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Original Research Article

Timing and reasons for antenatal care booking among women in a tertiary health care center in Southern Nigeria

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ABSTRACT

Background: Antenatal care is one of the four pillars of safe motherhood and its benefits in preventing adverse feto-maternal outcome is proven. Commencement of antenatal care early has been shown to be key for this benefit to be fully realized. The aim of this study was to determine the antenatal booking pattern of pregnant women and its determinants in our environment.
Methods: A cross sectional study of women attending the booking clinic in the University of Uyo Teaching Hospital, Akwa Ibom State, Southern Nigeria over a three-month period.
Results: The mean age of the respondents was 28.5 years. The mean gestational age at booking was 18.3 weeks. The majority of the patients were married (94.1%). 68.1% had a post-secondary education. 33.5% of patients were nultiparous, while 3.5% were grand multiparous. The majority of patients (72.4%) booked late for antenatal care. Age group, marital status, mode of delivery was not significantly associated with timing of booking. High levels of patient's education, high levels of husband's education as well as grand multiparity were significantly associated with late booking ($P<0.05$). Majority (65.4%) of patients claimed that it was safe to book at any time during pregnancy.
Conclusions: The majority of women booked late for antenatal care. In our study, we have found that general and health education, subsidisation of cost for antenatal care and introduction of focused antenatal care will help to reverse this trend.

Keywords: Antenatal care, Early booking, Uyo

INTRODUCTION

Nigerian women continue to die at an alarming rate from complications of pregnancy and child birth despite concerted local and international efforts.[1,2] Over the most recently evaluated 5year period in Nigeria, the maternal mortality ratio remained statistically the same: 545/100,000 live births in 2008 and 576/100,000 live births in 2013.[3] Globally, this represents one of the worst indices for maternal mortality.[1] Most of these maternal deaths occur in the peri-partum period, during labour or in the immediate peuperium, at home or at a traditional birth attendant, without the presence of a skilled accouchier.[1] However, about 25 percent of maternal deaths occur during pregnancy. In addition, two thirds of all stillbirths are known to occur in the antepartum period.[4]

Antenatal care is generally acknowledged as an effective method of preventing adverse outcomes in pregnant women and their babies.[5] Early and regular antenatal care, with evidence-based interventions, offer an introduction

to a continuum of care that spans pregnancy, labour and the postpartum period.[6]

Antenatal care has thus come to constitute one of the four pillars of safe motherhood, with the aim of delivery of a live and healthy baby to a live and satisfied mother.[6] It starts with a booking visit and the Nigerian policy on antenatal care follows the World Health Organization approach and recommends at least four antenatal visits for low risk pregnant women.[7-9.] Most centres in our environment, including the centre of this study, still follow the traditional method of antenatal care for women without complications: monthly till 28 weeks, fortnightly till 36 weeks and weekly till delivery.

Whether the traditional or the focused model of antenatal care is used, it is recommended that the first visit for antenatal care-booking- should be early, in the first trimester.[8,9] This is critical to early identification and management of underlying medical or obstetrics conditions that may affect the outcome of pregnancy eg. anaemia, malaria, Human Immunodeficiency Virus infection, and cervical incompetence.[10]

Other benefits of early booking for antenatal care include; an accurate determination of gestational age, early baseline investigations are done which are used to compare with values in later pregnancy, early supplementation with folic acid which reduces the incidence of neural tube defects in babies, screening for chromosomal abnormalities and chorionic villous sampling. In addition, pregnant women are informed of the symptoms of complications of pregnancy. Intangible benefits also include familiarization with the health care facility and its personnel.[11,12]

Early booking for antenatal care is also positively associated with four or more visits and such parturient are more likely to be assisted by a skilled attendant at birth.[13,14] Early booking is therefore a strong predictor of positive pregnancy outcome.

Sadly, in Nigeria, it has been found that only about 18.0% of parturients book for antenatal care in the first trimester and that most patients book late.[3] Several reasons have been adduced for this, including high cost of antenatal care, distance from the health facility, lack of permission from the husband, and cultural perception of health status in pregnancy.[11-15]

This study was therefore conducted to determine the time of booking for antenatal care among women in the University of Uyo Teaching Hospital, Uyo, Akwa Ibom State, Nigeria.

In addition, this study also evaluates the determinants of the gestational age at booking for these patients. It is hoped that the results of this study will lead to better information about, and help guide policy in, the management of antenatal care in our environment.

METHODS

Study setting

This is a questionnaire- based cross sectional study carried out in the booking clinic of the University of Uyo Teaching Hospital (UUTH). The UUTH is a tertiary and referral health centre in Akwa-Ibom State, Southern Nigeria.

