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Grandmultiparity: Emerging Trend in a Tropical Community

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Abstract

Background: *Grandmultipara have always been and still are sources of apprehension to the obstetrician when in labour. The relative prevalence of grandmultiparity may be declining but it remains a major contributor to maternal mortality.*

Objective: *To determine the current prevalence of grandmultiparity and the pattern of utilisation of maternity services by grandmultipara in Benin City.*

Subjects and Methods: *A total of 1280 antenatal patients were interviewed in four large maternity centres between the months of June and September 1998 using a structured questionnaire.*

Results: *Grandmultipara made up 7.34% of the antenatal population. Their average age was 33.7 ± 5.08 years. Social classes 3 and 4 constituted the majority with a frequency of 37.8% and 35.6% respectively. The incidence of high parity increased with social class up to social class 3 and declined thereafter. The majority (57.5%) of the patients had only primary school education. The odds against a grandmultipara being educated more than primary school compared to the multipara was significant (OR = 4.96 (95% CI 3.13-7.86, P<0.0001). Most grandmultipara (64.4%) booked late for antenatal care. They were more likely to have delivered at home -31.91% (OR = 2.18; 95% CI: 1.34-3.52, P=0.001, and in church – 9.75% (OR = 12.45; 95% CI: 4.51-34.24, P = 0.0002) in their last pregnancy*

Conclusion: *The relative prevalence of grandmultiparity in the community is low and it is associated with poor utilisation of maternity services. This group of mothers should be actively discouraged from delivering at home and in churches. Reproductive health care services in the community should be strengthened.*

Key Words: *Grandmultipara; Maternity Services; Utilisation; Maternal Mortality.* [Trop J Obstet Gynaecol, 2001, 18: 27-30]

Introduction

The grandmultipara has always been the obstetrician's nightmare and still a high-risk patient even in modern practice [1,2,3,4]. The grandmultipara is often said to be a treacherous parturient especially with regards to the rapidity of developing fatal complications. High on the list of these complications are hypertensive disorders, eclampsia, abruptio placenta, and ruptured uterus leading to haemorrhage [4,5,6,7,8] which account for most of the deaths.

The literature documentation of the high contribution of grandmultipara to maternal mortality is world-wide, however the incidence of grandmultiparity in the industrialised nations with developed market economy is under 2% [8]. In the third world the incidence of grandmultiparity has been quoted to vary between 17-33% depending on the region and age of the literature. Aziz-Karim found an incidence of 28.5% in Karachi, Pakistan in 1989 [2]. In 1984, Omu estimated the incidence of grandmultiparity to be 17-21% of all deliveries in Nigeria and the West African [9]. In 1985 Diejomaoh found an incidence of grandmultiparity of 17.3% amongst parturients, while contributing 36.5% of the maternal mortality at the University of Benin Teaching Hospital (UBTH) [4].

A recent study on the utilisation of maternity services in the department of obstetrics at the UBTH [10], the authors found an incidence of 3.55% amongst patients initiating antenatal care. Thus, this study was undertaken to determine the current prevalence of grandmultiparity and the pattern of utilisation of maternity services by grandmultiparous women in the community.

Materials and Methods

A total of 1280 pregnant women were interviewed using a structured questionnaire. The study took place in the maternity units of the four large health establishments in Benin City, between the months of June and September 1998. These were the Central Hospital (CHB), the Catholic Women's Hospital (CWH), the Anglican Maternity Hospital (AMH), and the University of Benin Teaching Hospital (UBTH). The data collected included information on patients' age, marital status, religion, educational level, occupation, the husband's occupation and the last normal menstrual period (LNMP). Also, information was collected on the number of previous deliveries, the place of last delivery, the number of hospitals in which the patient registered for antenatal care in the current pregnancy, the age of the pregnancy at booking and the reasons for booking at that gestational age. The data collected were subjected to computer analysis using appropriate software for tests of significance - chi-square, and odds ratios as applicable.

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Results

There were 94 (7.34%) grandmultipara out of 1280 antenatal mothers interviewed in the study. The average age of the grandmultiparous patients was 33.7 ± 5.08 years with a range of 24 to 48 years. Figure 1 shows the parity distribution of the grand multiparous women. Forty percent of them had delivered 5 times while, 37.8% and 13.3% have had 6 and 7 deliveries respectively. Super-grandmultipara (patients with parity of 8 and above) were 8.9% in this series, and none had parity greater than 11. The social class distribution of these patients is shown in Figure 2. Social classes I and II constituted 11.1% of the patients in the study, while 15.6% of the patients were in social class V. The majority of the patients belonged to social classes III and IV. The polynomial trend line shows that the proportion of grandmultipara increased with social class up to social class III, and declined thereafter. Table 1 shows the types of residential apartments/ homes grandmultiparous women in the study lived in with their families. Nearly three in four of them lived in room(s) type of apartments, 23.4% lived in flat type of apartment and 3.2% lived in bungalows. Comparatively this was statistically not different from that of the general population of parturients in the community.

