

# GRAND MULTIPARITY AND MATERNAL OUTCOME IN ABSENCE OF ADEQUATE ANTENATAL CARE

Nadia Rashid Khan<sup>1</sup>, Saima Perveen<sup>2</sup>, Zareena Begum<sup>3</sup>, Rashida Qayyum<sup>4</sup>, Rukhsana Malik<sup>5</sup>

<sup>1</sup> DHQ Hospital, Dir upper - Pakistan.

<sup>2,5</sup> Saidu Teaching Hospital, Swat - Pakistan.

<sup>3</sup> THQ Hospital, Chakdara - Pakistan.

<sup>4</sup> DHQ Hospital, Meranshah - Pakistan.

**Address for correspondence:**

**Dr. Nadia Rashid Khan**

Woman Medical Officer, DHQ Hospital, Dir upper - Pakistan.  
Email: dr\_mubashir@yahoo.com

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## ABSTRACT

**Objective:** To find out the effect of grand multiparity on maternal outcome in absence of adequate antenatal care.

**Methodology:** All un-booked grand multipara with singleton pregnancy at term admitted to Gynae A Unit, Lady Reading Hospital Peshawar were included in the study. Cross sectional study was carried out from 1st June 2012 to 1st Dec 2012. Assessment was done by detailed history, general physical examination, per-abdominal and per-vaginal examination and by obstetrical ultrasound. Mothers were assessed for antenatal and obstetrical complications, mode of delivery and post-partum complications.

**Results:** A total of 50 patients were included in the study. Regarding antenatal complications 6(12%) patients had anemia, 2(4%) had pregnancy induced hypertension, 4(8%) had pre-eclampsia, 2(4%) had eclampsia and 36(72%) didn't had complications. Regarding obstetrical complications 3(6%) patients had placenta previa, 3(6%) had placental abruption, 7(14%) had mal presentation, 3(6%) had obstructed labor and 34(68%) didn't had complications. Regarding post partum complications 5(10%) patients had post partum hemorrhage due to uterine atony, 4(8%) had post partum hemorrhage due to retained placenta, 2(4%) had perineal tears, 3(6%) had subtotal hysterectomy and 36(72%) didn't had complications.

**Conclusion:** In the absence of adequate antenatal care, there was increased likelihood of perinatal complications in grand multiparous women.

**Key Words:** Grand multiparity, Maternal outcome, Antenatal care

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## INTRODUCTION

Any woman having more than 5 children is referred to as grand multiparous<sup>1</sup>. Due to poor antenatal care and advanced maternal age, pregnancy and delivery in grandmultipara are at higher risk<sup>2</sup>. The incidence of grand multiparity alongwith its complications is still high in developing countries. It is an important part of antenatal screening to identify women whose pregnancies are at risk of complications to reduce adverse outcome<sup>3</sup>.

In developing countries where obstetricians are working with inadequate facilities are very anxious about grandmultiparity. Due to advancement of family planning the grand multipara has almost disappeared in western countries but it still exists in developing countries<sup>1</sup>. Grandmultiparity is more common in low socio economic societies and is associated with serious consequences to fetus, mother, and family in the absence of adequate antenatal care<sup>4</sup>.

Pregnancy and delivery are at high risk in these

patients due to poor antenatal care, closely spaced pregnancies, lack of effective contraception, advanced maternal age and inadequate health services<sup>5</sup>. Grand-multiparas who are giving birth in remote areas where there are inadequate health services, maternal mortality rate is especially high<sup>6</sup>.

Regarding systemic complications grand multiparas are at high risk of developing hypertension, diabetes, anemia and obesity.<sup>7</sup> While regarding obstetric complications these women are at increased risk of malpresentations, obstructed labour, placenta previa, placenta abruption, retained placenta, ruptured uterus, post partum hemorrhage, caesarian sections and caesarian hysterectomy. All these can lead to increase maternal and perinatal mortality<sup>7</sup>.

Despite a low socio-economic status a favorable outcome can be achieved in these patients with hospital delivery and modern medical care. Pregnancy and labour should be closely monitored in these patients and early intervention should be considered if things are not progressing smoothly<sup>6</sup>.

