

Original Research Article

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

Abstract:

Aim: To determine the gestational age at which patients at the UPTH register for antenatal care and the factors influencing the timing of booking.

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 were primigravidae (89.5%) while 509(68%) women 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. The need to educate women of the reproductive age group, who are potential mothers, on the benefits of early booking is recommended.

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 preferable 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 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 lose out on these opportunities and consequently have worse maternal and perinatal pregnancy outcomes. The University of Port Harcourt Teaching Hospital (UPTH), River State, though a tertiary health institution, does not restrict its role to tertiary services. Hence, women who come for maternal care are unselected and attend to all pregnant women who come.

The objective of this study was to determine the gestational age at which pregnant women book for antenatal care and the reasons for electing to book at such a time with a view to determining the best approaches for health education programmes to correct the misconceptions about antenatal care.

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 with compatible uterine size were those 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 $p < 0.05$.

79

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. However, planned pregnancy and provision of funds for antenatal care by the husband influenced the booking gestational age. 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 [9], but lower than the 23.59 ± 8.45 weeks in University College Hospital, Ibadan [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 [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 ± 6.1) versus (20.02 ± 6.2). 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 ± 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 ± 6.3 weeks.

As is expected, 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). However, the husband's consent and provision of fund for antenatal care did not appear to significantly influence 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.

CONCLUSION:

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

REFERENCES:

1. Yoong A, Chard T. The effectiveness of current antenatal care. In: Studd J, editor. Progress in Obstetrics and Gynaecology. Edinburgh: Churchill Livingstone. 1996 (12): 3 – 18.

- 159 2. Omigbodun AO. Preconception and antenatal care. In: Kwawukume EY, Emuveyan EE, editors.
160 Comprehensive obstetrics in the Tropics. Accra: Asante and Hittscher. 2002;7 – 14.
- 161 3. Ekwempu CC. The influence of antenatal care on pregnancy outcome. Trop J Obstet Gynae
162 1988;1: 67–71.
- 163 4. WHO: Antenatal Care. Report of a Technical Working Group, WHO/FRH/MSM/
164 968.1994.
- 165 5. National Institute for Health and Clinical Excellence: Antenatal care: Routine care for healthy
166 pregnant women. 2003.
- 167 6. American Academy of Pediatrics: Guidelines for perinatal care. Elk Grove, IL Village(ed) :
168 American Academy of Pediatrics; Washington, DC: Am Col Obstet Gynecol; 2002.
- 169 7. Royal College of Obstetricians and Gynaecologists (RCOG). Clinical Guideline. Antenatal care
170 routine care for the healthy pregnant woman. London: RCOG Press. 2003.
- 171 8. UNDP/UNFPA/WHO/World Bank special programme of Research development and Research
172 training in Human Reproduction. Geneva: Department of Reproductive Health and Research,
173 Family and Community Health, World Health Organisation; 2002. WHO
- 174 9. Antenatal care randomized trial: Manual for implementation of the new model. Olusanya O,
175 Okpere E E, Ezimokhai M. The importance of social class in voluntary fertility control in a
176 developing country. West Afr J Med. 1985;4:4.
- 177 10. Adegbola A. Gestational age at antenatal booking in Lagos University Teaching Hospital (LUTH),
178 (revised edition). Nig J Hosp Med, 2008; 18(2):79-82.
- 179 11. Okunlola MA, Owonikoko KM, Fawole AO, Adekunle AO. Gestational age at antenatal booking
180 and delivery outcome. Afr J Med Sci, 2008; 37(2): 165-169.
- 181 12. Lamina MA. Gestational at first antenatal attendance in Sagamu, Western Nigeria. Nig J Clin
182 Pract 2004;7(1): 1-3.
- 183 13. Ekele BA, Audu LR. Gestational age at antenatal clinic booking in Sokoto, Northern Nigeria. Afr
184 Med Med Sci 1998;27(3-4): 161-163.
- 185 14. Adekunle DA, Isawumi AI. Late antenatal care booking and Its Predictors among Pregnant
186 women in South Western Nigeria. Online J Health Allies Scs 2008; 7(1):4.
- 187 15. Ransjoy-Arvidson AB . Maternity care routines in a Teaching Hospital in Zambia. E Afr Med J
188 1989; 66:427-436.
- 189 16. Ebeigbe PN, Igberase GO. Antenatal care: a comparison of demographic and obstetric
190 characteristics of Early and Late attenders in the Niger Delta, Nigeria. Med Sci Monit 2005;
191 11(11): CR 529-532.
- 192 17. Okunlola MA, Ayinde OA, Owonikoko KM, Omigbodun AO. Factors influencing gestational age at
193 antenatal booking at the University College Hospital, Ibadan, Nigeria. J. Obstet. Gynaecol
194 2006;26(3):195-197.
- 195 18. Gharoro EP, Igbafe AA. Antenatal care: some characteristics of the booking visit in a Major
196 Teaching Hospital in the developing world. Med Sci Monit 2000; 6(3):
197 519-522.
- 198

199 **Table1. Socio-demographic characteristics**

Characteristics	Number	Percentage %
Age		
<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%

200

201

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: shows the gestational age at booking.

