



GRAND MULTIPARA: STILL A MAJOR RISK FACTOR?

Rita Lal¹, Sweta Lal^{2*}, Ruchi Birendra³

¹Dr Lals Hospital, Ex- HOD, Department of Obs Gyn, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India

^{2*}Sadar Hospital, Ranchi, Jharkhand, India

³Department of Obs Gyn, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India

ABSTRACT

INTRODUCTION: Multiparity has always been associated considered as a factor for poor maternal and neonatal outcome. It has often been described as a risk factor for variety of obstetric complications. Grand multipara has been defined as a parity of five or more and has been seen to have strong correlation with increased operative delivery and medical disorders like anemia, diabetes and hypertension.

METHOD: A study of 8304 deliveries was conducted over a period of 1 year from September 2013 to august 2014 assessing the labour records of Rajendra Institute of Medical Sciences, Ranchi and studying the demographic pattern of the laboring patients and studying mode of delivery and associated other complications. The study group comprised of parity five and above and the others were included in the control group.

RESULT: Over the study period there were 8304 deliveries, 422 were grand multiparas with mean age of 30 yrs. Majority of the patients in the study group were unbooked and of low socioeconomic status. The incidence of LSCS was 20% and 11% in control group and study group. Rupture uterus was frequently seen grand multipara (15% vs. 1%). The incidence of medical disorders like anemia, hypertension and diabetes was more in the grand multipara group.

CONCLUSION: Grand multipara is associated with higher incidence of caesarean section and medical disorders like anemia, diabetes and hypertension.

Keywords: Grand multipara, rupture uterus, anemia, hypertension, malpresentation.

INTRODUCTION

Multiparity has always been associated with poor pregnancy outcomes for the mother and the baby. The term 'grand multipara' was introduced by Solomon who called grand multiparas as the 'dangerous multipara'¹. Complications like hypertension, diabetes mellitus, malpresentations, anaemia, difficult labour, post partum haemorrhage, increased risk of operative delivery have often been seen associated with multiparity. In a Medline plus search, parity was defined by Merriam-Webster Medical Dictionary as 'the state or act of having borne offspring; the number of times a female has given birth, counting multiple births as one and usually including stillbirths'.²

El opera³ et al did a questionnaire based study which analyzed the definition of parity by obstetricians and mid wives. Sixty two percent respondents interpreted parity as number of pregnancies that attained the gestational age of 24 completed weeks or above irrespective of outcome.

In our study we have defined parity as births above 28 completed weeks of gestation.

Grand Multiparity, in older literature is defined as parity >7. The definition of grand multipara has ben changed in more recent literatures to delivery order of five or above.^{4, 5} With increasing skills and antenatal care grand multiparity is no longer been considered a risk factor for poor maternal outcome. But most of the reports in developing countries still consider it as a prognostic indicator for poor maternal outcome. This study aims at assessing the risk associated with maternal outcome at a tertiary care center with the best of

***Corresponding author:**

Email: drsweta2004@gmail.com

the medical facilities in the state.

MATERIAL AND METHOD

This cross sectional study was carried out in Rajendra Institute of Medical Sciences, Ranchi from the period of September 2013 to august 2014. Patient data was collected at the time of admission in the labour room of the hospital. The resident doctors on duty recorded the patient and labour outcome. The monitoring of labour and management was done by the on call team comprising of one specialist obstetrician, three obstetric residents, one intern and nursing staff on a 12 hour duty. Also there is a senior specialist on call for 24 hours. There is also an anaesthetist and a paediatrician available 24 hours. There is a well-equipped blood bank in the hospital for blood and blood products required during emergencies.

The patients were informed of the study and a consent to participate in the study was taken. The patients were divided into study and control group. Study group included women with parity ≥5. The control group included patients with parity 1-5.

RESULTS

There were total 8304 deliveries from September 2013 to august 2014. Out of these patients, 422(5.08%) patients were grand multiparas. The mean age of patients in study group was 30 years whereas in control group was 25 yrs.