Table 2 shows the educational level of the patients in the study. 57.5 percent of the patients had primary school education, while 37.8% and 5.3% of them were educated up to the secondary and tertiary levels respectively. The odds against a grandmultipara of being educated beyond primary school level compared to the multipara was significant (OR = 4.96 (95% CI 3.13-7.86, P<0.0001).

Table 1

Types of Residential Accommodation of the Patients

Types of Residence	*Grandmultipara N (%)*	*Multipara N (%)*
Room(s)	69 (73.40)	835 (70.40)
Flat	22 (23.40)	320 (26.98)
Bungalow	3 (3.19)	31 (2.61)
Total	***94 (100%)***	***1186(100%)***

Table 2

Educational Level of the Patients

Educational Level	*Grandmultipara N (%)*	*Multipara N (%)*
None	5 (5.32)	10 (0.84)
Primary	54 (57.45)	291 (24.54)
Secondary	35 (37.23)	789 (66.53)
Tertiary	2 (2.13)	106 (8.94)
Total	***94 (100%)***	***1186 (100%)***

Figure 1

Parity Distribution of the Grandmultiparous Patients

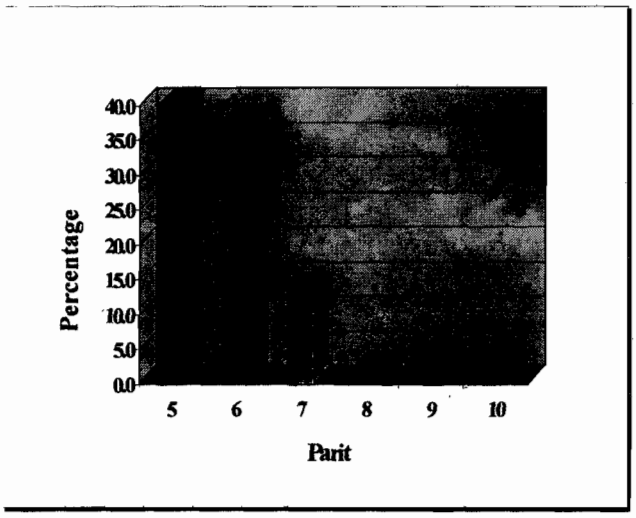
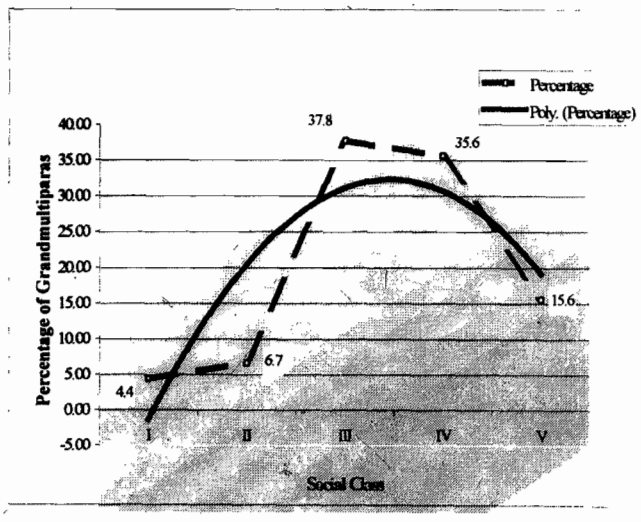


Figure 2

Social Class Distribution of the Grandmultipara



NB- Poly: Polynomial trend line (the continuous line)