A total of 370 patients attending the antenatal booking clinic were consecutively recruited between 1st February 2017 and 30th April 2017.Inclusion criteria were patients who were sure of their last menstrual period and confirmed it by an early ultrasound scan. Those who were unsure of their last menstrual period but had an early scan were also included. The nature of the study was explained to the patients and they were assured of confidentiality. An informed consent was obtained from each consenting woman. They were all assured of the right to opt out of the study at any time. Ethical approval was obtained from the hospitals ethical committee. Pregnant women who did not consent or were unsure of their last menstrual period and did not have an early ultrasound scan were excluded. For the purpose of this study, early antenatal booking was considered to be initiation of care within the first 3months or 13 weeks of gestation. Initiation of care after this period was considered late.

Data collection

The pretested semi-structured questionnairs were administered by 3 trained house officers. Clarifications were provided when requested. The questionnaires elicited information on the sociodemographic data of the patients, booking age, the people whose authorisation was necessary for booking. Respondents were also asked if they had problems during pregnancy and when they thought it was safe to book for antenatal care. Reasons for late booking were explored, as well as the association between some factors and the gestational age at booking.

Sample size and procedure

The sampling size was obtained using the formula: Z2 PQ/d2
Z2 = Standard normal deviation at 95% confidence interval = 1.96
P = prevalence of late booking =0.656
Q= 1-p = 0.34
D = precision limit =0.0025.
Therefore, 1.96x 1.96x0.656x0.344/0.0025=347
5% non-response rate =17.35.
Total=364

Statistical analysis

Data was analysed using SPSS version 20. Variables were presented in frequency, and average in means (standard deviation). Test of significance was done at

P<0.05 using students t-test and Chi-Square test. Logistic regression variables analysis was performed to determine the significant variables affecting the timing of booking.

RESULTS

Three hundred and seventy (370) newly registered women were recruited during the study period. The age range of the patients was 13-45 years with a mean of 28.5 (SD:4.5) years. Gestational age at booking ranged from 4-40 weeks with a mean of 18.3 weeks (SD 1.6). One hundred and two (102) respondents booked early (27.6%) while 260 (72.4%) booked late. Of the parous women,175 (47.3%) delivered vaginally in their last pregnancy while 66 (17.8%) delivered by caesarean section.

Table 1: Socio-demographic characteristics of respondents n=370.

Characteristics	Frequency	%
Marital status		
Married	348	94.1
Single	20	5.4
widowed	2	0.5
Education		
No formal education	12	3.2
Primary	24	6.5
Secondary	82	22.2
Post-secondary	252	68.1
Husbands education		
No formal Education	13	3.5
Primary	18	4.9
Secondary	82	16.8
Post-secondary	277	74.9
Tribe		
Ibibio	200	54.0
Annang	70	18.9
Oron	24	6.5
Igbo	58	15.7
Hausa	7	1.9
Others	11	3.0
Religion		
Christianity	362	97.9
Moslem	6	1.6
Traditional	2	o.5
Parity		
0	124	33.5
1-4	233	63.0
≥5	13	3.5

Table 1 shows the sociodemographic characteristics of respondents. Three hundred and forty-eight (94.1%) were married. Two hundred and fifty-two (60.1%) of the women and 277 (74.9%) of their husbands had post-secondary education. Twelve (3.2%) respondents as well as 13(3.2%) of respondent's husbands had no formal education. The indigenes of the state, the Ibibios, Annang and Oron comprised 95.1% of respondents and three hundred and sixty-two (97.9%) were Christians.

Sixty three percent (63.0%) of the respondents were multiparous, while 124 (33.5%) were primigravid. Grand multiparous women were 13 (3.5%). Of the multiparous women 175 (47.3%) had a spontaneous vaginal delivery in their last pregnancy and 66 (17.8%) were delivered by caesarean section.

One hundred and two (27.6%) of the women booked early within the first three months or thirteen weeks, while 268 (72.4%) booked late. The respondents and their husbands both decided when to book for antenatal care in 162 (43.8%) of cases while the wife alone did so in 123 (33.5%) cases. The husband alone was responsible for deciding the time of booking in 75 (20.3%) of cases. (Table 2).

Table 2: Gestational age at booking and booking deciders n=370.

Booking	Frequency	%
Booking category		
<13weeks	102	27.6
≥13weeks	268	72.4
Booking decision		
Myself	123	33.5
Husband	75	20.3
Myself and Husband	162	43.8
My Parents	5	1.4
Husbands Parents	3	0.8
Others	3	0.8

Table 3: When respondents think it is safe to book n=370.

Gestational age	Frequency	%
Any time during pregnancy	242	65.4
First 13 weeks	68	18.4
After 13 weeks	44	12.0
Don't know	16	4.3

Table 4: Reasons for late booking n=370.

