Maternal Outcome in Grandmultipara

Tomar Basar[1], Gemmi Angu[2], Noyomi Saring[3]

ABSTRACT

Introduction: The International Federation of Gynaecology And Obstetrics (FIGO). in 1993 defined grand multipara as delivery of 5th or more infants. The prevalence of GMP as well as MP (multipara) delivery varies from region to region according to socioeconomical status, status of women in society, culture and tradition. Study was done to find out the maternal outcome in grandmultipara as compare to multipara women.

Material and methods: This study was carried out in the Tomo Riba Institute of Health and Medical Sciences (TRIHMS), in the Department of Obstetrics and Gynaecology for period of one year from July' 2018 to June' 2019. We have included total of 219 pregnancies after careful consideration of inclusion and exclusion criteria. Group A or GMP comprise of 51 grandmultipara and Group B or MP comprises of 168 multipara women who were more than parity 2 and who did not undergone any caesarean section before. Only multiparous women of age more than 30yrs with 2 or more previous pregnancy of 28weeks were included in the study to obtain similar population and to avoid compounding factors. All the patients who came for admission in the obstetrics ward were evaluated as per norm and study conducted and evaluated as per the pre-formulated performa.

Results: During the study period 3267 pregnant women were admitted in Obstetrics ward. The grandmultipara comprises of more elderly women with age group of > 35 to 39 years and ≥ 40 years constituting 64% and 11.7%. But, multipara women were more in the range of 30 to 34 years of age (67.6%). The 35 - 39 years and ≥ 40 years of age constituted 27.7% and 4.7% respectively in MP group. The patients who underwent at least one antenatal check-up were found to be more in multipara (53.6%) than the grand multipara women (41.9%). Cases of ante-partum Haemorrhage (APH) in GMP were 9.8% as compare to 5.3% in MP. Abruptio placenta was found to cause of APH in 80% of APH, whereas it is 44.4% in MP group. Placenta praevia amounts to 55.6% of cause of APH in MP as compared to 20% in GMP. Malpresentation were observed in 11.7% in GMP as compared to 6.5% in MP.

Conclusion: The present studies showed that grandmultipara have poorer antenatal check-ups over and above with higher age group than other pregnancies. We found that PPH was significantly higher in grandmultipara than the multipara. Thus we conclude that better ante natal care and intrapartum monitoring will lead to safer delivery in grandmultipara.

Keyword: Grandmultipara, Multipara, Post Partum Haemorrhage, Pregnancy Outcome

INTRODUCTION

Parity refers to the number of previous pregnancies of more than 28weeks and, grand multipara (GMP) is the condition of giving birth following five or more previous pregnancies.[1] Toohey et al[2] the define of grand multipara is pregnancies equal to or more than five. Grand multipara pregnancies have reduced in few decades as education and socioeconomic status improved but still cases do occur in developing countries. Babinski A et al[3] in their study of 10 years found malpresentation, maternal obesity, preterm delivery and meconium stained amniotic fluid increased with high parity. GMP have much higher rate of pre-eclampsia (PIH), post partum haemorrhage (PPH) postdated pregnancy and low Apgar score. Yahya M Et al[4] found incidence of MP as high as 48.7% which was associated anaemia in pregnancy (AIP), hyperglycaemia but not low birth weight. According to Nordin MN Et al[6] grand multiparity is still cause AIP and perinatal haemorrhage in new millennium in Malasian patients which can be corrected if adequate antenatal care is taken. Therefore, our study is conducted to find out the maternal outcome Grandmultipara in tertiary care centre of state and also to find the maternal outcome of grandmultipara as compare with multipara (MP) women, who were equal to more than 30years of age in one year from July' 2018 to June' 2019. Study aimed to find out the maternal outcome in grandmultipara as compare to multipara women.

MATERIAL AND METHODS

This study was carried out in the Tomo Riba Institute of Health and Medical Sciences (TRIHMS), in the department of Obstetrics and Gynaecology for period of one year from July' 2018 to June' 2019. We have included total of 219 pregnancies after careful consideration of inclusion and exclusion criteria. Group A or GMP comprise of 51 grandmultipara and control 29.1%. of 168 multipara women who were more than parity 2 and who did not undergone any caesarean section before. Only multiparous women of age more than 30yrs with 2 or more previous pregnancy of 28weeks were included in the study to obtain similar population and to avoid compounding factors. Antenatal check up was not mandatory for inclusion in the study. The patients' with following condition were excluded from the study: -

1. Age less than 30 years

[1]Assistant Professor Department of Obstetrics and Gynaecology, [2]Senior Resident Department of Paediatrics, [3]Assistant Professor Department of Anaesthesiology, Tomo Riba Institute of Health and Medical Sciences, Arunachal Pradesh, India

Corresponding author: Dr Tomar Basar, Assisstant Professor in Depatment of OBG, TRIHMS. Papum Pare District, Arunachal Pradesh. PIN-791110, India

How to cite this article: Basar T, Angu G, Saring N. Maternal outcome in grandmultipara. International Journal of Contemporary Medical Research 2020;7(1):A23-A27.

