

Obstetric Outcome of Grandmultiparous Women in Ilorin, Nigeria: A Five Year Review

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ABSTRACT

Objective: To review the obstetric outcome of grandmultiparous women seen at the University of Ilorin Teaching Hospital, Ilorin.

Material and Methods: A retrospective study of antenatal and labour records of grand multiparous women for a period of 3 years was conducted at the University of Ilorin Teaching Hospital, Nigeria. Information on socio-demographic characteristics and complications during pregnancy, labour, puerperium and mode of delivery as well as maternal and foetal outcome were extracted from the case notes.

Results: The incidence of grand multiparity was 4.8%. The mean age was 36 years. One hundred and thirty-nine (78%) of the grand multipara were below 40 years of age. Majority of the women were carrying their sixth pregnancy (60.1%). There was no case of extreme grand multiparity (>9). Anaemia, hypertension/ pre-eclampsia, twin pregnancy and breech presentation were the commonest complications encountered during pregnancy, while primary postpartum hemorrhage and cervical lacerations were the commonest intrapartum complications. Caesarean section rate was 10.1%. The commonest complication in the puerperium was anaemia, (18%) followed by post partum pre-eclampsia (4.5%) and wound sepsis (2.8%) respectively. The maternal mortality was 28/1000.

Conclusion: Free and qualitative female education, improvement in socio-economic conditions and provision of comprehensive family planning services including postpartum sterilization are suggested to further reduce the incidence of grand multiparity. Also, utilization of antenatal care facilities and supervised delivery by skilled birth attendants are recommended to reduce the burden of anaemia and improve obstetric outcome.

Key words: Grand multipara, Obstetric outcome, Nigeria.

INTRODUCTION

Grand multiparity refers to a woman who has had five or more pregnancies going beyond the 28th week of gestation. The World Health Organisation (WHO) estimates that 40% women in the developing countries have more than four children.

The problem of grandmultiparae was first highlighted in 1934 when Solomon drew attention to the "dangerous multipara", a woman who was susceptible to a variety of unexpected and dangerous complication. He pointed out that in child bearing, "Practices does not make perfect"⁽¹⁾. The grand multiparae with its attending complications contribute to high maternal and perinatal mortality especially in developing countries^(2,3).

Grand multiparity is common in developing countries like Nigeria due to high fertility rate of 6 children per woman and low contraceptive prevalence rate of only 4%. Socio-cultural factors, religion, illiteracy, inadequate health facilities and consequently high perinatal and infant mortality have led to high incidence of grandmultiparity previously^(3, 4). Male offspring are considered "precious" in Nigeria, because of a strong cultural role in our society. The laws and traditions of inheritance favour male children, therefore a woman who has none or few will continue to get pregnant until she gets one. These factors in addition to early marriage, which expose the woman to a longer period for reproduction, will contribute to high incidence of grandmultiparity⁽⁵⁾.

Increasing parity is associated with ageing and therefore

high risk of medical disorders like anaemia, hypertensive disorders, and diabetes mellitus^(6, 7, 8). Antenatal complications such as twinning, abnormal Lie and presentation, placenta praevia and abruptio placentae have been reported^(2,3). Common complications in labour include breech presentation, oblique lie, cord prolapse, ruptured uterus, post partum hemorrhage and cervical lacerations,^(4,6,9). In the developed countries, the proportion of grandmultiparae has decreased during the last few decades. The economic and social implications of raising large families, high literacy level, the universal availability and the use of effective contraception backed with liberal abortion laws and the use of improved health facilities ensuring survival of most delivered children have led to grand multiparity becoming a rare phenomenon^(2,9). Studies from other parts of Nigeria have previously reported a high incidence of grand multiparity^(2,3,9,10). However, an incidence of 4.11% was reported from Lagos an Urban setting⁽⁴⁾.

This study was to determine the incidence of grand multiparity in this centre, identify their problems in pregnancy and labour and to suggest ways of improving obstetric outcome.

