FREQUENCY OF FETO-MATERNAL COMPLICATIONS AND MORTALITY IN GRAND MULTI PARA WOMEN

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ABSTRACT

BACKGROUND: Grand multipara is the woman, who has given birth to five or more viable infants. Grand multiparity (GMP) in relation to obstetric performance is labeled as high risk: a pregnancy in which there is a factor maternal or fetal that will adversely affect the outcome of pregnancy.

OBJECTIVE: To observe the frequency of different maternal and fetal complications associated with grand multiparity

METHODOLOGY: A prospective, descriptive type of study conducted at Gynae 'A' Unit, Postgraduate Medical Institute, Lady Reading Hospital Peshawar from January 2008 to December 2008. All admitted antenatal patients who had five or more viable pregnancies were included in the study. All possible maternal and fetal complications were looked for and complete examinations of the neonates were done in liaison with pediatrics unit.

RESULTS: Amongst the hundred GMP women, 58% of the women had parity of 5 to 7, 37% had 8 to 10 children while 5% had more than 10 viable pregnancies. Total 56% patients had normal vaginal deliveries while 17 patients had C-section. Anemia, hypertension, diabetes, mal-presentation and antepartum hemorrhage were common prenatal complications.

Prolonged and obstructed labour 8%, postpartum haemorrhage 8%, precipitate labour 5%, cord prolapse 2%, ruptured uterus 2%, shoulder dystocia 1% and retained placenta 1%, were different complications. The major fetal complications seen were macrosomia, birth injuries, frequent neonatal ICU admissions, major congenital abnormalities and perinatal deaths. Total perinatal deaths were 07%, total maternal mortality was 03%, two women died due to severe haemorrhage while one died due to eclampsia.

CONCLUSION: There is still high frequency of grand multiparity in our population which is associated with frequent maternal and fetal complications. This leads to high maternal and fetal mortality.

KEY WORDS: Grand Multiparity, Maternal complications, Fetal Complications, Maternal Mortality, Fetal Mortality.

INTRODUCTION

Parity refers to the number of times a woman has given birth to an infant, dead or alive after the age of viability¹. Grand multipara is the woman, who has given birth to five or more viable infants². Grand multiparity (GMP) in relation to obstetric performance is labeled as high risk. A high risk pregnancy is any pregnancy in which there is a factor maternal or fetal that will adversely affect the outcome of pregnancy.

It is believed that increasing parity after the fifth delivery increases the maternal or perinatal morbidity and mortality. In terms of minimal risk concept the safest babies to have are second,

third and fourth. The hazards are greater for women in their fifth pregnancy and onwards².

Pregnancy after fifth delivery is viewed with anxiety, especially by obstetricians in developing countries working with inadequate facilities. High parity is still common with serious consequences to the fetus, the mother, the family and society³.

Solomon had rightly pointed out in 1934 that in child bearing, 'practice does not make perfect'. The incidence of grand multiparity has decreased in most Western Countries in recent years. There is tendency to disregard grand multiparity in modern western literature. Most of the textbooks

contain no account of this subject. This has resulted in insufficient data on outcome of grand multiparity in this era of modern obstetrics. In most of the western countries, the grand multiparity is not so common. Most of their studies have concluded that grand multiparity should not be regarded as an obstetric risk in the presence of satisfactory health care^{4,5,6}.

In the underdeveloped countries, grand multiparity is still common with its attendant maternal and fetal complications^{1,3,7}.

Large family size is not uncommon in Pakistan with tendency towards multiparity. Pakistan is the 6th most populous nation in the world after China, India and Indonesia etc. The population of Pakistan is about 185 millions with birth rate of 36/1000, fertility rate of 2.6% and maternal mortality rate of 350/100,000 live births. Although the prevalence of grand-multiparity is on the downward trend, it still remained an obstetric risk, therefore, the importance of booking and delivery in a well equipped facility should be emphasized among the obstetric population so as to reduce the complications that were found to be associated with the condition⁸.