DOI: http://dx.doi.org/10.21276/ijcmr.2020.7.1.51

2. Primipara women
3. History of caesarean section
4. History of gynaecological surgery
5. Multiple Pregnancy
6. Gross systemic disease like SLE, hyperthyroidism

All the patients who came for admission in the obstetrics ward were evaluated as per norm. On admission information regarding the age, parity & gestational age, antenatal check-up with obstetrical history included H/O of still birth, congenital anomaly, multiple pregnancies, ante partum or post partum bleeding were obtained. They were also evaluated for all systemic diseases like hypertension and diabetes with general physical examination and Gynaecological examination with necessary laboratory evaluation as per hospital norm. Obstetrical examinations with Ultrasound evaluation were done in labour room before performing any intervention if not in dare emergency for CS. Mode of delivery, 3rd stage events and birth outcome were included as per pre-formulated performa. Preeclampsia was considered if blood pressure was more than 140/90 mm Hg in two separate reading in patient in 24 hours. Anaemia was defined as haemoglobin of less than 10mg/dl. Any excessive bleeding during perinatal period was evaluated. Apgar scoring, congenital anomaly, placental anomaly, shoulder dystocia, amniotic fluid status and admission of baby to sick or neonatal intensive care unit (SNCU / NICU) were also noted down.

STATISTICAL ANALYSIS

Statistical analysis was carried out using SPSS software. We consider P – Value of >0.05 as not significant (NS) statistically, P - Value <0.05 as statistically significant (S), P – Value 0.01 and 0.001 as statistically highly significant (HS) and very highly significant (VHS) respectively.

RESULTS

During the study period 3267 cases were admitted in obstetrics ward in the tertiary care centre of Arunachal Pradesh, India. After considering inclusion and exclusion criteria, the total grandmultipara included in the study were 51 (1.5%) and multipara were 168 (4.9%) as shown in Table 1. The grandmultipara comprises of more elderly women with age group of > 35 to 39 years and ≥ 40 years constituting 64% and 11.7%. But, multipara women were more in the range of 30 to 34 years of age (67.6%). The 35 – 39 years and ≥ 40 years of age constituted 27.7 % and 4.7% respectively in MP group. The patients who underwent at least one antenatal check-up were found to be more in multipara (53.6%) than the grand multipara women (41.9%).

The comparisons of Obstetrical complication are compared between grandmultipara and multipara in the Table 2 as shown below. However, the datas' for obstetrical complications were not significant statistically. Cases of ante-partum Haemorrhage (APH) in GMP were 9.8% as compare to 5.3% in MP. Abruptio placenta was found to cause of APH in 80% of APH, whereas it is 44.4% in MP group. Placenta praevia amounts to 55.6% of cause of APH in MP as compared to 20% in GMP. Malpresentation were observed in 11.7% in GMP as compared to 6.5% in MP. One third of the malpresentations in GMP were transverse lie as compare to MP, who was having Podalic or Breech presentation in three quarter of the cases. We found a case of cord prolapsed in GMP but no case of cord prolapsed in MP group. It is found that PIH was seen in 13.7% cases of GMP and 6.5.0% in MP. We have found only one case of gestational diabetes in our study. 75% of the women have anaemia (Hb <10mg%), which was almost similar percentage in both the groups.

In Table 3, we have compared the labour outcome of both the groups. 78.4% of grandmultipara delivered in term pregnancy as compare to 67.2% in multipara women. We found no preterm delivery in grandmultipara but 3.5% in multipara. Post term deliveries were comparable in both the group constituting 21.6% and 29.1% in GMP and MP respectively. Mode of deliveries showed not much difference in both the groups. Third stage complications of PPH were higher in GMP than MP, as we have found 19.6% and 7.1%. Both gestational age of deliveries of babies and mode of delivery datas' were found to statistically not significant. PPH was found to be occured in 19.6% GMP and 7.1% MP in our study, which significant statistically (p – Value 0.009). Atonic PPH constituted 11.7% of PPH in GMP and 4.1% in MP (Statistically significant). Not only atonic but traumatic PPH were seen in higher rate in GMP than the control group. One case in our study underwent hysterectomy due to uncontrolled PPH. We found only one case of retained placenta in our study. The percentage of ruptured uterus was higher in GMP (1.9%) than MP (0.5%). According to our study the percentage maternal death was 1.9%, however this finding was not significant statistically.

