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**Dr. Gayatri Mathuriya**
Associate Professor, Dept. of Obstetrics & Gynaecology, M.G.M Medical College & M.Y. Hospital, Indore, Madhya Pradesh, India

**Dr. Shivangi Pandey**
Resident Doctor, Dept. of Obstetrics & Gynaecology, M.G.M Medical College & M.Y. Hospital, Indore, Madhya Pradesh, India

**Corresponding Author:**
**Dr. Gayatri Mathuriya**
Associate Professor, Dept. of Obstetrics & Gynaecology, M.G.M Medical College & M.Y. Hospital, Indore, Madhya Pradesh, India

# Maternal and perinatal outcome in in obstructed labour in M.Y.H. Indore

**Dr. Gayatri Mathuriya and Dr. Shivangi Pandey**

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**Abstract**
**Background:** The present study was conducted with the aim to observe the proportion of obstructed labour and to study maternal and perinatal outcome amongst the females presenting at M.Y hospital.
**Method:** The study was conducted as a prospective study at Department of Obstetrics and Gynaecology, M.Y. Hospital for a period of one year. All the patients presenting with features of obstructed labour attending the obstetric emergency department or developing obstructed labour in the present institution over the course of labour were included. All cases were immediately managed and were observed till admission. Maternal and fetal condition was evaluated.
**Result:** Proportion of obstructed labour was documented to be 1.18%. Most common cause of obstructed labour was cervical disproportion (36.3%). Maternal mortality was observed in 1 case whereas perinatal mortality was seen in 17% cases.
**Conclusion:** Early and timely identification of obstructed labour cases and immediate intervention can decrease the incidence of maternal and perinatal morbidity and mortality.

**Keywords:** Perinatal, maternal, obstructed labour, causes

## 1. Introduction
Obstructed labour has been defined as failure of descent of presenting part through birth canal, due to mechanical obstruction, either due to factors in the foetus or in the birth canal or both, despite strong uterine contractions which leads to various maternal and fetal outcomes [1]. Obstructed labour represents gaps in provision or utilization of antenatal or intranatal care. Though, obstructed labour is an entirely preventable condition but still it is the single most important cause of maternal death and one of the leading cause of perinatal death [2, 3]. Sustainable development goal aims to reduce the global maternal mortality ratio (MMR) to fewer than 70 maternal deaths per 100,000 live births by the year 2030.
In India, women especially of rural areas are traditionally expected to give birth at home, and during this process if any complications arises, there would be delay in reaching the appropriate health care facilities and accessing the health care services [4]. Apart from this, majority of health care facilities in peripheral areas lack the proper infrastructure as well as manpower to deal with such complications.
The most common morbidities associated with obstructed labour are prolonged labour, postpartum haemorrhage and puerperal infection. Obstetric fistulas are long term problems. Traumatic delivery affects both mother and child. Ruptured uterus or puerperal infection as a consequence of obstructed labour is the most common cause of maternal mortality whereas birth asphyxia is the most common complication of obstructed labour leading to perinatal mortality [5, 6]. The present study was conducted with the aim to observe the proportion of obstructed labour and to study maternal and perinatal outcome amongst the females presenting at Government Medical College and associated hospital.

## 2. Objectives
1. To assess the proportions of females presenting with obstructed labour
2. To study maternal outcome and to find out contribution of obstructed labour in maternal morbidity and mortality.
3. To study maternal outcome and to find out contribution of obstructed labour in maternal morbidity and mortality.

## 3. Methodology

The present study was conducted as a prospective study at Department of Obstetrics and Gynaecology, M.Y. Hospital for a period of one year i.e. from 1st April 2017 to 31st March 2018. All the patients presenting with features of obstructed labour attending the obstetric emergency department and all the patients developing obstructed labour in the present institution over the course of labour were included in the study. Patients presenting with ruptured uterus due to previous section were excluded from the study.

