Original Article

Grandmultiparity: Outcome of Delivery in a Tertiary Hospital in Southern Nigeria

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ABSTRACT

BACKGROUND: Grandmultiparity is traditionally associated with increased risk of complications during pregnancy and delivery. Reports from developed countries where obstetric facilities are excellent and the standard of perinatal care is high indicate that currently, obstetric complications among grandmultipara are now independently associated with progressive maternal age. In Nigeria and other developing nations however, grandmultiparity still contributes a significant proportion of the obstetric population. The aim of this study is to evaluate the outcome of delivery of grandmultiparous patients at the University of Uyo Teaching Hospital.

METHODS: The case records of all grandmultiparous patients who delivered at the University of Uyo Teaching Hospital, Uyo over a six-year period were studied.

RESULTS: Grandmultiparous women constituted 6.4% of the parturients who delivered in the hospital during the study period. Their ages ranged from 20-45 years with majority (71.5%) being 30-39 years. Majority (77.9%) were para 5 and 6 and 326 (80.1%) of the patients booked and received antenatal care in the hospital. Majority of the booked patients (79.8%) initiated antenatal care after 32 weeks of gestation while all the unbooked patients 68 (16.7%) and the antenatal clinic defaulters 8 (2.0%) were brought from unorthodox health facilities when they developed obstetric complications. Two hundred and forty three patients (59.7%) had spontaneous vaginal delivery, 15 (3.7%) of the patients had laparotomy for ruptured uterus and out of these ten of them (66.7%) had a subtotal abdominal hysterectomy while five (33.4%) had uterine repair and bilateral tubal ligation. The perinatal mortality rate was 128/1000 births. There were three maternal deaths, two from eclampsia while one followed postpartum haemorrhage resulting in a maternal mortality rate of 7.4/1000.

CONCLUSION: The prevalence of grandmultiparity in our centre is relatively low. It is, however, associated with high perinatal and maternal morbidity and mortality. We advocate widespread community enlightenment on the importance of limitation of family size and number of child births. There is need for community based studies in our environment accessing the knowledge and attitude of women with high parity towards contraception.

KEY WORDS: *Grandmultiparity, delivery outcome, Uyo*

INTRODUCTION

The term "grandmultipara" was introduced in 1934 by Solomons [1] who called the grandmultipara the dangerous multipara. This was because of the ease they developed both medical and obstetric complications of frightening proportions with fatal consequences [2]. Following the international safe motherhood conference in Nairobi, Kenya in 1987 and subsequently, the safe motherhood initiatives in various countries to identify the high risk factors in pregnancy that were of concern in causing maternal deaths, a high risk scoring system proposed by Coupland et al [3], identified grandmuliparity as a definite risk giving a high score of 2 (numerical scores of 0-3 depending on their potential impact in outcome of pregnancy).

The complications of pregnancy in the grandmulipara are increased risk of spontaneous abortions, anaemia, multiple pregnancy, malpresentations, antepartum haemorrhage and preterm labour [4]. Medical complications such as diabetes mellitus, hypertension, cardiac disease and gynaecological conditions such as fibroids, ovarian tumours, utero-vaginal prolapse and carcinoma of the cervix are seen to also complicate these pregnancies because of increasing age [5]. In labour, malpresentation, feto-pelvic disproportion, uterine rupture, post-partum haemorrhage and puerperal complications are more frequently encountered [6]. The neonate of the grandmultipara is at higher risk of low birth weight (LBW), congenital malformations and neonatal intensive unit stay[5].

In the developed countries, grandmultiparity is becoming very rare (3-4% of all pregnancies) [7]. This has been attributed to the universal availability and use of effective contraception, high literacy rates, economic and social implications of raising large families and improved health care services ensuring survival of most delivered children [8,9]. However, in Nigeria and other developing nations, grandmutiparity still contributes a significant proportion of the obstetric population [8]. Factors documented as being responsible for this include great desire for large families and male children,

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early marriage, high rates of remarriage and divorce, limited access to medical care, high perinatal and childhood mortality rates and non-availability and poor utilization of contraception [8,9]. Problems associated with grandmultiparity are made worse by illiteracy, ignorance, poverty, inadequate or poor health care infrastructure and delivery systems, and non-utilization of available antenatal services [10].

