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FETOMATERNAL OUTCOME OF PATIENTS REFERRED TO TERTIARY CARE HOSPITAL AFTER TRIAL OF LABOUR

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ABSTRACT

Objective: To find out the fetomaternal outcome of patients referred to tertiary care hospital after trial of labour.

Methodology: This descriptive study was conducted in the Department of Obstetrics and Gynaecology, Hayatabad Medical Complex, Peshawar. All patients admitted in the labour room who had trial of labour outside the hospital by midwife, lady health visitor (LHV) or doctor were included in the study. Patients who were not handled outside hospital were excluded. Patients were selected through non probability convenient sampling technique after informed written consent. At the time of admission detail clinical evaluation was done to assess the condition of both mother and fetus. Patients were then managed according to the labour suit protocols. Data were entered on a predesigned proforma and then analyzed using descriptive statistics including frequencies and percentages using SPSS version 20.

Results: A total of 186 patients were included in the study. Mean age of the patients was 27±6.8 years. Majority of the patients were multigravida (38.70%). Most of the patients were handled by LHV/ midwives 109(58.60%). About 43.54% patients underwent cesarean section and 13.43% were delivered by instrumental delivery. Ruptured uterus was diagnosed in 1.07% cases, while 2.5% were having scar dehiscence. Postpartum haemorrhage occurred in 25 (13.44%) women. About 64(34.40%) babies were delivered with low APGAR score and 18(9.67%) babies were admitted in NICU.

Conclusion: Women who were handled outside hospital were associated with poor fetomaternal outcome.

Keywords: Fetomaternal Outcome; Pregnancy.

INTRODUCTION

About 2.6 million stillbirths occur every year in the world, and around 1.2 million occur during labour i.e. are intrapartum.¹ Worldwide 45 million births take place without a skilled birth attendant.² To ensure optimal pregnancy outcomes, all pregnant women need access to appropriate maternity care during antenatal/intrapartum and postnatal periods. This includes skilled birth attendance, and provision of basic and emergency obstetric care to all antenatal women.³ World health organization (WHO) and all health care organizations strongly advocate for “skilled care at every birth”. WHO defines a skilled birth attendant as “an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns”.⁴

According to 2019 Maternal Mortality Survey Summary Report of Pakistan about 71% of women were delivered in a health care facility while 3 out of 10 births occurred at home. Approximately 74% of deliveries are assisted by a skilled provider, mainly by an obstetrician/specialist. While 1 in 5 live births is assisted by a dai/LHW or traditional birth attendant (TBA). Certain factors affect the women decision regarding place of birth. Women who are more educated (94%), living in urban areas (85%) and those who are financially stable (92%) were most likely to deliver in a better health care facility by a trained /skilled personal.⁵

In 2019 maternal mortality ratio (MMR) in Pakistan was 186/100000 live births. It has been documented that 70% of maternal deaths were due to 5 major complications of labour i.e. haemorrhage, sepsis, eclampsia obstructed labour, and unsafe abortions.⁶

Prolonged labour pains (12%) and lacerations in the vagina (9%) were the most common complications during delivery. Women living in the urban area (92%) were more likely to receive care for delivery complica-

tions from a skilled healthcare provider than rural women (74%). Presence of skilled birth attendants during delivery complications was lowest in Balochistan and highest in Punjab (58% versus 82%).^{5,7}

Obstructed labor is one of the serious emergencies that may occur after a trial of labour. It endangers the life of both the mother and fetus, resulting in increased rate of perinatal and maternal morbidity and mortality. Majority of cases suffer obstructed labour because of the negligence of medical staff at periphery who keeps the patient in the hope of normal vaginal delivery.⁸

Although labour is a natural, physiological process but unfortunately sometime it ends up in complications resulting in maternal morbidity and mortality. It has been documented that more than 8 out of 10 women with delivery related complications were assisted by a skilled personal. Most of maternal and neonatal morbidities and mortalities are preventable. The most unfortunate thing is that these morbidities occur in the presence of skilled personal. There are different contributory factors leading to these complications.^{2,9} In Pakistan the traditional birth attendants (TBAs/Dais) are mostly not professionally trained, most of the time they are unaware of early warning signs encountered during labour and involved in injudicious use of oxytocin and labour induction medicine. So they refer the women to hospital very late and usually in a moribund condition.^{5,10} Other contributory factors include lack of awareness, poor nutrition status, inadequate referral system and lack of transportation.^{11,12} So, the rationale of present study is to find out the fetomaternal outcome in patients who are initially managed in peripheries and then referred to tertiary care hospital for further management. This study will help to find out the brunt of these mishandled patients ending in maternal and neonatal morbidity and mortality as local data is insufficient regarding the outcome of these mishandled cases.

