

Original Research Article

FACTORS INFLUENCING GESTATIONAL AGE AT BOOKING AT THE UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL SOUTH-SOUTH NIGERIA.

Abstract:

Aim: To assess the factors influencing registration for antenatal care in Nigerian pregnant women.

Study design: A cross-sectional study.

Place and Duration of Study: The antenatal clinic of the department of Obstetrics and Gynaecology, University of Port Harcourt Teaching Hospital from January 2013 to June 2013.

Methodology: A cross-sectional study involving 600 pregnant women attending the booking visit at the antenatal clinic in UPTH from January 2013 to June 2013 was undertaken using an interviewer administered structured questionnaire. Data management was done using Epi Info™ 7.1.4 statistical software.

Results: The mean gestation age at first antenatal attendance was 18.7 ± 6 weeks. Only 133 women (22%) booked before 14 weeks gestation, most of these (89.5%) were primigravidae. Majority of the women [409(68%)] had their first visit between 14 weeks and 28 weeks. Primigravida were significantly more likely to book early in pregnancy ($p=0.01$). Age and educational status did not appear to influence the gestational age at booking. Distance of residence from the hospital also affected the gestational age at booking as those residing more than 10km from the hospital were significantly less likely to register early ($p=0.03$). However availability of funds was a major determinant of when a pregnant would register for antenatal care.

Conclusion:

Majority of our women register for antenatal care later in pregnancy than the prescribed first trimester due to poverty.

Key Words: Gestational age, antenatal booking, influence, Port Harcourt.

INTRODUCTION

Antenatal care is a specialised pattern of care organised for pregnant women to enable them attain and maintain a state of good health throughout pregnancy, and to improve their chances of having a safe delivery of healthy infants at term [1,2]. To achieve this aim, it is a widely held belief that pregnant women need to book early preferably before 14 weeks gestation [1,2]. Early entry to antenatal care (ANC) is important for early detection and treatment of adverse pregnancy related outcomes. Antenatal care evolved over a period of about a century, with the trend changing gradually from in-patient to out-patient form of care that we have today [1,2]. This form of care for pregnant women has become an important pillar in the safe motherhood programme, as the aim is to improve the outcome of pregnancy for both the mother and the foetus [2,3]. The usual recommendation nowadays is for booking (first antenatal visit) to take place in early pregnancy, prior to 14 weeks. The World Health Organization (WHO) recommends that pregnant women in developing countries should

seek ANC within the first 4 months of pregnancy [4]. In developed countries such as the United Kingdom and the United States, ANC is recommended within the first 12 weeks of pregnancy [5,6].

Early booking makes fairly accurate dating feasible, especially in women who are unsure of their last menstrual period. Similarly, it aids early documentation of the woman's baseline physiological and laboratory parameters for subsequent comparison and early detection of anomalies with the progress of pregnancy [7,8]. It also provides opportunities for health education and preventive health care services such as immunization against neonatal tetanus, prophylactic treatment of malaria through the use of intermittent presumptive treatment approach, and human immunodeficiency virus (HIV) counselling and testing [7,8]. Another advantage is the early detection of modifiable pre-existing medical conditions that may influence the course and outcome of pregnancy such as cervical incompetence, chronic hypertension and diabetes mellitus [7,8]. Those who do not register for antenatal care or who register late may lose out on these opportunities and consequently may have worse maternal and perinatal pregnancy outcomes.

The University of Port Harcourt Teaching Hospital (UPTH), River State, Nigeria, though a tertiary health institution, does not restrict its role to tertiary services. Hence in UPTH, pregnant women who come for antenatal care are unselected. There is currently no data documenting the gestational age at which pregnant women book for ANC and factors influencing their choice in our centre.

The objectives of this study therefore, were to determine the gestational age at which pregnant women book for ANC and the reasons for electing to book at such a time.

MATERIAL AND METHODS:

A cross-sectional study involving 600 pregnant women attending the booking visit at the antenatal clinic of the University of Port Harcourt Teaching Hospital, South-South Nigeria from January 2013 to June 2013 was undertaken. The participants were selected by simple random sampling and informed of the study, and all agreed to participate. Only those who were sure of the dates of their last menstrual period and whose uterine size were compatible with their dates, and women that had early obstetric ultrasound scan for dating were included in the study. Ethical approval was obtained from the Ethical committee of the University of Port Harcourt Teaching Hospital.

Data was collected using a pre-tested interviewer administered structured questionnaire. Information obtained included socio-demographic characteristics, reasons for booking, obstetric history and reason for not booking in the first trimester. Social class definition followed the recommendations of Olusanya et al using the woman's level of education and husband's occupation [9]. The data collected were coded and entered into a computer spreadsheet using Epi Info™ 7.1.4 statistical software which was also used for analyses. Results were presented as means with standard deviations, rates and proportions, tables and figures. Chi-square tests were carried out where necessary. Cross tabulation was performed to establish relationships between variables. These were reported when statistically significant at $p < 0.05$.

