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Original Research Article

Obstructed labour at Usmanu Danfodiyo university teaching hospital Sokoto: a five-year review

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ABSTRACT

Background: Obstructed labour is an obstetric emergency and one of the major causes of maternal and perinatal morbidity and mortality in the developing countries, Nigeria inclusive. The aim of this study was to determine the prevalence, causes and fetomaternal outcome of cases of obstructed labour managed at Usmanu Danfodiyo University Teaching Hospital Sokoto from 1st January, 2014 to 31st December, 2018.

Methods: This was a retrospective review of all cases of obstructed labour managed at Usmanu Danfodiyo University Teaching Hospital Sokoto over 5 years. List of cases managed during the study period was obtained and case notes were retrieved. Relevant information such as age, booking status, parity, educational status, address, causes, mode of delivery and both maternal and foetal outcomes were obtained from the case notes. Data analysis was done using statistical package for social sciences version 22 (SPSS Inc, Chicago, IL, USA).

Results: A total two hundred and seventy-six cases of obstructed labour were managed out of the 15,452 total deliveries during the study period. This gives an obstructed labour prevalence of 1.79%. The major cause of obstructed labour identified in this study was Cephalopelvic disproportion (74.6%) and majority of the patients were delivered by emergency lower segment caesarean section (70.6%). Up to 32.3% of the patients had no maternal complications and also 42.3% of them had live birth with no fetal complication. However, 20.2% of these patients had ruptured uterus and 37.9% of them had still birth, while 19.8% had live birth complicated by birth asphyxia.

Conclusions: This study has found that obstructed labour resulted in adverse maternal and perinatal outcome. Hence, there is need to prevent obstructed labour in order to avert this consequence.

Keywords: Nigeria, Obstructed labour, Sokoto

INTRODUCTION

Obstructed labour is a major cause of both maternal and perinatal morbidity and mortality in the developing countries including Nigeria.¹⁻⁴ It is still a major public health problem in these countries.

Labour is considered obstructed when the presenting part of the fetus failed to progress into the birth canal despite

strong adequate uterine contractions.^{5,6} It is a serious emergency situation. Apart from the maternal and perinatal death, obstructed labour is associated with number of debilitating and distressing maternal morbidities which includes uterine rupture, vesicovaginal fistula, recto-vaginal fistula, genital sepsis, gynaetresia, amenorrhea and impaired fertility.^{7,8} The most frequent causes of obstructed labour includes; cephalo-pelvic disproportion (CPD), malpresentation or

malposition of the fetus (shoulder, brow or occipito-posterior position), locked twin or pelvic tumour etc.^{9,10}

Obstructed labour is a serious emergency situation. Therefore, several interventions, such as the use of partograph to monitor labour and the provision of emergency obstetrics care services have been in place to reduce the scourge of obstructed labour and its sequelae. However, the incidence of this condition is still worry some in the developing countries including Nigeria.^{7,11,12}

Some of the contributing factors identified to make obstructed labour to be persistent in this setting are mainly socio-economic problems such as illiteracy, poverty, ignorance, belief in home deliveries under supervision of traditional birth attendants, maldistribution of health facilities, lack of good transportation system and aversion to surgery.¹⁰

The aim of the study was to identify the prevalence and outcome of the cases of obstructed labour managed at Usmanu Danfodiyo University Teaching Hospital Sokoto.

METHODS

This was a retrospective study of cases of obstructed labour managed at Usman Danfodiyo University Teaching Hospital, Sokoto, from 1st January, 2014 to 31st December, 2018. The list of cases of obstructed labour was obtained from the labour ward’s register, operating theatre’s register and the health records office of Usman Danfodiyo University Teaching Hospital Sokoto. The list of hospital numbers of all the cases was obtained and the case notes were retrieved from the medical records department. Relevant information that includes the age, booking status, parity, educational status, address, causes, mode of delivery and both maternal and foetal outcomes were obtained from the case notes.

