

Grand Multiparity and its Obstetrical Complications at Bahawal Victoria Hospital Bahawalpur

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ABSTRACT

Aim: To investigate the obstetrical complications of grand-multiparity at a tertiary care hospital in Bahawalpur, Pakistan.

Methods: This descriptive study was conducted at the Department of Obstetrics and Gynaecology, Bahawal Victoria Hospital Bahawalpur, Pakistan. A total of 500 un-booked and referred grand multiparous women (para 05 or above) were included in the study. The record of their obstetrical outcome was analysed on SPSS for frequency and percentages of various complications.

Results: The average age of grand multiparous women was 28.12±5.89 years. Blood pressure was >140 />90 in 125(25%) of the study population. Haemoglobin was <10 G/dL in 415(83%). Mode of delivery was Caesarean section in 200(40%), spontaneous vertex delivery in 190(38%), forceps delivery in 47(9.4%) and birth before arrival in 63(12.6%) of the study population. Most common indications for Caesarean sections were malpresentation (37.5%), repeat C section (30%) and abruptio placenta (15%). Maternal mortality was documented in 8(1.6%) of grand multipara, most commonly due to hypovolemic shock. Early neonatal death was observed in 21(4.2%) and intrauterine death was seen in 88(17.5%).

Conclusions: Grand multiparity is still an obstetrical challenge because of numerous hazards related to pregnancy and labour especially the maternal mortality, still births and poor fetal outcome.

Keywords: Grandmultiparity, maternal mortality, still birth, early neonatal death

INTRODUCTION

Grand multiparity (GMP) has long been considered an obstetric complication for both mother and fetus, although recent studies indicate that, with proper peri-natal care, women with high-parity rates are no longer at high risk in developed countries. The term, grand-multipara was introduced in 1934 by Solomon who called the grand-multipara the “dangerous multipara”.¹ Grand-multiparity has been differently defined in the literature. Some writers defined it as a woman with four or more parous experiences while others considered it as six or more.² International Federation of Gynaecology and Obstetrics (1993) defined grand-multiparity as delivery of the fifth to ninth viable pregnancies, whereas women who are undergoing their tenth (or more) delivery are considered to be great grand-multipara^{3,4,5,6}. Grand multiparity is usually considered as a cause of increased morbidity and mortality for mother and fetus as a result of increased incidence of adverse events during pregnancy, labor and delivery^{7,8}. The incidence of grand multi-gravidity has been gradually declining over the couple of decades due to acceptance of small family norm but it still constitutes

to about one tenth of the hospital population and accounts for one third of the maternal deaths in the developing countries⁹. Grand multi-gravid pregnancy associated with increased incidence of complications from conception to delivery.

Increasing gravidity is often associated with increasing maternal age, lower socio-economic and educational status, poor antenatal care, higher body mass index (BMI) and higher rates of gestational diabetes, placenta previa and hypertensive disease of pregnancy & anemia^{9,10}. There is also increasing risk of abnormal fetal presentation, precipitate delivery, uterine atony, uterine rupture, Amniotic fluid embolism, obstetric hemorrhage, stress incontinence and urinary urgency symptoms, levator ani dysfunction¹⁰. Lack of reproductive knowledge, unmet need for contraception, desire for son, poor obstetric performance (both) and too early marriage are the main cause of grand multi-gravidity and multi-parity.

MATERIALS AND METHODS

This descriptive study was conducted at the Department of Obstetrics and Gynaecology, Bahawal Victoria Hospital Bahawalpur, Pakistan; from August 2012 to November 2013. All un-booked and referred grand multiparous women (para 05 or above) were included in the study. Booked primipara and women with preexisting medical disorders were excluded.

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Data were collected from these women with the help of a pre-designed performa. Maternal outcomes such as anaemia, septicemia, deep vein thrombosis, pulmonary embolism, wound infection and death were also recorded. Data were analyzed with the software program SPSS version 18.0. As the current study was a descriptive type and was meant to provide the frequency and percentages of various obstetrical complications, hence, no statistical test was applied to determine any association between different variables.

