OBSTETRICAL CHALLENGES OF GRAND MULTIPARA- EXPERIENCE FROM A TERTIARY CARE CENTRE

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ABSTRACT

Objective: To compare the obstetrical and neonatal complications among women who had previously delivered five or more times (grand multiparous, GMP, Para5 and above) with those who had previously delivered one, two and three times. (Multiparous, MP, para 1-3).

Design and setting: This prospective comparative study was conducted in the obstetrics and gynecology department, NEIGRIHMS, Shillong, India.

Duration of study: one year and six months.

Material and methods: 162 grand multiparous women were compared with 338 multiparous women.

Results: Women with grand multiparity were significantly older than those with lower parity, more likely to be unbooked and belonged to lower social class. Statistical significant difference was noted between the two groups in terms of pregnancy induced hypertension, pre term labor, anemia and post partum hemorrhage. Anemia was the commonest complication encountered (50% in grandmultiparous versus 26.33% in multiparous,p<0.0001). Neonatal intensive care unit admissions, meconium stained amniotic fluid and perinatal mortality was higher in grandmultiparous than multiparous. There was no significant difference between the two groups in terms of birth asphyxia, congenital abnormality though a significant increase was found in terms of macrosomia in grandmultiparous.

Conclusion: Grand multiparity constitutes a high risk pregnancy particularly in areas with poor utilization of antenatal care.

Key words: Grandmultipara, , Obstetric complications, neonatal complications

INTRODUCTION

Grand multiparity has long been classified as constituting a high risk factor in pregnancy. Ever since Solomon's in 1934 drew attention to what he called "the dangerous multipara", grand multiparity has been recognized as a clinical entity in its own right.[1]

Various definitions have been coined for describing grand multiparity. The International Federation of Gynecology and Obstetrics (1993) define grand multiparity as delivery of the fifth to ninth viable pregnancies whereas delivery of 10 or more babies would be considered as great grand multiparity.[2]

Pregnancy in grand multiparous women is viewed with anxiety, especially by obstetricians in developing countries working with inadequate facilities[3, 4] . High parity is associated with serious consequences to the fetus, the mother, the family and the society[3,4]. The problem of grand multipara in developing countries is compounded by a high prevalence of low socio- economic status, poor female literacy, and social deprivation, as well as inadequate performance of family planning initiatives[4]. On the other hand, in developed countries with improved and optimal obstetric services, parity per se is no longer considered a significant risk factor for adverse obstetric and perinatal outcome.[4, 5]

Despite the government's population policies promoting small family size, high parity still remains a common feature of current obstetric practice in developing countries.

Grand multiparity has been linked to increased incidence of abortions, anemia, multiple pregnancy,malpresentation, ante partum hemorrhage, pre term labour, medical complications such as diabetes, hypertension .Intra partum complications such as feto pelvic disproportions, dysfunctional labour, postpartum hemorrhage, uterine rupture, increased rate of instrumental delivery and puerperal infections are more frequently seen in grand multiparous.

The aim of this study was to find out whether grand multiparous women were at increased risk of

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antepartum, intrapartum, post partum and neonatal complications in comparison to women with low parity.

MATERIAL AND METHODS

This prospective comparative study was carried out over a period of eighteen months in the department of obstetrics and gynecology, NEIGRIHMS, a tertiary care centre in the north eastern region of INDIA.

In this study, two groups of multiparous parturient (grand multiparous,GMP with parity>= 5 and multiparous,MP with parity 1-3) were included.A total of five hundred pregnant women were thus selected.162 grand multiparous women were compared with 338 multiparous women delivering during the same period.