Inclusion criteria

- All cases of obstructed labour that had all the relevant information required for the study.

Exclusion criteria

- Patients that had missing information in their folders were excluded.

Statistical analysis

Data analysis was done using statistical package for social sciences version 22 (SPSS Inc, Chicago, IL, USA).

RESULT

During this study period, there were a total of 15,452 deliveries out of which 276 were cases of obstructed labour and 248 folders were retrieved. The retrieval rate

was 89.9%. The prevalence of obstructed labour in this study was 1.79%.

Table 1: Socio-demographic characteristics of the patients.

	Characteristics	Frequency	%
Age	Less than 20 years	68	27.4%
	21 to 25 years	72	29.0%
	26 to 30 years	36	14.5%
	31 to 35 years	30	12.1%
	36 to 40 years	28	11.3%
Educational status	41 to 45 years	14	05.7%
	No formal education	201	81.1%
	Primary	40	16.1%
	Secondary	7	02.8%
Area of residence	Tertiary	0	00.0%
	Rural	239	96.4%
	Urban	9	03.6%
	Parity	0	100
1		45	18.1%
2		25	10.1%
3		16	06.5%
4 and above		62	25.0%
Booking status	Booked	18	07.3%
	Not booked	230	92.7%
Total		248	100%

Table 2: Causes of obstructed labour at UDUTH, Sokoto.

Causes	Frequency	Percentage
Cephalopelvic disproportion	185	74.6%
Persistent occipitoposterior position	22	08.9%
Face presentation	10	04.1%
Hydrocephalus	9	03.6%
Compound presentation	8	03.2%
Shoulder presentation	6	02.4%
Cervical fibroid	4	01.6%
Vaginal septum	4	01.6%
Total	248	100%

Most of the patients (29%) were in the age group of 21 to 25 years, followed by those that were less than 20 years 68 (27.4%) and the least age group was those that were greater than 40 years (5.7%). Majority of these patients (81.1%) had no formal education and up to 96.4% of these patents were from the rural areas. Most of them 100 (40.3%) were primigravidae and majority of them 230 (92.7%) their pregnancies were not booked.

The most common cause of obstructed labour identified in this study was Cephalopelvic disproportion (CPD),

which accounted for 74.6% of the cases. The causes of obstructed labour are shown in Table 2.

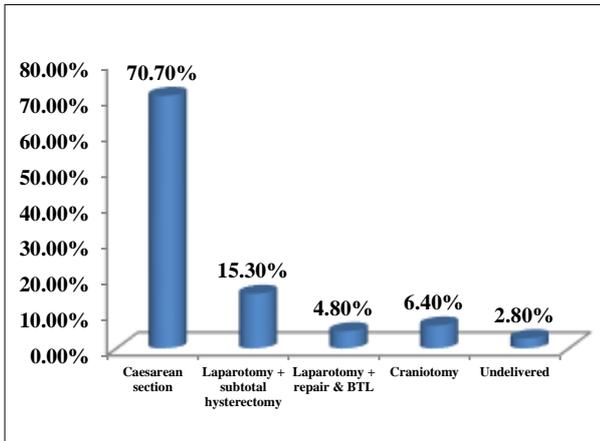


Figure 1: Modes of delivery among the patients with obstructed labour at UDUTH Sokoto.

Table 3: Maternal outcomes among the patients with obstructed labour at UDUTH Sokoto.

Maternal outcomes	Frequency	Percentage
No complication	80	32.3%
Ruptured uterus	50	20.2%
Wound sepsis	25	10.1%
Postpartum haemorrhage	20	08.1%
Puerperal sepsis	13	05.2%
Vesico-vaginal fistula	10	04.0%
Obstetric palsy	4	01.6%
Maternal death	17	06.8%
Mixed (more than one complication)	29	11.7%
Total	248	100%

Majority of these patients were delivered by caesarean section, while others were delivered by laparotomy + subtotal hysterectomy, laparotomy + repair of uterine rupture and bilateral tubal ligation, and craniotomy was done in 6.5% of the patients (Figure 1).

