

# Obstructed Labour: A Life Threatening Complication

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### Abstract

Obstructed labour is an important cause of maternal death in developing countries. Obstructed labour also causes significant maternal morbidity mainly due to infection and hemorrhage and foetal death from asphyxia is also common. Objectives are to reduce maternal and newborn complications by early detection and rapid interventions and to reduce maternal and perinatal morbidity and mortality. This Hospital-based prospective cross-sectional study was conducted from June 2013 to June 2014 in Sylhet, MAG Osmani Medical College Hospital. 100 obstructed labour cases were selected those who were admitted in Inpatient department of Obstetrics and Gynaecology, SOMCH. 100 obstructed labour cases were recorded. The majority (80%) were residents of rural areas in which transportation were difficult, the occupation of the women were housewives mostly (90%) and remaining (10%) were tea-garden worker. 75% of the obstructed labour cases did not have any ante-natal follow-up. Most of the cases (70%) were visited Osmani Medical College Hospital by their attendant. 70% Visited at 12-24 hours of labour, (80%) came from a distance of 10-50 kilometers. Cephalo-pelvic disproportion was the major cause of obstructed labour (78%) and cesarean section was the main way of delivery (95%). PPH (4%), puerperal sepsis (4%), rupture uterus (2%), VVF (2%), rupture uterus with shock (1%), were the main complications and maternal death (1%). Obstructed labour was the major causes of poor perinatal outcome and perinatal death (7%). This study revealed high incidence of maternal morbidity and perinatal morbidity and mortality.

Key words : obstructed labour, outcome, risk factors.

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### Introduction

Obstructed labour is one where inspite of good uterine contractions; the progressive descent of the presenting part is arrested due to mechanical obstruction<sup>1</sup>. In the developing countries the prevalence of obstructed labour is about 2 to 8% in the referral hospital. Obstructed labour is still a major cause of maternal morbidity and mortality and of adverse outcome for newborns and accounts for approximately 8% of maternal death globally<sup>2</sup>.

There are five major causes of direct obstetric death: Haemorrhage (28%), complications of unsafe abortion (19%), pregnancy induced hypertension (17%), infection (11%), and obstructed labour (11%). Direct obstetric deaths account for about 75% of all maternal deaths in developing countries<sup>3,4</sup>.

To reduce maternal and perinatal morbidity and mortality and preventing obstetric complications by proper antenatal care, identification of high risk pregnancy and advise for institutional delivery, as most of the complications can be prevented. Cardio-tocography (CTG) and using partograph monitoring the foetal well being helps to reduce perinatal mortality<sup>5</sup>. There are different studies in developing countries showing incidences of obstructed labour varying from as low as 1.3%. In a Sudan study to as high as 7%. In a retrospective study done at Jimma University Specialized Hospital (JUSH)<sup>6</sup>. The major cause of obstructed labour identified in different studies was Cephalo-pelvic disproportion being responsible for 80% in JUSH, 67% in Nigerian study and 41.1% in an Indian study<sup>7</sup>. Several procedure are done to relieve the obstruction in obstructed labour. The major procedure done was cesarean delivery (C/S) which was done in 85% of cases in a Nigerian study and 63.3% of cases in Indian study<sup>8</sup>. Complications observed in women with obstructed labour at studied areas were puerperal sepsis in 57% cases in Nigeria, 12.5% in India and extension at time of surgery in 14% of cases in India. Maternal Mortality from obstructed labour ranges from 32/1000 in Nigeria to 91/1000 in Jimma University Specialized Hospital. The perinatal mortality was 160/1000 in India, 290/1000 in Nigeria and 621/1000<sup>9</sup>. It helps to compare the findings with present study done in the sylhet MAG Osmani Medical College Hospital, Sylhet which could give a picture about the status of quality of health service care.

## Materials and Methods

This study was a hospital based prospective cross-sectional study, carried out in IPD (inpatient department) of Obstetrics and Gynecology of Sylhet, M.A.G Osmani Medical College and Hospital, Sylhet in between June 2013 to June 2014. Total 100 cases were enrolled in this study. Data was collected by using a preformed questionnaire and check list. Cases were selected according to inclusion and exclusion criteria. Relevant information (according to questionnaire) were taken from patients or attendants after data collection all data were entered in master sheet and analyzed manually in view of the objective of the study. Results were published in tabulated form.

## Results

Table-I shows 60 (60%) of the obstructed labour cases were 18-20 years. Majority of them 95 (95%) were Muslim. Majority (70%) were Primipara, 90% were housewives and 10% were tea-garden worker, 50% had no education, 60% had monthly income <5000taka.

Table-I: Background characteristics of obstructed labour

Background information		Number of cases (n=100)	Percent
Age	18-20 years	60	60
	21-29 years	25	25
	30-24 years	13	13
	>35 years	2	2
Religion	Muslim	95	95
	Hindu	5	5
Parity	Primipara	70	70
	Para 2-4	25	25
	Para>5	5	5
Occupation	No Education	50	50
	Tea-garden worker	10	10
Education	No education	50	50
	Primary incomplete	48	48
	Secondary incomplete	2	2
Monthly income	<5000 taka	60	60
	5000-10000 taka	40	40

Table-II shows 75 (75%) of the obstructed labour cases did not have any antenatal follow-up. Most of the cases 65 (65%) visited hospital 70 (70%) visited in SOMCH between 12-24 hours of labour. About 80% cases came from distance between 10-50km.