The Indication for the caesarean section (CS) is shown in table 4. 39.2% of GMP and 36.3% of MP women underwent caesarean delivery. Ante-partum haemorrhage due to abruptio uterus was higher in grandmultipara (20%) than multipara (14.7%). Cases of APH due to placenta praevias were found to be almost similar for both groups. Breech presentation were seen in 13.1% in MP as compare to 5% in GMP, but GMP shows higher percentage of transverse presentation (10% in GMP and 1.6% in MP). Cord prolapsed was cause of CS indication in one case of grandmultipara. Prolong labour was seen in 30% of the cases in GMP and 13.1% in MP. Caesarean deliveries due to acute foetal distress were much higher in GMP (25%) than MP (14.7%). PIH was seen in 35% of caesarean section deliveries in GMP as compare

Character		GMP	MP
Ages (yrs)	30 – 34	12(23.5%)	113(67.6%)
	35 – 39	33(64.0%)	47(27.7%)
	≥40	6(11.7%)	8(4.7%)
	Total	51(1.5%)	168(4.9%)
AN Check-up	Booked	21(41.9%)	90(53.6%)
	Un-booked	30(58.1%)	78(46.4%)
	Total	51	168

Table-1: Showing the Age (years) and Ante-natal check up record

		GMP	MP	P-Value	Remark
Antepartum Haemorrhage (APH)	All	5(9.8%)	9(5.3%)	0.256	NS
	Abrutio plcenta	4(80%)	4(44.4%)	0.069	NS
	Placenta praevia	1(20%	5(55.6%)	0.697	NS
Malpresentation	All	6(11.7%)	11(6.5%)	0.223	NS
	Breech/Podalic	1(16.6%)	8(72.8%)	0.377	NS
	Transverse	2(33.3%)	1(0.90%)	0.071	NS
	Cord Prolapse	1(16.6%)	0	0.069	NS
	Face	2(33.3%)	2(18.1%)	0.202	NS
Anaemia		38(74.5%)	126 (75%)	0.944	NS
Pre-Eclampsia (PIH)		7(13.7%)	11(6.5%)	0.144	NS
Gestational diabetes		0	1	0.581	NS

Table-2: Showing the Obstetrical complication

Events		GMP	MP	P - value	Remark
Gestational age	Term	40(78.4%)	113(67.2%)	0.128	NS
	Pre-term	0	6(3.5%)	0.171	NS
	Post-term	11(21.6%)	49(29.1%)	0.287	NS
Mode of Delivery	NVD	29(56.8%)	100(59.5%)	0.735	NS
	Ventouse	02(3.9%)	07(4.1%)	0.938	NS
	Caesarean section	20(39.2%)	61(36.3%)	0.702	NS
Third Stage complication	All (PPH)	10(19.6%)	12 (7.1%)	0.009	HS
	Atonic PPH	6(11.7%)	7(4.1%)	0.044	S
	Genital Truma	4(7.8%)	4(2.3%)	0.069	NS
	Retained Placenta	0	1(0.5%)	0.581	NS
Ruptured uterus		1(1.9%)	1(0.5%)	0.369	NS
Maternal Death		1 (1.9%)	0	0.069	NS

Table-3: Showing the Labour outcome

		GMP	MP	P - Value	Remark
Total numbers of Caesarean Delivery		20 (39.2%)	61 (36.3%)	0.702	NS
Ante-partum Haemorrhage	Abruptio	4(20%)	9(14.7%)	0.511	NS
	Placenta praevia	1(5%)	3(4.9%)	0.935	NS
Malpresentation	Breech	1(5%)	8(13.1%)	0.309	NS
	Transverse	2(10%)	1(1.6%)	0.730	NS
	Cord Prolapse	1(5%)	0	0.069	NS
Prolonged Labour		6(30%)	8(13.1%)	0.073	NS
Fetal distress		5(25%)	9(14.7%)	0.34	NS
PIH		7(35%)	11(18.0%)	0.102	NS

Table-4: Showing the Indication for CS

	GMP	MP	P - Value	Remark
Live Births	50(98%)	165(98.2%)	0.935	NS
Cause of IUFD / Accidental bleeds	1(1.9%)	3(1.7%)	0.935	NS
Macrosomic	3(5.8%)	12(7.1%)	0.755	NS
Low Birth weight	3(5.8%)	5(2.9%)	0.337	NS
Admission to NICU	10(19.6%)	22(13%)	0.299	NS
IUFD / Perinatal foetal death	2 (3.9%)	3 (1.7%)	0.371	NS

Table-5: Showing the Foetal outcome

to 18% of MP.

