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Antenatal Complications in Grand Multipara Presented at Tertiary Care Hospital

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ABSTRACT

Background: Grand multiparity considered as a risk factor of obstetrics because of the recorded complications linked to the condition. Grand multiparity typically considered as the distinctive reason for the raised, maternal and fetal morbidity and mortality because of expanded incidence of adverse outcome during pregnancy and birth. **Objective:** To determine frequency of antenatal complications in grand multipara. **Study Design:** Cross-sectional study. **Settings:** Department of Obstetrics and Gynecology, Jinnah Postgraduate Medical Centre, Karachi Pakistan. **Duration:** Study duration was six months from March 2016 September 2016. **Methodology:** Total 212 patients were included in this study. Anemia was taken as Hb of 11g/dl, PIH was taken as BP of >140/90mmHg after 20 weeks of gestation with or without proteinuria on two or more occasion 6 hours apart and placenta previa was confirmed via ultrasonography. All the information was collected via study proforma. **Results:** Patients mean age was 34.90±3.51 years. Most of the patients 96.7% had parity 5-9. Anemia was found 69.8% and pregnancy induced hypertension was 22.2%, while placenta previa was found to be 18.9%. Antenatal complications including anemia, pregnancy induced hypertension and placenta previa were found to be statistically insignificant according to age, parity and BMI, (p->0.05). **Conclusion:** Most common antenatal complication in this study was anemia followed by hypertension and placenta previa. Grand multiparity is at a greater risk of antenatal complications.

Keywords: *Grand Multipara, PIH, Placenta previa, Anemia.*

INTRODUCTION

The concept of grand multiparity (GMP) was introduced during the last century.[1] In the developing nations prevalence of the grand-multiparity is about 10% to 30%.[2,3] However incidence of it including its complications is 44% to 56% which is remains still higher in the Pakistan.[2,4]

Numerous studies have described grand multiparity as an independents risk for many maternal and fetal complications.[1] In the literature particularly possible complications of the grand multiparity had been demonstrated, including pre-eclampsia, placenta previa, birth defects, gestational diabetes, multiple pregnancy prolonged labour, malpresentation, uterine rupture, postpartum hemorrhage, increased rate of the cesarean section, uterovaginal prolapse and sepsis.[1,6-8]

As per previous concept, elevated uses of the contraceptives and enhanced health care birth are both predictable to decrease the incidence of grand multiparity and its related complications,[9] consequently, the current improvement in family planning awareness and the contraceptive uses in the population is probable to affect grand-multiparity and its linked complications. Postpartum anemia, puerperal sepsis, postpartum hemorrhage and urinary tract infections were the postpartum complications observed among grand-multiparous population as per previously published studies.[1-4,10]

Antenatal complications like hypertensive diseases in pregnancy, placenta previa and medical illnesses are found to be commoner in the grand-multiparous, and this agrees with previous studies.[1-3] In one study, frequency of antenatal complications in grand-multipara was determined and they observed that PIH was found to be 27.1%, anemia 22.2%, placenta previa 15.3%.[11] Most of studies done on such subject are on retrospective data and

as data taken from records has less worth as compare to prospective collection of data, therefore, outcome of previous studies controversial. Therefore, this study has been designed to assess current frequency of antenatal complications in grand-multiparous women. Furthermore, measures can helpful to teach and guide women to reduce number of parity and prevent these complications.

METHODOLOGY

Study Design: Cross-sectional study.

Settings: Department of Obstetrics and Gynecology, Jinnah Postgraduate Medical Centre, Karachi Pakistan.

Duration: Study was carried out over a period of six months from 21-03-2016 to 20-09-2016.

Sample Technique: Non-probability, consecutive sampling technique was used.

Sample Size: Sample size came out as 212 using Raosoft sample calculator software, confidence interval taken as 90%, percentage of pregnancy-induced hypertension taken as 27.1%,[11] and absolute precision as 5%.

Inclusion Criteria: Women with >28 week of gestation, age 25-40 year and grand multipara were included.

Exclusion Criteria: All the women with pre-existing hypertension, blood disorders; leukemia, thalassemia, aplastic anemia, obese and diabetes mellitus were excluded.

Data Collection Procedure: Informed and written consent was taken from patients. On admission patients history was taken in detail. Age, gravida, parity, detailed obstetrical history, past history was recorded. Anemia was taken as hemoglobin of 11g/dl, PIH was taken as blood pressure of 140/90mmHg after 20 weeks of gestation with or without proteinuria on two or more occasions 6 hours apart and placenta previa was taken as painless, bright red vaginal bleeding further confirmed with ultrasonography and frequency of these antenatal complications were noted. Proforma attached was filled accordingly.

Statistical Analysis: All data was analyzed using SPSS Statistics 20.0 software. Numerical variables were computed in the form of mean and standard deviation. Categorical data like antenatal complications; anemia, pregnancy induced hypertension and placenta previa was computed in the form of frequency and percentage. Stratification was done to control effect modifiers like age, BMI and parity. Chi square test was applied by taking p-value <0.05 was considered statistically significant.