Table-II: Distribution of cases with obstructed labour in relation utilization and access to health services

Health Service Utilization		Number of case (N=100)	Percent %
ANC follow-up	Had at least one follow-up	25	25
	Had no follow-up	75	75
Source of referral	Self	65	65
	Health center	35	35
Duration of labour before visiting SOMCH	<12 hours	10	10
	12-24 hours	70	70
	>24 hours	20	20
Distance from SOMCH	<10 kilometer	20	20
	10-50 kilometer	80	80

Table-III shows majority 60 (60%) attended late more than 24 hours of labour due to distance more than 10km (10-50 km)

Table-III: Factors associate with delayed visit to SOMCH among Obstructed labour.

Independent Variables	Categories	Duration of labour before arrival to SOMCH	
		<24 hours	>24 hours
Age	18-20 years	25	35
	21-29 years	15	10
	30-34 years	3	10
	≥35 years	0	2
Parity	Primi	45	25
	Para 2-4	10	15
	Para ≥5	1	4
ANC follow-up	Had at least one follow-up	20	5
	No follow-up	15	60
Distance	<10 kilometer	15	5
	10-50 kilometer	20	60

Table-IV shows CPD was the major causes 75 (78%) cases, mal presentation 10 (10%), mal position 7 (7%), followed by big baby 4 (4%) and fetal anomaly (1%).

Table-IV: Distribution of risk factors of obstructed labor

Cause	No. Patient and Percentage
CPD	75
Mal Presentation	10
Mal position	7
Big baby	4
Fetal anomaly	1

Table-V shows 20% cases of obstructed labour was prolonged abdominal distension, post-partum haemorrhage and puerperal sepsis both were 4% , rupture uterus and VVF both were 2% Rupture uterus with shock 1%, maternal death 1% (due to shock with DIC) and no significant complications 66%.

Table-V: Distribution of complication in case of obstructed labour.

Outcome / Complication	Number of Patient	Percentage
Abdominal Distension	20	20
Post-partum Haemorrhage	4	4
Puerperal Sepsis	4	4
Rupture Uterus	2	2
VVF	2	2
Rupture with Shock	1	1
Maternal Death	1	1
No Significant Complication	66	66

Table-VI shows Cesarean section was the major way of delivery 95 (95%) of cases followed by laparotomy 4 (4%) and craniotomy 1 (1%) of cases.

Table-VI: Intervention done in cases of obstructed labor

Intervention	Number of patient	Percentage
Cesarean section	95	95
Laparotomy	4	4
Craniotomy	1	1

## Discussion

This study had tried to look at risk factors and outcome of mother and newborn of obstructed labour admitted in Sylhet, M.A.G. Osmani Medical College Hospital, Sylhet.

This study showed a high incidence of maternal and perinatal morbidity. This hospital is a referral hospital covering wide catchments area and most of the patients referred were already complicated. Seventy-five percent (75%) of the obstructed labour did not have any antenatal follow-up where as twenty-five percent (25%) had at least one follow-up. The Cephalo-pelvic disproportion is the major cause of obstructed labour (78%), which is comparable to the study done in Jimma University Specialist Hospital, Ethiopia (67.6%) and study done in Nigeria<sup>8</sup>. lower than the previous study undertaken in this hospital<sup>7</sup>. Cesarean section was the main way of delivery (95%), which is higher than the study done in Nigeria and India<sup>8,9,11</sup>. Destructive delivery was least frequent mode of delivery compared to the other studies<sup>7</sup>. Prolong abdominal distention, PPH and puerperal sepsis, are the common complication of the study followed by rupture uterus, VVF, shock, DIC and death. Uterine rupture is a well known contributor of maternal hemorrhage and sepsis which are major causes maternal morbidity and mortality.

The study also showed obstructed labour to be one of the major causes of poor perinatal outcome. But it is to low than other studies made in Nigeria and India. Maternal and perinatal morbidity and mortality is associated with age, parity, low socioeconomic condition, ignorance and time for seeking treatment for obstetric complications. Thirty-four (34%) of women with obstructed labour developed complications and 66% not developed significant complication. One (1%) obstructed labour case died due to rupture uterus, sepsis, shock with DIC. The adverse outcome of obstructed labour, was associated with older age, high parity, areas of residence and particular health facility.

The main causes of obstructed labour in this study were CPD (78%), followed by mal- presentation (10%), mal- Position (7%), big baby (4%) and fetal anomaly (1%) which have been reported by others<sup>8</sup>. CPD is mostly due to contracted pelvic and adolescent or early marriages<sup>8</sup>. Grand multi para women may also be at higher risk of obstructed labour from mal-presentation and mal-position.

In conclusion, socio-demographic and health system factors are strongly associated with obstructed labor and its outcome. This study provides baseline information on the individual socio- economic and health system factors associated with obstructed labour.

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