The purpose of our study was to find out the obstetrical complications, mode of delivery and post partum complications of un-booked grand multiparous women, so as to propose certain recommendations to increase awareness about antenatal care and providing efficient health care facilities to these women at door step to improve the outcome.

## METHODOLOGY

All unbooked grand multiparous mother of any age, with singleton pregnancy at term, free of medical disorders admitted to Gynae A Unit, Lady Reading Hospital Peshawar, taken from emergency department were included in the study. Patients with congenital abnormality, with multiple pregnancies and with pregnancy of less than 28 weeks were excluded from the study. Evaluation was done by detailed history, general physical examination, per-abdominal and per-vaginal examination and by obstetrical ultrasound. Data was collected on proforma. The patients were assessed for antenatal complications, obstetrical complications, mode of delivery, post partum complications. The data was entered into SPSS version 10.0. Mean and standard deviation was computed for numerical variables like age whereas frequencies and percentage was calculated for categorical variables. All the results were presented in the form of tables.

## RESULTS

This was a descriptive study of 50 patients with grandmultiparity. Age distribution showed that 40(80%) patients were in age range of 31-40 years, as shown in table 1. Mean age was  $35 \pm 4.49$  years.

Antenatal complication were present in 14(28%) pa-

tients, as shown in table 2.

Obstetrical complications were present in 16(32%) patients as shown in table 3.

Mode of delivery was analyzed as 10(20%) patients had caesarean section and 2(4%) patients had forceps delivery, as shown in table 4.

Post Partum Complications were present in 14(28%) patients, as shown in table 5. Maternal mortality was not found in any of the 50 patients.

## DISCUSSION

Grand multiparity is a potential obstetric hazard both for fetus and mother<sup>8</sup>. Overall incidence is between 10-30% with higher rates in Muslim countries where there is large family size and poor family planning methods<sup>9</sup>. Grandmultiparity is a risk for obstetric complications including fetal mal-presentation, placenta previa, abruptio placenta and post-partum hemorrhage. Similarly the incidence of hypertensive disorders and macrosomic infants is also high<sup>5</sup>.

Grand multiparas usually presents in older age compared to women with low parity. In study conducted by Begum<sup>2</sup>, the incidence of grand multiparas at 31-40 years of age was 91.3 while in our study it was 80%. This reveals an older age profile in grand multiparas.

Hypertensive disorders are found with increase frequency in grand multiparas<sup>10</sup>. In our study 16% had hypertensive disorder. This is comparable to the study conducted Rayamajhi et al<sup>3</sup> where it was found to be 16.98%. Factors which play role in its development are advanced maternal age, vascular disease, renal parenchymal disease and genetic predisposition. Similarly

**Table 1: Age distribution (n=50)**

Age distribution	Percentage
20-30 Years	9(18%)
31-40 Years	40(80%)
>40 Years	1(2%)
Total	50(100%)

**Table 2: Antenatal complications (n=50)**

Antenatal complications	Percentage
Anemia	6(12%)
Pregnancy Induced Hypertension	2(4%)
Pre-eclampsia	4(8%)
Eclampsia	2(4%)
No Complications	36(72%)
Total	50(100%)

**Table 3: Obstetrical complications (n=50)**

Obstetrical complications	Percentage
Placenta Previa	3(6%)
Placental Abruption	3(6%)
Mal-presentation	7(14%)
Obstructed Labour	3(6%)
No Complications	34(68%)
Total	50(100%)

**Table 4: Mode of delivery (n=50)**

Mode of Delivery	Percentage
Forcep Delivery	2(4%)
Vacuum Delivery	00(00%)
Caesarean Section	10(20%)
Vaginal Delivery	38(76%)
Total	50(100%)

**Table 5: Post-partum complications (n=50)**

Post Partum Complication	Percentage
Post Partum Haemorrhage (Atony)	5(10%)
Post Partum Haemorrhage (Retained Placenta)	4(8%)
Post Partum Haemorrhage (Perineal Tears)	2(4%)
Subtotal hystrectomy due to Uterine Atony	3(6%)
No Complications	36(72%)
Total	50(100%)

race, social status, climate, obesity and maternal dietary habits also play their role<sup>11</sup>. In our study increased incidence of abruption placentae and intrauterine fetal death were due to pregnancy induced hypertension.