Large family size is highly prevalent in Pakistan due to cultural, religious and social reasons. Due to poor access to health care facilities, both the maternal and fetal complications associated with grand multiparity are high in this part of the world. Lack of education, the interventions by TBA's and late referral to the specialist centres further aggravates the problem.

METHODOLOGY

This prospective study which included 100 cases of grand multiparous women was carried out in Gynae "A" Unit, Postgraduate Medical Institute, Government Lady Reading Hospital, Peshawar from January 2008 to December 2008. The P.G.M.I., Lady Reading Hospital, Peshawar is one of the busiest and largest tertiary care hospital which has a wide catchment area including suburbs of Peshawar and receives

patients from whole of Khyber Pukhtunkhwa and some parts of Afghanistan.

All antenatal patients admitted in Gynae "A" Unit, LRH, Peshawar, who had five or more viable pregnancies were included in the study. A detailed history was taken and relevant data was collected on a proforma. All possible maternal and fetal complications were looked for and complete examination of the neonates were done in liaison with Paediatric unit.

All antenatal consecutively admitted patients in Gynae "A" Unit of PGMI, Lady Reading Hospital, Peshawar, who had five or more viable pregnancies were included in the study. All women with less than five viable pregnancies were excluded from the study. Abortion, ectopic pregnancies and hydatiform mole were not regarded as pregnancy. Multiple pregnancies were regarded as single pregnancy. Data was analyzed using SPSS version 14.

RESULTS

Amongst the hundred GMP women, 58% of the women had parity of 5 to 7, 37% had 8 to 10 children while 5% had more than 10 viable pregnancies. Seventeen patients had C-section for different indications; like CPD 3%, Foetal distress 3%, Emergency repeat C-Section 2%, Placenta previa 2%, Transverse lie 2%, Elective repeat C-section 1%, PET 1%, and 1% each for cord prolapse and face presentation. Anemia, hypertension, diabetes, mal-presentation and antepartum hemorrhage were common prenatal complications (Table 1).

Table No 1

PRENATAL COMPLICATIONS	
Complication	No. of Cases
Anemia	30
Malpresentation	09
APH	07
Diabetes Mellitus	06
PIH	06
Hypertension (known)	05
Twins	04

Labour and postpartum complications were 43% of total patients (Table 02).

TABLE No 2

LABOUR & POSTPARTUM COMPLICATIONS (n = 43/100)	
Modes of Delivery	No. of Cases
Prolonged Labour	8
PPH	8
Abnormal Lie / Presentation	7
Precipitate Labour	5
Obstructed Labour	5
Preterm Labour	3
Cord Prolapse	2
Ruptured Uterus	2
Shoulder Dystocia	1
Retained Placenta	1
Wound Sepsis	1
TOTAL	43

The major fetal complications seen were 58% among them macrosomia 23%, birth injuries 12%, frequent neonatal ICU admissions 6%, major congenital abnormalities 5%, perinatal deaths 7% and low birth weight were 5% Total perinatal deaths were 07%. The major causes of perinatal mortality were congenital anomalies 3%, prematurity 1%, obstructed labour 1%, birth asphyxia 1%, and septicemia 1%. Total maternal mortality was 03%, two women died due to severe haemorrhage while one died due to eclampsia.

DISCUSSION

High parity with its attendant complications is still common in developing countries⁹. It is difficult to ascertain the effect exerted on pregnancy outcome by grand multiparity alone as this condition is invariably associated with advanced maternal age and low socioeconomic

status. Both these variables can adversely affect the outcome of pregnancy. In grand multipara, belonging to low socioeconomic class, medical problems usually coexist.

Our study has confirmed the findings of the studies conducted in other parts of this country, most of which are consistent with increased incidence of complications associated with grand multiparity^{3,9,10}.

Babinski et al did match for age and socioeconomic status. They found that high parity groups have their own risk factors, but the rate of some complications decrease with high parity. Our study is in contrast to the studies conducted in Western World and adds weight to the local studies^{1,9,10,11} regarding the incidence of different complications.