Table 5 shows the foetal outcome of both the groups. 98% of the study participants delivered live babies. The low birth weight babies were found in 5.8% in GMP as compare to 2.9% of MP. 19.6% of babies delivered by GMP group and 13% babies delivered MP underwent NICU admission. Cases of perinatal or intrauterine foetal death were found to be higher in grandmultipara deliveries.

DISCUSSION

Multiparity and grand multiparity is believed to be established risk factor in Obstetrical practice. It is associated with multiple obstetrics, foetal and medical complications. In our study we found the prevalence of pregnancy in GMP

to be 1.5%. Studies done by Bezircioglu I et al[5] and Geidam Ad et al[8] have mentioned the prevalence of GMP to be 0.6 to 30%. Percentage was higher in developing countries where the large family norm is still prevalent and where family planning methods are not accepted. We found that GMP was seen in women with pregnancy in higher age group as compared to MP. Antenatal check-up done by grand multiparous women were lesser than the control group which was in compliance with the study of Bezircioglu I et al.[5] Lack of ANC in multiparous women who had no problem in previous pregnancies may be due to time and economic constraints put by large family and they may as well take safe pregnancy to be granted.

In study of Ahmed IAM[7], he enlisted multiple risk factors of multiparous pregnancies like higher maternal age, low socioeconomic status, perinatal haemorrhage, uterine ruptures, AIP, diabetes mellitus and hypertension. We found 75% of the women in both the groups to be associated with anaemia. In our study we found 9.8% APH in grandmultiparity as compared to 5.3% in multiparity. The accidental or abruptio placentae were found to be higher in GMP, which was in agreement to the studies of Methal A. Al Rubaee[9], Afzal A et al[12] and Ahmed IAM.[7] Malpresentations were also seen in higher occurrence in GMP than that of the MP in our study. One third of the malpresentation in GMP was transverse lie as compared to MP, who was having Podalic or Breech presentation in three quarter of the cases. This may be due to laxed abdomen and decrease muscle tone in grandmultiparous pregnancies. Zafar SMS et al[13] have done study on the malpresentation in GMP and MP where they found cases of malpresentation increase in higher parity which is in line with our study. We observe only one case of gestational diabetes in our study. Pre-eclampsia was much higher in GMP than the MP in our study. This finding was similar to the finding of study of Nordin N M et al[6] which was conducted in Malaysian population who suggest that this may be due to more cases of older age range in the study population.

In our study, we have found 98% live birth in both the groups. We found no differences in delivery mode. There was no significant caesarean delivery in grandmultiparous than in other pregnancies. This finding was found to be similar with study finding of other Neda SS Et al[10] and Goldman GA et al.[11] We have compared our study finding with the study findings of Afzal A et al[12], which was conducted for Jammu and Kashmir state of India. They found cases of caesarean section higher in grandmultipara which was not in agreement with our finding. Regarding the APH in GMP and MP, we found accidental bleeding to common than placenta praevia in GMP. This is in agreement with the findings of Ahmed IAM[7] and Afzal A et al.[12] Third stage complications of PPH were higher in GMP than MP, as we have found 19.6% and 7.1% PPH cases for GMP and MP respectively. Atonic PPH was as well as traumatic PPH were seen in higher rate in GMP than the other group. But main cause of PPH in GMP seems to be atonia of uterus. Alsammani M Alkhatim et al[14] also found occurrence of PPH in young grand multipara in age less than 35 years in Sudanese woman. They have also found babies born to GMP to be low birth weight and stayed in NICU more as compare to MP woman. We have encountered of only one case of retained placenta and a case of maternal death due to ruptured uterus in our study.

In our study we have recorded 98% live births in both GMP and MP. Incidence of intra-uterine fetal death was found to be higher in GMP than MP, whereas, foetal macrosomia was found to be higher in MP than GMP. Low birth weight babies were more prevalent in GMP. High maternal parity was also associated more babies admitting in NICU and have higher rate if mortality in our study.

CONCLUSION

The present studies showed that grandmultipara have poorer antenatal check-ups over and above with higher age group than other pregnancies. According to Federation of obtetrics and Gynaacological society of India (FOGSI) for management of PPH (2014), 38% of maternal death in India is contributed by PPH. From our study we found that PPH was the leading cause of maternal morbidity. Thus, we conclude that better ante natal care and intrapartum monitoring will lead to safer delivery in grandmultipara.

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Source of Support: Nil; **Conflict of Interest:** None

Submitted: 10-12-2019; **Accepted:** 01-01-2020; **Published:** 28-01-2020