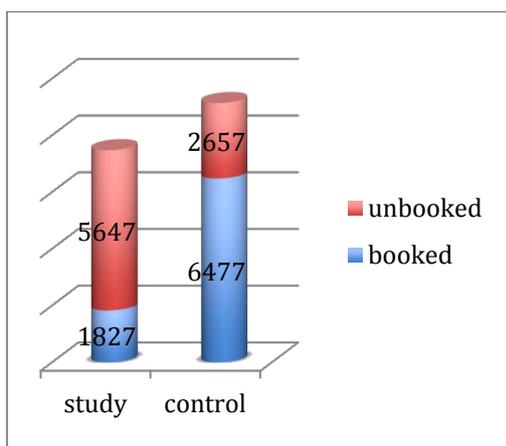


Figure 1 Showing distribution of patients of both groups according to antenatal booking

DISCUSSION

Many studies till date have been performed to study the effect of multiparity on maternal and fetal prognosis. Our study showed most multiparous patients came to the hospital for delivery without any antenatal investigations and

check up done before (Fig.1). The percent of patients in the control group who were not booked was less than the one in the study group(78% vs 32%).Most(79%) of the patients of the control group were of low socioeconomic group in the study group. Teguate I et al ⁷ in a retrospective cross sectional study done at a tertiary care hospital studied 13340 patients of which 3617 were grand multipara and stated that grand multipara are older, poorer and less likely to have accessed prenatal care. Roman H et al ⁸ also stated that grand multipara was associated with low socioeconomic status and education and

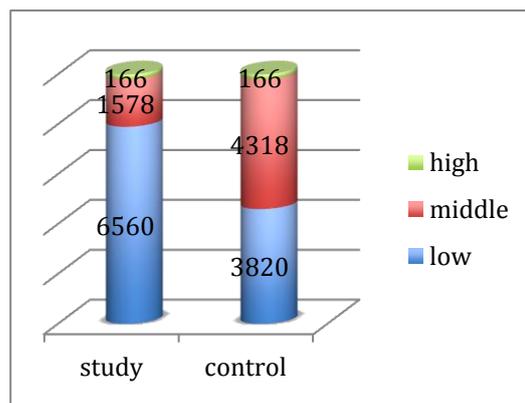
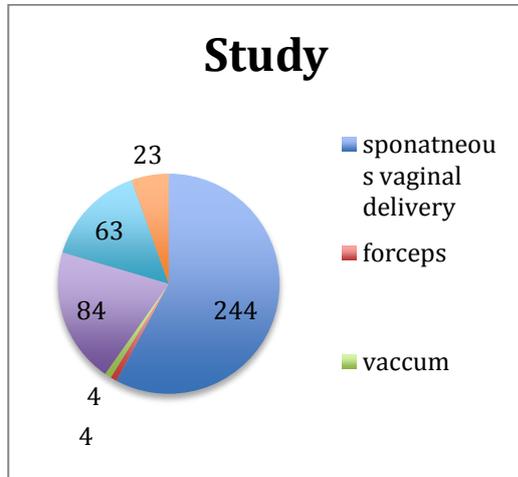


Figure 2 Shows distribution of both the groups according to the socioeconomic status(by Kuppuswamy classification ⁶). Pie chart showing the mode of delivery in both the groups

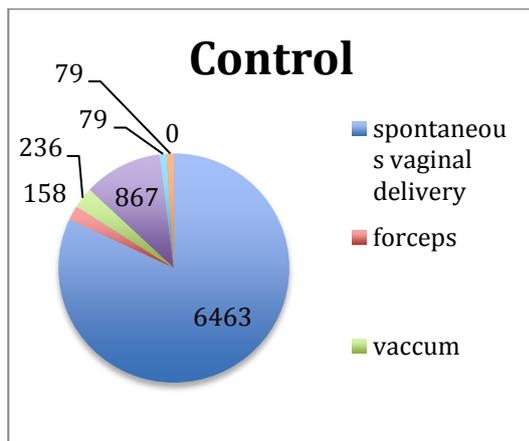
poorer prenatal care (Fig. 2).