Due to narrow spacing of pregnancies the women were unable to replenish their iron stores and their Hb drops with repeated pregnancies and blood loss. This finding is consistent with the study done by Munim et al⁹, at Agha Khan University Hospital, Karachi and Malik et al at Services Hospital, Lahore and also with studies from other parts of the world¹¹.

The hypertension and diabetes was a common occurrence in our study. The association of diabetes and hypertension with grand multiparity has been described by different studies throughout the world^{3,5,9,12}. Some of which relate this high incidence with increasing age of the mother. The finding of higher rate of APH in our study is consistent with the local studies,^{1,10} and studies from other underdeveloped countries³.

There were total 07 cases of APH amongst 100 grand multiparous women. The major contribution was abruptio placenta and placenta previa. The increased incidence of abruptio placenta and placenta previa amongst GMP's has been reported by different national and international studies^{4,10,13,14}. In contrast no significant difference was found in the incidence

of placenta previa, abruptio placenta and undetermined causes of APH by Aslam M¹.

Due to increase in lordosis of lumbar spine and pendulous abdomen in GMP's, they are said to have increased risk of abnormal presentation of fetus. In our study 84% fetuses were cephalic at presentation while 16% had abnormal presentation the common amongst which were breech and transverse lie. Malpresentation was found to be significantly increased (6.2%) amongst grand multiparas in the study conducted by Maymon et al¹⁵.

The rate of both instrumental deliveries and caesarean section were high in our study, 17 caesarean sections were performed in 100 cases of GMPs. Our study results are supported by some local studies⁹ while others found no significant increase in C-sections amongst GMPs¹.

The rate of C-section was found to be significantly increased in the study conducted by Odukogbe et al³ at Nigeria where it was 24% and 09% in two different groups of GMP's. The rate of C-section has also been reported to be increased in different studies conducted in western world with sufficient antenatal care⁴. Sipila et al in a study in Finland found decreased incidence of C-section amongst GMP's¹⁶.

Eight (08) patients in our study group suffered with severe postpartum haemorrhage. Amongst them 02 patients had ruptured uterus. Subtotal abdominal hysterectomy was performed in both cases of ruptured uterus and amongst these two; one patient was subjected to internal iliac ligation.

Tasneem Ashraf in his study at Sandemam Civil Hospital, Quetta¹⁷ found that GMP's are at increased risk of PPH while Aslam M¹ in his study at Lahore found no significant difference of PPH amongst GMP's and non-GMP's. Babinski et al¹⁴ also found increased incidence of PPH amongst GMP, while Solo-Ojemo et al in

their studies concluded that GMP's status is not a risk for PPH¹⁸.

Our study findings are supported by Karim SA et al who conducted a study on macrosomia at Agha Khan University Hospital, Karachi and found that GMP's status is a major risk for macrosomia. The increased incidence of macrosomia in GMPs is supported by studies throughout the world in both affluent and underdeveloped countries^{20,4,5}.

In our study group, the perinatal mortality was 07% which is a significantly high number. The high mortality amongst the babies born to GMP mothers was not significant in a study conducted by Aslam M.¹ Another study conducted by Babinski et al found no significant increase in perinatal mortality⁴.

There were 03 maternal deaths in our study. The maternal mortality rate was unacceptably high in different studies conducted by Njiru et al²¹ and Odukogbe et al.³

Aslam M in his study at King Edward Medical College, Lahore found 07% increase in maternal mortality amongst GMP's and labelled grand multiparity as risk to the mother¹.

However, there are studies from developed world in which the maternal mortality is not different in GMP's from those of low parity group^{4,6}.

Pregnancy in grand multiparae must be regarded as high risk pregnancy in terms of maternal and fetal complications and steps should be taken to reduce its prevalence. Improvement in socioeconomic conditions, providing adequate antenatal care and health care along with better acceptance of contraceptive methods can reduce the incidence of grand multiparity and its attendant complications.

CONCLUSION

This study suggests that there is still high frequency of grand multiparity in our population. It is associated with frequent maternal and fetal complications and maternal and fetal mortality are high.

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