

RETROSPECTIVE REVIEW OF THE PREVALENCE, CAUSES AND ADVERSE OUTCOMES OF OBSTRUCTED LABOUR AT THE DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY, UNIVERSITY OF ILORIN TEACHING HOSPITAL, ILORIN, NIGERIA

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ABSTRACT

Background: Obstructed labour is still a major cause of maternal and perinatal morbidity and mortality in developing countries. The aim of this study was to assess the prevalence, causes and adverse outcomes of obstructed labour at the Department of Obstetrics and Gynaecology, University of Ilorin Teaching Hospital, Ilorin, Nigeria, and also to compare present findings with earlier findings from this institution.

Methods: This was a three-year retrospective review. Records of admission between 1st of January 2010 and 31st of December for cesarean and vaginal deliveries over this period, as well, as records for cesarean deliveries for obstructed labour were retrieved and analyzed.

Results: There were 132 (1.48%) cases of obstructed labour among 8,931 deliveries during this period. The prevalence of obstructed labour was lower than the prevalence of 2.6% obtained earlier between 1st of January 1995 and 31st of December 1999. The booked patients constituted 16.7%. Approximately 65% of the parturients had secondary and post-secondary education and 53.1% were primigravidae. Cephalopelvic disproportion accounted for 50% of the causes of obstruction, compared with 64.3% in the earlier study. Ninety-seven percent had lower segment caesarean section. Surgical site infection [48.3%] was the commonest complication. Neonatal admission and treatment for perinatal asphyxia occurred in 15.6% of cases.

Conclusion: The prevalence of obstructed labour in this study was lower than the previous study carried out in this center. This may be a reflection of the improved health-care seeking

behavior and of the provided health care services.

Keywords: Prevalence, causes, outcomes, obstructed labour

INTRODUCTION:

Obstructed labour is still a major problem in the developing nations. The condition accounts for about 8% of maternal mortality.¹ It is equally an important cause of short and long term morbidity.² The condition has found ways of eluding eradication, like many other causes of maternal mortality. It hides under socio-economic problems and institutional inadequacies to retain its ignominious role. It has been demonstrated that the occurrence of obstructed labour can be reduced by tackling the “three phase delay” that occur in health-care delivery, especially in the developing nations.³ Labour is obstructed when there is complete halt in progress of labour despite adequate uterine contractions due to mechanical reasons and vaginal delivery is not possible unless assisted.⁴ By this definition it implies the fetus can no longer descend further down the birth canal. It is responsible for many of the operative obstetric interventions carried out in the developing nations.⁵ It constitutes a serious obstetric problem, still one of the major causes of maternal morbidity and mortality in developing countries accounting for about 8% of maternal mortality, and a major public health issue.^{5,6} Despite its significance however, it is confined almost exclusively to the developing nations. Africa has the highest maternal mortality in the world, it is estimated that 99% of maternal deaths occur in

developing nations.⁷ For a strategic reduction in maternal mortality in developing countries, the problem of obstructed labor will need to be addressed effectively.⁶ The prevention of obstructed labour can be achieved by improvement in maternal care, which include; health education on the importance of antenatal care, improvement of socio-economic conditions, family planning counseling and services, adequate training of the health-care providers, proper supervision of labour, financial empowerment of the women, regular attendance of ante-natal care.^{8,9} The use of the partograph to identify and prevent prolonged labour and subsequent obstruction is also a very vital tool. Studies have consistently demonstrated that the use of partograph reduces the incidence of obstructed labour.¹⁰ The use of skilled birth attendants to supervise labour and conduct deliveries will also go a long way in reducing the incidence of obstructed labour.⁸ There are differences in the presentation of obstructed labour, depending on whether the woman has delivered previously. The pattern in primigravidae is typically that of diminishing contractility with risk of infection and fistula, which may result from tissue necrosis, whereas in the parous women, the contractility is preserved with the risk of uterine rupture.¹¹ Modality for relieving obstructed labour is operative delivery and lower segment caesarean section is the appropriate choice after adequate resuscitation especially if the fetus is alive and indeed cesarean section is the commonest route of delivery.¹² Obstructed labour continues to be a major contributor to maternal morbidity and mortality in our environment. Continual audits of causes of maternal deaths will help identify other preventable risk factors that result into these complications and proffer solutions where applicable. Though there have been studies in the past in this center to evaluate obstructed labour, it was still expedient to review the condition and see if there has been improvement or reduction in the prevalence of the condition.