In our study 58% of patients in the study group had spontaneous vaginal delivery compared to 82 % in the control group. The percentage of patients with instrumental vaginal delivery like application of vacuum and forceps was more in the control group than the study group. The incidence of LSCS was 20% and 11% in study and control group. Al-sibai MH⁹ studied 1330 cases of multiparous pregnancies and caesarean section was found to be higher in the study group than the control group(11.4% and 8.9%).Andrew H Mgaya et al ¹⁰ reported spontaneous vaginal delivery in 64.2% in grand multipara compared to 61.2% in control group. The incidence of LSCS was more (38.7% vs 34.7%) in multipara. Contrary to our study the percentage of instrumental vaginal delivery was more in grand multipara than the control group(1.1% vs 0.1%).Shahida et al ¹¹ also observed that the incidence of caesarean section was higher in the multipara group than the control group(32.5% vs 21%).Roman H ⁸et al showed increased incidence of instrumental delivery in grandmultipara. The main indications for

caesarean section in grand multipara were obstructed labour mostly due to malpresentation and deflexed fetal head. Second most common indication in grand multipara was placenta previa(20%). The most common indication for caesarean in control group was fetal distress at 70% as compared to 2% in study group.



Rupture uterus was quite frequently seen in the grand multipara group than the control group(15% vs 1%). Shahida et al ¹¹ also had the same observation that rupture uterus were significantly higher among grand multiparity .



Majority of patients of the grand multipara group suffered form medical complicatins like anaemia. Hypertension and diabetes. ninety two percent of patients of the grand multipara were found to have anemia(Hb< 11 gm%) as compared to 80% percent in the non grand multipara group. Also incidence of hypertension and diabetes was higher in grand multipara as compared to non grand multipara group (43%vs 14%) and (10% vs 3%).Shahida et al ¹¹ in their study published in 2011 also found higher incidence of anaemia in grand multipara. Also other complications like

hypertension and diabetes were significantly higher in grand multipara than non grand multipara. Evaldson¹²et al also observed the higher frequency of diseases like diabetes and hypertension in the grand multipara group. Most of the studies^{9,13,14} conducted over the last few decades state increased association of anaemia , diabetes and hypertension with multiparity. On the contrary, Andrew H Mgaya¹⁰ on the contrary found the prevalence of hypertension and diabetes in pregnancy comparable between the two groups.

CONCLUSION

Grandmultiparity was seen to be associated with medical complications like anaemia, diabetes and hypertension. The grand multipara group is also associated with higher rates of caesarean section and incidence of obstructed labour and rupture uterus.

REFERENCES

- 1) Andrew H Mgaya, Siriel N Massawe, Hussein L Kidanto, Hans N Mgaya. Grand multiparity : is it still a risk pregnancy? BMC Pregnancy and Childbirth. 2013, 13:241
- 2) Medline Plus. Merriam-Webster Medical Dictionary. Springfield, MA: Merriam-Webster Incorporated, 2005.
- 3) El Opara andJ Zaidi. The interpretation and clinical application of the word 'parity': a survey. BJOG: An International Journal of Obstetrics & Gynaecology. Volume 114, Issue 10, pages 1295–1297, October 2007.
- 4) Fuchs K, Peretz B-A, Marcovici R, Paldi E, Timor-Tritsh I: The "Grand Multipara" — Is it a problem? A review of 5785 cases. Int J Gynecol Obstet 1985, 23(4):321-326.
- 5) Toohey JS, Keegan KA Jr, Morgan MA, Francis J, Task S, de Veciana M: The "dangerous multipara": fact or fiction? Am J Obstet Gynecol 1995, 172(2 Pt 1):683-686.
- 6) Oberoi SS. Updating income ranges for Kuppuswamy's socio-economic status scale for the year 2014. Indian J Public Health 2015;59:156-7
- 7) Teguate et al. Maternal and neonatal outcomes of grand multiparas over two decades in Mali. Acta Obstet Gynecol Scand.2012 may;91(5):580-6.
- 8) Roman H et al. Obstetric and neonatal

outcomes in grand multiparity. *Obstet Gynecol.* 2004 Jun;103(6):1294-9.

- 9) Al –sibai MH et al. Obstetric problems in the grand multipara: a clinical study of 1330 cases. *J Obstet Gynaecol.* 1987;8(2):135-8.
- 10) Andrew H Mgaya, Sirel N Massawe, Hussein L Kidanto and Hnas N Mgaya. Grand multiparity: is it still a risk in pregnancy? *BMC Pregnancy and Childbirth* 2013 13:241.
- 11) Shahida SM, Islam MA, Begum S, Hossain MA, Azam MS. Maternal outcome of grand multipara. *Mymensingh Med J* 2011 Jul;20(3):381-5.