Outcome of Pregnancy in the Grandmultipara in Enugu, Nigeria.

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Abstract

Context: Grandmultiparity is considered high-risk because of the associated maternal and fetal complications. Grandmultiparae constitute a significant proportion of the obstetric population in Nigeria hence the problems of grandmultiparity still abound.
Objective: To describe the outcome of pregnancy in grandmultiparae.
Design, Setting and Subjects: A retrospective study of the grandmultiparous patients delivered at the University of Nigeria Teaching Hospital, UNTH, Enugu, Nigeria, from 1st January 1998 to 31st December 2002.
Main Outcome Measures: Data on the age, parity, booking status, literacy level, complications during pregnancy and labour, method of delivery, maternal and foetal outcome, were collected and analysed.
Results: Of 3767 deliveries, 618 or 16.41% were grandmultiparous. Their mean age was 34.63 years and mean parity 5.77. 61.6% were illiterate and 83.82% were booked. Anaemia, hypertension and multiple pregnancies occurred in 18.29% in pregnancy. 17.95% had complications in labour. 74.3% achieved vaginal delivery. There was no maternal death. The perinatal mortality rate was 73.4/1000 deliveries.
Conclusion: Grandmultiparae make up a significant proportion of our obstetric population. Illiteracy, desire for large families, high perinatal mortality and non-use of contraception are predisposing factors. Non-use of antenatal services and delay in referral worsen pregnancy outcome. Formal education, campaign against large families, reduction in childhood mortalities and improvement in use of family planning will reduce its incidence while use of hospital services will improve pregnancy outcome. Early referral, team work between health professionals and the roles of government, hospital management and non-governmental organizations are discussed.

Key Words: Grandmultiparity, Pregnancy Outcome, Enugu, Nigeria.

Introduction

Grandmultiparae are women who have had five or more deliveries after 28 weeks of gestation[1,2]. Grandmultiparity has traditionally been considered high risk[3], but recent studies from developed countries have shown that with satisfactory healthcare conditions, grandmultiparity should not be considered dangerous, and that risk assessment should be based on the past and present history and not simply on the parity[4]. But in Nigeria and most developing countries where the healthcare delivery systems are poorly developed, grandmultiparity continues to be of concern to us.

Grandmultiparae still constitute a significant proportion of our obstetric population in Nigeria[1,2,5] but are a rare phenomenon in developed countries. This is because of the great desire for large families and male children, early marriages, high rates of divorce and remarriage, high perinatal and child mortality rates, and, non-availability and poor utilization of contraception or failure of the methods chosen[6]. Problems associated with grandmultiparity are made worse by illiteracy, ignorance and poverty, inadequate and poor healthcare infrastructures and delivery system, and non-utilization of available antenatal services.

This study was conducted to describe the presentation, management and outcome of grandmultiparae seen at the University of Nigeria Teaching Hospital (UNTH) Enugu, Nigeria.

Materials and Methods

A retrospective study of the cases of grandmultiparity managed at UNTH, Enugu, Nigeria, from 1st January 1998 to 31st December 2002. Data were abstracted from the antenatal and labour records regarding the age, parity, booking status, literacy level and complications during pregnancy and labour, mode of delivery, and maternal and foetal outcome.

Results

Of the 3767 deliveries in the study period, 618 or 16.41% were grandmultiparous. Their ages ranged from 21 to 50 years with a mean age and standard deviation (SD) of 34.63 +/- 4.55 years and parity from 5 to 12 with a mean and SD of 5.77 +/- 0.97 (table 1). The dangerous grandmultiparae with parity above 9, were 2.4%.

Five hundred and thirteen or 83.82% of the patients were booked though 397 or 77.38% of these booked after 30 weeks gestation. Three hundred and eighty one

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(61.65%) had no formal or only primary education, 213 (34.47%) had secondary, while only 24 (3.88%) tertiary education. One hundred and seventy-two (27.83%) had complications in pregnancy (table 2). Anaemia, hypertension, multiple pregnancy, placenta praevia and abnormal lie accounted for 93.02% of the complications. Diabetes mellitus and abruptio placentae were rare.

One hundred and eleven or 17.96% grandmultiparae had complications in labour, which included prolonged/obstructed labour, ruptured uterus, retained placenta and post partum haemorrhage (table 3). Spontaneous vaginal delivery occurred in 74.27%, 19.9% had caesarean section and the remaining 5.83% required some form of intervention (table 4).
There was no maternal death. Forty-eight perinatal deaths occurred giving a perinatal mortality rate of 73.39/1000 deliveries. Thirty of these or 62.5% were fresh stillbirths, while the rest were macerated.