RESULTS:

The mean gestational age at first antenatal visit for the study was 18.8 ± 6.2 weeks with a range of 8 to 34 weeks. The nulliparous women booked earlier at a mean gestational age of 15.9 ± 6.1

weeks, the multiparae (para 1-4) booked at a mean gestational age of 20.02 ± 6.8 weeks, while the grandmultiparae ($\geq$ para 5) booked at a mean gestational age of 23.4 ± 7.2 weeks. Primigravida were significantly more likely to book early in pregnancy ($p=0.01$).

Table 1 shows the socio-demographic characteristics of the respondents. The mean age was 28.4 ± 6.1 years. The majority of the respondents were between 21 – 30 years of age (70 %). The mean parity was 2.3 ± 0.8 with majority (60.6%) being primigravidae. Majority of the respondents (64.3%) had tertiary education, 33.2% had secondary education, 1.3% had primary education, only 1.2% of the respondent had no formal education. Age and educational status did not appear to influence the gestational age at booking.

Majority of the respondents (57.9%) lived within 5 kilometres of the hospital while only 11.4% live more than 10km from the hospital. Distance of residence from the hospital affected the gestational age at booking as those residing more than 10km from the hospital were significantly less likely to register early ($p=0.03$).

Only 133 (22%) had booked before the 14th week primigravidae comprised 89.5% of this group. The majority [409 (68.3%)] booked between 14 weeks and 28 weeks while 4 women (0.7%) had their first antenatal visit at 34 weeks or later (Figure 1).

Majority of the women belonged to social class 1 (385; 64.3%) with majority of their partners also in social class 1 (418; 69.8%) but this did not significantly influence the timing of booking. Also, tribe, religion and consent for antenatal care did not influence the gestational age at booking.

Pregnant women with planned pregnancies booked at an earlier gestational age (18.72 ± 6.2) compared with those women in whom the pregnancy was not planned (21.60 ± 7.3). Provision of funds for antenatal care by the husband was found to significantly influence the booking gestational age ($p<0.01$). A total of 315 women (52.5%) booked when it was affordable while another 66 women (11.0%) had no particular reason for electing to book at such a time. The remaining booked either because they just relocated (14.7%) or because they had complications in the index or previous confinements (9.8%) (Table 2).

DISCUSSION:

The mean gestational age at first antenatal attendance amongst the study group is 18.7 ± 6 weeks. This value is similar to the 19.1 ± 7.8 weeks observed in Lagos University Teaching Hospital, Nigeria [9], but lower than the 23.59 ± 8.45 weeks in University College Hospital, Ibadan Nigeria [11], 21.4 ± 5.1 weeks observed in women in Olabisi Onabanjo University Teaching Hospital, Sagamu [12] and 23.5 ± 6 weeks in Sokoto, Northern Nigeria [13]. But they all represent delayed booking and goes to show the lack of awareness of Nigerian women generally on the need to register early for antenatal care. Since the cardinal objectives of antenatal care include early diagnosis of abnormalities and appropriate intervention, booking for antenatal care late in pregnancy would limit such benefits. Infact, only 22% of the survey group booked within the first trimester, this low percentage is also observed in other centres. There is therefore a genuine need for health education.

The difference between the gestational age at booking between the sub-group with tertiary education ($18.36 \pm$ weeks) and those without any formal education (16.6 ± 6 weeks) was not statistically

significant. This is because the sub-group with no formal education appeared to book earlier, the possible reason for this being that most of the women with tertiary education are working class women who have busy schedules. This is at variance with the study done in Osogbo, Nigeria [14] where more of the literate sub-group booked earlier for antenatal care. It would appear, there's a difference between literacy per se and health education in health matters especially in health matters. A typical effect of education on antenatal attendance was observed in Zambia [15].

Maternal age, level of education, tribe, religion and husband's level of education were not important factors in terms of the first attendance for antenatal care, as demonstrated in this study. This is comparable to the study done in the Niger Delta [16]. However, Parity was a significant factor. Compared with primigravidae, the multiparous women tended to book later in pregnancy (17.96 $\pm$ 6.1 weeks) versus (20.02 $\pm$ 6.2 weeks). This is in agreement with findings from where older women were found not to be keen in attending antenatal clinics or attended late when they do because of previous successful pregnancy outcomes [10,12,16,18]. Some of the respondents (31.7%) could not give any specific reason for booking at the time they did. In another 31.75%, that was the time they could afford to pay the booking fee.

