Maternal Outcome in Grandmultiparas

Z SAADIA R FARRUKH F NAHEED
Department of Obstetrics & Gynaecology, Sir Ganga Ram Hospital, Lahore.
Correspondence to Dr. Zaheera Saadia e. mail (zaheerasaadia@hotmail.com)

Our aim was to asses the Obstetrical risk of GrandMultiparas (GMP) as compared to women of lower parity and to assess why the problem still persists despite the available methods of contraception. For this a prospective study was conducted over a period of one year in Labour room of Sir Ganga Ram Hospital (SGRH), Lahore. The prevalence of various conditions in GMP was compared with less parous women. The t-test was applied and p value calculated to assess the degree of significance. The couple asked why they did not utilized the available methods of contraception. We noticed 6% prevalence of GMP. The mean age amongst GMP was 30.24 years. GMP's who delivered normally comprised 72.8% and 28.2% had operative deliveries. There was no maternal death. Postpartum haemorrhage (PPH) occurred in 4.3% patients. Caesarean hysterectomy was performed in 1.3% GMP's. The most common cause of not practicing family planning measures was that the couple had one male child and wanted another (26.7%). GMP is still a common problem in our society. Pregnancy and delivery are at greater risk in GMP as compared to women of low parity. There is a need for proper pre-pregnancy evaluation and regular antenatal and postnatal follow ups to improve the maternal outcome.

Key words: Grandmultiparity, postpartum haemorrhage, contraception.

The term Grandmultiparity is an ill defined term. Different definations have been given for it by different authors. Abu-Heija described GMP as a woman who has delivered 5 or more babies[1]. Zadka and Barrel described GMP with 4 births or more[2]. The incidence reported by Aslam in Lady Willington Hospital, Lahore is 10%[3]. Henson during five years period reported 1.9% incidence of GMP in University College Hospital, London[4].

The incidence of accidental haemorrhage, placenta praevia, PPH, pre-eclampsia, ruptured uterus, prematurity and perinatal mortality have all been reported to be higher in the Grandmultiparas[5]. Different conclusions as to the risk of GMP reflect different races studied and management protocols[6]. Munim et al conducted his study in Aga Khan Hospital and reported that GMP is still a high risk pregnancy in our part of the world[5].

Therefore, there is need to asses the prevalence and obstetrical risk of GMP in our population and to answer why the problem still persists despite availability of family planning measures.

Patients and methods

This is a prospective study conducted over a period of one year in Sir Ganga Ram Hospital from Jan. 1st – Dec. 31st 1999. All the patients delivered in labour room No. 1 during this time period were included in the study.

The cases were divided into 2 groups. Group 1 consisted of Gravida 5 or more and Group 2 included women of low parity (PG-G4). The comparison of antenatal, intranatal and postnatal complications was made. The results were tabulated and student 't' test was used to assess the significance of results p value of less than 0.05 was considered as significant.

Results

Table 1. Distribution of patients according to their age

Age Groups (Years)	GMP (n=230)		Women of low parity (n=3582)	
	No.	%age	No.	%age
< 30	89	38.6	2682	74.87
30-40	138	60	898	25.06
> 40	3	1.3	2	0.055

Mean age of GMP = 30.24 Mean age of women of low parity = 25.06

Table 2. Distribution of patients according to their parity

Parity	GMP (n=230)		Women of low parity (n=3582)	
	No.	%age	No.	%age
G1	-	-	711	19.8
G2	-	-	1500	41.8
G3	-	-	800	22.3
G4	-	-	571	15.9
G5	70	30.4	-	-
G6	75	32.6	-	-
G7	27	11.7	-	-
G7-8	28	12.1	-	-
G9	30	1.304	-	-

Mean age of women of low parity = 25.06

Table 3. Comparison of different conditions/complications amongst GMP and women of lower parity (percent distribution)

Conditions/ complications	GMP	Women of low parity	Significance of difference	
Anemia	21.7	17.0	P>0.05	NS
Hypertension	14.3	5.0	P<0.001	
Diabetes	5.2	0.33	P<0.001	
Eclampsia	0.43	0.25	P>0.05	NS
Antepartum haemorrhage	3.0	0.64	P<0.05	
Caesarean section	24.7	18.9	P < 0.05	
Instrumental delivery	3.4	0.8	P < 0.05	
Obstructed Labour	4.3	0.78	P < 0.01	
Preterm Labour	1.0	0.53	P< 0.001	
Spontaneous onset	86.95	94.77	P<0.001	
Induced labour	8.6	2.56	P<0.001	
PPH	4.43	0.3	P < 0.01	

