FREQUENCY OF MATERNAL AND FETAL OUTCOME IN GRAND MULTIPARA WOMEN

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ABSTRACT

Introduction: Grand multiparity has been considered the risk factor for mother and fetus. Therefore relationship between parity and pregnancy outcome has been of concern for decades. Although the incidence of grand-multipara is low in economically developed countries with incidence ranging between 2 to 4%, it is very common in developing countries as high as 18.5%.[7] In Pakistan the incidence of grand multipara along with its complications is still high. The aim of this study was to determine the frequency of grand multiparity in tertiary care hospital and to evaluate the maternal and fetal risk associated with grand multiparity.

Objective: To determine maternal and fetal outcome in grand multiparas women.

Methodology: This descriptive study was conducted at the department of Obstetrics and Gynecology Unit "C" Hayatabad Medical Complex, Peshawar from January 2017 to December 2017. During the study period 680 grand multiparas women were meeting the inclusion criteria were made part of this study. Frequencies were determined to decide the outcome of the study. As this was a descriptive study, no statistical analysis were conducted for the data.

Results: In our study, live fetal outcome was 96.62% whereas still birth was 3.38% and the early neonatal death was 0.3%. Other notable complications associated with grand multiparity were anemia (70.15%), Hypertension (15%), diabetes (10.59%) and malpresentation (7.5%).

Conclusion: Grand multiparity remains a risk in pregnancy and is associated with an increased prevalence of maternal and neonatal complications. Hence, there is a need for proper pregnancy evaluation and regular antenatal checkup, intrapartum care and postnatal follow up to improve the maternal care in women.

Key words: Grand Multiparity, maternal and fetal outcome

INTRODUCTION

Grand multipara is a women who has delivered five or more babies after 28 weeks weighing more than 500 grams. Grand multipara was introduced by Solomon (1934), who called it the dangerous multipara.[1] The international federation of Gynecology and Obstetrics (1993) define grand multipara as delivery of the fifth to ninth viable pregnancies.[2,3,4] Grand multipara has been considered the risk factor for mother and fetus.[1,5,6]

The concept of a risk threshold for the relationship between parity and pregnancy outcome has been of concern for decades. Association have been found between parity and adverse pregnancy outcomes. Although the incidence of grand-multipara is low in economically developed countries, religious or cultural factors mean that it is common in some populations. The incidence is 2-4% in developed countries where as very common in developing countries as high as 18.5%.[7] In Pakistan the incidence of grand multipara along with its complications is still high.[2]

Grand multiparity continued to be regarded as high risk factor[8] and challenge for obstetric practice in the developing world[9] and it continues to be of grave concern with an adverse input on obstetric and perinatal outcome.

Common complications associated with grand multiparity are antepartum hemorrhage, gestational diabetes, pregnancy induced hypertension, premature rupture of membranes, preterm labour and postpartum hemorrhage.[10]

A study conducted in United Kingdom (Reunion Hospital) found that grand multipara had more previous intrauterine and perinatal deaths and had fewer intrapartum complications.[11] Another study from Malaysia found that grand multiparas women were significantly at risk of preterm and low-birth weight deliveries.[12]

Earlier, the complications of high parity in relation to maternal morbidity and mortality were viewed with genuine fear. It is shown from recent studies, that maternal morbidity and mortality is not increased among grand multiparas. In most developed countries the incidence of grand multiparity has decreased markedly

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due to the use of contraceptives practices. Moreover, obstetrical care has improved considerably due to the use of advanced electronic fetal monitoring as well as intrauterine pressure measurement has greatly improved the possibility of safer obstetrical management of grand multiparas. However, in the developing countries, where there is limited access to antenatal care these grand multiparity is still at risk and the need to identify such women is an important part of antenatal screening and care during delivery.

The aim of this study was to determine the frequency of grand multiparity in tertiary care hospital and to evaluate the maternal and fetal risk associated with grand multiparity.