After obtaining ethical clearance from Institute's ethical committee, written consent was obtained from patients/ relatives. Detailed sociodemographic details were obtained from all the study participants and the findings were reported in pre tested questionnaire. Also the patients were enquired about detailed history such as obstetric history, menstrual history. A detailed history of presenting complaints was obtained with special reference to time of onset of labour, rupture of membranes, fetal movements, and treatment received till then. All patients underwent thorough general and systemic examination at the time of admission to assess general condition of mother as well as fetal lie, presentation, position and heart sounds. Pelvic examination was carried out to assess the cervical dilatation, state of liquor amniii, position, pelvic assessment, degree of caput, moulding. All the included cases were immediately managed and were closely observed till their stay in Hospital. Any death occurring as a consequence of obstructed labour was noted. Following delivery, APGAR score as well as neonatal condition was assessed. All the patients were followed up till 6 weeks following discharge. During follow up, data regarding maternal outcome were recorded which included abdominal distension, postpartum hemorrhage, foul smelling discharge, fever, character of wound, burning micturation, urinary incontinence. Also, fetal condition was evaluated by the type of feeding, occurrence of jaundice, neonatal infections. Apart from this outcome and complications of Cesarean Section (LSCS) or assisted deliveries were also recorded.

Statistical analysis- Data was compiled using MS excel and analysed using SPSS software version.

## 4. Observations and Results

Total admissions at present institution during the study period were 9250 and out of which 110 females presented with obstructed labour fulfilling the inclusion criteria. Thus proportion of obstructed labour was documented to be 1.18%. About 96 (87.3%) presented in emergency department and were referred from various nearby centres whereas only 14 (12.7%) patients cases were diagnosed as obstructed labour at present institution.

**Table 1:** Distribution according to sociodemographic variables

| Sociodemographic variables | | Frequency (n=110) | Percentage |
|---|---|---|---|
| Age group (years) | 16-20 | 30 | 27 |
| | 21-30 | 58 | 53 |
| | 31-40 | 22 | 20 |
| Socioeconomic status | High | 16 | 14.5 |
| | Low | 94 | 85.5 |
| Residence | Rural | 94 | 85.5 |
| | Urban | 16 | 14.5 |

Majority of patients in present study belonged to 21 to 30 years of age (53%) followed by 27% females belonging to 16 to 20 years of age. Maximum i.e. 85.5% patients each belonged to low socioeconomic status and were resident of rural area.

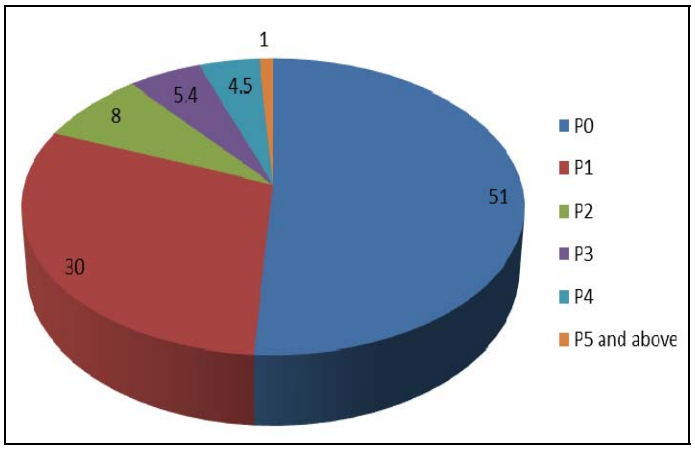


**Fig 1:** Distribution according to parity

Majority of females with obstructed labour were nulliparous followed by parity 1 (30%) and parity 2 (8%). Only 1% patients were multiparous.

**Table 2:** Distribution according to cause of obstructed labour

| Causes | Frequency | Percentage |
|---|---|---|
| Cervical disproportion | 40 | 36.3 |
| Occipito-posterior position | 14 | 12.7 |
| Deep transverse arrest | 12 | 10.9 |
| Congenital anomalies of fetus (Hydrocephalus, macrosomia, fetal ascites, sacrococcygeal tumor) | 11 | 10 |
| Deflexed head | 9 | 8.1 |
| Cord around neck | 7 | 4 |
| Cervical dystocia | 4 | 3.6 |
| Cervical Prolapse | 4 | 3.6 |
| Fibroid | 4 | 3.6 |
| Shoulder dystocia | 3 | 2.7 |
| Congenital anomaly of uterus | 2 | 1.8 |

Most common cause of obstructed labour in present study were cervical disproportion (36.3%) followed by occipito posterior presentation (12.7%) and deep transverse arrest (10.9%) and the least common cause was congenital anomaly of uterus observed in 1.8% patients.