NS = not significant P<0.05 = significant

Table 4. Reasons for not practicing family planning measures

Reasons	No.	%age
Another Male Issue	62	26.7
Fear of Family Planning Methods	43	18.6
Religious taboos	35	15.0
Husband's Will	31	13.4
Male issue	21	09
Bad Obstetrical History	15	6.5
Failure of Family Planning Methods	10	4.34
Ignorance	06	2.5
Woman's own desire of large family	05	2.17
Psychiatric patient	01	0.4
Female issue	01	0.4

Discussion

Solomons first defined the term "grandmultipara" in 1934[7]. W. H. O. defines GMP as a woman who has delivered 5 or more babies weighing more than 500 grams[8]. High parity is said to be associated with increased incidence of Anemia, Gestational Diabetes mellitus (GDM), Placenta Praevia Abruption, fetal malpositions and PPH[9]. The prevalence of these factors allows an evaluation of the obstetrical significance of GMP.

In our study the incidence of GMP in hospital population was found to be 6%. While comparing our results with a similar study by Aslam in Lady Willington Hospital, Lahore in 1994 the incidence was 10%[3]. Sibai has reported the incidence in his study as 11.1%[10]. Henson reported 1.9% incidence of GMP in University College London during 5 years of study and Asian population comprised 6.1% of the total obstetrics population[4].

In our study population 63% of the women among Grand multiparas were between G5-G6 and 1.3% were ≥G9. Highest parity noted was G14. Mean age of Multigravidas was found to be 30.24 years. The mean age reported by Sibai is 34.6 years[10]. He found 72% patients above the age of 30 years. However, we found 61.3% of patients above 30 years of age. This may be because of early marriages and absence of birth spacing in Asian population group.

Anaemia is the most common obstetric complication in GMP in our study (21.7%) than in women of lower parity (17%) but this difference is not statistically significant (p>0.03) (Table 3). Haemoglobin of <10 g/dl at any time during pregnancy was considered as anemia. Similar results were reported by Aslam (25.6% vs 20.8%)[3]. Babinzki says that anemia occurred more frequently with increasing parity but the difference was not statistically significant[11]. This shows that parity is not the only factor responsible for anemia.

We noticed a higher incidence of hypertension and diabetes in our study (Table 3). Sibai stated that the incidence of essential hypertension was 35% in GMP group as compared to 0.8% in the less parous group. The Gestational Diabetes was 4.8% vs 2.8%[6]. Mwanbingu who conducted his study in Riyadh and Eidelman who conducted his study in Israel found a higher incidence of Diabetes in multiparous women[12,13]. There was no increase in the prevalence of chronic medical disorders in GMP in study by Hanson[4]. Goldman noticed that the age of Grandmultipara was significantly higher compared with the control groups which may explain the higher incidence of antenatal medical disorders[14]. Junutunen et al longitudinally investigated the four stages comparing the obstetric history of great grand multiparas-primiparous. They found a higher proportion of hypertension, diabetes, Placental complications operative deliveries macrosomia and maternal obesity with increasing parity whereas no such difference was found regarding preterm delivery, anemia, maternal thyroid disease and perinatal mortality[15].

As regards APH when analyzed in detail Placenta Praevia was more prevalent (2.6% vs 0.53%) in our study population however no statistically significant difference was found among the two groups for Abruptio Placentae (0.43% vs 0.11%). Abu-Heija noticed no difference in incidence of Placental abruption or Praevia amongst women delivering for the 10th time and women of low parity[1]. Similarly Aslam in his study reports "APH was significant increased in GMP (6.6%vs 3.6%) as compared to non GMP group. However, when different causes were considered separately no significant difference was present in the incidence of Placenta praevia, Abruptio placentae and undetermined causes of APH in the two groups."[3]. Henson found that the incidence of APH and Placenta praevia was not increased despite being previously implicated as a major complication in GMP[4].

Significant number of GMP (24.7%) delivered normally in our population group. Rate of operative delivery was significantly higher for GMP (24.7% vs 18.9%). C.S was more often performed for fetal distress 14 patients (6%). Obstructed labour was found in 10 patients (4.34%). All these patients had trial outside the hospital and later were referred to hospital as complicated cases. Forceps delivery rate was significantly higher in GMP (Table-3). This is in contrast to study of Aslam who has shown that the rate of operative delivery between GMP and less parous women was not statistically significant[3]. Sibai has reported 11.4% C.S rate in GMP as compared to 8.9% in less parous women[10]. Ten GMP presented with obstructed labour giving an incidence of 4.34% as compared to 0.78% for PG. When analyzed it was found that all of these patients had trials outside the hospital and the incidence of cephalopelvic disproportion was high. Six patients out of 10 GMP had their babies ≥4.5kg. In other 4 patients there was deep transverse arrest of head, which may be due to defect in powers, passage or passenger. Higher angle of inclination & laxity of maternal tissues can lead to failure of rotation of vertex. While comparing our study with that of Aslam[3]. Sibai[10] & Henson [4] none of them had described the obstructed labour in their studies. This condition is not prevalent in Western world & in Saudi Arabia due to easy asses to hospital facilities.