RESULTS

A total of 500 grandmultipara were included in the study during the period of one year (August 2012 to November 2013) and were studied for obstetrical complications. The average age of grand multiparous women was 28.12±5.89 years. Majority (71%) of the women were from rural areas at > one hour travelling distance from the city. Remaining (29%) grand multiparous women were from urban areas or nearby suburbs. Blood pressure was 120-130 / 70-80 mmHg in 250 (50%), 131-140/81-90mmHg in 125(25%), and >140/>90 in 125(25%) of the study population. Haemoglobin was <10 G/dL in 415(83%) and ≥10 G/dL in only 85(17%) of grand multiparous women. Mode of delivery was Caesarean section in 200(40%), spontaneous vertex delivery in 190(38%), forceps delivery in 47 (9.4%) and birth before arrival in 63(12.6%) of the study population. Indications for Caesarean sections were malpresentation (37.5%), repeat C section (30%), abruptio placenta (15%), placenta previa (10%), fetal distress (3.5%), obstructed labour (2.5%), eclampsia (0.75%) and pregnancy induced hypertension (0.75%). The overall obstetrical complications observed among the studied population of grand-multiparous women (Table 1).

Table 1: Obstetrical complications observed in grand-multipara (n=500)

Complications	Frequency	%age
Anaemia	415	83
Pregnancy induced hypertension	24	4.8
Eclampsia	05	1%
Preterm labour	12	2.4
Malpresentation	08	1.6
Shoulder dystocia	03	0.6
Obstructed labour	04	0.8
Antepartum haemorrhage	07	1.4
Abruptio placenta	13	2.6
Puerperal sepsis	06	1.2
Post-partum haemorrhage	31	6.2
Inversion uterus	01	0.2
Rupture uterus	01	0.2
Wound infection	19	3.8
Deep vein thrombosis	01	0.2

Maternal mortality was documented in 8(1.6%) of grand multipara. The most common cause of maternal mortality was hypovolemic shock followed by septicaemia and eclampsia as shown in Table 2. Fetal outcomes in the grand multiparous women were measured in terms of Apgar score among alive births and early neonatal death and intrauterine death. Apgar score was <5 in 75(15%) of the alive newborns whereas 337(67.4%) had ≥ 5 Apgar score. Early neonatal death was observed in 21(4.2%) and intrauterine death was seen in 88(17.5%) cases as shown in Table 3.

Table 2: Maternal mortality in grand multipara (n= 08)

Cause	n	%age
Hypovolemic shock	05	62.5
Septicemia	02	25
Eclampsia	01	12.5

Table 3: Fetal outcome in grand multipara (n=500)

Fetal outcome	n	%age
Alive	412	82.5
Apgar score ≥ 5	337	67.4
Apgar score < 5	75	15
Early Neonatal death	21	4.2
Intrauterine death	88	17.5
Fresh IUD	81	16.2
Macerated stillbirth	07	1.3

DISCUSSION

Grand multiparity is a rare issue in developed countries, but it is still common in developing countries like Pakistan. The frequency of grand multiparity found in this study is comparable with other studies from within the country.^{11,12} In this study, most of the women reported no antenatal care and lived in distant areas from the city. We also found a higher number of these women in age group 26 – 30 years. These findings are consistent with other studies^{13,14}.

Anaemia is the most common maternal complication because repeated pregnancies within a short span of life along with poverty, poor hygienic conditions, nutritional deficiency, wide spread gastrointestinal disorders and round and hook worm infestation were the major causes of anaemic which were observed in the grand multipara women¹⁵. Hypertensive disorders of pregnancy are second most complication which is consistent with a recent study by Sultan and Ojha¹³. There is increase risk for placenta previa in high paritus group¹⁶. There is joint effect of age and parity on placental abruption along with this poor socioeconomic status, poor nutrition and poor knowledge regarding the prenatal care in the developing countries also contribute. Reduced tone of abdominal muscles, pendulous belly, fetal

size and congenital abnormalities are usually suspected as causative factors for malpresentation¹⁷. Obstructed labour in grand multipara is due to secondary contracted pelvis and undisguised malpresentation. Spontaneous rupture occur in women of high parity in this study rupture uterus is found in 1 case. The major cause of rupture uterus is poorly supervised administration of oxytocin in cases of undiagnosed fetopelvic disproportion.