METHODS

This is a hospital based retrospective study of obstructed labour conducted from 1st of January 2010 to 31st December 2012 in the Department of Obstetrics and Gynaecology, University of Ilorin Teaching Hospital, Ilorin. The University of Ilorin Teaching Hospital is a referral center and the only teaching hospital in the State. Patients are referred from all over the State and peripheral villages and towns in neighbouring States. Inclusion criteria were pre- and intra-operative features of obstructed labour during presentation in the labour ward. Labour ward records and parturient's case notes were reviewed for socio-demographic data, antenatal care, intrapartum presentations, findings, causes, complications, maternal and neonatal outcomes of cases. The mode of delivery, post-operative care, and post-partum care were also noted. Information was collated using a self-designed study proforma. Data analysis was carried out with the Statistical Package for Social Sciences Version 16.

RESULTS

During the three year period, there were a total of 8,931 deliveries out of which 2,172 were caesarean deliveries. Although, 132 women had obstructed labour with an incidence of 1.48%, 96 case folders were retrieved giving a percentage retrieval rate of 72.73%.

Approximately 69% of the women were within age bracket of 19-34 years [Table 1], while 53.1% were primigravida. The booked patients constituted 16.7% while 83.33% were unbooked [Table 1]. The educational levels of these women are shown in Table 1. Eleven [11.5%] women with obstruction had no formal education, 23 [24%] had only primary education and 51% had secondary education. Fifty-three percent had been in labour at maternity homes while 10.4% had unsupervised labour at home [Figure 1].

A total of 79 patients (82.3%) presented in the first stage of labour, while 17 patients presented in the second stage of labour.

The causes of obstructed labour are presented on table 2. The most common cause was

cephalopelvic disproportion accounting for 50%. The least common causes were congenital anomaly and uterine fibroid in the lower segment of the uterus, 1.04% each.

The mode of delivery was by caesarean section in 97.9% of the cases [Figure 3]. Within the three-year period, 2172 caesarean deliveries were performed for various indications among which obstructed labour accounted for 6.01%.

Intra-operative complications of primary post-partum haemorrhage, was seen in 22 patients which accounted for 22.9% of the cases managed and one case of bladder injury which was repaired intra-operatively (Figure 3). All parturients that had postpartum hemorrhage were transfused; 13(13.5%) had one pint, 3(3.1%) had four pints of blood transfused however, 77 women were not transfused (Table

3).

Post-operative complications occurred in 58 patients (60.4%) as highlighted in Figure 4. The predominant postoperative complication was surgical site infection, in 48.3% of the patients. Vesico-vaginal fistula was seen in 7 cases accounting for 12.1% of post-operative complications; 4 of the fistulae were closed surgically, while 3 were lost to follow up.

There was a case of maternal death, giving a case fatality rate of 0.8%. There was also a case of post-partum depression. About 50% of the babies had good Apgar scores, 15.6% required further care at the neonatal intensive care unit while 34.4% were stillbirths [Figure 5]. The other patients were managed and discharged after a variable period of 7-24 days with a mean hospital stay of 11 days.

Table 1. Sociodemographic characteristics and presentation of the patients

Variables	Number of cases	Percentage of cases[%]
Age group (years)		
<19	10	10.4
19-34	66	68.8
>35	20	20.8
Gravidity		
1	51	53.1
2-4	37	38.5
=5	8	8.3
Booking status		
Booked	16	16.7
Unbooked	80	83.3
Stage of labour at presentation		
First stage	79	82.3
Second Stage	17	17.7
Educational status		
None	11	11.5
Primary	23	24.0
Secondary	49	51.0
Tertiary	13	13.5