We also noticed statistically significant difference among rate of Preterm labour (Table 3). Previous studies

have drawn attention to this fact as Krebs in 1996[16] but most of the recent studies negate this fact[4]. Daniel reported (11.5% vs 12.2%) rate of Preterm labour among GMP & women of low parity in his study[17].

We found to significant difference of malpresentation among two study population (p>0.05) which is in contrast to study of Evaldson GR[18] but comparable to Aslam[3].

As regard mode of onset of labour 86% of GMP & 94.77% of women of low parity had spontaneous onset of labour. Induction was more often required for GMP. While comparing these with women of low parity we found that Hypertension & Diabetes were 2 risk factors which places GMP at risk of induction of labour. Irvine found no statistically significant difference for induction of labour among 2 groups as regards mode of onset of labour[6]. Although the rate of C.Ss is high in GMP (p>0.05) as compared to women of low parity there was no statistically significant difference amongst Elective & Emergency C.S. These results correlate with Irvine[6] & Henson[4]. Therefore, we can say that the nature of obstetric population & management protocols may have an effect on mode of onset of labour and in part may be responsible for the conflicting conclusion in different studies for example whether a women with a breech presentation are offered Elective Caesarean section & use of Induction for postmaturity[6].

PPH was significantly higher in GMP (Table 3). These results coincides with results of Munim who noticed 3 times higher incidence of PPH in GMP[19]. The incidence of PPH was doubled that of overall deiiveries as reported by Al-Sibai[10]. Irvine found no increase in incidence of PPH in GMP. He reported that " At St. Bartholomew's Hospital Homertton its Labour Ward policy to use a prophylactic infusion of synthetic oxytocin (20 units in 500 ml of Hartman's solution infused over 4 hours) in GMP & it may be due to this we reported similar rates[6]. This shows that PPH can be related to the Hospital policy regarding use of oxytocin. Similarly although G10 or more are very common in Saudi Arabia but the incidence of PPH is very low even in remote areas of the country like Al-Baha & the author related it to the good nutritional status[20].

The most striking feature of our study is that there was no maternal mortality despite the fact that most of the patients were referred after trial outside the hospital. This shows like report of Abu-Heija that with access to modern care a favourable outcome can be achieved in women of high parity[1]. Another most important aspect of our study is to ask the couple why they did not utilized the available methods of contraception. This aspect has not been covered in any of the studies referred in this discussion. 26.7% of families had one male child and wanted another. This shows the importance given to a male child in our population. 18.6% that constitute a family large group of population were afraid of family planning methods as they had the belief that family planning methods can cause obesity, menstrual irregularities or vaginal discharge. Thirteen percent GMP were not practicing family planning measures because of their husband's will. His shows that there is a need to involve the couple & not only the female in population planning programmes. Fifteen % had the view that God punishes those who practice such measures. Nine percent GMP were pressurized by their families to produce a male child. Only 2.5% were unaware of family planning methods. Failure of family planning methods occurred in 4.34%. When offered the chance of getting sterilized if need for Caesarean section arises only 6% accepted the option.

Conclusion

GMP is still a common problem in our society & GMP are of relatively young age group in our studied population. The prevalence of Hypertension, Diabetes, APH & Post term pregnancy was significantly increased in GMP group but no statistically significant increase was noticed for Anemia. Therefore, parity is not the only factor responsible for anemia other factors like socioeconomic conditions, nutritional status & worm infestation needs to be considered. There is a need for proper pre-pregnancy evaluation, antenatal and postnatal follow up to assess the impact of chronic medical disorders on GMP & to differentiate Gestational diabetes and Pregnancy induced hypertension from diabetes and chronic hypertension.

While assessing intrapartum conditions we noticed that obstructed labour is significantly higher is GMP and most of these ladies were referred as complicated cases after trial outside the hospital.

We also noticed no significant increase as regards malpresentation, therefore, factors other than GMP should be considered for causes of malpresentation. As regards mode of onset of labour Hypertension and Diabetes are 2 factors placing GMP at high risk of Induction of labour.

Pregnancy and delivery in GMP are at greater risk but delivery in properly equipped hospital can lead to a decrease in associated morbidity & mortality and thus a reasonable good outcome.

Media campaigns for Family planning are needed to allay public fears regarding family planning methods. Involvement of couple rather than female and religious leaders is important for achieving success. Contraceptive measures decrease the prevalence of this high risk pregnancy.

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