



LABOR AT TERM; COMPARISON OF OBSTETRIC OUTCOME BETWEEN PRIMIGRAVIDA AND MULTIGRAVIDA PRESENTING IN LABOARTERY.

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ABSTRACT... Objectives: To compare the obstetric outcome between primigravida and multigravida presenting in labor at term. **Study Design:** Cross sectional study. **Period:** Six months from Jan 2013 to Jun 2013. **Setting:** Obs/Gynae unit III, Jinnah hospital, Lahore. **Patients and methods:** 800 patients were included in the study which comprised 400 of primigravida and 400 of multigravida. Patients having single, alive fetus with cephalic presentation at 37-41 weeks were included in the study. Those having recurrent miscarriages, parity >5, antepartum hemorrhage, previous uterine scars and significant medical illness were excluded from the study. The data was collected on specially designed proforma. Observations mode of delivery including the indication of cesarean section or instrumental vaginal delivery if applicable. Maternal complications such as postpartum hemorrhage along with its cause, retained placenta and uterine inversion were also recorded. Fetal and neonatal observations included CTG abnormalities, oligohydramnios, low birth weight, macrosomia, Apgar score < 7 at 5minutes, NICU admission, fresh still birth and early neonatal death. **Results:** Mean age was 25.57 + 3.46 years in primigravida women while it was 25.75 + 3.44 years in multigravida group. CTG abnormalities (15.5% VS 4.25%), instrumental deliveries (9.75% VS 1%), cesarean section (15.25% VS 1%) and postpartum hemorrhage (5.7% VS 1.75%) were commoner in primigravida women. In addition, NICU admissions, low birth weight babies and a low Apgar score at 5-minute were also commoner in primigravida women. **Conclusion:** Nulliparous women are at greater risk of labor abnormalities, fetal distress, instrumental deliveries, cesarean section, postpartum hemorrhage and neonatal morbidity. These adverse factors should therefore be looked for and treated well in time.

Key words: Obstetric outcome, primigravida, multigravida

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INTRODUCTION

Labor carries a significant concern not only for the mother but also for the fetus. The impact is even more in the under developed nations of the world where most of the women deliver at home or at places where even the minimum health care amenities are not available. Under these situations, the women and their babies may encounter a variety of complications which at their extreme may lead to fetal, neonatal or maternal mortality. Therefore, there is a huge need to identify women whose pregnancy is at increased risk of complications which is a pivotal part of antenatal screening.^{1,2} It is a real obligation to provide them necessary health care services to rescue and save their lives.³ Factors contributing to pregnancy complications are diverse including young age, lack of cognizance regarding

provision of antenatal care, health education deficiency, negligence, monetary limitations, ecological & traditional biases, involvement of male members in maternal health care, deprived nutritional status of young pregnant women like high prevalence of anaemia, conveyance issues, lesser focus on patient counselling before decision of mode of delivery particularly in primiparous are the important explanations behind high frequency of these complications. Moreover, Women facing these problems are by all means bound to receive care in insufficient facilities.

The impact of first delivery on forthcoming obstetric record and delivery decision by patient and the attending obstetrician is unmatched.⁵ Cesarean section rates fluctuate among obstetricians

due to various indications in low risk pregnant population.⁶ Since decision for labor and mode of delivery has a great bearing on future obstetrics of a woman, therefore cautious monitoring and a sensible decision for labor and mode of delivery is essential from the attending doctor.⁷

A primigravida's labor is way different from that of a multigravida. The distinguishing feature in a primigravida is lengthier duration when compared with multigravida. Low birth weight infants are more frequent in primigravida group which is responsible for higher morbidity and mortality risks. Furthermore, the likelihood of perineal trauma is higher in primigravida as a consequence of episiotomy or spontaneous tears. Another important aspect is the fact that intrapartum risk assessment usually depends upon past obstetrical performance which is obviously not pertinent to primigravida. Besides all these facts, the risk of adverse outcome with parity does not show a steady pattern.⁸ The objective of this study was to compare the obstetric outcome between primigravida and multigravida presenting at term in labor.

PATIENTS AND METHOD

The study was conducted from Jan 2013 to Jun 2013 at the Ob/Gyn unit III, Jinnah hospital, Lahore. 800 patients were included in the study comprising 400 of primigravida and 400 of multigravida. The sampling technique was convenient non probability. Patients having single, alive fetus with cephalic presentation at 37-41 weeks were included in the study. Those having recurrent miscarriages, parity >5, antepartum hemorrhage, previous uterine scars and significant medical illness were excluded from the study. The data was collected on specially designed proforma. Observations regarding maternal age, mode of delivery including the indication of cesarean section or instrumental vaginal delivery were done. Maternal complications such as postpartum hemorrhage along with its cause, retained placenta and uterine inversion were also recorded. Fetal and neonatal observations included oligohydramnios (diagnosed on ultrasound), abnormal CTG, low birth weight (<2.5kg), macrosomia (>4kg),

Apgar score < 7 at 5 minutes, NICU admission and early neonatal death. Percentages were calculated for the above except maternal age for which mean + SD were calculated for both groups. Chi square test was used for qualitative variables to assess any difference between the two groups. A p-value of < 0.05 was considered significant.

