
Education		
None	14	6.2
Primary	110	48.9
Secondary	81	36
Post secondary	20	8.9
Family structure		
Monogamy	182	80.9
Polygamy	43	19.1
Received antenatal care during pregnancy		
Yes	122	54.2
No	103	45.8
Referring facility		
Informal care providers (Churches, TBA'S)	62	27.6
Private maternities	141	62.7
Government Hospitals	22	9.7

Table 1: Characteristics of the study population.

Variable	Number	Percentage
Duration of labour before presentation (hours)		
<24	77	34.2
24-47	125	55.6
48-72	18	8
>72	5	2.2
Type of intervention		
Caesarean section	184	81.8
Repair of uterine rupture	26	11.6
Hysterectomy	7	3.1
Destructive delivery	8	3.5
Duration of hospital stay before discharge (days)		
<3	9	4
4-7	37	16.4
8-14	121	53.8
>14	58	25.8
Duration of bladder catheterization post delivery (days)		
<5	67	29.8
5-10	97	43.1
>10	61	27.1

Table 2: Maternal outcome of labour.

more than 12 hours and is associated with adverse pregnancy outcome [8,9]. In this study, about two thirds of the study population spent between 24 and 72 hours in labor. Subsequently, about 20% had either repair of ruptured uterus, obstetric hysterectomy or destructive delivery as modalities of management. Furthermore, about 80% spent more than 7 days on admission in the hospital following delivery and prolonged catheterization of the bladder to prevent the development of obstetric fistula. These observations highlight the need for more advocacies to prevent prolonged labor and its associated complications. Beyond providing emergency obstetric care services in health facilities to manage complicated labor and promoting the use of the partograph to monitor labor progress (facility based interventions) as previously advocated, there is need for interventions focusing on communities to prevent obstructed labor and improve maternal health. This may include advocacy for girl education, strengthening community structures to discourage the provision of maternity care by informal providers and unskilled birth attendants [9,10].

This was a quantitative observational study using hospital records and the extrapolation of our results to the general population may be limited. However, the findings remain valid since it was a multicentre study utilizing data from three apex referral health facilities for maternal care in that part of south east Nigeria. There is need for additional study using a mixed quantitative and qualitative study design to explore some of our observations such as the patronage of informal care providers by pregnant women and the occurrence of obstructed labor in private maternity health facilities.

Obstructed labor remains a prevalent health problem in south east Nigeria. Socio-demographic attributes and health system factors appear to be contributory factors to its development. In order to reduce the magnitude of the problem of obstructed labor with its complications, we advocate additional strategies targeted to women of child bearing age and local communities are important in addition to current facility based interventions on health system. In particular, girl child education, eliminating the existence and patronage of informal maternity care providers while strengthening the capacity of private maternity facilities are necessary.

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