Discussion

In this study, 16.4% were grandmultiparae. Their mean age was 34.8 +/- 4.55 years and mean parity 5.77 +/- 0.97 (Table 1). None was less than 21 years, 73.8% were 31 40 years and 7.1% above 40. 80.3% were para 5 and 6 while 2.4% were para 9 and above. 61.65% had no formal or only primary education while 3.88% received tertiary education. 83.8% were booked, though 77.38% of these were in the third trimester. Pregnancy complications occurred in 27.83%. Anaemia, hypertension, multiple pregnancy, placenta praevia and abnormal lie were the commonest, and accounted for 93.02% of these complications (Table 2). Labour complications occurred in 17.95% of patients and included prolonged labour, post partum haemorrhage, obstructed labour, retained placenta and ruptured uterus in descending order of occurrence (Table 3). 74.27% of the patients had spontaneous vaginal delivery, 19.9% caesarean section and the rest some form of intervention (Table 4). There was no maternal death. The perinatal mortality rate was 73.39/1000 deliveries.

The strengths of this study design include the speed of data collection, the stability of the measurement scale over the period studied, the number of cases in the study and the ability of the study to create topics for further research. The weaknesses include incomplete clerking especially of the unbooked patients, poor recording and documentation, possible loss of data during storage and recall bias.

The incidence of grandmultiparity obtained from this study is higher than 11.8% reported from this centre by Ozumba and Igwegbe[1] more than ten years ago, and 9.4% and 4.11% from Lagos[7,10], but compares favourably with the 14.5% and 17.3% reported from Maiduguri[5] and Benin[2] respectively. The strengths of

Table 1: Age and Parity of Grandmultiparous Women

Parameter	Number	Percentage
Age		
21-25	8	1.3
26-30	110	17.8
31-35	222	35.9
36-40	234	37.9
41-45	39	6.3
46-50	5	0.8
Total	**618**	**100**
Parity		
5-6	496	80.3
7-8	107	17.3
9-10	13	2.1
11-12	2	0.3
Total	**618**	**100**

Mean Age +/- SD = 34.63 +/- 4.55 years
Mean Parity +/- SD = 5.95 +/- 0.97

Table 2
Pregnancy Complications in 172 Grandmultiparae

Parameter	Number of cases	Percentage
Anaemia	39	6.31
Hypertension/pre-eclampsia	38	6.15
Multiple pregnancy	36	5.83
Placenta praevia	26	4.21
Oblique/transverse lie	21	3.39
Diabetes mellitus	7	1.13
Abruptio placentae	5	0.81
Total	**127**	**27.83**

Table 3
Labour Complications in 111 Grandmultiparae

Parameter	Number of cases	Percentage
Prolonged labour	28	4.53
Obstructed labour	24	3.88
Ruptured uterus	18	2.91
Retained placenta	16	2.59
Postpartum haemorrhage	25	4.04
Total	**111**	**17.95**

Table 4: Mode of Delivery of Grandmultiparae

Parameter	Number of cases	Percentage
Spontaneous delivery	459	74.27
Caesarean section	123	19.9
Laparotomy/hysterectomy	16	2.59
Vacuum extraction	10	1.62
Breech delivery	8	1.3
Craniotomy	2	0.32
Total	**618**	**100**

the earlier study from Enugu include higher number of grandmultiparae and shorter period studied, while the weaknesses were probably the same as with this study. Also, the studies from Enugu[1] and Benin[2] were conducted when the nation's economy was good and teaching hospitals enjoyed good patronage. The other studies[5,7,10] were also retrospective and suffered similar weaknesses as ours in addition to fewer number of cases analyzed.

The higher the incidence of grandmultiparity in this study in comparison to the earlier work from this centre[1] may be because women who delivered here previously continued to do so even as they became grandmultiparous, against the background of the downward trend in the number deliveries recorded[8]. It may be that more unbooked grandmultiparae with complications present to the hospital now[6] than previously. Also, grandmultiparous patients aware of the complications associated with grandmultiparity, probably decided to have their deliveries in the teaching hospital.

The young mean age agrees with findings from other studies[6,7,9]. The illiteracy rate was lower than 81.5% reported from Ile-Ife[6], but within the same range as 62.77% from Benin[9]. Therefore, high parity is more prevalent in the illiterate women[2,7]. The young mean age is because the illiterate ones commenced procreation early and became grandmultiparous while still young.

Though more than 80 % of grandmultiparae booked for antenatal care, most of them initiated antenatal clinic late[9] and were poor attendees. This may be because some of the women did investigations and commenced self- or peer- prescribed medication without having good antenatal care. Others booked for care in peripheral units and waited for their pregnancies to advance almost to term before booking at the teaching hospital.