METHODOLOGY

This descriptive study was conducted in the Department of Obstetrics and Gynaecology, Hayatabad Medical Complex, Peshawar from January 2022- December 2022 after approval from the ethical committee. All patients admitted in the labour room who had trial of labour outside the hospital by midwife, lady health visitor (LHV) or doctor in private/government hospital were included in the study, while patients whose labour was not handled outside hospital and those who delivered outside the hospital were excluded from the study. Trial of labour/handled was defined as patients who were given medication either for induction or augmentation of labour (Prostaglandin, misoprostol, oxytocin) in local community and then referred to tertiary care hospital.^{6,7}

Sample size as calculated using WHO software. Taking 14% prevalence of injudicious use of oxytocin and prostaglandin¹³, 5% margin of error and 95% confidence interval, the calculated sample size was 186. Patients were selected through non probability convenient sampling technique after informed written consent. At the time of admission detail clinical evaluation was done to assess the condition of both the mother and fetus. All baseline investigations were done. Patients were then managed according to the labour suit protocols. Maternal outcome included mode of delivery (normal vaginal delivery/instrumental delivery/cesarean section), postpartum hemorrhage (blood loss more than 500ml in normal vaginal delivery and more than 1000ml during cesarean section), genital tract trauma and maternal mortality. Fetal outcome included, still birth, meconium stained liquor, low APGAR score (<8/10), NICU admission. Details regarding bio data, level of the health care personal who has given the initial trial of labour and fetomaternal outcome were entered in a predesigned proforma. Data was analyzed through descriptive statistics including fre-

quencies and percentages using SPSS version 20.

RESULTS

A total of 186 cases were included in the study. Mean age of the patients was 27±6.8 years. Most of the patients were multigravida (38.70%) (Table 1). Majority of the patients were handled by LHV/ midwives 109(58.60%), while 48(25.80%) were managed in private clinics by the doctors, 29 (15.59%) were referred from DHQ/THQ hospitals. Only 43.01% had normal vaginal delivery while rest of the patients ended in either instrumental delivery or cesarean section (Table 2). 40.86% babies were having meconium stained liquor and 9.67% got admitted in NICU (Table 3).

DISCUSSION

In our study handled cases were associated with poor fetomaternal outcome. Cesarean section rate was 43.54% and 34.40% babies were delivered with low APGAR score. In a study conducted in Tanzania 69.2% patients were referred from lower health care facilities in labour. The main reason for referral was poor progress of labour (31%), followed by prolonged labour (27.1%), and obstructed labour (19.5%). Out of 6066 referred patients 44.6% ended up in cesarean section, post-partum hemorrhage was reported in 277 (10.6%) of patients. Rupture uterus occurred in 0.23% of handled cases. Maternal mortality was reported in 1.57% of referred women. Timely identification of early warning signs and referral to tertiary care hospital is important to minimize the adverse fetomaternal outcome.¹⁴ In a study conducted by Jhakar et al 9.96% of admitted cases were referred from other health care facilities. Maternal mortality was reported in 0.88% cases and most important cause was hemorrhage. Out of 1014 cases 5.3% cases were admitted in ICU. Maternal morbidity included anemia (51.09%), PPH (18.02%),

Table 1: Demographic details of the patients (n= 186)

Variables	Frequency (%)	
Age(years)	≤ 20	24 (12.90%)
	21-30	80 (43.01%)
	≥ 30	64 (34.40%)
Gravidity	Primigravida	60 (32.25%)
	Multigravida	72 (38.70%)
	Grand multi gravida	36 (19.35%)
Period of Gestation(weeks)	< 37	12 (6.45%)
	37-40	96 (51.61%)
	> 40	60 (32.25%)

Table 2: Maternal Outcome (n= 186)

