



STUDY OF GRAND MULTIPARA IN TERTIARY CARE HOSPITAL

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**ABSTRACT**

**Aim :** To study the presentation pattern of grand multipara in labour by various factors and to establish that grand multiparity is still a high risk obstetrical problem. The purpose of this study was to analyse causes of maternal deaths in multipara and to identify preventable factors leading to maternal mortality in our set up

**Material and Methods :** Retrospective analysis of grand multipara in department of Obst & Gynae. PCMS & RC for a period of 2 yrs & 9 moths from Jan-2010 to Sep-2012. various factors analyzed were booked / unbooked cases, age, parity, literacy, gravida status, no. of live births, mode of delivery, outcome of delivery with NICU admissions & acceptance of permanent method of sterilization.

**Results :** Total no of deliveries were 1766 Total no of grand multipara admitted were 332, incidence of grand multipara 18.57% Patients of age group 22 to 25 were 27.13 & 26-30 age were 41.46% ,31-35 age were 21.64% & > 35 were 9.45% . 50.92% delivered normal & 49.08% underwent LSCS. The no of patients with live issue of more than 3 were 35.67% 2-3live birth were 29.57%and 28.35%were 1 live birth only 6.40%had no issue, total no. of intrauterine fetal deaths were 9 and 26.52%of babies had NICU admission. Only 11.89% of patients underwent LSCS with TT and even acceptance of puerperal tubectomy was 9.7%

**Conclusion :** Grand multipara always pose different challenge in Obstetrics management. The acceptance rate for permanent method of tubal ligation is poor. Women are opting for next issue at the cost of their health and for want of male child There is a strong need to promote family planning practices.

**KEYWORDS :** Maternal mortality, obstetrical complications, preventive measures., : Grand multipara

**INTRODUCTION**

Pregnancy is not a disease and pregnancy related mortality is almost always preventable. Yet more than half a million women die each year due to pregnancy related complications. There is an increase in frequency of many of the complications of pregnancy, particularly antepartum hemorrhage, hypertensive disorders and malpresentations. Almost one quarter of the patients receive little or no antenatal care. The incidence of low birth-weight and stillbirth was significantly higher in the infants of the patients who had received no antenatal care. Comparison with the total hospital population showed that the perinatal mortality was almost doubled and the maternal mortality was increased 10-fold.<sup>[1]</sup>

The status of maternal health is poor in India . An estimated 30,000 women die each year due to pregnancy related causes. It is estimated that about 500 maternal deaths occur per 100,000 live births each year . Recent estimates (WHO & UNICEF) place the figures around 340/100,000 live births but in reality it may be higher because of under registration of deaths in country and absence of cause of death information.<sup>[2]</sup>

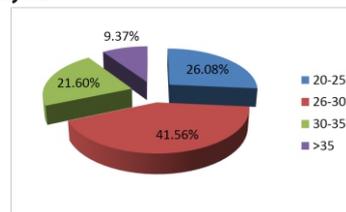
The major causes of maternal mortality are haemorrhage, hypertensive disorders, sepsis, obstructed labour and abortions. All of these causes are mostly preventable through proper understanding, diagnosis and management of labour complications. To reduce complications during pregnancy and labour it is essential to strengthen primary health care infrastructure. Provision of antenatal and intrapartum health care in the community by trained health personnel form the backbone of any such efforts.. All pregnant women are at risk of obstetrical complications and most of these occur during labour and delivery that lead to maternal death. In our setup maternal mortality is seriously under estimated. Safe motherhood as a priority for action can not be identified with out properly assessing maternal mortality. The purpose of this study was to analyse causes of maternal deaths in multipara and to identify preventable factors leading to maternal mortality in our setup

**METHODOLOGY**

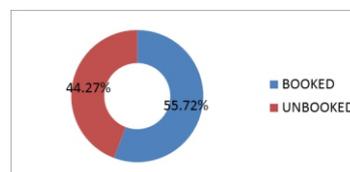
Study Type -Retrospective analytical Study period- THREE years (Jan 2010-Dec2012) Study area-Department of Obstetric & gynecology ,in PCMS & RC Bhopal Madhya Pradesh This is a retrospective analysis. The catchment area of this hospital is 2.5-3 million population. The nature of admissions is mostly emergency and referred from other hospitals in critical condition. The inclusion criteria were pregnancy complications leading to death. Record of patients' age, parity, education, socio-economic status, antenatal care, level of care and distance from hospital were analysed. Patients with medical and Gynaecological causes and those beyond 42 days post partum were excluded from study. The data was collected from patients' records and maternal mortality statistics of the year Variables studied were Age ,Parity ,Booked /Unbooked ,Rural/urban ,Literacy ,Gravida and Number of live births