On a pre designed Performa, a detailed history along with thorough systemic and obstetrical examination was noted. Such patients were followed one week post delivery. The Performa included details of both mother and baby. Parameters analyzed were maternal age, socio economic educational status, booked(minimum of 3 antenatal visits-first at or around 20 weeks, second around 32 weeks and third around 36 weeks), unbooked (no antenatal care), present pregnancy complications. The socio economic status was computed using the modified Kuppuswamy's scale[6] which takes into account the education, occupation and family income per month. Perinatal outcome in terms of meconium stained amniotic fluid, birth asphyxia, congenital abnormality, neonatal intensive care unit admission, low birth weight babies, macrosomic babies (weight >= 4 kg), intrauterine fetal demise and early neonatal deaths were analyzed.

Inclusion criteria:

Women with parity one and above were selected and were divided into two groups.

Exclusion criteria:

Primigravida, abortion, ectopic pregnancy, molar pregnancy women were excluded.

Statistical analysis :

Statistical analysis was done through chi square test.p value < 0.05 was considered significant.

RESULTS

Table I: Demographic data

Variable	Multipara(n =338)	Grandmulti-para (n=162)
Mean maternal age	26.61±3.2	34.75±4.8
Booked case	158(46.75%)	43(26.54%)
Unbooked case	180(53.25%)	119(73.46%)
Upper class	31(9.17%)	0
Upper middle class	106(31.36%)	8(4.94%)
Lower middle class	99(29.29%)	32(19.75%)
Upper lower class	102(30.18%)	122(75.31%)
Lower class	0	0

The results of this study showed that grand multiparous women were older than low parity women. The mean maternal age group in GMP was 34.75±4.8 years compared to 26.61±3.2 years in low parity group. The GMP was mainly unbooked (73.46%) and belonged to lower social class (75.31%). (Table I).

Table III: Intrapartum and post partum characteristic and complication

Characteristic	Multipara n (%)	Grand multipara n(%)	P value
Obstructed labour	6(1.78)	4(2.47)	NS
Rupture uterus	0	0	NS
Retained placenta	0	1(0.62)	NS
Postpartum haemorrhage	2(0.59)	18(11.11)	<0.0001
Burst abdomen	1(0.29)	3(1.85)	NS
Spontaneous vaginal delivery	231(68.34)	112(69.13)	NS
Instrumental delivery	7(2.07)	10(6.17)	0.018
Caesarean section	100(29.58)	40(24.69)	NS

TABLE III clearly shows a significantly higher incidence of post partum hemorrhage in the grand multipara (11.11% Vs 0.59%, p<0.0001). Moreover the incidence of instrumental delivery was significantly higher in grand multiparous (6.17%) compared to multiparous (2.07%).

Table II: Ante natal characteristics and complications

Characteristic	Multiparity n (%)	Grand multiparity n(%)	P value
Pregnancy induced hypertension	8(2.37)	23(14.19)	<0.0001
Placenta praevia	4(1.18)	1(0.62)	NS
Placental abruption	0	2(1.23)	NS
Preterm labour	5(1.47)	8(4.94)	0.023
Established diabetes	0	2(1.23)	NS
Gestational diabetes	0	1(0.62)	NS
Hypertension	0	2(1.23)	NS
Malpresen-tation	15(4.44)	7(4.32)	NS
Twin pregnancy	6(1.78)	3(1.85)	NS
Hemoglobin (<7gm%)	9(2.67)	19(11.73)	<0.0001
Hemoglobin (7-10gm%)	80(23.67)	62(38.27)	0.001

As evident from table II, the incidence of pregnancy induced hypertension was 14.19% in grand multipara compared to 2.37% in the multipara group and the difference was statistically significant (p< 0.0001). No significant difference was observed in terms of placenta praevia, placental abruption, hypertension,diabetes and malpresentation. Grand multiparous women were more likely to be anemic (Hb %< 10) in comparison to multiparous group,(50% Vs 26.33% , p< 0.0001).Approximately 4.94% of grandmultipara had pre term delivery compared to only 1.47% in multipara group (p=0.023).