The incidence of anaemia in pregnancy of 6.31% in this study was at the lower limit of the 3.6% to 40% range reported from various centres in the country[2,5,7,10]. This is not surprising as it's been reported that there is no consistent relationship between parity and the incidence of anaemia in pregnancy at booking[11]. The incidence of hypertension was lower than that reported from Maiduguri[5], but higher than that from Benin[2], hence the need for obstetricians to be watchful with all grandmultiparae irrespective age. The incidence of multiple pregnancy was higher than 3.6% from Maiduguri[5], but lower than 6.4% from Benin and Lagos[2,10]. The incidence of placenta praevia was similar to that from Lagos[10]. The incidence of abnormal lie was twice as high as in Maiduguri[5]. The incidences of diabetes mellitus and abruptio placentae were low and comparable to reports from Maiduguri[5].

The incidences of prolonged labour and post partum haemorrhage were higher than those from Maiduguri[5] but lower than that from Benin[2]. The incidence of ruptured uterus was lower than, and that of retained placenta similar to those from Lagos[10]. The spontaneous vaginal delivery rate is within the range of 55.35% to 95.2% reported from other centres in the country[5,7,10]. The caesarean section rate was lower than the prevailing caesarean section rate at UNTH Enugu[12] and 30.37% reported from Lagos[10], but lower than 4.8% from Maiduguri[5] and 16.8% also from Lagos[7]. The laparotomy/hysterectomy rate was lower than from 4.44% Lagos[10]. Most of the patients who had laparotomy/hysterectomy were unbooked. The incidence of destructive operations was lower than 1.48% from Lagos[10]. This is not surprising, as a decline in the art of this procedure amongst practitioners has been reported[13].

There was no maternal death despite the very high Maternal Mortality Ratio (MMR) reported from the centre in 2001[14]. This result is comparable to that from Maiduguri[5] and may be due to improved healthcare delivery as a result of improved staff motivation by the present government. The finding supports the statement that risk assessment should be based on the past and present history of the patients and not simply on their parity[4]. The perinatal mortality rate (PMR) was almost half the PMR of 131/1000 recorded in the centre[15] recently, less than half of 169/1000 reported from Lagos[10], close to 75/1000 also from Lagos[7], but higher than 11.5/1000 deliveries from Maiduguri[5].

The main reasons why a significant percentage of Nigerian women become grandmultiparous are known[6]. High perinatal and other childhood mortalities, high premium on children especially the male child and desire for large families in Nigeria and other developing countries, catalyze the process of becoming grandmultiparous. The worsening national economy could mean more grandmultiparae will be unbooked, thereby increasing the possible complications healthcare providers may contend with.

As grandmultiparity is higher amongst illiterate women, formal education by increasing the mean age of women at marriage, will definitely reduce the incidence of grandmultiparity and the mean parity achievable while increasing the mean age of grandmultiparae. The awareness and empowerment created by education will cause a more effective use of family planning and antenatal services, further reducing grandmultiparity as well as the complications experienced in pregnancy and labour. Therefore, the Federal Government must not relent in her effort to make basic education available to

both sexes without discrimination. However, it is important to identify the reasons why some women who had tertiary education become grandmultiparous.

Early and safe referral of unbooked grandmultiparae to well manned and equipped centres units will help reduce maternal and perinatal morbidities and mortalities, hence the need for continued training and retraining of healthcare workers and alternate healthcare providers[16]. Continued campaign against the "three delays model"[17] is necessary. Government, non-governmental organizations, public-spirited individuals and hospital administrators[12] have roles to play.

The lower caesarean section rate as compared to the recently reported rate from the centre shows that with increased and more efficient utilization of maternity services, it is feasible to reduce the caesarean section rate in UNTH, Enugu and other teaching hospitals. The absence of maternal mortality in this study and other studies[5] despite the high MMR[14] in Nigeria and the known risks associated with grandmultiparity is a surprise. Is the MMR in Nigeria taking a downward trend? This situation may be sustained by improved personnel mobilisation, infrastructural development, improved utilization of health facilities and the application of "emergency obstetric care"[17]. Here again, government and hospital administrators[12] have great roles to play. But if the finding is an artefact introduced by the weaknesses of the study design, it may be identified by a study of the contribution made to maternal mortality by grandmultiparity.

The high perinatal mortality and other childhood mortalities must to be addressed because of their catalyzing role. It is worth knowing if the perinatal mortalities in this and other studies were really preventable. It is important to continue to foster strong team approach between obstetricians and physicians and/or paediatricians in the management of high risk women in pregnancy and labour. Developed countries have low PMR because of good neonatal services so ours must be improved. There is need for continued awareness campaigns against desire for large families and high premium on children. Grandmultiparity, no doubt, is a high risk situation. However, it seems that risk assessment is better individualized. Awareness campaigns, academic and economic empowerment, improved mobilization of doctors and nurses, infrastructural improvement, training and retraining of care providers, effective utilization of health facilities and reduction in perinatal mortality, will reduce the incidence of grandmultiparity and associated complications.

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