

# FETOMATERNAL OUTCOME IN CASES REFERRED TO TERTIARY CARE HOSPITAL AFTER TRIAL OF LABOUR

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## ABSTRACT

**Background:** All pregnant women are at risk of obstetrical complications and most of these occur during labour. In our community local dai, trained birth attendants, lady health visitors and nurses contribute a major part in home deliveries which may be associated with increased risk of fetomaternal complications. **Objective:** To determine the fetomaternal complication in cases referred to tertiary care hospital after trial of labor outside the facility. **Patients and Methods: Study design:** Descriptive case series. **Setting:** Department of Gynaecology and Obstetrics, Sheikh Zayed Hospital, Rahim Yar Khan. Duration of study: One year from 1st January, 2012 to 31st December, 2012. A total of 240 patients who had a trial of labour outside the tertiary care Hospital, were selected for the study. The data was collected on a redesigned questionnaire, having demographic data fetal and maternal outcome. The outcomes assessed were fetomaternal complications i.e prolonged labour, obstructed labour, prolonged rupture of membranes, uterine rupture, abnormal presentation and primary postpartum haemorrhage. Foetal outcome in terms of Apgar score at birth and still births were studied. The data was entered and analyzed in SPSS version 15. **Results:** 240 patients admitted through emergency after trial of labour by Traditional birth attendants (TBA), Lady health Visitor (LHV) or doctors at home or private clinics were analyzed for fetomaternal outcome. Out of 240 patients in study, 118 (49%) were primigravida while 40 (16%) were grandmultipara. About 90% of patients never had any antenatal checkup. Majority of the patients (94%) were under care of TBA & LHV. The maternal morbidities were prolonged labour 128 (53.3%), obstructed labour 76 (31.6%), prolonged rupture of membranes 60 (25%), abnormal presentation 50 (20.83%), and primary postpartum hemorrhage 30 (12.5%). Two thirds of the mothers were in need of emergency obstetric care: 70 patients (29.16%) required forceps or vacuum extractions and 118 patients (49.16%) required caesarean section. Laparotomy was carried out in 10 patients due to ruptured uterus, out of which four had hysterectomy. There were two maternal deaths due to ruptured uterus. Regarding perinatal outcome there were 64 stillbirths, while 102 had Apgar score below 5 at five minutes. 24 babies died in first 12 hours. **Conclusion:** This study concludes that complications of labour if not timely diagnosed and rectified results in adverse fetomaternal outcome. Provision of skilled birth attendant at doorstep will be an ideal solution.

**Key words:** Labor, Childbirth, Obstetrics, Risk, Emergency Medical Services, Midwifery, Delivery

## INTRODUCTION

Labour is a physiological process, but it carries an inherent risk of complications, so it requires supervision by skilled birth attendants (SBAs). Delivery conducted by an untrained birth attendant had a 4.67 times higher morbidity and mortality as compared to one conducted by SBAs.<sup>1</sup> In our community majority of women prefer delivery by local Dai, trained birth attendant (TBA), lady health visitors (LHV) and nurses at home or at their private setup which is associated with increased risk of complications because they are not properly trained in managing labour and its complications. The important factor in choosing home birth for many women is discomfort or fear of hospitals. Some feel that home birth is more

natural and less stressful<sup>2</sup>. In recent survey of Punjab, Pakistan, 50% of deliveries are conducted by local Dai<sup>3</sup> and deliveries conducted by skilled birth attendant are 42.6%.<sup>4</sup>

It is observed that labour complications have a very strong effect on perinatal mortality complications such as antepartum haemorrhage, obstructed labour, prolonged labour, malpresentation, eclampsia, prematurity and premature rupture of membranes, increase the risk of perinatal death<sup>5</sup> and rate of perinatal death is higher in home deliveries.<sup>6</sup>

The direct causes of maternal deaths are haemorrhage, infection, obstructed labour, hypertensive disorders in pregnancy and complications of unsafe abortions.<sup>7</sup> Eclampsia and haemorrhage has been two leading causes of maternal death.<sup>8</sup>

Haemorrhage, a major cause of maternal mortality is an indicator of health quality as it reflects the appropriateness of obstetrical care during child birth.<sup>9</sup> Obstructed labour is a serious emergency in obstetrics, endangering the life of the mother and fetus.

Percentages of fetomaternal complications which

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occurs in women who have taken trial of labour outside the hospital are postpartum haemorrhage 10%, obstructed labour 38%, caesarean section rate is 49% and instrumental delivery 29%, low Apgar score 45% (score below 5 in first 5 minutes) and still birth are 23%.<sup>10</sup> It is a tragic situation that most of the fetomaternal morbidity and mortality are not caused by disease but occur during or after labour which is a natural process. This study will highlight the adverse fetomaternal outcome in patients who had trial of labour outside hospital, which can be prevented by timely diagnosis and treatment, so that women should be encouraged to utilize proper antenatal care and plan their deliveries with skilled birth attendants.