MATERIAL AND METHOD

This descriptive study was conducted at the department of obstetrics and gynecology Unit "C" Hayatabad Medical Complex, Peshawar from January to December 2017.

Grand multipara is a women who has delivered five or more babies after 28 weeks weighing more than 500 grams were included in the study. Primigravida, multigravida and those with miscarriages were excluded from the study.

After admission to the hospital, information regarding the demographic variable of the women, relevant medical history and examination details were collected. Previous record were reviewed for any antenatal complications including anemia, pregnancy induced hypertension (PIH), eclampsia, antepartum hemorrhage, preterm labor, malpresentation. During labor patients were managed according to the ward protocol. The intrapartum complications like precipitate labor, dysfunctional labor, and obstructed labor were recorded. Partogram was maintained. The neonates were followed in neonatal intensive care unit for neonatal complications.

All the information were obtained through a preformed proforma and were than tabulated. As this study was a descriptive type, no statistical analysis were conducted for the data.

RESULT

There were total 4523 obstetrics admissions and 4407 births during the 12 month study period from which 680 patients were grand multiparous, who fulfilled the inclusion criteria. The Grand-multiparity comprises 15% of our total obstetric admissions and 15.4% of total births. Demographic characteristics are presented in Table 1.

Considering the nature of admission, majority of the patients were admitted as booked patients compared to those arrived as un-booked patients. The frequency of patients is shown in Table 2.

Table 1: Age distribution of patients total Number of Patients = 680

Age (years)	Nos.	%age
< 25	100	14.71
25 to 40	526	77.35
> 40	54	7.94

Table 2: Ante-natal booking distribution of patients Total Number of Patients = 680

Booking	Nos.	%age
Un-Booked	637	93.68%
Booked	43	6.32%

Table 3: Education wise distribution of patients Total Number of Patients = 680

Education	Nos.	%age
No education	652	95.88%
Primary to Secondary	28	4.12%

Table 4: Mode of Delivery Total Number of Patients = 680

Mode of Delivery	Nos.	%age
Vaginal delivery	538	79.12%
Instrumental delivery	26	3.82%
Cesarean section	116	17.06%

Table 5: Maternal morbidity in Grand multipara women Total Number of Patients = 680

Indication	Nos.	%age
Anemia	477	70.15%
Hypertension	102	15.00%
Diabetes	72	10.59%
Mal-presentation	51	7.50%
Antepartum Hemorrhage	42	6.18%
Obstructed labour	34	5.00%
Ruptured uterus	7	1.03%
Postpartum Hemorrhage	37	5.44%
Shock	2	0.29%
Maternal death	2	0.29%

Grand-multiparity is significantly associated with low educational status, poor pre-natal care and increased maternal age. Distribution of patients with respect to educational status are shown in Table 3

Regarding mode of delivery, 79% of the women delivered normally, 4% delivered with instrumental as-

Table 6: Perinatal Outcome in Grand Multipara women Total Number of Patients = 680

Variable	Nos.	%age
Total alive newborns	657	92.62%
Still born	23	3.38%
Early neonatal death	2	0.3%
Low birth weight	30	4.41%
Macrosomia	14	2.06%
Congenital anomalies	6	0.88%
Preterm	17	2.5%

sistance and caesarean section was done for 17% of the women.

With regard to complications, the result showed higher incidence of anemia, hypertension, malpresentation, diabetes, PPH, obstructed and dysfunctional labor. More than one complication was encountered in most of the women and 70.15% women suffered mainly from anemia and most common anemia was iron deficiency anemia. Second most common complication was hypertension (15%). Intrapartum Complications during labor were obstructed labor, malpresentation, postpartum hemorrhage and ruptured uterus. In malpresentation, most of the women presented with transverse lie and neglected transverse lie with hand prolapse. Postpartum hemorrhage were seen in 5.44% women. Atonic uterus was the most common cause of PPH in these women.