**Table 3:** Distribution according to maternal outcome

| Maternal outcome | | Frequency | Percentage |
|---|---|---|---|
| Morbidity | Sepsis | 40 | 36.4 |
| | Postpartum haemorrhage | 24 | 21.8 |
| | Uterine rupture | 5 | 4.5 |
| | Subinvolution of uterus | 3 | 2.7 |
| | Shock | 1 | 0.9 |
| | Bladder injury | 3 | 2.7 |
| | Vesicovaginal fistula | 1 | 0.9 |
| | Rectovaginal fistula | 1 | 0.9 |
| | Broad ligament hematoma | 1 | 0.9 |
| | None | 30 | 27.3 |
| Mortality | Septic shock | 1 | 0.9 |

The present study documented morbidity in 79 cases out of 110 cases of obstructed labour. The most common morbidity was sepsis observed in 36.4% cases followed by postpartum haemorrhage and uterine rupture in 21.8% and 4.5% cases respectively. Maternal mortality was observed in only 1 case and the cause being septic shock.

**Table 4:** Distribution according to perinatal outcome

| Perinatal outcome | | Frequency | Percentage |
|---|---|---|---|
| Morbidity | Birth asphyxia | 20 | 18.2 |
| | Jaundice | 13 | 11.8 |
| | Sepsis | 11 | 10 |
| | MAS | 6 | 5.5 |
| | None | 41 | 37.3 |
| Mortality | Still birth | 19 | 17 |

Perinatal morbidity and mortality was seen in 50 (45.5%) and 19 (17%) cases respectively. Birth asphyxia was the most common complication observed in 18.2% cases followed by neonatal jaundice 11.8% cases.

LSCS was the most common procedure performed in 102 cases of obstructed labour. However, exploratory laparotomy, cephalocentasis and craniotomy was conducted in 5, 2 and 1 cases respectively.

## 5. Discussion

The present study aimed to study the maternal and fetal outcome in cases presenting with obstructed labour. In present study, maximum patients i.e. 53% belonged to 21 to 30 years of age followed by 27% females belonging to 16 to 20 years of age. This is due to the fact that this is the most fertile period in women life and hence the chances of obstetrics accidents are high during this period. Maximum i.e. 85.5% patients each belonged to lower socioeconomic status and were resident of rural area. The findings of present study were supported by findings of Rizvi *et al.* in which maximum cases were in age group of 19-24 years (64.4%) and 86.5% of the patients were from rural area and 78.2% of the patients were unbooked [7]. Mondal *et al.* also documented similar findings in which majority of the patients (87.86%) were from low socioeconomic group, 88.82% were from rural areas, 16.16% were illiterate, and 27.79% were unbooked [8]. This suggest that low socioeconomic status and rural areas are the common factors amongst patients with obstructed labour. Inadequate antenatal care as well as intranatal care might be the responsible factors for such complications and delayed presentations. Majority of females with obstructed labour were nulliparous in present study. Rizvi *et al.* also reported obstructed labour in 73.3% primigravida females [7].

The present study documented cervical disproportion as the most common cause of obstructed labour in 36.3% patients. Other causes included occipito posterior presentation and deep transverse arrest in 12.7% and 10.9% cases respectively. These findings were supported by Mondal *et al.* in which the common causes of obstructed labor were found to be cephalopelvic disproportion (55.59%), malposition (23%), and malpresentation (18.21%) [8]. Rizvi *et al.* also observed common causes of obstructed labour were cephalopelvic disproportion (55%), Malposition (22.9%), Malpresentation (17.9%) [7]. Our study findings were also supported by Fantu *et al.* in which the causes of obstructed labor were cephalo-pelvic disproportion in 67.6% and malpresentation in 27.9% [9]. Dafallah *et al.* in their study in Sudan also documented CPD in 57% cases [10]. Various other studies observed most common cause of obstructed labour to be cephalopelvic disproportions [11-13].

