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Original Research Paper

Revisiting obstructed labour: experience at an emerging teaching hospital in Southwestern Nigeria.

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ABSTRACT:
Obstructed labour, now globally recognized as a peculiar obstetric burden of developing nations, is of great reproductive health concern. The study aimed to determine the prevalence, sociodemographic and clinical correlates of obstructed labour in the institution of study. The study was a retrospective descriptive one carried out at the Obstetric Unit of Obstetrics, Gynaecology and Perinatology Department of Ekiti State University Teaching Hospital (EKSUTH), Ado-Ekiti from 1st of January, 2013 to 31st of December, 2017. The data obtained were processed using Statistical Package for Social Sciences (SPSS) computer software version 20. Descriptive statistics was utilized to analyze the data; continuous variables were summarized with mean and discrete variables were summarized using numbers and percentages. The prevalence of obstructed labour in the study was 1.2%(in 83 deliveries). The peak age of prevalence was in 25-29 years age group; with primipara accounting for the largest percentage, 51(63%) and most were unbooked, 72 (88.9%). Six (7.4%) of the babies were born asphyxiated; with 15(18.5%) requiring admission in special baby care unit; and 12(14.8%) intrauterine fetal death.The commonest intraoperative maternal complications were bladder injury(22.2%) and primary postpartum haemorrhage (14.8%).No maternal death was recorded during the study period. It was concluded that obstructed labour remains a huge burden and prevention is key.There should be appropriate political will towards mounting strategies that would change community`s negative perception and attitude towards utilization of modern maternity care services.

Keywords: Obstructed labour, experience, teaching hospital, Nigeria.

INTRODUCTION:
Obstructed labour, now globally recognized as a peculiar obstetric burden of developing nations, is of great reproductive health concern. Despite the various life-saving obstetric initiatives and technologies, it has consistently remained one of the commonest causes of maternal and perinatal morbidity and mortality in the developing countries of the world ; accounting for about 8% (or more in some quarters) of maternal deaths[1-3]. It is an absolute condition in which there is failure of progress of labour despite adequate uterine contractions usually due to mechanical factor, requiring an urgent surgical intervention, which if not provided, could result in feto-maternal jeopardy. Prevalence ranging from 0.96 to 18.3% has been quoted globally[3],with the burden now relatively restricted to developing countries[2]. The higher prevalence in developing countries is not unconnected with undernutrition, poverty, poor infrastructure, poor health seeking behavior coupled with poor basic/essential obstetric care, thus making the affected parturientsprone to obstructed labour with its attendant complications[1,2]. The reverse of all these conditions in the developed world has made obstructed labour non-existent[4]. Common causes of obstructed labour include cephalopelvic disproportion, fetal macrosomia, malposition, malpresentation, pelvic deformities; with less common ones being soft tissue abnormalities like cervical dystocia, vaginal stenosis, pelvic tumors, and fetal congenital malformations like locked twins,

hydrocephalus, etc[5].The burden of obstructed labour is so much and complex that it is shared by both the victim and her family members/community; all culminating in marked disabilities and reduction in gross domestic product. The major component of the burden include postpartum haemorrhage, puerperal sepsis, fetal distress/demise, vesico-vaginal/recto-vaginal fistula, musculoskeletal deformities(palsy); future infertility and the attendant psychosocial challenges like marital disharmony, divorce, depression, suicidal ideation and death[6,7]. The health facilities and the healthcare providers are also stressed especially in the course of managing long term complications like vesico-vaginal fistula[8], obstetric palsy and infertility. Management of obstructed labour is multidisciplinary and holistic, and prevention is key. Central to the management are prompt resuscitation; timely delivery, plan for handling of long term complications and follow up. Mode of delivery could either be by Caesarean or destructive operation, depending on feto-maternal condition, favourability of the vaginafor destructive operation and availability of facilities and level of expertise[4].

The study aimed to determine the prevalence, sociodemographic and clinical correlates of obstructed labour in the institution of study. This has become imperative as ,despite the anecdotal reports of many cases of obstructed labour at various levels of health care in the State, there has not been any study reviewing obstructed labour not only in the institution of study but also in the entire environment.The findings of this study should shed more light to the burden of obstructed labour in the environment and play an invaluable role in the formulation of policy addressing its prevention.

Patients and Method:

The study was a retrospective descriptive one carried out at the Obstetric Unit of Obstetrics, Gynaecology and Perinatology Department of Ekiti State University Teaching Hospital (EKSUTH), Ado-Ekiti from 1st of January, 2013 to 31st of December, 2017.The tertiary facility is the Teaching Hospital for the College of Medicine, Ekiti State University, Ado-Ekiti, Nigeria, that turned out its first set of medical graduands in July, 2019. The teaching hospital serves as the main referral centre for private, primary and secondary health institutions in the State and parts of the neighbouring States like Osun, Kogi, Kwara and Ondo. The hospital runs weekly antenatal clinics and 24-hour emergency obstetric and gynaecological services.