## RESULTS

In this study, 240 patients admitted through emergency after trial of labour by TBA, LHV or doctors at home or private clinics were analyzed for fetomaternal outcome. Out of 240 patients in study group, 118 were primigravida while 40 were grandmulti. About 90% of patients never had any antenatal checkup. Maximum patients (94%) were under care of TBA & LHV (Table-II). The maternal morbidities were prolonged labour 128 (53.3%), obstructed labour 76 (31.6%), prolonged rupture of membranes 60 (25%), abnormal presentation 50 (20.83%), and primary postpartum haemorrhage 30 (12.5%) (Table I). Two thirds of the mothers were in need of emergency obstetric care: 70 patients (29.16%) required forceps or vacuum extractions and 118 patients (49.16%) required caesarean section. (Table III). Laparotomy was carried out in 8 patients due to ruptured uterus, out of which four had hysterectomy. There were two maternal deaths due to ruptured uterus (Table II). Regarding perinatal outcome there were 64 stillbirths, while 102 had Apgar score below 5 at five minutes, whereas, 24 babies died in first 12 hours (Table IV).

**Table III: Mode of Delivery (N= 240)**

Mode of Delivery	No	%
Vaginal delivery(SVD)	42	17.5%
Instrumental	70	29.16%
LSCS	118	49.16%

**Table I: Socioeconomic and demographic characteristics of mothers (n= 240)**

Age (years)	No	%
20-25	30	12.5%
26-30	104	43.3%
31-35	76	31.6%
36-40	30	12.5%
<b>Education</b>		
Illiterate	150	62.5%
Under matric	50	20.8%
Above matric	30	12.5%
Not recorded	10	4.1%
<b>Occupation of Mothers</b>		
House lady	120	50%
Agricultural work	110	45.83%
Salaried employment	20	8.3%
<b>Gravidity/Parity</b>		
1	118	49.16%
2-6	82	34.16%
>6	40	16.66%
<b>Past History</b>		
Stillbirth	22	9.16%
Neonatal death	36	15.0%
No stillbirth or neonatal death	182	75.83%

**Table II: Maternal morbidities (N=240)**

Type of morbidity	No.	% age
Prolonged rupture of membranes	60	25%
Prolonged labour	128	53.3%
Obstructed labour	76	31.6%
Abnormal presentation	50	20.83%
Retained placenta	6	2.5%
Perceived excessive bleeding on first day	64	26.6%
Primary postpartum hemorrhage	30	12.5%
Uterine rupture	10	4.1%
Laparotomy	8	3.3%
Maternal death	2	0.83%

**Table IV: Fetal outcome (N= 240)**

Parameters	No	%
<b>Apgar score &lt; 5 at 5 min of birth</b>	102	42.5%
<b>Still birth</b>	64	26.6%
<b>Died on first 12 hours</b>	24	10%
<b>Normal</b>	24	10%

## DISCUSSION

Labour is a physiological process, but it carries an inherent risk of complications. So, it requires supervision by skilled birth attendants (SBAs). Obstetrical care in the western world is at its peak. But in developing countries it is still at the docks, especially in Pakistan, due to illiteracy, male dominant society and untrained birth attendants. Majority of the population living in the rural areas do not have an accessibility to the maternity centers and may develop life threatening complications during labour.<sup>11</sup>

In this study, we tried to identify maternal and fetal outcome after a trial of labour in the pregnant women referred from rural areas of Rahim Yar Khan. In this study, very high maternal morbidity, stillbirth and perinatal death rates were recorded. We have found few other comparable sets of data and surveys in South Asia e.g. a study conducted by Bang A et al, in India, various parameters of maternal morbidity are comparable to our study i.e. prolonged labour was 48.5%, obstructed labour was 30%, prolonged rupture of membranes was 28%, abnormal presentation was 16% and primary postpartum haemorrhage was 10%. The maternal morbidity rate recorded in our study is also very high and comparable to the study of Bang A et al. The maternal morbidities in our study are prolonged labour (53.3%), obstructed labour (31.6%), prolonged rupture of membranes (25%), abnormal presentation (20.83%) and primary postpartum haemorrhage (12.5%).<sup>12</sup> Similarly, emergency cesarean section rate due to trial of labour at low resource setting by Dais and lady health workers in the study conducted at Ayyub medical college is comparable to our study i.e. 45% (49.1%).<sup>13</sup> But in high resource settings results are different e.g. in a study conducted at Abha, KSA by Zia S, frequency of uterine rupture is only 0.8% with no mortality, among these only 12.12% cases were presented after trial of labour

at home with previous scars.<sup>14</sup>

Regarding the fetal parameter, a study conducted by Kwajjeet kaur et al, in India, showed higher rate of fetal distress (61.12%) in unbooked mothers which lead to increased incidence of cesarean section.<sup>15</sup> Khatoon et al, and some other groups also showed that most common reason for referral among unbooked mothers is meconium staining leading to birth asphyxia and poor neonatal outcome.<sup>16,17</sup>

It is likely that in the urban areas of Punjab, where health programs are well developed, maternal morbidity is not as high as in the rural areas of Rahim Yar Khan. We tried to identify risk factors that might help traditional birth attendants and midwives working in rural antenatal clinics with few facilities to identify at-risk pregnant women who might benefit from delivery in a tertiary health centre. Because our sample size was relatively small, only risk factors exerting a strong effect would have been detected. As expected, we found that primigravidae, women with 5 or more previous pregnancies, women over the age of 30 years, or women with multiple pregnancies were all at risk. Our attempts to detect other risk factors were unsuccessful.