**OBSERVATIONS**

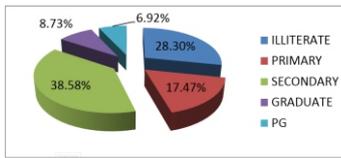
**Fig.1 Age in years**



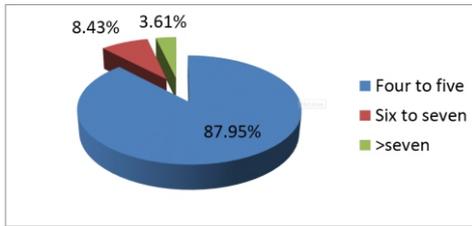
**FIG 2. STATUS OF THE PATIENT**



**FIG 3 LITERACY STATUS OF THE PATIENTS**



**FIG 4 GRAVIDA STATUS OF PATIENTS**



**TABLE 1 URBAN/RURAL DISTRIBUTION**

URBAN / RURAL DISTRIBUTION			
NUMBER OF ISSUES	TOTAL CASES %	RURAL CASES %	URBAN CASES
	332	165(49.69%)	167 (50.30%)
1 issue	93 (28.1%)	45 (27.27%)	50 (29.9%)
2 issues	99 (29.81%)	35 (21.21%)	64(38.32%)
3 issues	86 (25.90%)	48 (29.09%)	38 (22.75%)
4 issues	20 (6.02%)	11 (6.66%)	9 (5.38%)
5 issues	7 (2.10%)	4 (2.42%)	3 (1.79%)
6 issues	5 (1.50%)	3 (1.81%)	2 (1.19%)
7 issues	1 (0.30%)	1 (.60%)	-
0 ISSUES	21 (6.32%)	-	-

**TABLE2 COUNT OF MALE & FEMALE OFFSPRING'S**

COUNTS OF MALE & FEMALE OFFSPRING'S							
No. of ISSUES	No. Of cases(%)	All MALES(%)	All females(%)	1 MALE /1FE MALE	2 MALES	3 MALES	4 MALES
1 issue	93	45	48	-	-	-	-
2 issues	99 (51%)	ALL TWO 37 (25%)	ALL TWO 62 (6%)	100 (68%)	-	-	-
3 issues	123 (32%)	ALL THREE 40(32%)	ALL THREE 18 (15%)	35	35	-	-
4 issues	35 (12%)	0	18	15	16	2	-
5 issues	6 (2%)	0	5CASES	3	2	0	1
6 issues	4 (1%)	0	5 FEMALES (2cases)	2	2	-	-
7 issues	1 (0.34%)	0	5 FEMALES (2cases)	-	-	-	-

**RESULTS :**

Total no of deliveries were 1766 Total no of grand multipara admitted were 328, incidence of grand multipara 18.57% Patients of age group 22 to 25 were 27.13 & 26-30 age were 41.46% ,31-35 age were 21.64% & > 35 were 9.45% . 50.92% delivered normal & 49.08% underwent LSCS. The no of patients with live issue of more than 3 were 35.67% 2-3live birth were 29.57%and 28.35%were 1 live birth only 6.40%had no issue, total no. of intrauterine fetal deaths were 9 and 26.52%of babies had NICU admission. Only 11.89% of patients underwent LSCS with TT and even acceptance of puerperal tubectomy was 9.7%

**STATISTICAL ANALYSIS**

Statistical analysis was done by using SPSS software version 16. The data collected in the present study were presented in the form of tables and graphs. The data were analyzed statistically by calculating the descriptive statistics viz., Mean, SD, percentage and 95% confidence interval for all continuous variables. The difference in mean is tested using independent sample student's 't' test and the measures of association between the qualitative variables are assessed using chi square tests. The inference is considered

statistically significant if p<0.05.