Data were obtained from the Health Information Management (HIM) Unit of the Obstetrics, Gynaecology and Perinatolgy Department. The study population comprised all documented cases of obstructed labour during the study period. The case files of all patients with the diagnosis of obstructed labour during the period were identified and retrieved by personnel of the HIM. Ethical approval for the retrieval and use of case files was obtained from Research and Ethics Committee of Ekiti State University Teaching Hospital. All information about history, physical findings and results obtained from patients' files was kept strictly confidential. Each of the files was strictly examined to extract information about patient's age, parity, clinical presentation and complications of obstructed labour. All the findings were recorded in a proforma designed specifically for the study.

The data obtained were processed using Statistical Package for Social Sciences (SPSS) computer software version 20. Descriptive statistics was utilized to analyze the data; continuous variables were summarized with mean and discrete variables were summarized using numbers and percentages.

RESULTS:

There were seven thousand and eighteen (7,018) deliveries with eighty one (81) cases of obstructed labour during the study period. The overall prevalence of obstructed labour in the study was 1.2% (1 in83 deliveries)

Table 1 shows the sociodemographic characteristics of the study population. The peak age of prevalence was in 25-29 years age group; with primipara accounting for the largest percentage, 51 (63%). A larger percentage, 72(88.9%), of the population were unbooked and with majority of them,30(37%), being traders.

Table 2 shows the condition of labour before and at presentation. While majority,66(81,4%, had been in labour for 12-48hours; 15(18.6%) had been in labour for more than 48hours.Majority , 48(59.3%), of the patients presented in the late first stage of labour.

Table 3 reveals the fetal condition and outcomes of the study population. Thirty (37%) of the patients presented with suspected fetal distress; with 12(14.8%) having intrauterine fetal death. Although, majority of the babies were not born asphyxiated, six (7.4%) of them were born asphyxiated; with 15(18.5%) needing admission at the Special Care Baby Unit (SCBU). Majority, 58(59.3%), of the delivered babies were of average size (2.5-3.5kg).

Table 4 shows the maternal condition and the outcomes. The commonest intraoperative complication was bladder injury, 18(22.2%), followed by primary postpartum haemorrhage, 12(14.8); with the least complication being uterine rupture,6 (7.4%). Postoperative anaemiawas the recorded commonest postoperative complication; followed by puerperal sepsis, 7(8.6%). Obstetric palsy was observed in 2(2.5%) of the patients. No (0%) vesico-vaginal fistula was recorded in this study.

Table 1: Sociodemographic characteristics of the study population

Characteristics	Frequency(N=81)	Percentage(%)
Patients age(yrs)		
19-24	15	18.5
25-29	36	44.4
≥30	30	37.1
Total	81	100.0
Booking status		
Booked	09	11.1
Unbooked	72	88.9
Total	81	100.0
Parity		
Primipara	51	63.0
Multipara	21	26.0
Grand multipara	09	11.0
Total	81	100.0
Mother's occupation		
Schooling	12	14.8
Professionals	15	18.5
Trading	30	37.0
Artisans	21	26.0
Unemployed	03	3.7
Total	81	100.0
Level of education		
None	03	3.7
Primary	06	7.4
Secondary	51	62.9
Tertiary	21	26.0
Total	81	100.0
Patient's residence		
Rural	18	22.2
Urban	63	77.8
Total	81	100.0

Table 2: Condition of labour before and at presentation

Duration(hrs)	Frequency(N=81)	Percentage(%)
12-24	48	59.2
25-48	18	22.2
>48	15	18.6
Total	81	100.0
Stage of labour		
Late first stage	48	59.3
Second stage	33	40.7
Total	81	100.0

Table 3: Fetal condition and outcomes

Fetal condition	Frequency(N=81)	Percentage(%)
IUFD	12	14.8
Viable and not distressed	39	48.2
Suspected distress	30	37.0
Total	81	100.0
Fetal outcome		
Stillbirth	12	14.8
No asphyxia, APGAR score>6	48	59.3
Asphyxia, APGAR score≤6	06	7.4
SCBU admission	15	18.5
Total	81	100.0

Birth weight(Kg)		
< 2.5	03	3.7
2.5-3.0	14	17.3
3.1-3.5	34	42.0
3.6-4.0	30	37.0
Total	81	100.0

