



COMPARISON OF OBSTETRICAL COMPLICATIONS IN MULTIPARA AND GRAND MULTIPARA

Rubina Tariq¹, Aymen Javed², Zahida Noreen²

¹Associate Professor Obstetrics and Gynaecology, Services Hospital Lahore

²Senior Registrar Obstetrics and Gynaecology, Services Hospital Lahore

Conflicts of Interest: Nil

Corresponding author: Rubina Tariq

DOI: <https://doi.org/10.32553/ijmsdr.v4i11.712>

Abstract:

Pakistan is a low resource, developing country. (1) The incidence of grand multiparity is very high due to various reasons like lack of education, poor knowledge, and availability of family planning methods, various social and cultural reasons. Grand multiparity is mostly associated with increasing maternal age, which is an independent risk factor for various antepartum, intrapartum, and postpartum complications. (2)

Introduction:

The concept of Grand multiparity is in discussion for the last century. Grand multiparity is defined as parity of 5 or more, while multipara is a woman who has delivered less than five but at least one baby. Grand multiparity is associated with an increased risk of anemia, gestational diabetes, Pregnancy-induced hypertension, malpresentation, uterine atony, and postpartum hemorrhage. (3)

The concept of grand multiparity was introduced during the last century. The developed countries have taken hold of the situation and they have quite low incidence of grand multiparity, mainly in the range of 2-4%. On the other hand, in developing countries, it is as high as 18.5%. (4)

A large number of studies have explored the impact of grand multiparity on perinatal outcome. Results of these studies are contradictory. Some studies provided evidence that there are more fetal and maternal complications with grand multiparity. (3,5) In contrast to these studies, many studies have mentioned an increase in only a few complications. (6,7)

In this area of contrary pieces of evidence, our study was aimed to provide an insight into this matter from the angle of a developing country. We conducted this study to compare fetal and maternal complications in multigravida and grand multigravida females.

Material and Methods

It was a prospective longitudinal study, and it was conducted at the Department of Obstetrics and Gynaecology of Services Hospital Lahore. It was conducted from July 2017 to June 2019. A total of 200 patients were enrolled in the study; 100 patients were taken from multiparous females and 100 patients from grand multiparous females. Sampling was done by non-probability purposive technique. All pregnant females

having singleton pregnancy were enrolled in pregnancy, while patients having twin or more fetuses were excluded from the study. All those patients having 5 or more previous pregnancies were allocated to Group 1 i.e. Grand multipara group and all those patients having 1-4 previous pregnancies were allocated to Group 2. In both groups, the minimum age for enrolment was 25 years, and the maximum was 40 years. The inclusion criteria for gestational age was 28-32 weeks of pregnancy. Patients with already diagnosed hypertension or any haematological disorders were excluded from the study.

A total of 200 cases of pregnant women fulfilling the inclusion criteria were included in my study from OPD of Obstetrics & Gynaecology, Services Hospital Lahore. A detailed informed consent was taken. Detailed demographic history, including name, age, parity and distance from the hospital, was recorded, and patients were divided into two groups. Patients with gestational age 28-32 weeks were followed two weekly to observe for the variables, anemia, malpresentation, placental abruption, and gestational hypertension.

Data Analysis

The collected data was entered and analysed by SPSS version 23. Frequency and percentages were calculated for the presentation of all variables of the study, including anemia, malpresentation, primary PPH, gestational hypertension, and placental abruption, and mean \pm SD was calculated for age.

Results

In Group 1, out of 100 grand multiparas, 90 patients were found with some above-mentioned complications. While in Group 2, 80 out of 100 multiparas were noted with complications. The mean age in Group 1 was 35 years, with a range of 29-38 years, and the mean age in Group 2 was

28 years, with a range of 25-32 years (Table 1). The other results are discussed in the Table 2 and Figure 1.

Table 1: Distribution of Parity according to age

	Grand Multipara	Multipara
Mean age	35 years	28 years
Range	29-38 years	25-32 years

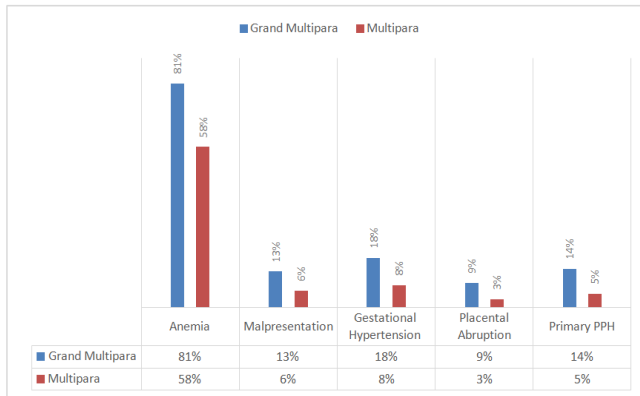


Figure 1: Complications of pregnancy in multipara and grand multipara

Table 2: Comparison of obstetrical complications in multipara and grand multipara.

	Multipara N (%)	Grand Multipara n (%)	p-value
Anemia	58 (58%)	81 (81%)	0.768533
Malpresentation	6 (6%)	13 (13%)	0.12417
Gestational Hypertension	8 (8%)	18 (18%)	0.244213
Placental Abruption	3 (3%)	9 (9%)	0.052046
Primary PPH	5 (5%)	14 (14%)	0.218071
Total patients with complications	80 (80%)	90 (90%)	0.855441

Discussion

The prevalence of grand multipara was 10-30%, with an increased incidence of antenatal, intrapartum, and postnatal complications. The age range of grand multipara is 23-45 years. The aim of our study was to see obstetric complications in grand multipara versus multipara. In this study, 200 patients were taken; 100 patients with parity >5 & 100 with parity 1-4.