Frequency of caesarean delivery is high due to increase incidence of intra partum complications especially dysfunctional labour, malpresentation and placenta previa. In current study most common reasons are malpresentation (37.5%), repeat C section (30%), abruptio placenta (15%), placenta previa (10%), fetal distress (3.5%) and obstructed labour (2.5%). In Southeast Asian countries maternal mortality rate is ~ 200/100000 live births this figure is much higher when compare to that of in developed countries where maternal mortality rate is ever less than 0.5 per 100 births. In the present series 8 maternal deaths were found (1.6%). From within Pakistan, Shamshad Begum found maternal mortality rate of 3/1000 and Rozina Shahid also found increased maternal mortality^{16,17}. Maximum cases of maternal deaths in current study are due to haemorrhagic shock due to rupture uterus or other causes. Grand multiparity and maternal mortality are closely related because of repeated pregnancies and child birth they are frequently exposed to complications of pregnancy and labour.

CONCLUSIONS

Grand multipara constitutes a category of high risk pregnancies. Most of the grand multipara belongs to low socioeconomic status and illiterate, this shows that education plays an important role in maternal health care. Grand multiparity is still an obstetrical challenge because of numerous hazards related to pregnancy and labour especially the maternal mortality, still births and poor fetal outcome.

REFERENCES

- Solomon, B. (1934) The dangerous multipara. *Lancet*, 2, 8-11.
- Centers for Disease Control and Prevention (2004) National Center for Health Statistics: NCHS definitions. National Survey of Family Growth.
- Ogbe, A.E., Ogbe, B.P. and Ekwempu, C. (2010) Obstetric outcome in grand-multiparous women in Jos University Teaching Hospital. *Jos Journal of Medicine*, 6, 1-5.
- DieJomaoh, F.M.E., Omene, J.A., Omu, A.E. and Faal, M.K.B. (1985) The problems of grandmultiparity as seen at Benin Teaching Hospital, Benin-City, Nigeria. *Tropical Journal of Obstetrics and Gynaecology*, 5, 13-17.
- Eze, J.N., Okaro, J.M. Okafor, M.H. (2006) Outcome of pregnancy in the grandmultipara in Enugu, Nigeria. *Tropical Journal of Obstetrics and Gynaecology*, 23, 8-11.
- Kuti, O., Dare F.O. and Oggunniyi, S.O. (2001) Grand-multiparity: Mothers own reason for the index pregnancy. *Tropical Journal of Obstetrics and Gynaecology*, 18, 31- 33.
- Rizk DEE, Khalfan M, Ezimokhai M. Obstetric outcome in grand multipara in the United Arab Emirates - a case control study. *Arch GynecolObstet* 2001; 264: 194-8.
- Roman H, Robillard PY, Verspyck E, Hulsey TC, Marpeau L, Barau G. Obstetric and neonatal outcomes in grand multiparity. *Obstet Gynecol*. 2004; 103(6): 1294-9.
- Dutta DC. Grand multipara. Text book of obstetrics. 6th ed. Kolkata: New Central Book Agency; 2005: p.342.
- Akhter R. Outcome of grand multi-gravidity & multiparity - A retrospective study. *J Dhaka Med Coll*. 2013; 22(1) : 67-71.
- Rizwan N, Parveen G, Abbasi RM. Frequency of grand multiparity and its fetomaternal outcome at Liaquat University Hospital, Hyderabad. *Isra Med J Aug* 2009;1(2):49-53.
- Zia S, Rafique M, Rizwan A, Amin AB, Khan T. Uterine Ruture: Changing Trends in Obstetrics and Lessons from Obstetricians. *J South Asian Feder Obst Gynae* 2012;4(3):155-158.
- Sultan S, Ojha J. "Grand multi parity still and obstetric challenge- a clinical study of grand multi para in a tertiary care center". *Journal of Evolution of Medical and Dental Sciences* 2013; 2 (39): 7423-7430.
- D'Souza K, Monteiro F, Jayaprakash K, Phagavath P, Krishnan S. Spectrum of Grandmultiparity. *JCDR* 2011; 5:1247-1250.
- Shahida SM, Islam MA, Begum S. Hossain MA, Azam MS: Maternal outcome of grand multipara. *Mymensingh Med J* 2011; 20(3): 381-385.
- Shahid R, Mushtaq M. Complications of grand multiparity. *Pak Armed Forces Med. J*. 2009; 4:1-5.
- Begum S. Age and parity related problems affecting outcome of labour in grand multipara. *Pak J. Med. Res.* 2003; 42:4:179-184.