Reasons	Frequency	%
No problem in trimester 1	202	54.6
Avoid many visits	153	41.4
Avoid time wasting	137	37.0
Long distance	111	30.0
No money to book	118	31.9
Always book late	92	27.1
Unplanned pregnancy	86	23.2
Hide pregnancy	75	20.3
Prevent harm to pregnancy	61	16.5
No benefit	56	15.1

Table 3 shows when respondents think it is best to book for antenatal care. Sixty-eight women (18.4%) revealed

that it was best to book in the first trimester (<13weeks). Forty-four women (12%) claimed it was best to book after the first trimester. Two hundred and forty-two respondents (65.4%) admitted it was best to book anytime during pregnancy.

The reasons for late booking are shown in Table 4. Two hundred and two (54.6%) patients booked late because they had no problems in the first trimester.

One hundred and fifty-three (41.4%) women booked late to avoid many visits and 137 (37.0%) to avoid time wasting One hundred and eighteen (31.9%) respondents could not afford the cost of booking and 111 (30%) did not book because of the far distance for them to the health care facility. Others booked late to hide the pregnancy- 75(20.3%)- and to prevent harm to the pregnancy-61(16.5%). Eighty-six (23.2%)women claimed the pregnancy was unplanned. Fifty-six (15.1%) respondents felt there were no benefits. in early booking.

Table 5 shows the association between some factors and gestational age at booking. Variables like age groups, marital status, mode of delivery in last pregnancy were not associated with timing for antenatal care booking (P>0.05).

However, respondents and husband's education, non-indigene status, and grand multiparity were significantly associated with late booking (P <0.05).

Table 5: Association between some factors and gestational at booking for ANC n=370.

Variables	Category of Booking		Total	Statistical tests
	Early booking	Late booking		
Age group				X^2 =0.178
Less than 35 years	91 (27.2)	243 (72.8)	334	DF=1
35 years and above	11 (30.6)	25 (69.4)	36	P=0.696
Marital etatus				X^2 =0.844
Married	97 (27.9)	251 (72.1)	348	DF=2
Single	5 (25.0)	15 (75.0)	20	P=0.656
Widowed	0 (0.0)	2 (100.0)	2	
Education status				X^2 =17.251
No formal education	1 (8.3)	11 (91.7)	12	DF= 3
Primary education	3 (12.5)	21 (87.5)	24	P=0.001*
Secondary education	12 (14.6)	70 (85.4)	82	
Postsecondary education	86 (34.1)	166 (65.9)	252	
Husbands educational status				X^2 =9.919
No formal education	2 (15.4)	11 (84.6)	13	DF= 3
Primary education	2 (11.1)	16 (88.9)	18	P=0.012*
Secondary education	10 (16.1)	52 (83.9)	62	
Postsecondary education	88 (31.8)	189 (68.2)	277	
Tribal categories				X^2 =21.359
AkwaIbomites (Indigene)	65 (22.1)	229 (77.9)	294	DF= 1
Non-AkwaIbomite (Non-Indigene)	37 (48.7)	39 (51.3)	76	P=0.000
Parity				X^2 =5.128
0-4	102 (28.6)	255 (71.4)	357	DF=1
5 and above	0 (0.0)	13 (100.0)	13	P= 0.023*F
Mode of delivery last pregnancy				
Vaginal	41 (22.9)	138 (77.1)	179	X^2 =2.027
Caesarean	21 (31.8)	45 (68.2)	66	DF= 1
				P=0.185F

*Significant

DISCUSSION

In most developed countries, the mean gestational age at booking is within the first trimester.[7,16] This is to take advantage of the benefits to pregnant women of early booking. These benefits are numerous and have been documented by several researchers.[10-12]

However, approximately three quarters of patients in this study booked late and the mean gestational age at booking of the respondents was 18.3 weeks. This is lower than the mean gestational age at booking in Ibadan, Nigeria, Sagamu, Nigeria and Addis Ababa, Ethiopia.[8,11,16] However, most studies show a consistent high figure for late booking.[8,11] In Ethiopia, it was demonstrated that physical and financial accessibility was

not enough to ensure proper utilisation of available health services; socio-cultural factors were also important in affecting utilisation.[16] This has also been demonstrated in this study.

A majority of the patients were ignorant about the best time to book for antenatal care. This ignorance has been highlighted in earlier studies.[10,11] Moreover, antenatal care is still viewed as curative rather than preventive by the patients.[17] Thus there is a widespread belief that health care facilities are only visited when there is an illness. This supports the need for continuous health education of our pregnant women on the multiple benefits-preventive and curative- of antenatal care.

This study also revealed the cardinal role of the husband in deciding the time of booking for antenatal care. They were involved in this decision with the wife in almost half of cases. In our society, husbands and male figures play a key role in decision taking This emphasises the need to involve husbands at booking by invitation by the health care provider.