**DISCUSSION**

The Grand Multipara (GM) has almost disappeared in the Western countries due to the advancement of family planning. Having a heterogenous population, the problem of Grand Multiparity still exists in our country. When compared with our study , Fuchs K Peretz BA et al also conducted study based on 5785 cases of GM which were treated in our Obstetrical Department during a period of 16 years (1960 – 1975). They compared this group to the general obstetrical population in terms of pregnancy and delivery complications. Face and breech presentations as well as transverse lie were twice, brow presentations were three times as frequent in the GM group. Postpartum hemorrhage (P.P.H.) was four times and premature separation of the placenta twice as frequent. Rupture of the uterus was about 20 times more frequent. Forceps delivery and Cesarean section rate were twice, while the vacuum extraction 5-fold more frequent. Though there was no material mortality and perinatal mortality was not higher than in the general population. Even though the percentage of GM in our population has been decreased in the last 10 years, our results suggest that Grand Multiparity is still a high risk obstetrical problem.<sup>[2]</sup>

To study whether grand multiparity (parity of 6 or more) still carries risk, Sipilä P, Von Wendt L et al studied two birth cohorts in northern Finland: the first comprised 12231 births to 12068 mothers in 1966 and the second comprised 9478 births to 9362 mothers in 1985/86. The percentage of grand multipara decreased from 7.7 to 4.0. The grand multipara made fewer antenatal visits than the others. The proportion of grand multipara referred to maternity outpatient clinics of hospitals was smaller, but the mean number of visits was higher than of lower parity women. The mean number of admissions to hospital was similar in both groups but grand multipara stayed longer in hospital, and had a higher incidence of essential hypertension than women of lower parity. The grand multipara had fewer caesarean sections but more inductions of labour (33.1% vs. 23.3%) than mothers of lower parity. The number of low birth weight (LBW) infants (<2500 grams), stillbirths and neonatal deaths (before 28 days) was significantly lower in 1985/86 than in 1966 in women of lower parity but there was no such change in grand multipara. However, the percentage of LBW infants was smaller among grand multipara than among women of lower parity in both cohorts (2.7% vs. 4.1%, NS). The stillbirth plus neonatal death rate in grand multipara was higher than in women of lower parity.[3] Babinszki A, Kerenyi T et al sought to compare obstetric and neonatal complications among great-grand multiparous, grand multiparous, and multiparous women. They took 133 great-grand multiparas, 314 grand multiparas, and 2195 multiparas who were delivered of their infants between 1988 and 1998 were selected for the study. To facilitate comparison, the patients were all >35 years old and had similar socioeconomic characteristics. The incidence of malpresentation at the time of delivery, maternal obesity, anemia, preterm delivery, and meconium-stained amniotic fluid increased with higher parity, whereas the rate of excessive weight gain and cesarean delivery decreased. Compared with grand multiparas, great-grand multiparas had significantly elevated risks for abnormal amounts of amniotic fluid, abruptio placentae, neonatal tachypnea, and malformations but lower rates of placenta previa (P < .05). The incidence of postpartum hemorrhage, preeclampsia, placenta previa, macrosomia, postdate pregnancy, and low Apgar scores was significantly higher in grand multiparas than in multiparas, whereas the proportion of induction, forceps delivery, and total labor complications was significantly lower than in the multiparous group (P < .05, Both high-parity groups have their own risk factors, but the rate of some complications decreases with higher parity.<sup>[4]</sup>

Fayed HM, Abid SF et al studied the obstetric performance and outcome of patients of extreme multiparity (Para 10 or more) compared to controls of parity 2–5. Records were reviewed for 228 cases and 3349 controls at Security Forces Hospital 1986 and 1991. It was found that hypertension and cesarean section rate were significantly higher in the study group opposed to the control.