MATERIALS AND METHODS

This study was conducted at the University of Ilorin Teaching Hospital located in Ilorin, the capital of Kwara state in the North-Central geo-political zone of Nigeria. The hospital is a referral centre for Ilorin and five neighbouring states of Kogi, Ekiti, Osun, Oyo and Niger. A retrospective analysis of case notes and labour ward record of grand multiparous patients delivered at the University of Ilorin Teaching Hospital, Ilorin Nigeria, over a three-year period between January 2008 and

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December 2010 was carried out.

The case notes of 178 out of the 199 grand multiparae that could be traced from medical records were then analyzed using frequency count and percentages. Demographic data such as age, parity, booking status and social class were determined. The social class was determined by the patient's educational status and the husband's occupation based on Tuckett's classification [26]. The complications seen in pregnancy, labour and puerperium, mode of delivery were also studied. Anaemia was defined as packed cell volume less than 30%. The fetal outcomes, as well as maternal mortality and other variables were also analyzed using SPSS statistical software.

RESULTS

The mean age was 36 years with a range of 22-47 years. Three (1.7%) of the patients were under 24 years, 58 (32.6%) were below 40 years of age. One hundred and thirty (74.2%) were booked, while 46 patients (25.8%) were unbooked grand multiparae. Sixty percent (107) of the patients were carrying their sixth pregnancy (Para 5) and only 2 (1.1%) were Para 9. Only (2) patients (1.1%) were in social class I as against 111 (62.4%) in social class IV and V.

Analysis of antenatal, intrapartum and postpartum complications (Table 1) shows 71 out of 178 grandmultipara in this study developed antepartum complications. Anaemia was the most common finding accounting for 20 (11.2%); closely followed by hypertension/pre-eclampsia 10 (5.6%). Antepartum haemorrhage occurred in 8 cases (placenta praevia 3.4%, Abruptio placenta 1.1%). Breech presentation and preterm labour was seen in 6 (3.4%) respectively. Labour complication was seen in 58 patients. Primary post partum haemorrhage was the commonest complication 11 (6.2%), followed by hypertension/Pre-Eclampsia 10 (5.6%). The least common complication was ruptured uterus 2 (1.1%). Forty nine (27.7%) had complications post partum. Post partum anaemia was seen in 32 (18.0%) as the commonest complication. Hypertension/Pre-eclampsia 8 (4.5%), genital sepsis, secondary post partum haemorrhage, breast abscess and puerperal psychosis were found in one patient each (0.6%).

There were 186 babies delivered, of which 15 (8.1%) were still born, four were fresh and 11 were macerated stillbirths. The mean birth weight was 3.14kg with a range of 1.4 to 4.8kg. Low birth weight of < 2.5kg was observed in 29 babies (15.6%) mostly due to twin births and preterm deliveries. One hundred and forty two babies (76.2%) had good Apgar scores of 7-10 while 20 babies (10.8%) were asphyxiated. The overall perinatal mortality rate was 97 per 1000 total births, 22/1000 for booked patients and 75/1000 births for unbooked patients.

There were 5 maternal deaths in the study giving a maternal mortality of 2.8%, attributable to grand multiparity. Four were unbooked patients who came from mission homes, health centres and private clinics around Ilorin. Two patients died of complications of hypertension/Eclampsia (1.12%). Ruptured uterus, anaemic heart failure and puerperal septicemia accounted for death in one patient (0.6%) respectively.

Table 1: Antenatal, Intrapartum and Postpartum Complications in grand multiparae N= 178

	Frequency	Percentage
Antenatal (n=71)		
Anaemia	20	11.2
Hypertension/ PET	10	5.6
Twin gestation	8	4.5
Breech presentation	8	4.5
Placenta Previa	6	3.4
Preterm contraction	6	3.4
Diabetes mellitus	4	2.2
Intrauterine foetal death	4	2.2
Transverse/ unstable lie	3	1.7
Abruptio placenta	2	1.1
Intrapartum (n=58)		
Postpartum haemorrhage	11	6.2
Hypertension	10	5.6
Cervical laceration	6	3.4
Malpresentation	5	2.8
Foetal distress	5	2.8
Intrauterine foetal death	5	2.8
Prolonged labour	4	2.2
Anaemia	4	2.2
Cephalopelvic disproportion	3	1.7
Retained placenta	3	1.7
Ruptured uterus	2	1.1
Post partum (n=49)		
Anaemia	32	18.0
Postpartum pre-eclampsia	8	4.5
Wound sepsis	5	2.8
Secondary PPH	1	0.6
Genital sepsis/ septicemia	1	0.6
Breast abscess	1	0.6
Puerperal psychosis	1	0.6