Table 3

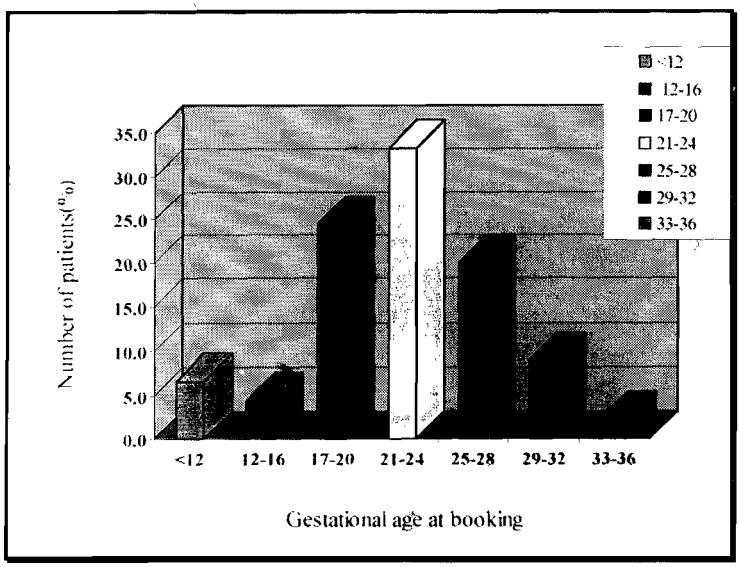
Site of Preceding Birth

Place of Last Delivery	*Grandmultipara N (%)*	*Multipara N (%)*
Home	30 (31.91)	210 (17.71)
Church	9 (9.57)	10 (0.84)
Hospital	55 (58.51)	966 (81.45)
Total	***94 (100%)***	***1186 (100%)***

Figure 3 shows the distribution of the gestational age at which grandmultipara booked for antenatal care in the index pregnancy. Only 6.7% of the grandmultipara initiated antenatal care in the first trimester. The majority (64.4%) of the patients initiated antenatal care after the 20th week of gestation. The mean gestational age at booking was 23.7 ± 5.37 weeks. Nearly 32% (30/94) of the grandmultipara in their penultimate pregnancy delivered at home, while 9.57% (9/94) delivered in the church (Table 3). The likelihood of a grandmultipara to deliver at home compared to the non-grandmultipara was significant. OR = 2.18 (95% CI: 1.34-3.52, P=0.001) and odd that she will deliver in a church was 12.45 (95% CI: 4.51-34.24, P = 0.0002).

Figure 3

Gestational Age at Booking by the Grandmultipara



Discussion

The incidence of 7.34% obtained for grandmultiparity in this study is significantly lower than 17.3% obtained by Diejomaoh *et al* [8] in the same community, and 11.28% by Ozumba *et al* in Anambra state [11]. While the absolute number of grandmultipara is decreasing in the community, their contribution to maternal mortality rate has remained relatively constant at between 35-37% [13] in the same hospital.

With an average age of 33.7 years the grandmultipara in Benin City is a relatively young woman. This observation is similar to the findings of other workers [8,13,14]. This relatively young age of very high parity mothers may be due to their low embrace of western type education as reflected in their level of formal education. The majority of the grandmultiparous patients had no education or primary education only.

The very high parity of 12 and above was not encountered in the present study. This is contrary to common experience in our contemporary practice. Could grandmultiparity be passing away or this trend is a transient phenomenon due to the unremitting economic recession? In this series there was a significant shift in the social class distribution of the patients when contrasted with the previous study in the same environment twelve years ago. Whereas Diejomaoh *et al* reported that high parity increases as one goes down the social classes: our findings suggest that parity does not increase infinitely with decrease in social class. A clear trend of decline in the prevalence of grand multiparity was observed after social class III. This is well demonstrated by the polynomial trend line in figure 2. The majority of patients were in social classes III and IV, which is in contrast to previous reports and the general thinking that grandmultiparous women belong to the lowest social strata of the society.

However, in this series the difference between the middle and lower social classes became blurred or lost completely when the types of living accommodations were analysed. There was no difference in the living standard, as 73.3% of the patients lived in a room(s) type of apartment with no private toilet facilities. Thus, in reality the middle social classes are essentially non-existent under the present economic climate. Perhaps the cultural desire for very large family size amongst women in the very low socio- economic strata may be dwindling under the present economic hardship [9].

It is well recognised that grandmultiparous patients need more surveillance during the antenatal period because they are prone to increased incidence of pregnancy and labour complications [7,13]. The large majority of grandmultiparous patients, however, initiated antenatal care late, some of these patients booking as late as two weeks to the expected date of delivery. The implication of the late booking is that they have received no antenatal care and should therefore be truly classified as 'unbooked'. Some of these patients book for antenatal

care to confirm their state of well-being and eventually settle for home delivery. Thus grandmultiparous patients initiate antenatal care late, and deliver outside trained attention as revealed by over a third of the patients in this series who delivered at home or in the church in their last pregnancies. These are some of the qualities that make them contribute an unacceptably large percentage to our high national maternal mortality figures.

The prevalence of grandmultipara in this study community is low. Also, there is an associated poor utilisation of maternity services by grandmultipara. This group of mothers should be actively discouraged from delivering at home and in the churches. Grandmultiparity will remain an obstetric enigma for the foreseeable future; unless concerted effort is directed toward a comprehensive national antenatal care coverage, and economic empowerment of the women.

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