The average distance from the hospital also influenced the gestational age at the first antenatal attendance as shown in this study, 347 Of the 600 women lived within 5 kilometres of the hospital with an average gestational age of 18.52 $\pm$ 6.2 weeks compared to the 68 women who live more than 10 kilometres of the hospital with a mean gestational age of 20.15 $\pm$ 6.3 weeks.

As is expected, pregnant women with planned pregnancies booked at an earlier gestational age (18.72 $\pm$ 6.2 weeks) compared with those women in whom the pregnancy was not planned (21.60 $\pm$ 7.3 weeks). The husband's consent and provision of fund for antenatal care significantly influenced the gestational age at the time of booking.

Relocation (intra-city or inter-city) was another reason given for booking at the time they did. Most of the women in this sub-group had some form of antenatal care elsewhere but had no medical report to give relevant information. Hence, there is need for health providers to develop a referral system where pregnant women relocating to new stations are given proper medical reports containing relevant information and preferably at no extra cost.

One limitation of this study is that it was conducted in a tertiary centre in a city where the demographics are in favour of higher educational attainment and a higher social class than in rural settings and this may be responsible for the earlier mean gestational age at booking than seen in the more rural settings.

CONCLUSION:

Majority of our women register for antenatal care later in pregnancy than the prescribed first trimester due to poverty. The importance of antenatal care (ANC) in reducing maternal and perinatal morbidity and mortality cannot be overemphasized. Therefore, health education of women in the reproductive age group as well as the general populace on the benefit of booking in the first trimester is advocated.

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203 **Table1. Socio-demographic characteristics**

Characteristics	Number	Percentage %
Age (years)		
<20	36	6%
21-30	420	70.0%
31-40	137	22.9%
>40	7	1.1%
Parity		
Para 0	363	60.6%
Para 1-4	230	38.4%
Para >4	7	1.1%
Educational status		
None	7	1.2%
Primary	8	1.3%
Secondary	199	33.2%
Tertiary	386	64.3
Tribe		
Igbo	462	77.0%
Hausa	4	0.7%
Yoruba	42	7.0%
Others	92	15.3%
Religion		
Catholic	168	28%
Anglican	69	11.5%
Pentecostal	325	54.1%
Protestants	32	5.3%
Islam	6	1.0%
Distance		
<5km	348	57.9%
5-10km	184	30.7%

>10km	68	11.4%
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Table 2: Reasons given for booking at the time they did.

Reason	Frequency	Percentage %
When affordable	315	52.5
Just relocated	88	14.7
Quickening	72	12.0
Complications	59	9.8
Others	66	11.0

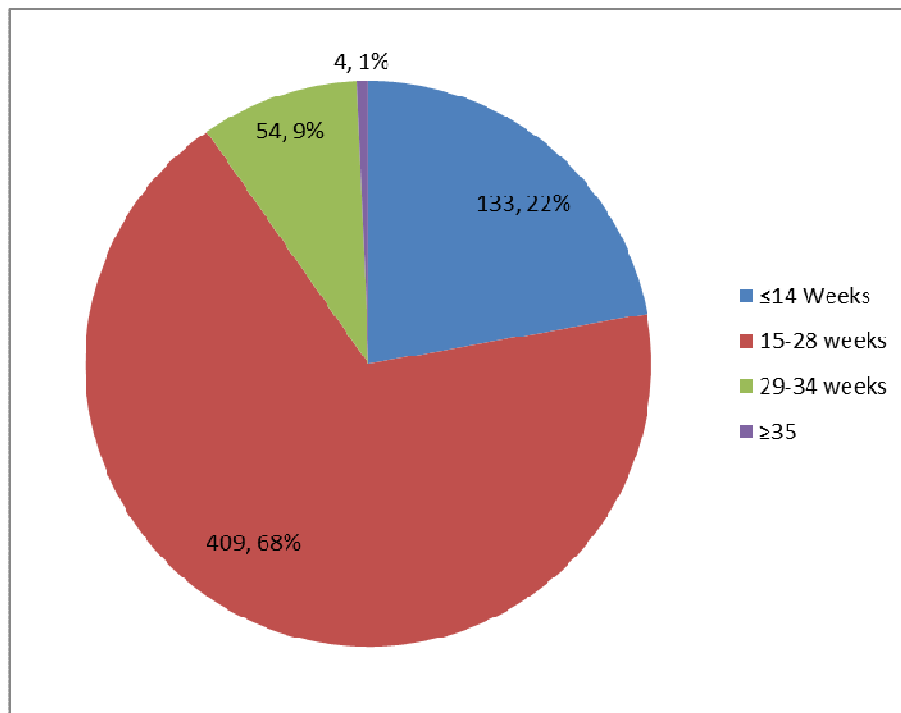


Figure 1: Gestational age at booking.