Table 2: Mode of Delivery and Indication for Caesarean section

Mode of delivery	Frequency	Percentage
Non-operative		
Spontaneous vertex delivery	146	82.0
Assisted Breech delivery	10	5.6
Assisted vaginal Delivery	2	1.1
Vacuum extraction	0	0
Forcep		
Operative Delivery		
Caesarean section(Emergency)	18	10.1
Laparotomy	2	1.1
Destructive	0	0
Total	178	100
Indication for Caesarean section		
Placenta praevia	6	33.3
Malpresentation	4	22.2
Cephalopelvic disproportion	3	16.7
Foetal distress	2	11.1
Severe PET/ IUGR	1	5.6
Obstructed labour	1	5.6
Prolonged labour	1	5.6
Total	18	100

DISCUSSION

The incidence of grandmultiparity from this study of 4.8% is much less than 14.5% and 7.34% reported from Maiduguri and Benin respectively [9,10]. However, it is comparable to 4.11% and 5.1% reported from Lagos and Ife respectively. In industrialized nations with developed market economy, the incidence of grandmultiparity is under 2% [11,12]. The decline in incidence in our environment could be attributed to increasing literacy level, socio-economic implication of raising large families and possibly a reduction in infant and childhood mortality. It is also possible that a number of grandmultiparous women deliver at home, mission homes and with traditional birth attendants, therefore records are not adequate.

In this review, 62.4% of our women belong to social classes IV and V. This is comparable to similar studies from Enugu and Lagos [12,13]. Poverty, ignorance and low socio-economic conditions associated with grandmultiparity are also found in the lower social classes. The high perinatal and infant mortality associated with this social class encourages the couple to produce more children. Kuti et al [13] in their study showed that cultural desire for large families and childhood death were two major reasons responsible for persistence of grandmultiparity in our society. Both reasons are consequences of low socio-economic class of the patients.

The peak age incidence from this study was 35-39 years, much higher than that of earlier studies which were 30-34 years (Lagos) and 26-30 years (Maiduguri) [14, 15]. About 78 percent of the women were under 40 years, which shows that women in this environment marry at early age and therefore start to bear children while they are still young.

Anaemia was the commonest complication of pregnancy in the grand multiparae (11.2%) as seen in this study. This is universally recognized as the commonest complication [12, 13, 14]. Socio-economic factors play a very important role in the high incidence of anaemia among grandmultiparae. Majority of these patients are poor, overworked and tired, as many of them have never fully regained a good blood picture in between pregnancies. They also tend to feed their own children at the expense of their nutrition, therefore depleted iron stores are not adequately replenished [16, 17]. The incidence of hypertensive disorder (5.6%) recorded here was lower than that in Maiduguri (8.3%) and higher than that in Benin [12, 13]. Though pregnancy induced hypertension is generally considered to be a disease of primigravidae, advanced maternal age associated with grandmultiparity has been linked with its incidence.

This study showed the incidence of twin pregnancy of 4.5% is comparable to 6.4% reported from Lagos [14]. This is in keeping with the high incidence in this part of the world as reported by Fakeye [15], in addition to advanced maternal age associated with grandmultiparity. The incidence of placenta praevia (3.4%) is higher than 0.09-0.69% among other parous women reported from Ibadan [16]. This is accounted for by advancing maternal age and multiparity associated with the condition.

