

Antenatal Care Booking Pattern at a Tertiary Hospital in South-Eastern Nigeria.

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ABSTRACT

Background: Adequate antenatal care is a key strategy for reducing maternal mortality, but millions of women in developing countries do not receive it.

Aim: To determine the prevalence of late antenatal booking and the factors which affect it.

Patients and Method: A descriptive study of the pattern of antenatal care booking of 400 normal pregnant women who registered with the antenatal care unit of the Imo State University Teaching Hospital, Orlu, Imo State, Nigeria from January 1, 2010 to March 31, 2010 was done.

Results: The mean gestational age at booking of the women was 23.64±8. The mean gestational age at booking for grandmultiparous women was significantly higher (27.6 weeks) than other parities ($P<0.05$). The prevalence of late antenatal care booking was 85.3.0%. Younger and older women were statistically ($P=0.000$) more likely to book late for antenatal care. All (100%) of single mothers booked late for antenatal care. Women who had post-secondary education contributed 51.0% of the women who booked late.

Conclusion: Majority of the women in this study booked late for antenatal care. Efforts should be made to reverse this.

Key words: Antenatal care, Booking Pattern, Orlu.

INTRODUCTION

Adequate antenatal care is a key strategy for reducing maternal mortality, but millions of women in developing countries do not receive it¹. It is one of the pillars of the safe motherhood initiative and involves the monitoring of pregnant women and their unborn babies in order to detect unsuspected complications². Antenatal care provides a unique opportunity for early diagnosis and treatment of problems like anaemia, hypertensive disorders of pregnancy, infections and infestations, including human immunodeficiency virus (HIV), in the mother and prevention, diagnosis and treatment of problems in the newborn³.

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In many developing countries, antenatal care (ANC) is the only time women make contact with the health care system³. ANC is thus a unique opportunity for providing tetanus vaccination, malaria prevention, prevention of mother-to-child transmission (PMTCT) of HIV, and counseling for a safe birth³. Antenatal care services also provide a unique opportunity not only for health education on childbirth and infant care but also on family planning⁴. Early entry to antenatal care (ANC) is important for early detection and treatment of adverse pregnancy outcomes⁵.

Following the diagnosis of pregnancy, the first prenatal visit (the booking visit) should occur during the first trimester⁵⁻⁷. The focus of this visit, as for most of the antenatal care, is to identify all risk factors involving the mother and the fetus. Early booking makes fairly accurate dating feasible, especially in women who are unsure of their last menstrual period. In addition, certain baseline measurements such as blood pressure, body mass index and urinalysis done at this gestational age give a fair idea of the pre-pregnancy state of the patient^{8,9}.

In spite of these advantages of early booking, late booking is common in the developing world^{10, 11}, as a good number of women do not attend antenatal clinic early enough and therefore do not maximally benefit from this facility. Different factors may favour late initiation of antenatal care and its use. These factors include unmarried status, older age, multiparity, lower educational achievement, unemployment and poor income^{10, 12-14}. Other predictors of late entry to antenatal care include place of residence being far from the hospital, bad roads, lack of good transportation, smoking, unplanned pregnancy, negative attitude towards the pregnancy, logistics involved in registration, non-affordability of booking requirements and relocation to a new environment¹⁵⁻¹⁷. Among some Nigerian women, the lack of the right to go to hospital unaccompanied by their husbands leads to late and irregular antenatal attendance¹⁸.

As antenatal care is a key strategy for reducing both maternal and perinatal morbidity and mortality^{1, 3}, and having seen the low level of attendance of antenatal care mostly in Africa¹ and the possible effect of late antenatal care booking, it is important to explore its prevalence and the factors that affect it. This will be crucial for planning future interventions.

PATIENTS AND METHODS

The study population consisted of pregnant women attending the antenatal clinic of department of Obstetric and Gynaecology of The Imo State University Teaching Hospital (IMSUTH), Orlu. The IMSUTH is a tertiary health institution serving the whole of Imo State and its environs. The patients were recruited after consenting to participate and following a formal approval given by the institution's ethical and research committee.

The study was a descriptive study which used a combined structured and open-ended interviewer assisted questionnaire.

All pregnant women who attended the antenatal clinic for the first time from January 1, 2010 to March 31, 2010 and who consented to participate in the study were included.

Four hundred pregnant women were consecutively recruited for the study. This sample size was estimated based on a 50% prevalence of late antenatal care booking using the formula for cross-sectional surveys: $N = (Z^2 \times P \times q) / e^2$; where Z is the standard normal deviate set at 1.96 for 95% confidence interval, P = percentage picking a choice, expressed as decimal (0.5 used for sample size needed), q (1-p) = 0.5 and e (error margin) = 0.05. This gave 384, but was approximated to 400.

The data was analysed using the Statistical Package for Social Sciences (SPSS) software version 13. A

descriptive analysis and frequency distribution was done. The mean gestational age at booking for each category of different women was determined. Pearson's chi-square test was used to evaluate the effect of these variables on the gestational age at booking at the 95% confidence level.