IUFD = Intrauterine fetal death, SCBU = Special care baby unit

Table 4: Maternal condition and outcomes

Intraoperative complications	Frequency(N=81)	Percentage(%)
PPH	12	14.8
Bladder injury	18	22.2
Uterine rupture	06	7.4
None	45	55.6
Total	81	100.0
Postoperative complications		
Infection(puerperal sepsis, wound infection)	07	8.6
Post op anaemia	12	14.8
Obstetric palsy	02	2.5
None	60	74.1
Total	81	100.0

PPH = Primary postpartum haemorrhage

DISCUSSION:

The prevalence of obstructed labour in this study was 1.2%. This is much lower than 2.7% reported by Nwogu-ikojo et al[9], in Enugun but higher than what was recorded (0.8%) in Kano, Nigeria, all of which are in different geopolitical zones of the country. The lower prevalence recorded in this study could be as a result of availability of more tertiary and specialist public and private maternity centers meeting the emergency obstetric needs of the population; the State has three tertiary health facilities, at least two other big secondary health facilities rendering specialized obstetric care and at least eight specialist private institutions giving specialist maternity care. There is definitely sharing of parturients among all these different levels of healthcare. Therefore, as this was a tertiary facility-based study, the prevalence could have been higher than this if it had been a multi-center study. This, therefore, calls for a more elaborate multi-center study in the State to get a more objective prevalence and picture of obstructed labour.

The peak age of prevalence was in 25-29years population, which was higher than 19-24years agerange recorded by Ritu and Sanjay[10]. This difference maybe due to delay in onset of childbearing in the locality, probably arising from late marriage as result of academic pursuit/sociocultural challenges. Primipara accounted for the larger percentage of obstructed labour which is comparable to the results of the previous studies[10-12]. It is, however, interesting to find out that less teenagers (18.5%) and more young adults (81.5%) were affected, contrary to the findings of earlier studies[2,13,14]. This could also be explained in terms of availability of the private specialist maternity centers which the majority of the teenagers might have approached for healthcare as studies have shown that pregnant teenagers would always prefer private institutions to public ones for confidentiality and avoidance of embarrassment and stigmatization[15,16].

Furthermore, the prevalence of obstructed labour was higher among the unbooked and traders. Similar findings were obtained in Ugandan and India[10,17]. Most of these trades were also likely to have low level of education; thus influencing their aversion for modern maternity care services like antenatal care and hospital delivery.

The study also showed that majority of the patients had been in labour for 24-48hours before presentation and with a large percentage of them in late first stage of labour. These findings are in keeping with previous studies[18-20]. A sizeable proportion (37%) of the fetuses presented with features suggestive of fetal distress, only 7.4% came out actually asphyxiated; this fall in the percentage could have been as are result of intrauterine resuscitation given before delivery. Appreciable percentage of the patients (14.8%) came with intrauterine fetal death; this is in consonance with some of the earlier studies on obstructed labour. It is also worth noting that virtually all the patients presented with the features of cephalopelvic disproportion/fetopelvic disproportion; with majority of the babies being average sized. This is in agreement with the findings of some of the previous studies[2,8].

The commonest intra-operative maternal morbidities recorded in this study included bladder injury and primary postpartum haemorrhage; with uterine rupture being the least recorded. This is in sharp contrast to the findings of Bako etal who gave sepsis and uterine

rupture as commonest morbidities[2].Itis interesting to find out that no fistula or maternal death was recorded in this study, despite the fact that anecdotal reports have it that appreciable number of patients present at the gynaecology unit of the department with vesico-vaginal fistula with some undergoing repair; and with obstructed labour reported as a cause of maternal deaths at some of the secondary health facilities in the State.

The strength of our study is the fact that this would be the first published study on obstructed labour not only in the institution of study but also in the entire State; the study is, therefore, likely to be a good template for subsequent larger studies on obstructed labour. A limitation of the study was obstructed labour and its complications must have been under reported as the study was an institution-based one. A larger multi-center study from the state will give a better clue to the burden of obstructed labour.

In conclusion, obstructed labour remains a huge burden; it is, therefore, more cost-effective to prevent it.Prevention would involve adopting short and long term measures approached in the context of primary, secondary and tertiary levels of prevention. Public enlightenment with appropriate health education on obstructed labour is key. Education of the girl child with the incorporation of reproductive health education into schools curriculum will definitely improve the health seeking behavior of our women. There should be appropriate political will towards mounting strategies that would change community`s negative perception and attitude towards utilization of modern maternity care services. There should be provision of more social infrastructures,basic/essential obstetric care and the required level of expertise at each level of healthcare. These will go along way to bridge the gaps in the various phases of delays in assessing the immediate and required emergency obstetric care needed.

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