Table 2: Causes of obstructed labour

Variables	Number of cases	Percentage[%]
<u>Cephalo-pelvic disproportion</u>	<u>48</u>	<u>50.0%</u>
Fetal macrosomia	9	9.4
Contracted Pelvis	29	30.2
<u>Malpositions</u>	<u>29</u>	<u>30.2%</u>
Occipito posterior position	20	20.8
Deep transverse arrest	9	9.4
<u>Malpresentations</u>	<u>17</u>	<u>17.7%</u>
Breech	3	3.1
Shoulder presentation	9	9.4
Brow presentation	1	1
Face presentation	4	4.2
<u>Others</u>	<u>2</u>	<u>2.08%</u>
Congenital anomaly;hydrocephalus	1	1.04
Lower segment fibroid	1	1.04
<u>Others</u>	<u>2</u>	<u>2.08%</u>
Congenital anomaly;hydrocephalus	1	1.04
Lower segment fibroid	1	1.04

Table 3: Blood Transfusion

Number of pints	Number of cases	Percentage[%]
No blood transfusion	74	77.2
One pint	13	13.5
Two pints	3	3.1
Three pints	3	3.1
Four pints	3	3.1

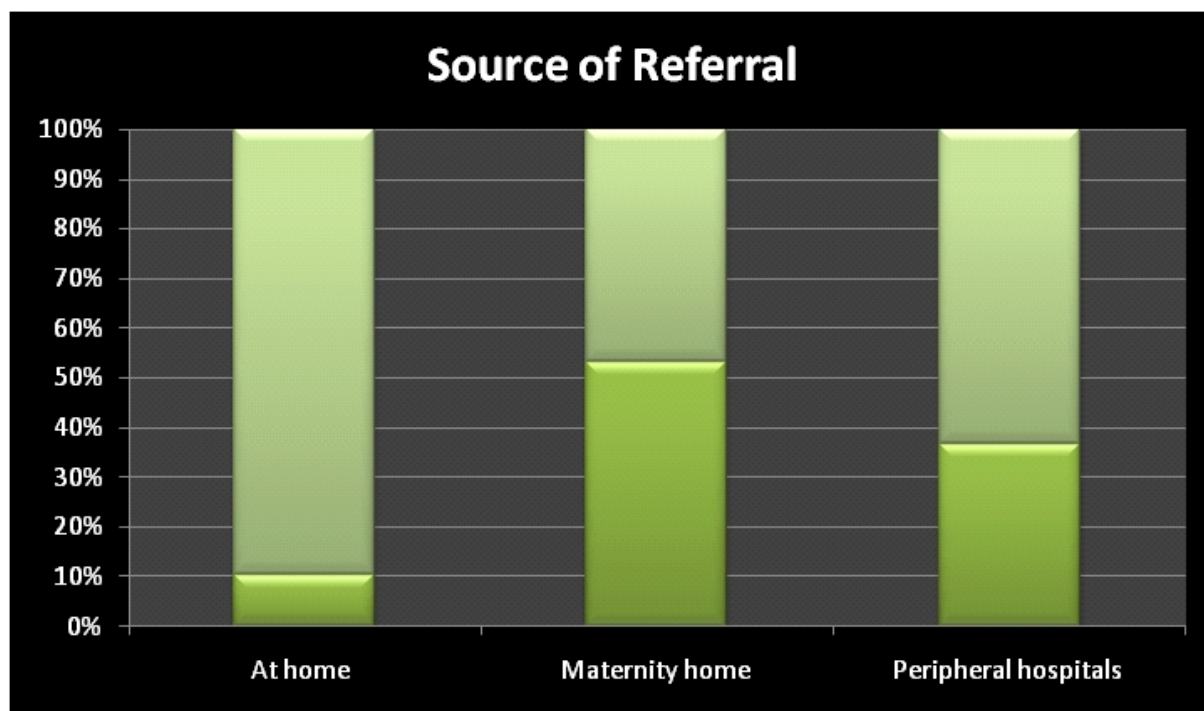


Figure 1

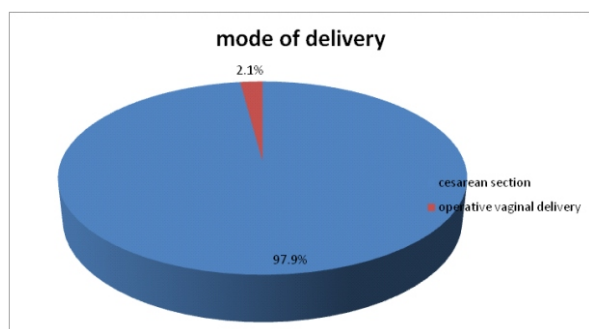


Figure 2

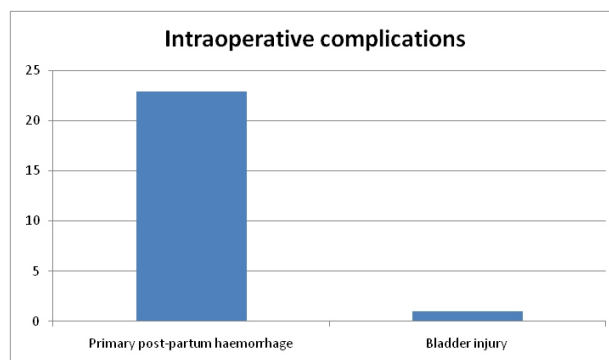


Figure 3

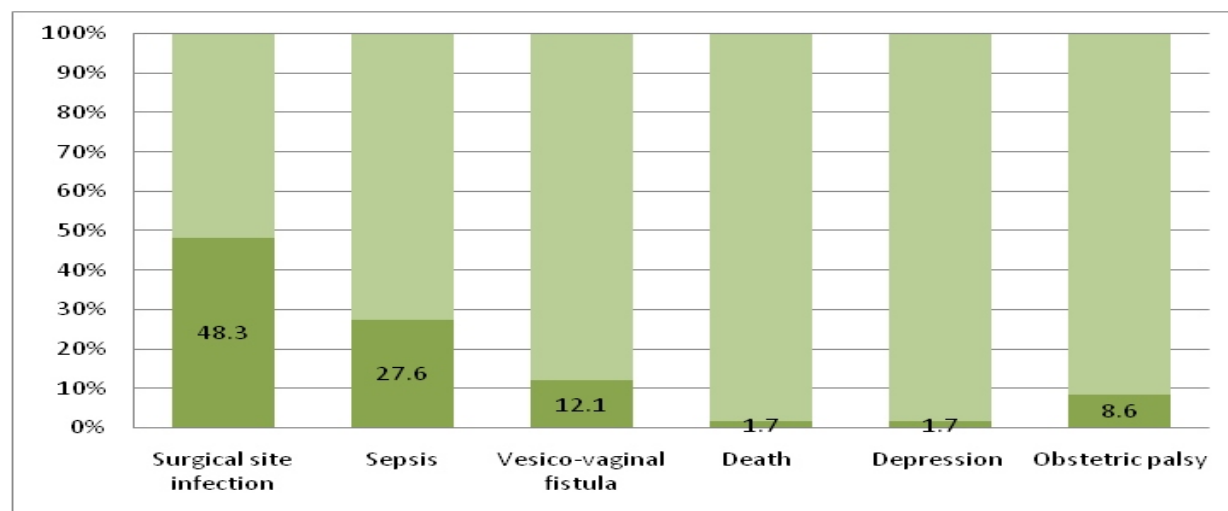


Figure 4 :Post-operative complications in percentages

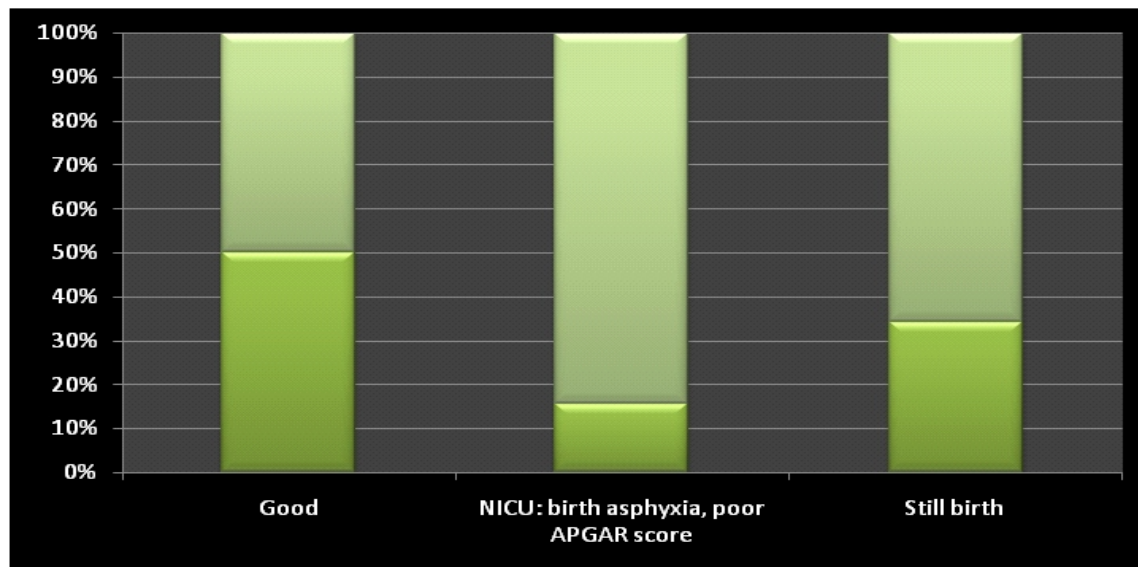


Figure 5: Fetal Outcome following obstructed labour

DISCUSSION

The incidence of obstructed labour varies among centers, regions and countries. The incidence in this particular study was 1.48% and is comparable to the incidence of 1.64% reported by Mondal S et al in west Bengal India.¹¹ In contrast, the observed incidence was lower than earlier reports of 3.2% by Aboyeji et al in 1999 and 2.6% by Balogun et al in 2005 from same centre as index study.^{12,13} Incidences of 2.7% and 4% respectively were reported in other parts of Nigeria.