Table IV : perinatal outcomes

Variable	Multipara	Grand multipara	P value
Meconium stained amniotic fluid	32(9.47)	31(19.14)	0.002
Birth asphyxia	13(3.78)	11(6.67)	NS
Congenital abnormality	0	2(1.2)	NS
NICU admission	19(5.52)	22(13.33)	0.002
Low birth weight	22(6.39)	13(7.88)	NS
Birth weight>=4Kg	2(0.58)	10(6.17)	<0.0001
Intra uterine fetal death	2(0.58)	7(4.24)	0.003
Early neonatal death	3(0.87)	9(5.45)	0.001

Table IV clearly shows that perinatal outcome in grandmultipara was worse compared to multiparous group. The incidence of meconium stained amniotic fluid, neonatal intensive care unit admission, macrosomia, intrauterine fetal demise and neonatal deaths were significantly higher in grandmultipara cases compared to multiparous cases.

DISCUSSION

Incidence of grandmultiparity seems to be less in developed countries probably attributed to a better socio economic educational standard which makes them aware of the importance of contraceptive measures. But in certain areas of developing countries, the scenario is still different.Inspite of government policies to promote small family norm, many women are still unaware of the importance of contraceptive measures, perhaps related to their lower socio economic educational standards or certain cultural or religious beliefs. Such women have repeated pregnancies at shorter intervals which make them prone to pregnancy complications. The present study supports the traditional view that grand multiparous women constitute high risk pregnancy and requires vigilant antepartum, intrapartum and postpartum care.

Similar to this study, Roman H et al [7]in their age matched study found an association of GMP with lower socio economic status, low education level and poor ante natal care. A significant number of grand multiparous women (73.46%) were unbooked in this study, most likely because these women had previous successful deliveries without antenatal care and therefore felt assured and did not feel the need to seek antenatal care in present pregnancy.

The mean age group of GMP in this study was significantly higher than the low parity group and this was similar to other study [8].

Anemia was the commonest complication observed in this study. The finding that more GMP women had low hemoglobin levels (< 10 gm %) in comparison to low parity women might be because woman having repeated pregnancies do not have time to replenish their iron stores before their next pregnancy. The incidence of anemia was significantly higher in GMP than MP group in studies by G.J. Bugg et al [9] , Babinszki A et al[10] and kavitha D'souza et al[11].

Babinszki A et al [10]in their age matched study found that the incidence of post partum hemorrhage, preeclampsia, macrosomia, meconium stained amniotic fluid ,anemia and pre term delivery were significantly higher in GMP than multiparous and this was also observed in our study. They also observed an increased association of malpresentation and placenta praevia with GMP but this was not seen in this study.

The incidence of vaginal delivery was almost similar in the two groups. But a statistical significant difference was observed in terms of instrumental delivery. The probable reason behind higher rates of instrumental delivery in GMP was: such cases were mainly unbooked and attended labour room in late first stage or second stage with complications (meconium stained liquor, fetal heart rate abnormality, prolonged labour) amenable to instrumental delivery. Caesarean section rates were compararatively lower in grand multiparous women in contast to the findings observed by Neda Smiljan Severinski et al[12].

The present study showed that perinatal outcome in GMP was worse compared to MP group. The incidence of meconium stained amniotic fluid, neonatal intensive care unit admission, macrosomia,intrauterine fetal demise and neonatal deaths were significantly higher in GMP cases compared to MP cases .A large retrospective study showed that women with high parity, regardless of age, had an odds ratio of 1.8 for fetal death compared with women having a second or third child.[13]

CONCLUSION

Grand multiparity constitutes a high risk pregnancy particularly in areas with poor utilization of antenatal care. These women need to be acquainted that every pregnancy has a risk of adverse maternal and fetal outcome in absence of supervised and expert care; and in spite of their past good obstetric experience they need to be motivated to seek antenatal care. Affordable and accessible health services need to be delivered in an equitable manner so as to improve pregnancy outcome and policies need to be framed to promote such women to seek antenatal care.

No conflict of interest exists for this article.

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