There have been several studies to explore this aspect, but have a gross discrepancy in data. Some studies concluded that there is no statistical difference between the two groups in terms of pregnancy outcome. At the same time, other studies concluded that complications increased

linearly when parity increases. (8) In our study, the frequency and percentage of different complications were high also in grand multipara versus multipara, although the difference was not significant statistically.

The results of my study were different from the study conducted by Tabassum S in 2009. In her study, the aim was to compare the complications between grand multipara and low parity groups. It was a cross-sectional study. Anemia was significantly higher in the high parity group 89% vs 62%, while placental abruption, PIH, malpresentation were significantly higher in the high parity group ($P < 0.01$). (9) This may be due to the fact that the study was conducted in interior Sindh and rural areas.

In another study, pregnancy outcomes in two groups didn't show any statistically significant difference except for the occurrence of fetal macrosomia and cephalopelvic disproportion among grand multipara, which differs in earlier studies. This high occurrence of fetal macrosomia and CPD among grand multipara was probably due to an increase in fetal size and a high prevalence of gestational diabetes. (10)

In the study conducted by Lyrenes S to assess delivery time and frequency of dystocia in grand multipara and grand multipara showing there was a positive relationship between parity and duration of an active phase of labour as well as the total duration of labour. Failure of the descent of presenting part during 1st stage of labour in addition to the arrest of cervical dilatation was associated with a high c-section rate in grand multipara. (11)

Although many studies are showing a difference in the rate of clinical complications and fetal outcomes, our study did not show statistically significant difference. General mortality in these patients remains low, so high parity shouldn't be considered dangerous. (12)

Conclusion:

Although multipara and grand multipara have no statistical difference in terms of complications and outcomes, but it is concluded from our study that these complications are quite high in both groups. These patients need to be monitored from booking.

References:

1. Data for Lower middle income, Pakistan | Data [Internet]. [cited 2020 Oct 18]. Available from: <https://data.worldbank.org/?locations=XN-PK>
2. Armed P, Akhtar T, Shaikh SN, Bhutto A. Frequency of Abruption Placenta in Grand Multigravida [Internet]. Vol. 70, Forces Med J. 2020 Jan [cited 2020 Oct 18]. Available from: <https://www.pafmj.org/index.php/PAFMJ/article/view/3797>
3. Alhainiah M, Abdulljabbar H, Bukhari Y. The

- Prevalence, the Fetal and Maternal Outcomes in Grand Multiparas Women. *Mater Socio Medica* [Internet]. 2018 Jun 1 [cited 2020 Oct 18];30(2):118. Available from: <https://www.ejmanager.com/fulltextpdf.php?mno=301323>
4. Geidam AD, Audu BM, Oummate Z. Pregnancy outcome among grand multiparous women at the University of Maiduguri Teaching Hospital: A case control study. *J Obstet Gynaecol (Lahore)* [Internet]. 2011 Jul [cited 2020 Oct 18];31(5):404–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/21627423/>
 5. Agrawal S, Agarwal A, Das V. Impact of grandmultiparity on obstetric outcome in low resource setting. *J Obstet Gynaecol Res* [Internet]. 2011 Aug [cited 2020 Oct 18];37(8):1015–9. Available from: <https://pubmed.ncbi.nlm.nih.gov/21481086/>
 6. Bugg GJ, Atwal GS, Maresh M. Grandmultiparae in a modern setting. *BJOG An Int J Obstet Gynaecol* [Internet]. 2002 Mar [cited 2020 Oct 18];109(3):249–53. Available from: <https://pubmed.ncbi.nlm.nih.gov/11950178/>
 7. Bai J, Wong FWS, Bauman A, Mohsin M. Parity and pregnancy outcomes. *Am J Obstet Gynecol* [Internet]. 2002 [cited 2020 Oct 18];186(2):274–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/11854649/>
 8. Vaswani PR, Sabharwal S. Trends in the Occurrence of Antenatal and Perinatal Complications with Increasing Parity. *J Obstet Gynecol India* [Internet]. 2013 Aug [cited 2020 Oct 18];63(4):260–7. Available from: </pmc/articles/PMC3763060/?report=abstract>
 9. Tabassum S, Sheikh S, Sheikh F BF. Obstetric complications in gran multiparity. *Med Chan.* 2009;15(4):53–8.
 10. Omole-Ohonsi A, Ashimi AO. Grand multiparity: Obstetric performance in Aminu Kano Teaching Hospital, Kano, Nigeria. *Niger J Clin Pract* [Internet]. 2011 Jan [cited 2020 Oct 18];14(1):6–9. Available from: <https://pubmed.ncbi.nlm.nih.gov/21493983/>
 11. Lyrenäs S. Labor in the grand multipara. *Gynecol Obstet Invest* [Internet]. 2002 [cited 2020 Oct 18];53(1):6–12. Available from: <https://pubmed.ncbi.nlm.nih.gov/11803221/>
 12. Babinszki A, Kerenyi T, Torok O, Grazi V, Lapinski RH, Berkowitz RL. Perinatal outcome in grand and great-grand multiparity: Effects of parity on obstetric risk factors. *Am J Obstet Gynecol* [Internet]. 1999 [cited 2020 Oct 18];181(3):669–74. Available from: <https://pubmed.ncbi.nlm.nih.gov/10486482/>