Ruptured uterus was observed as serious maternal complication in three women and these were referred cases, and two of these presented with shock. Obstetrical hysterectomy was done in these cases after hemodynamic stabilization.

Intrapartum complications most commonly presented with grand multiparity are shown in Table 5. Perinatal outcome in our study are presented in Table 6.

DISCUSSION

For many years pregnancies in grand-multipara have been considered risky.[13] Grand-multiparity is a rare issue in developed countries due to advancement of family planning. However In our study we found lower contraceptive use before the index pregnancy among grand-multiparous which is one of the reason for the high frequency of grand-multi in our study population that is 15.4% and this is highly comparable with other studies.[14,15]

In this study, grand-multparas had significantly poorer socioeconomic status as in previous studies[16-18] as a result of a lower level of education, poorer perinatal care.

Majority of the women (77.35%) were found in age group of 25 -40 years, which is comparable with the study of Saadia et al. however, a high frequency of grand-multiparity in the age group of >30 years has been reported by Munium et al.[19]

Many of the complications that have been associated with grand-multiparity have also been independently associated with advance maternal age.[20,21] So the maternal age is an important cofounder that must be controlled to minimize bias in the interpretation of results.

Grand-multiparity still remained at higher risk for obstetricians. Various hazards are associated with grand-multiparity including antepartum as well as intrapartum complications. Among the antepartum complications included anemia, DM, hypertension, mal-presentation, APH etc.

The majority of women in this study were found anemic (70.15%) which is also reported as 64.3% by Karim et al. The most common type of anemia was iron deficiency anemia in our study.

The findings showed that most grand-multiparous women had low hematocrit (33%) in comparison with multiparous women might be because women having repeated pregnancies do not have time to replenish their iron stores before their next pregnancy.[22-26]

Hypertensive disorders in this study were 18% which was also reported by Munium et al. (15.4%), Saadia et al. (14.3%) and Karim et al. (14.3%) and this may be because of advance maternal age which is also one of the reason for the increased incidence of PIH in grand-multipara women.

Antepartum hemorrhage was found in 6% of the women. The common causes were abruption placenta (3%), placenta previa (2%) and ruptured uterus (1%). The parity of the patients was considered to be the significant risk factor for the occurrence of placental abnormalities

As to the mode of delivery 79% delivered vaginally, 4% had operative vaginal delivery and 17% cesarean section. The most common indications for cesarean section were mal-presentation & obstructed labour, ante-partum hemorrhage, neglected transverse lie. These results are in contrast to the study done by Munium et al. who found no significant difference in the prevalence rate of cesarean section or normal delivery in the two groups (grand-multipara versus non-grand-multipara).

Regarding PPH, this study has shown no increased risk in PPH. The reason might be the study conducted in teaching hospital with good number of obstetric nurses with the availability of 24/7 trained health professionals who actively managed third stage of labor and reduced postpartum hemorrhage caused by uterine atomy. Being multiparous reduces genital lacerations which is similar finding to other studies.[27,28]

In this study there were two maternal death, one from PPH and the second due to multi-organ failure. In our study, live fetal outcome was 96.62% whereas still birth was 3.38% and the early neonatal death was 0.3%. It was the same other study findings in Tanzania, Scandinavians, hospital based studies.

Even though, there were number of study concluded that grand multiparty was risk factor for low birth weight and the other hand number of studies including this paper and meta-analysis showed that grand multiparty was not risk factor for low birth weight if other antepartum maternal complication controlled. The other findings in this study were macrosomia (2.06%), congenital anomalies (0.88%) and pre-term (2.5%) which were found comparatively low as compared to the study conducted in Tanzania, Scandinavians, Belgium hospital based studies

CONCLUSION

Grand multiparity remains a risk in pregnancy and is associated with an increased prevalence of maternal and neonatal complications. Hence, there is a need for proper pregnancy evaluation and regular antenatal checkup, intrapartum care and postnatal follow up to improve the maternal care in women.

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