The most frequent intrapartum complication seen in this series was primary post partum hemorrhage, 11 cases (6.2%) this compares favorably with 6.2% reported from Riyadh,

lower than 11.4% from Benin and higher than 2.4% from Maiduguri [12, 9, 18]. The association of grandmultiparity with primary post partum haemorrhage has been recognized for long. Its dangerous role is demonstrated by its high contribution to maternal mortality [2]. The commonest predisposing factor was uterine atony. Increased deposition of fibrous and elastic tissue in the myometrium is responsible for failure of the uterus to retract efficiently in grandmultiparous women [16, 17]. Cervical laceration, which was seen in 6 women (3.4%) contributed significantly to the incidence of postpartum haemorrhage. There was a low incidence of malpresentation, cephalopelvic disproportion and ruptured uterus as complication of labour in this study. This is contrary to observation from other studies [13, 15]. Ruptured uterus in one unbooked patient was responsible for maternal mortality in this study. The low incidence recorded might be due to carefully conducted labour given to grandmultiparous patients added to judicious use of oxytocics in labour.

The incidence of caesarean section in this study (10.1%) is comparable to the general incidence in this center (9.1%) [18] but higher than 4.8% reported from Maiduguri [9]. The frequent occurrence of placenta praevia must have accounted for this (33.3%). Caesarean section rate compare favorably with figures of 10.2%-11.4% recorded from other parts of Nigeria [10, 21]. One hundred and forty-six patients (82%) had spontaneous vertex delivery. This is comparable to 85.7% from Benin, but higher than 49.6% reported from Lagos [12, 14].

Anemia was the commonest complication seen in the puerperium, 32 cases (18%). In addition to factors enumerated earlier, primarily post partum haemorrhage also contributed significantly to the high incidence of anemia post partum. Wound sepsis accounted for 5% of postpartum complications among women who had caesarean section.

Large infants, birth weight greater than 4kg, was found in 8 babies (4.3%), which is comparable to 4.7% recorded in a previous study from our center [22]. The incidence of low birth weight babies, 29 (15.6%) was comparable to 12% reported from Benin [2]. Most of these cases were from twin deliveries and patients delivered prematurely due to pre-eclampsia and hypertension. The birth weight of the infants in this study were above average probably because women in the present society are better nourished and received better health care than before. The incidence of low Apgar scores was low (11.2%) in this study. This is not surprising as 82% of the babies were delivered spontaneously. This mode of delivery is usually associated with a low incidence of severe perinatal asphyxia [2].

The perinatal mortality in this study, 97/1000 was high compared to 51.4/1000 and 70.9/1000 reported from Benin and Enugu respectively [12, 13], but much lower than 169/1000 from Lagos [14]. Most of the perinatal mortality occurred among babies born to unbooked patients. The high incidence of perinatal mortality could be a consequence of some of the complications associated with grandmultiparity such as anaemia, hypertension and low birth weight babies. If unbooked patients are corrected for, the corrected perinatal mortality is 21.5/1000 total births, which is still high compared with 3.1/1000 for Riyadh [18].

There were 5 maternal deaths in this study giving a mortality rate of 28/1000 live births. The maternal mortality rate for the unit during this period was 8/1000 live births. The unbooked patients contributed to most of the maternal death. The role of good antenatal care and careful management of labour with timely use of oxytocic and the availability of blood transfusion cannot be too overemphasized in the reduction of maternal mortality as shown in an earlier study where there was no single maternal death among booked grandmultiparous patients⁽⁹⁾. In addition to illiteracy and non-utilization of antenatal services, grand multiparity was identified as one of the risk factors for maternal death in developing countries^(23,24).

In conclusion, grand multiparity is a socio economic problem compounded by mass illiteracy. Improving living conditions, provision of free and qualitative education, utilization of antenatal and comprehensive family planning services, availability of blood transfusion services and liberalization of abortion laws will also go a long way to reduce grandmultiparity and its associated maternal morbidity and mortality.

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Contribution of authors: We declare that this work was done by the author(s) named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors. LO Omokanye designed and acquired data for the study. Adekunle GS analysed the data, Abdul IF and Emmanuel SA conducted the literature search, drafting and editing was done by Rakiya S. and Rabiu OB while the final approval of the revised article for publication was conducted by AWO Olatinwo.

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