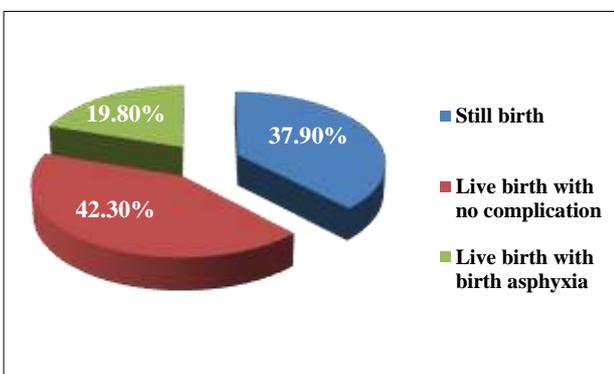


Figure 2: Fetal outcome among the cases of obstructed labour at UDUTH Sokoto.

Up to 32.3% of the patients had no complication. The complications encountered were ruptured uterus, sepsis, postpartum haemorrhage, and vesico-vaginal fistula. About 12% had had more than one complication. Maternal mortality occurred in about 7% of cases. The maternal outcome is shown in Table 3.

Majority of the patients (42.3%) had live birth with no fetal complication, while 37.9% of them had still birth and the remaining 19.8% of them had live birth but with fetal birth asphyxia, shown in Figure 2.

DISCUSSION

The prevalence of obstructed labour of 1.79% in this study is lower compared to the prevalence of 2% obtained in a similar study done in the same institution in 2010.¹⁰ It is also lower than that reported from Enugu (2.7%), Ilorin (3.2%) and Gombe (4%).^{7,11,13} This may be as a result of increase in awareness and attendance of antenatal care by the pregnant women as well as improvement in obstetric services in the peripheral hospitals.

Majority of the cases of the obstructed labour in this study were in the age group of 21 to 25 years, followed by those that are less than 20 years. This is similar to the previous study done in same institution, where the highest number of cases belonged the age group 20 to 24 years; as well as a study done at Patna medical college hospital India, in which 48.24% of the cases were within the age range of 21 to 25 years.^{10,14} This may be because of high fertility within this age group and in those that are less than 20 years their pelvis may not be well developed, which may predispose them to obstructed labour.

Most of the pregnancies in these cases were not booked and this may be related to the fact that majority of the patients had no formal education and also from the rural areas. This is similar to other studies done in India and Bangladesh.^{14,15}

Cephalopelvic disproportion was found to be the most common cause of obstructed labour in this study. This is similar to the previous studies done in Ilorin, Enugu and Gombe and also in Bangladesh.^{7,10,11,13,15} However, it differed from the findings in India, where malposition was the most common cause in 45.61% of the cases.¹⁴ Similarly, the most frequent mode of delivery of the cases in this study is lower segment caesarean section which is similar to the above mentioned studies.^{7,10,11,13,15}

Up to 32.3% of the patients in this study had no maternal complications and also 42.3% of them had live birth with no fetal complication. This may be attributed to the presentation and prompt intervention. However, 20.2% of these patients had ruptured uterus and 37.9% of them had still birth. These may be as a result of delay in presentation and inappropriate interventions by quacks

and other health personnel that increases the rate of complications.

CONCLUSION

Obstructed labour is a life-threatening obstetric condition that is associated with significant maternal as well as foetal morbidity and mortality.¹⁶ Therefore, health education, economic and social empowerment as well as early recognition and immediate intervention can go a long way in preventing this condition, its associated complications and improving the fetomaternal outcome. Several measures such as the use of partograph to monitor labour and provisions of emergency obstetrics care services also helps in the reduction of incidence of obstructed labour and its sequelae.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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