Variables	Frequency (%)	
Mode of delivery	Normal vaginal delivery	80 (43.01%)
	Vacuum delivery	17 (9.13%)
	Forceps delivery	8 (4.30%)
	Caesarean section	81 (43.54%)
Rupture uterus	Rupture uterus	2 (1.07%)
	Scar dehiscence	4 (2.15%)
Postpartum hemorrhage		25 (13.44%)
Maternal mortality		2 (1.07%)

Table 3: Fetal outcome (n=186)

Variables	Frequencies(Percentages)
Low APGAR score	64 (34.40%)
Meconium stained liquor(MSL)	76 (40.86%)
Intra uterine fetal death(IUD)	9 (4.83%)
NICU admission	18 (9.67%)

infection (4.07%), postpartum eclampsia (3.27%).¹⁵ In a local study by Zahid B et al maternal morbidity was present in 74% cases. Out of these 10% were having postpartum haemorrhage, 5% ruptured uterus, 12% puerperal pyrexia, 5% wound infection. In the study it was documented that 74% patients had trial of labour by TBA (traditional birth attendant), 20% by LHV (Lady Health Visitor) and 6% were handled by doctors.¹⁶ In our study 13.4% women ended in postpartum haemorrhage, 3.22% had rupture uterus. In 58.6% cases labour was managed by LHV, 25.80% were handled in private clinics, while 15.59% were referred by doctors.

Jhakar et al has reported that majority of referred cases were from Community health center (51.7%), then from District hospitals

(22.68%), Primary health center (10.94%), Sub centers (2.66%) and only 9(0.88%) referred cases were from private hospitals and clinics.¹⁵

Zahid et al reported 23% still birth in referred patients, 45% delivered with low APGAR score, while 10% had early neonatal death. Out of 100 handled patients 58 were induced and 42 were in spontaneous labour. Syntocinon was used in 48 patients, Prostaglandin E2 in 2 cases and in 8 patients both methods were used in combination.¹⁵ In a study by Ambreen A et al regarding handled pregnant women, 36% had babies born with low APGAR score, 34% still birth and 23% had NICU admission.¹⁷

Okaba et al has documented 8.9% ma-

ternal mortality in the referred patients. Majority (58.2%) of the referred patients were delivered by emergency caesarean and 9.8% by instrumental delivery. Ruptured uterus was present in 1.6% of cases. Poor fetomaternal outcomes of these emergency obstetric referrals were mainly because of late presentation, and one of the important factors of late presentation was an inefficient referral system. A functional referral system is an important component of emergency obstetric services in order to make sure that pregnant women and their unborn babies receive optimal care and chance of survival.¹⁸ In a study conducted in India it was reported that patients who were referred from other health care facilities had poor fetomaternal outcome. About 55% of the referred patients underwent caesarean section, PPH occurred in 6.66% of women, maternal mortality was present in 2.5% cases, septicemia was documented in 1.6%, puerperal pyrexia in 5% of and wound gaping in 3.33% cases. About 18% newborns were admitted to NICU for low APGAR score.¹⁹ Results of this Indian study correlates with our study. Nanda LS et al has reported that majority of patients were referred from District hospital (57.59%), 18.74 % were from Primary health care center and 5.92% from private hospitals. About 20.12% of the referred patients underwent cesarean section while 1.38% was delivered instrumentally. Maternal mortality occurred in 0.99% cases. About 3.31% were still birth while 15.75% of new born were admitted in NICU.²⁰ Similar results were also shown by other studies, emphasizing on an integrated referral system and also improving the health care facilities at Primary /Secondary health care units. This coordinated system will help in the improvement of Fetomaternal outcome in referred patients.²¹⁻²⁴

CONCLUSION

Women who were handled outside hospital especially by the nonprofessional health-care provider were associated with poor

fetomaternal outcome. In our study more than 50% handled women underwent cesarean section /instrumental delivery. Similarly 34.4% babies delivered with low APGAR score. We need to improve the referral system and also improve the health care facilities at the referral centers.

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Author's Contribution

RK conceived the idea, helped in data analysis and write up of the manuscript. NK contributed in designing the study and data analysis. FI, TA and S contributed in data collection and data analysis and write up of the manuscript. Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of Interest

Authors declared no conflict of interest

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None

Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.