This retrospective study which was conducted at the University of Uyo Teaching Hospital (UUTH) seeks to determine the outcome of delivery of grandmultiparous women in the centre.

MATERIALS AND METHODS

This study was conducted at the University of Uyo Teaching Hospital located in Uyo, the capital of Akwa Ibom State in the South-South geo-political zone of Nigeria. The hospital is a referral centre for Akwa Ibom and some parts of Abia and Cross River states.

From the delivery register, the registration numbers of all grandmultipara who delivered at the UUTH between 1st January 2004 and 31st December 2008 were obtained. With the numbers, their case notes were retrieved for in-depth study. Information abstracted included their demographic data, booking status, mode of delivery and maternal and neonatal outcome. The data were analysed using simple proportions rates and tables. For the purpose of this study, a grandmultipara is a woman who has had five or more deliveries at or after 28 weeks of gestation [10].

RESULTS

During the period of study, there were 6344 deliveries out of which 407 (6.4%) were grandmultiparous. The patients' ages ranged between 20-45 years with majority being 30-39 years (71.5%). Three hundred and seventeen patients (77.9%) were para 5 and 6, 78 (19.2%) were para 7 and 8 while 11 (2.7%) were para 9 and 10 (table I).

Table I: Age and parity of the patients

N=407	
Variable	**No (%)**
Age	
20-29	74 (18.2)
30-39	291 (71.5)
≥40	34 (8.3)
Not recorded	8 (2.0)
Parity	
Para 5	202 (49.6)
Para 6	115 (28.3)
Para 7	46 (11.3)
Para 8	32 (7.9)
Para 9	6 (1.5)
Para 10	5 (1.2)
Not recorded	1 (0.2)

Majority of the patients (80.1%) booked and obtained antenatal care (ANC) in the teaching hospital, 68 (16.7%) were unbooked and hence had no formal ANC. Eight (2.0%) of the unbooked patients defaulted and were brought from unorthodox health facilities when delivery was not possible. Two hundred and sixty (79.8%) patients booked after 32 weeks of gestation while 147 (20.2%) initiated ANC before this time (table II).

Table II: Booking status of the patients

N=407	
Booking status	**No (%)**
Booked	326 (80.1)
Unbooked	68 (16.7)
Defaulted	8 (2.0)
Not recorded	5 (1.2)

Two hundred and forty three patients (59.7%) had spontaneous vaginal delivery, 131 (32.2%) were delivered by caesarean section, 15 (3.7%) patients had laparotomy for ruptured uterus while 2 patients (0.5%) had craniotomy. Ten of the patients (66.7%) with ruptured uterus had subtotal abdominal hysterectomy performed on them while 5 patients (33.4%) had uterine repair and bilateral tubal ligation (table III).

Table III: Mode of delivery

N=407	
Mode of delivery	**No (%)**
Spontaneous vaginal delivery	243 (59.7)
Caesarean section	131 (32.2)
Laparotomy	15 (3.7)
Assisted vaginal breech delivery	9 (2.2)
Vacuum extraction	7 (1.7)
Craniotomy	2 (0.5)

The indications for caesarean section are shown in table IV. The common indications were hypertensive disorders of pregnancy (4.9%), foetal distress (3.9%) and malpresentation (3.4%) while the least were congestive cardiac failure (0.2%) and carcinoma of the breast (0.2%).

Table IV: Indications for caesarean section

N=407	
Indications	**No (%)**
Eclampsia/pre-eclampsia	20 (4.9)
Antepartum haemorrhage	19 (4.7)
Two or more previous CS	16 (3.9)
Foetal distress	14 (3.4)
Breech presentation	13 (3.2)
Obstructed labour	12 (2.9)
Cephalopelvic disproportion	10 (2.5)
Abnormal foetal lie	7 (1.7)
Post date, previous CS	6 (1.5)
Failed induction of labour	4 (1.0)
Malpresentation of the first twin	4 (1.0)
Retained second twin	2 (0.5)
Gestational diabetes	2 (0.5)
Congestive cardiac failure	1 (0.2)
Carcinoma of the breast	1 (0.2)

Thirty babies (7.4%) were asphyxiated at birth. There were fifty-two (12.8%) perinatal deaths out of which 22 (5.4%) were already macerated while 2 (0.2%) where early neonatal deaths resulting in a perinatal mortality rate of 128/1000 births. There were three maternal

deaths (0.7%), two from eclampsia while one followed post partum- haemorrhage resulting in a maternal mortality rate (MMR) of 7.4/1000.