^{14,15} Fantu et al reported an incidence of 12.2% in Ethiopia,¹⁶ while 3.3% was reported by Gessesew et al in a study conducted in two Tanzanian hospitals.¹⁷ Lower rates of 0.56% and 1.27% were respectively reported by Adhikari et al from India¹⁸ and Dafallah et al in Sudan.¹⁹ This decreasing trend in incidence may probably be a reflection of improvement in antenatal and intrapartum care locally and in other developing countries.

Obstructed labour peaks in the reproductive age group as it was reported commonly within the age group 19-34 years in this study; this was comparable to previous findings in this center as well as report of Chhabra et al where the group constituted 64.7%.²⁰ Majority were unbooked patients, and this was comparable to finding of Fantu et al where 62% women did not have antenatal care.¹⁶ It should be noted that

while antenatal care will not accurately predict or prevent pregnancy and delivery complications, it can help guide an expectant mother and the Obstetrician to avoid attempts at vaginal delivery when there is an obvious contraindication to labour in cases such as transverse lie, and cephalopelvic disproportion.

Cephalopelvic disproportion was the leading cause of obstructed labour in this study. It accounted for 50% of the cases. In two previous studies in the same center, cephalopelvic disproportion accounted for 56.7%, and fetopelvic disproportion accounted for 64.3% and it was the commonest cause of obstruction.^{12,13} This was also the commonest cause according to Nwogu-Ikojo et al in Enugu, Nigeria.