Instrumental vaginal deliveries were significantly lower in the study group. There was no difference in the perinatal outcome between both groups. So it was concluded that with high socioeconomic state and high standard of antenatal care extreme grand multiparity does not carry any added special obstetric or perinatal risk. This study is in contrast with our study in which grand multipara is a potential high risk.<sup>[5]</sup>

Begum S, Aziz-un-Nisa Bl. Et al did an analysis of maternal mortality in a tertiary care hospital to determine causes and preventable factors. This study was conducted in Gynaecology 'C' unit of Ayub Teaching Hospital, Abbottabad. They also studied patients' demographic record including age, parity, education, socio-economic status along with antenatal care record, level of care and distance from hospital were noted. Causative factors leading to maternal death and contribution factors evaluated. All this information was collected from patients' records. It was concluded that obstetrical haemorrhage and hypertensive disorders are still major causes of maternal deaths. Most maternal deaths are preventable. The provision of skilled care and timely management of complications can lower maternal mortality in the present setup.<sup>[6]</sup>

Veena P, Habeebullah S, Chaturvedula L et al did a review of 93 cases of ruptured uterus over a period of 2 years in a tertiary care hospital in South India. This was a retrospective descriptive study carried out on cases in JIPMER between July 2008 and June 2010 among 32,080 deliveries. The study sample included 93 women who had a ruptured uterus. Outcome variables included maternal characteristics, risk factors, management and complications of ruptured uterus. They concluded that the strongest association of ruptured uterus was with previous scarred uterus, multiparity and < 18 months' duration from the last caesarean section. There were no maternal deaths. Maternal morbidity was seen in 17% of cases.<sup>[7]</sup>

Neena Chuni, determined the etiologic factors, clinical presentation, management and fetomaternal outcome in cases of rupture of the gravid uterus and propose preventive measures. They did a retrospective analysis of cases of uterine rupture at B.P. Koirala Institute of Health Sciences, Nepal, between February 1999 and January 2004. There were 126 cases of uterine rupture with incidence of one in 112 deliveries. The incidence of uterine rupture is high in Eastern Nepal and rupture of the unscarred uterus carries graver risks. Regular antenatal care, hospital deliveries and vigilance during labor with quick referral to a well-equipped center will reduce the incidence of this condition.<sup>[8]</sup>

Al-Sibai MH, Rahman et al in a retrospective survey of 1330 women who had seven or more viable pregnancies, found a higher incidence of anaemia, pregnancy induced hypertension, diabetes mellitus, breech delivery, unstable lie. antepartum and postpartum haemorrhage. The perinatal mortality rate (62/1000 deliveries) in the series was three times that of the hospital obstetric population. Stillbirths accounted for two-thirds of the perinatal deaths. This study is similar to our study.<sup>[9]</sup>

Evaldson G.R. et al studied the Grand Multipara in Modern Obstetrics. From April 1985 to March 1986, 1,252 women were admitted for delivery at the Al Hada Armed Forces Hospital, Taif, Saudi Arabia. Of these, 224 (17.9%) were grand multiparas (GM) defined as mothers of parity  $\geq 6$ . History, labor and delivery as well as postpartum and neonatal courses were recorded using computerized records for later statistical calculations. The obstetric and perinatal outcome was calculated comparing the GMs to para-1 mothers and para-2-5 patients (P2-5), respectively. The latter group being empirically considered as the 'ideal' patient group. On comparing the GM group to that of P2-5, significantly higher frequencies of intercurrent diseases, especially diabetes mellitus and gestational diabetes, were found. Among GMs, transverse lie, primary uterine inertia, fetal heart rate abnormalities, failure to progress and postpartum hemorrhage were encountered significantly more often than in the other groups. The incidence of placenta previa was likewise

significantly increased among the GMs as was the number of cesarean sections, particularly those of the primary emergency type. There was no maternal mortality. The perinatal morbidity was significantly higher in the GM group. However, no significant difference in perinatal mortality was found between the groups. It is concluded that with few exceptions the GM can be safely delivered by means of modern obstetric management.<sup>[10]</sup>

## CONCLUSION

Though the implementation of family planning programmes are well organised still. Acceptance of permanent contraception is not improving. There is a need of motivation, counselling, health education, awareness about MTP services. Women are opting for next issue at the cost of their health and for want of male child. The incidence of uterine rupture is high and rupture of the unscarred uterus carries graver risks. Regular antenatal care, hospital deliveries and vigilance during labor with quick referral to a well-equipped center will reduce the incidence of this condition. Our findings suggest that in modern obstetric practice the grand multipara continues to be a high-risk patient from both a maternal and fetal standpoint and that this has important clinical implications. As a result of the study, we have implemented changes to improve patients' care.

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