RESULTS

Patients mean age was 34.90±3.51 years and 36 to 40 years age group was most common. Most of the patients 96.7% had parity5-9 and 3.3% had parity >9. Out of all 67.9% had BMI 21-24 and 32.1% had BMI 32.1%. Table 1

As per antenatal complications anemia was found 69.8% and pregnancy induced hypertension was 22.2%, while placenta previa was found to be 18.9%. Table 1

Table 1: Demographic characteristics and complication of the patients (n=212)

Variables		Number	Percentage
Age groups	25-30	29	13.7
	31-35	81	38.2
	36-40	102	48.1
Parity	5-9	205	96.7
	10-13	7	3.3
BMI	18-20	68	32.1
	21-24	144	67.9
Anemia	Yes	148	69.8
	No	64	30.2
PIH	Yes	47	22.2
	No	165	77.8
Placenta previa	Yes	40	18.9
	No	172	81.1

Anemia was found to be statistically insignificant according to age, parity and BMI, (p=>0.05). Table 2

Table 2: Stratification of age, parity and BMI with regard to anemia (n=212)

Variables		Anemia		Total	P value
		Yes	No		
Age groups	25-30 years	22	07	29	0.745
	31-35 years	56	25	81	
	36-40 years	70	32	102	
Parity	5-9	142	63	205	0.351
	10-13	6	1	7	
BMI	18-20	47	21	68	0.880
	21-24	101	43	144	

Pregnancy induced hypertension was non-significant as per maternal age, parity and BMI (p=>0.05). Table 3

Table 3: Stratification of age, parity and BMI with regard to pregnancy induced hypertension (PIH)

Variables		Pregnancy induced hypertension		Total	p-value
		Yes	No		
Age groups	25-30 years	07	22	29	0.958
	31-35 years	18	63	81	
	36-40 years	22	80	102	
Parity	5-9	45	160	205	0.678
	10-13	2	5	7	
BMI	18-20	17	51	68	0.495
	21-24	30	114	144	

Placenta previa was also statistically insignificant according to age, parity and BMI (p=>0.05). Table 4

Table 4: Stratification of age with regard to placenta previa (n=212)

Variables		Placenta previa		Total	P value
		Yes	No		
Age groups	25-30 years	07	22	29	0.451
	31-35 years	12	69	81	
	36-40 years	21	81	102	
Parity	5-9	39	166	205	0.753
	10-13	1	6	7	
BMI	18-20	14	54	68	0.660
	21-24	26	118	144	

DISCUSSION

Grand multiparity is a family burden and a risk factor for increasing antenatal and postnatal as well as maternal complications such as anemia, diabetes mellitus, hypertension, increased the rate of cesarean section and postpartum hemorrhage.[12,13] In this study there was a significant association between grand multiparity and antenatal complications, 69.8% patients were anemic, 22.2% were hypertensive and placenta previa developed in 18.9%. These antenatal complications are comparable in accordance with study of Afolabi and Adeyemi.[11]

In this study mean age of the grand multiparous women was 34.90±3.51 years, these findings were similar to the study of Mgaya AH *et al*[14] as the mean age of grand multiparas women was 35.15±4.8 years. On other hand Afolabi AF *et al*[15] also reported that, most of the cases 68.7% seen with age group of 30–39 years. In another study of Alhainiah MH *et al*[16] reported that the mean age of grand multipara women was 36.9±4 years. In this study out of all study subjects 51.9% females were ≤35 years, which predicted that early age of marriage leads younger grand multiparity and which could be the risk factor for severe complications.

In this study, a higher prevalence of anemia, PIH and placenta previa were observed, among grand multipara women which is consistent with findings of a study carried out by Alhainiah MH *et al*[16] as anemia, gestational diabetes and medical disease were highly significant among grand multiparous women. These findings were also similar to another study, in which showed reported that the grand multiparas women 95% had anemia and high incidence of gestational diabetes regarding obstetrical complication.[17] On other hand recently Adere A *et al*[18] observed that the females having advanced maternal age (≥35) have six fold high risk to develop placenta previa. In another recent international study of Yimer NB *et al*[19] observed that the several adverse pregnancy outcomes were higher in grand multiparous women. In this study there was no any significant association of age, parity and BMI with antenatal complications. Similarly, Bililign N *et al*[20] also observed that the there was any significant association of parity with pregnancy outcomes. On other hand Akhtar R *et al*[21] also reported that the complications associated with grand multiparity were anemia (70.15%), Hypertension (15%), diabetes (10.59%) and malpresentation (7.5%). Pregnancies among women of grand multipara have been known as the high risk of complications of pregnancy and delivery for several decades among these females. Grand multiparity is still considered as a major risk in obstetrics, which requires exacting management and perfect antenatal consideration and dynamic intercession at suitable time.[22] Most of the reports argued that grand multiparas are more likely to be of old age that might be the cause for raised morbidity and the mortality. As per our clinical experience such factor is hard to be eliminated on the grounds that female age is the commonest biological event factor impacts the events of the reproduction.

CONCLUSION

A per study observations the anemia, pregnancy induced hypertension and placenta previa found to be highly prevalent among grand multiparous women. This risk can effectively reduce with good antenatal care, but it's yet accountable to the severe complications of the pregnancy, which can lead to high morbidity and mortality of the mothers and fetus.

LIMITATIONS

None

SUGGESTIONS / RECOMMENDATIONS

In communities, like Pakistan where larger families are needed it is essential to address the value of the family planning and conveyance of meticulous antenatal care.

CONFLICT OF INTEREST / DISCLOSURE

The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript and there is no financial interest to report.

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