In present study, maternal complications were observed in 79 cases whereas maternal mortality was seen in 1 case and the cause being septic shock. The most common morbidity was sepsis observed in 36.4% cases and postpartum haemorrhage in 21.8% cases. Rizvi *et al.* documented maternal mortality in 3/402 (0.74%) and the common maternal complications were maternal sepsis (pyrexia (15.1%), urinary tract infection (7%), wound infection (12.8%) total (34.9%), abdominal distention (11.2%), Post-partum hemorrhage (9.7%), sub involution (10%), rupture uterus (4.16%). Vesico vaginal fistula was noted in 6 patients (1.49%) [7]. Maternal mortality was documented to be 1.60% in a study by Sabyasachi *et al.* [14], 2.04% in Adhikari *et al.* [15] Melah *et al.* observed puerperal sepsis as the most common cause of maternal morbidity [12]. Aboyeji *et al.* in their study observed that the common complications included wound infection (34.3%) and genital sepsis (31.3%) [13].

In our study perinatal morbidity was seen in 50 (45.5%) cases, of which the most common complications were birth asphyxia in 18.2% cases and neonatal jaundice. However, still birth was documented in 17% cases. Rizvi *et al.* reported a higher stillbirth rate of 21.3% and Perinatal morbidity was commonly dye to birth asphyxia (28.8%), Jaundice (16.9%), Septicemia (14.7%), Meconium aspiration syndrome (9.9%) [7]. Perinatal mortality reported from various studies are 27.1% by Dafallah *et al.* [10]. 22.68% by Sabyasachi *et al.* 22.68% [14].

## 6. Conclusion

The incidence of obstructed labour is decreasing as depicted from previous studies which could be due to improvement in antenatal as well as intranatal care. Despite best of efforts, the maternal and perinatal morbidity and mortality continues to be high amongst patients presenting with obstructed labour. Early and timely identification of obstructed labour cases and immediate intervention can decrease the incidence of maternal and perinatal morbidity and mortality.

## 7. References


1. Gessessew A, Mesfin M. Obstructed labour in adigrat zonal hospital, Tigray Region, Ethiopia. Ethiopian Journal of Health Development. 2003; 17(3):175-80.
2. WHO: Maternal health and safe motherhood programme world health organization partograph in management of labour lancet. 1994; 343:1399-1404
3. Weeks A, Lavender T, Nazziwa E, Mirembe F. Personal accounts of 'near□miss' maternal mortalities in Kampala, Uganda. BJOG: An International Journal of Obstetrics & Gynaecology. 2005; 112(9):1302-7.
4. Kabakyenga JK, Östergren PO, Turyakira E, Mukasa PK, Pettersson KO. Individual and health facility factors and the risk for obstructed labour and its adverse outcomes in south-western Uganda. BMC pregnancy and childbirth. 2011; 11(1):73.
5. McCarthy M. What's going on at the World Health Organization?. The Lancet. 2002; 360(9340):1108-10.
6. McCarthy M. A brief history of the World Health Organization. Lancet 2002; 360:1111-14.
7. Rizvi SM, Gandotra N. Maternofetal outcome in obstructed labour in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol. 2015; 4:1410-3.
8. Mondal S, Chaudhuri A, Kamilya G, Santra D. Fetomaternal outcome in obstructed labor in a peripheral tertiary care hospital. Med J DY Patil Univ. 2013; 6:146-50
9. Fantu S, Segni H, Alemseged F. Incidence, Causes and Outcome of Obstructed Labor in Jimma University Specialized Hospital. Ethiop J Health Sci. 2010; 20:145-51
10. Dafaiiah SE, Ambago J, El-Agib F. Obstructed labour in a teaching hospital in Sudan. Saudi Med J. 2003; 24:1102-4.
11. Nwogu-Ikojo EE, Nweze SO, Ezegwui HU. Obstructed labour in Enugu, Nigeria. J Obstet Gynaecol. 2008; 28:596-9.

12. Meiah GS, EL-Nafaty AU, Massa AA, Audu BM. Obstructed labour: A public health problem in Gombe, Gombe State, Nigeria. J Obstet Gynaecol. 2003; 23:369-73.
13. Aboyeji AP, Fawole AA. Obstructed labour in Ilorin, Nigeria. A one year prospective study. Niger Med Pract 1999; 38:1-3.
14. Sabyasachi mondal, fetomaternal outcome of obstructed labour Med Jour DY PATIL. 6(2):146-50.
15. Adhikari S, Dasgupta M, Sanghamita M. Management of obstructed labour; A retrospective study. J Obstet Gynaecol India. 2005; 55:48-51.