RESULTS

The mean ages in primigravida and multigravida group were 25.57 + 3.46 and 25.75 + 3.44 years respectively. CTG abnormalities were more in primigravida group than the multiparous women (15.5% VS 4.25%). Oligohydramnios was common among multigravida (11.5%, n=46) than primigravida (9%, n=36) however the difference was not statistically significant with p value= 0.140 (Figure-1). 9.75% (n=39) of primigravida while 1% (n=4) of multigravida women underwent instrumental vaginal delivery (p value <0.0001). Indications of instrumental deliveries among primigravida were fetal distress in 30 cases, maternal exhaustion in 4 and poor progress in 5 cases. 3 of the 4 multigravida underwent instrumental delivery due to fetal distress while one due to poor progress in second stage of labor. 15.25% (n=61) of primigravida women while 1% (n=4) of multigravida women had to undergo cesarean section (Table-I). Indications of cesarean section in primigravida group were failure to progress in 42.6% (n=26) and fetal distress in 57.4% (n=35) of total women undergoing abdominal delivery (Figure-2). Indications of cesarean section in multigravida group were fetal distress in 3 women and secondary arrest of cervical dilatation in 1 woman. 5.7% (n=23) of primigravida women had postpartum hemorrhage while this percentage was 1.75% (n=7) among multigravida group (p value <0.0001). The major cause of PPH was lower genital tract injuries in primigravida while uterine atony in multigravida group. There were 4(1%) cases of retained placenta in primigravida group while only 1 case of retained placenta in multigravida group (p value = 0.002). One case of 3rd degree perineal tear was observed in primigravida group while no such complication arose in the multiparous group. No case of

uterine inversion or maternal mortality observed in both.

variable	Primigravida N (%)	Multigravida N (%)	p-value
Instrumental delivery	39 (9.75%)	4 (1%)	0.0001
Cesarean section	61 (15.25%)	4 (1%)	0.0001
PPH	23 (5.7%)	7 (1.75%)	<0.0001
Retained placenta	4 (1%)	1 (0.25%)	0.002
Total no. of patients	400	400	

Table-I. Comparison of maternal complications between the two groups.

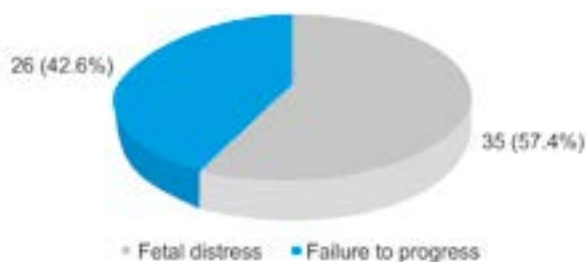


Figure-1. Comparison of fetal and neonatal complications.



Figure-2. Indications of cesarean section in primigravida

Neonatal 5-minute Apgar score of <7 was seen in 3% (n=12) of primigravida group while 1% (n=4) in multigravida group (p value = 0.157). Neonatal weight of >4kg was seen in 2% (n=8) of primigravida while it was 4% (n=16) in multigravida group (p-value=0.045). Neonatal weight of <2.5kg was seen in 10% (n=40) of primigravida while it was 2% (n=8) in the comparison group (p value <0.0001).

7% (n=28) of neonates in primigravida group needed NICU admission while this percentage was 3% (n=12) in multigravida group (p value < 0.0001). One case of early neonatal death was observed in primigravida group.

DISCUSSION

The link of parity and pregnancy outcome has been of great worry for obstetricians since long. The association between parity and pregnancy outcomes have been depicted by various studies. Adverse obstetric outcome is significantly associated with nulliparity especially in the context of developing world where the problem is further augmented by variety of other factors contributing towards poor maternal health.^{9,10} Nulliparity may impart such risks through higher rates of abdominal deliveries and greater probability of obstructed labor.¹ Also, because of the fact that nulliparous women have no obstetrical history, their risk assessment is deficient thereby increasing their likelihood of complications. Our study demonstrates that the nulliparity is associated with many obstetric risks. In this study, CTG abnormalities were more in primigravida group than the multiparous women. These results are consistent with the study performed by Hashim N et al.⁵ More women in nulliparous group underwent instrumental deliveries and cesarean section. These results are supported by the studies performed by Mbukani R et al.¹¹

Postpartum hemorrhage is a serious complication of 3rd stage of labor. In this study, it was observed to be higher in nulliparous than in multiparous women. However, the etiology is different in the two groups. These findings are consistent with the study performed by kremer MS et al and others.^{5,12} Uterine atony was the main cause in multiparous women while lower genital tract injuries were commoner among nulliparous women. One case of 3rd degree perineal tear was seen in primigravida group while no such case occurred in multiparous women. There were more cases of retained placenta in nulliparous group than multiparous women. According to an estimate of WHO, approximately 11% of new born babies suffer from low birth weight at term.¹³ Low birth weight babies were seen more frequently in primigravidas (10% n=40) than multigravidas (2% n=8). The results are statistically significant. Kaur J et al also observed higher rates among primigravidas however the percentage was higher than that observed in the current study.¹⁴ A statistically insignificant higher rate of

oligohydramnios was noted among multigravidas in the current study. The results are somewhat contrary to those observed by Kaur J et al where oligohydramnios was seen more frequently in primigravida group. In a study conducted by Nazlime N et al, multigravida group was prevalent among those having oligohydramnios.¹⁵ It was observed that poor Apgar score and NICU admission were higher in primigravida group than that of multiparous group.

This study is not without limitations being a hospital based observational study. There is a definite need of further research focusing more on the interventions to reduce the rate of various complication encountered.

CONCLUSION



Nulliparous women are at greater risk of labor abnormalities, fetal distress, instrumental deliveries, cesarean section, postpartum hemorrhage and neonatal morbidity. Such risk factors should be sought after and dealt well in time.

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