Our study shows that 4% patients had pregnancy induced hypertension, 8% had pre-eclampsia and 4% had eclampsia. This is comparable to the study performed by Rayamajhi et al<sup>3</sup> where 5% patients had PIH, 10% had pre-eclampsia and 3% had eclampsia.

Anemia in grand multiparas is due to frequent pregnancies, poverty and malnutrition<sup>12</sup>. The risk of cardiac failure, thromboembolism and infection is also high in these patients<sup>13</sup>. In our study 12% cases were anemic; whereas Rayamajhi et al<sup>3</sup> showed in their study that 13% cases were anemic.

Placenta previa is commonly encountered in older grand multiparas. Maternal age and parity strongly correlate for placenta previa<sup>14</sup>. In our study the incidence of placenta previa was 6%; similar results were shown in the study conducted by Begum<sup>2</sup> where 7% cases had incidence for placenta previa.

One of the potentially serious obstetric problem that tends to threaten fetal viability, neonatal mortality and morbidity and maternal health and wellbeing is placental abruption<sup>15</sup>. Age and parity are the two major factors responsible for placental abruption in grand multiparas. In a study conducted at Ayub Teaching Complex, Abbottabad, the incidence of placental abruption was 7.07% and in 74% of these patients, hypertension was the causative factors<sup>2</sup>. In our study the incidence of placental abruption was 6%.

Grand multiparas are prone to various fetal mal-presentations<sup>16</sup>. Fetal size and congenital abnormalities, reduced tone of abdominal muscles and pendulous belly are usually suspected as causative factors<sup>17</sup>. Failure to predict and manage these mal-presentations directly affect the outcome of labor with increases perinatal mortality and maternal morbidity and mortality<sup>16</sup>. In the study performed by Rayamajhi et al<sup>3</sup>, the incidence of malpresentations was 16.98% while in our study it was 14%.

Failure of descent of fetal presenting part in the birth canal for mechanical reasons inspite of good uterine

contraction results in obstructed labour<sup>18</sup>. Fetal congenital abnormalities, cephalopelvic disproportion, mal-position and mal-presentation are important risk factors for obstructed labour. Mal-presentation is more common than cephalopelvic disproportion in grand multiparas<sup>19</sup>. The incidence of obstructed labour was 5.6 % in study conducted by Begum<sup>2</sup> while in our study 6% had obstructed labour.

In our study 76% patients had spontaneous vaginal delivery where as 20% were delivered by caesarean section, almost all were emergency caesarean sections and 4% delivered by outlet forceps. Rayamahji et al<sup>3</sup> in their study found that 73.5% of grand multiparas had spontaneous vaginal delivery, 5.66% had instrumental delivery and 15.1% had caesarean section. Similarly the study done by Begum<sup>2</sup> shows that 73.8% deliveries were spontaneous vaginal, 4.60% outlet forceps deliveries and 21.6% were caesarean section.

The reason for increase occurrence of post-partum hemorrhage in grand multiparas is that in third stage of labour uterus tends to remain inert if faced with minor degree of disproportion<sup>20</sup>. In grand multiparas due to decrease in muscular tissues and increase in fibrous tissues of uterus, uterine atony is more common. Uterine atony is associated with operative deliveries, instrumental deliveries, retained placenta, placenta previa and abruptio placenta<sup>21</sup>. Our data shows the incidence of post-partum hemorrhage due to uterine atony is 10% which is comparable to 11.3% in Nigerian study<sup>2</sup>. Our incidence of retained placenta was 8% which is comparable to 5.6 % in study by Rayamahji et al<sup>3</sup>.

There was no maternal death in our study. Similarly there was also no maternal death in study performed by Rayamahji et al<sup>3</sup>.

## CONCLUSION

In the absence of adequate antenatal care, there was increased likelihood of perinatal complications in grand multiparous women. Grandmultiparity itself is not as hazardous as lack of care during pregnancy and delivery.

## RECOMMENDATIONS

In grand multiparas excellent obstetrical outcome needs active interventions by improving literacy rate, safe and effective contraception, provision of good health care facilities and by increasing awareness about facilities.

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### CONTRIBUTORS

NRK conceived the idea, planned the study, and drafted the manuscript. SP, ZB, and RQ helped acquisition of data and did statistical analysis. RM critically revised the manuscript. All authors contributed significantly to the submitted manuscript.