RESULTS

Data of 400 women were collected and analyzed. The age range of the women was from 18 to 39 years, with age group of 26-30 years contributing the highest of 144 (36%). The gestational age at booking ranged from 6.9 to 41.1 weeks. The mean gestational age at booking of the women was 23.64 ± 8 weeks. Three hundred and forty one (85.3.0%) of the women booked late with only 14.7% of the women booking within the first trimester. Table 1 shows that the mean gestational age at booking of grandmultiparous women (27.6 weeks) was significantly higher than that of nulliparous (23.0 weeks) and multiparous women (23.2 weeks) ($P < 0.05$). All the grandmultiparous women booked late for antenatal care.

All (100%) the women between the age range of 36-40 years booked late for antenatal care, while 41 (97.6%) of age group 20 years booked late. This was statistically significant ($P = 0.000$) as shown in table 2.

Table 3 shows that all (100%) of single mothers booked late for antenatal care. Women who had post-secondary education contributed 51.0% of the women who booked late.

Table 1: Parity and Mean Gestational age (MGA) at booking

Parity	MGA(weeks)
Nulliparous	23.0
Multiparous	23.2
Grandmultiparous	27.6

$P < 0.05$

Table 2: Age group and time of booking

Age(yrs)	Time of booking(weeks)			
	Early (≤ 13)		Late (> 13 -term)	
	No	(%)	No	(%)
≤ 20	1	2.4	41	97.6
21-25	9	10.6	76	89.4
26-30	26	18.0	118	82
31-35	22	21.6	80	78.4
36-40	0	0.0	27	100

$P = 0.000$

Table 3: Marital status and time of booking

Marital status	Time of booking			
	Early (≤ 13 weeks)		Late (> 13 weeks-term)	
	No	(%)	No	(%)
Single	0	0.0	8	100
Married	59	15.1	333	84.9

DISCUSSION

The initiation of antenatal care in the first trimester is one of the three measures recommended by United States Public Health Services guidelines to assess the adequacy of antenatal care alongside completion of minimum first trimester evaluation and the number of antenatal care visits¹⁹. Early prenatal care is defined as the care sought within 13 weeks of pregnancy^{19, 20}. To derive benefit from prenatal care, the first visit should take place as early as possible in pregnancy.

The finding of the prevalence of late antenatal care booking of 85.3% in this study is higher than those reported in developed countries which ranged from 25% to 41%²¹⁻²³. However, it corresponds with other studies in Nigeria which also recorded high prevalent rates of late antenatal booking^{5, 17}. This finding, thus, imply that majority of the women do not obtain the benefit of early booking such as detection of factors that may influence fetal development (such as nutritional factors, drug or substance abuse, infections, etc)²⁴. They will also not be able to obtain the benefits of pre-conception care which aims to detect, treat or counsel women contemplating a pregnancy about pre-existing medical and social conditions that may militate against safe motherhood and the delivery of a healthy off-spring. The objectives of an adequate pre-conception care include advice on the avoidance of maternal exposure to teratogens during the period of organogenesis, identification of modifiable factors predating a pregnancy with potential effect on pregnancy outcome (e.g. drug abuse, diabetes, HIV, Hypertension) with introduction of intending mothers to social and medical interventions at a time when they can have maximal effect on the outcome of pregnancy²⁵.

The mean gestational age at booking in this study of 23.6±8 weeks is also similar to previous studies^{10, 17}; but, higher than others^{5, 26}. It is also markedly higher than the finding in Riyadh Health Centre, Saudi Arabia, where the mean gestational age at booking in 1994 was 13 weeks¹³. This marked disparity reflect the poor antenatal care seeking behavior of our women. Other possible reasons as attributed to by other studies¹⁵⁻¹⁷ could include place of residence that is far from the hospital, bad roads, lack of good transportation, unplanned pregnancy, negative attitude towards the pregnancy, logistics involved in registration, non-affordability of booking requirements and relocation to a new environment. Also as observed in another study¹⁸ among some Nigerian women, the lack of the right by women to go to hospital unaccompanied by their husbands could also have contributed to the high rate of late antenatal care booking observed in this

study. This is contrary to the finding in the United States of America and Australia, where lack of medical insurance is a major barrier to early antenatal booking^{12, 15}.

Similar to other studies^{11, 27}, multiparous women tend to book late for antenatal care when compared to lower parity women. This could be explained by possible over confidence expressed by multiparous women in relation to their ability to cope without antenatal care booking and attendance.

As observed in other studies^{10, 12-14}, younger and older age women tend to book late for antenatal care when compared to other ages. This could be because of the naivety of the younger age women on the importance of antenatal care and this could be compounded by a fact there could also be associated unemployment and single parenthood. The older women may also be naïve of the benefits of early antenatal care and over confident of their ability to cope without antenatal care. These findings are not healthy for the women as this may negatively affect both maternal and perinatal outcome.

As shown in this and other studies^{10, 12-14}, unmarried status significantly contributed to late antenatal care booking. The possible explanation to this finding is that there may not be a caring partner that may give both emotional and financial support to these women, thus the late booking for antenatal care. This, as it is stated above, will affect the maternal and perinatal outcome.

Contrary to other previous studies^{11, 13-15}, in this study, women who were more educated, with post-secondary education, were more likely to book late for antenatal care. No explanation could be found for this.

CONCLUSION

In conclusion, majority of the women in this study booked for antenatal care late. Efforts should be made to reverse this so that the women will be able to benefit from gains of early antenatal care booking.

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