¹⁴ Cephalopelvic disproportion still remains the leading cause of obstructed labour, women therefore need to have supervised deliveries by skilled attendants for early risk assessment and prevention of obstructed labour and its complications. The other common causes identified in this study were malpositioning and malpresentations. The main mode of delivery was caesarean section, while destructive operation was carried out in only 2.1% of cases; this can be attributed to lack of requisite skills for the procedure among the doctors and probably aversion for destructive vaginal deliveries. Obstructed labor being a

grave condition, has no place for wait and watch policy. Where fetuses were alive, caesarean section offers better fetal outcome. Destructive procedures can reduce the incidence of surgical site infection and sepsis which were identified as the most common post-operative complications in this study. In fact, the only case of maternal mortality resulted from overwhelming sepsis. In addition, a high perinatal mortality of 34.4% was documented in this review.

The retrospective nature of this study with attendant poor record keeping and data loss, is a limitation even though file retrieval rate was 72.73%. Details of neonatal outcome were also not available because of poor documentation of follow up.

CONCLUSION

Obstructed labour is still a major cause of maternal morbidity, perinatal mortality in Ilorin, Nigeria. Although the incidence has reduced over the years in our center, health-seeking behavior vis-a-vis ante-natal care and hospital supervised labour, are still poor amongst women, in spite of the relatively high literacy level. In order to reduce maternal morbidity and mortality, the problem of obstructed labour has to be dealt with effectively.

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