In Pakistan, over 80% of the deliveries are still taking place at home, majority of them being conducted by the Traditional Birth Attendants (TBAs). The TBAs are, however, not supervised in their work and there is no back up support in time of need. A review of TBA training and utilization of programmes in 70 countries over the past three decades showed that there are limited examples of their successful utilization.<sup>18</sup>

The analysis presented in this article provides descriptive evidence of the factors related to obstetric outcome of cases referred to Sheikh Zayed Hospital, Rahim Yar Khan, grouped according to their respective levels of maternal mortality and fetal outcome. The maternal morbidities have been associated with substandard medical care in rural areas of Pakistan, therefore further investigation across countries can provide insight into how some medical systems may be better meeting the needs of their patients for obstetric care, particularly when obstetric emergencies arise.

## CONCLUSION

Various factors like lack of awareness regarding antenatal care, health education, financial constraints, environmental and cultural prejudices, male involvement in the maternal health, lack of transport

facility and absence of patients counseling regarding prior planning of mode of delivery might be responsible for decompensated obstetrical condition at the time of presentation, so the conclusion is that complications of labour if not timely diagnosed and rectified results in adverse fetomaternal outcome.

Women who deliver in rural homes potentially need emergency obstetric care. Frequent maternal morbidity, and its association with adverse perinatal outcome, suggests the need for tertiary care in developing countries for both mother and baby, along with provision of skilled birth attendant at doorstep will be an ideal solution.

## REFERENCES

- Joshi R. Perinatal and neonatal mortality in rural Punjab, Working Paper. Thiruvananthapuram: Achutha Menon Center for Health Science Studies; July 2003. Report No. 3.
- Vernon, David. "Men at birth". Australian College of Midwives, Canberra, 2007, p. 8.
- Birth care, District Based Multiple Indicators Cluster Survey 2003-04: p. 45.
- Maternal and newborn health. Preliminary results October 2008, District Based Multiple Indicators Cluster Survey 2007-08: p. 2.
- Khan KS, Wojdyla D, Say L, Gulmezoglu AM, Look PFV. WHO analysis of causes of maternal death: a systematic review. *Lancet*.2006;367:1066-74.
- Kennare RM, Keirse MJ, Tucker GR, Chan AC. Perinatal death associated with planned home birth in Australia: population based study. *BMJ* 317:384-8. Retrieved on 28th May, 2005.
- Walker GJ. Maternal mortality in Jamaica. *Lancet*. 2006;2:486-8.
- Sayeba A. presentation of workshop on facility based maternal death review at Dhaka Medical College Hospital. 2005, Dhaka.
- Bashir A. A five year study of maternal mortality in Faisalabad city. *Pak. Int. J. Gynecol. and Obstet*.2006;50:93-6.
- Zahid B, Khawaja N, Tayyab R. Obstetric outcome of cases referred to a tertiary care hospital after trial of labour, *Ann King Edward Med Coll*. 2005;11:289-91.
- Mustafa R, Hashmi H, Jawaid M. Emergency obstetrical hysterectomy. *JBUMDC*.2011;1(1):3-7.
- Bang A, Bang R, Baitule SB, Reddy MH and Deshmukh M. Effect of Home based neonatal care and management of sepsis on neonatal morality: field trial in rural India. *The Lancet* 1999;354:1955-61.
- Shamshad. Factors leading to increased cesarean section rate. *Gomel J Med Sci*.2008.1-5.
- Zia S, Rafique M, Rizwan A, Amin AB, Khan T. Uterine rupture: Changing trends in obstetrics & lesson for obstetricians. *J South Asian Feder OBST gne*,2012;4(3):155-8.
- Kaur J, Kaur K. Conditions behind the fetal distress. *Annals of Biological Research*.2012,3(10).4845-51.
- Mohamed Lotfy Mohamed, Sabah Lotfy Mohamed and Amina S. Gonied. Comparative study between two perineal management techniques used to reduce perineal trauma during 2<sup>nd</sup> stage of labor. *Journal of American Science* 2011; 7(11): 228-232.
- B Chigbu, S Onwere, C I Kamanu, C Aluka, O Okero, E Adibe. Pregnancy outcome in booked and unbooked mothers in Southeastern Nigeria. *East African Medical Journal*.2009.86(6):261-7.
- Malik HS. Frequency, predisposing factors and fetomaternal outcome in uterine rupture. *J Coll Physicians Surg Pak* 2006;16:472-5.