DISCUSSION

This study shows the outcome of delivery among grandmultiparous women in a tertiary hospital in Southern Nigeria. The prevalence of 6.4% in our center is lower than reports from Awka (7.53%) [2], Lagos (9.4%) [11], Enugu (16.4%) [10], and Maiduguri (14.5%) [9]. It is also much lower than those reported from centers in the Muslim countries of Asia where incidence rates as high as 33.6% [12] have been documented. Recent Nigerian studies have shown that the absolute number of grandmultiparous women is decreasing in the country. This has been attributed to the present economic hardship in the country [2]. In addition, recent studies have shown that women in our environment now prefer to obtain antenatal care (ANC) and deliver in unorthodox health facilities [13,14,15].

Though majority of the patients in this study obtained ANC in the hospital, most of them (79.8%) booked and initiated ANC in the third trimester of pregnancy. This is similar to reports from other Nigerian centers [2,8]. A previous study in this center had shown that gestational age at booking increased with increasing parity [16]. This has been attributed to the overconfidence usually exuded by grandmultiparous women in our part of the world with the belief that having delivered many times before, they are well versed in the art of delivery, and need not register early for ANC [16] . However the advantages of early booking cannot be overemphasized and are well documented. It affords early detection, prevention and treatment of problems that may lead to increased maternal and perinatal morbidity and mortality such as congenital anomalies, human immunodeficiency infection, preeclampsia and gestational diabetes [17]. In addition it provides an ample opportunity for provision of health education and counselling towards a successful pregnancy, child birth and puerperium.

Seventy-six patients (18.7%) were either unbooked or had defaulted and were brought from unorthodox health facilities when they could not deliver and serious complications had developed. While several reports continue to show very poor obstetric outcome in unbooked patients in Nigeria [17], studies in Southern Nigeria have equally shown high complication rates among booked women who attempt to deliver outside orthodox health facilities [13,14]. The attendants at these unorthodox health facilities usually have no formal maternity training, are ignorant of emergency obstetric care, and do not refer patients to hospital when obstetric complications occur.

The caesarean section rate in this study ((32.2%) was high, higher than the overall caesarean section rate of 24.5% reported from the centre [18]. It was also higher than that reported from other Nigerian centres [2,8, 9,10, 11] and other centres in Sub-Saharan Africa and Asia [4,7]. This typifies the high risk nature of grandmultiparous pregnancies in our centre. Fifteen patients had laparotomy for ruptured uterus. They were either unbooked patients or patients who had defaulted and were brought to the teaching hospital after their uteri had ruptured following prolonged obstructed labour. Sub-total abdominal hysterectomy was performed for most of them as the ruptures were extensive. Grandmultiparous women are particularly prone to obstructed labour and hence ruptured uterus because of the increased risk of malpresentations, macrosomic babies and feto pelvic disproportion due to spondylolisthesis.

The perinatal mortality rate of 128/1000 births observed among grandmultipara in this study is very high. It is higher than figures reported from other Nigerian centres and also higher than the overall PNMR in the hospital [8,9,10,11]. There were three maternal deaths, two from eclampsia and one from primary post partum haemorrhage with reflects the poor maternal outcome.

Currently, studies from developed countries are increasingly reporting fewer complications during pregnancy and labour among grandmultipara, and obstetrical complications there among the grandmultipara are now independently associated with progressive maternal age [15]. Hence, in these countries where the socioeconomic status of women is high and there is high standard of perinatal care, high parity is no longer considered a risk marker for obstetric complications. However, as shown in this study though the prevalence of grandmultiparity is relatively low, it is associated with high perinatal and maternal morbidity and mortality. Hence, to reverse this trend, there must be widespread community enlightenment on the importance of limitation of family size and number of child births. There is need for community based studies in our environment accessing the knowledge and attitude of women with high parity towards contraception.

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