The common reasons given for late booking were that the women had no problems in the 1st trimester and the need to avoid many visits and time wasting. It is also pertinent to note that our hospital and most hospitals in our environment still follow the traditional method of antenatal care, with monthly visits to 28 weeks, fortnightly to 36weeks and weekly till delivery for low risk patients. This necessitates many visits for routine care as well as long waiting times for women who may have travelled long distances for care. There is therefore a need to vigorously pursue the newer method of focused antenatal care which prescribes four visits for low risk women and is found to be more acceptable. It has also been shown to improve the quality of antenatal services rendered and is more sustainable.[4]

Other reasons for booking late include: to hide the pregnancy and to prevent harm to the baby. This has also been noted in other studies[18]. This finding is most worrisome. Despite the widespread presence of Christianity, which stopped the traditional killing of twins a century ago, the society is still very superstitious and belief in witchcraft is prevalent. In some areas of the society, there is a belief that an early exposure of a woman's pregnancy risks spiritual harm to the mother and baby from evil spirits and wicked people. This further buttresses the need for continuous health education to disabuse the minds of pregnant women about witchcraft and to emphasise the benefits of early booking for antenatal care.

High cost and long distance to hospital were also given as reasons for late booking for antenatal care. This has also been reported by other workers and introduction of free antenatal care services has been shown to lead to a significant increase in antenatal care attendance and a significant decrease in maternal mortality.[10] There is therefore a strong need for the political will to subsidise maternity costs by making the national health insurance scheme widely available for all.

In this study, the level of education of the respondent and the respondent's husbands level of education were found to significantly and positively influence the gestational age at booking. This is similar to other studies that found that the level of education significantly favoured early booking.[11,16] Well educated women are empowered and appreciate the benefit of early booking for antenatal care. Moreover, eradicating illiteracy has been recommended as one of the most important approaches to bringing about a large-scale reduction in maternal mortality.[17]

Increasing parity was also found in this study to predispose to late booking. This has also been found in other studies.[10,18] This is especially significant as the grand multiparous patient represents a high-risk for adverse outcome in pregnancy. The grand multiparous women in our part of the world are usually overconfident, believing that having delivered many times previously, they are well versed in the art and need not book for antenatal care early. This overconfidence is misplaced as several studies have continued to document increased and sometimes frightening complications in this group of women.[20]

Non-indigenes tended to book early. This may be due to the fact that itinerant workers in the state are composed mostly of civil servant's bankers and workers in the oil industry who are well educated.

CONCLUSION

Most patients booked late for antenatal care in this study. Improved education-general and health- will go a long way to help women realise the benefits of early booking. The cost of antenatal care should also be reduced by subsidising health care cost. Efforts should be made to introduce focused antenatal care as this entails fewer visits and is found to be more acceptable in women.

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REFERENCES

1. Udofia I, Okonofua F. Preventing primary postpartum Haemorrhage in unskilled births in Africa. Afri J Reprod Health. 2008;12(1):7-9.
2. Barate P, Temmerman M. Why do mothers die! the silent tragedy of maternal mortality. Curr Women's Health Rev. 2009;5:230-8.
3. National Population Commission. Nigeria Demographic and Health Survey. 2013. Maryland: NPC Nigeria; 2014.

4. Lincetto O, Mothebesocine-Anoh S, Gomez P, Munjanja SP. Antenatal Care. In: Lake J, Kerber k, editors. Opportunities for Africas Newborns: Practical Data, Policy and Programmatic Support for Newborn Care in Africa. Cape Town: PMNCH;2006
5. Why mothers die, 2000-2002. London: Confidential Enquiry into Maternal and Child Health. RCOG press;2004.
6. World Health Organization. Mother- Baby Package. Implementating safe motherhood in Countries. Practical guide. Document WHO/FHE/MSM/94.11 World health Organization; 1994.
7. WHO Antenatal care Randomised trial: Manual for Implementation of the New Model. UNDP/UNFPA/WHO/WORLD BANK special Programmes of research Development and Research Training an Human Reproduction. Geneva: Department of Reproductive health and Research family and Community Health, World Health Organization; 2002.
8. Okunlola MA, Ayinde OA, Owonikoko KA, Omigbodun AO. Factors influencing gestational age at antenatal booking at the University College Hospital, Ibadan. Nigeria J Obstet Gynecol. 2006;26:195-7.
9. Federal Ministry of Health Maternal Health and Obstetrics Fistula. Nigeria Demographic and Health Survey. Abuja, Nigeria. 2008:125-42.
10. Gharoro EP, Igbafe AA. Antenatal Care: Some characteristics of the booking visit in a major Teaching Hospital in the developing world. Med Science Monit. 2000;6:519-22.
11. Adekunle DA, Isawumi AI. Late antenatal care booking and its predictors among women in South Western Nigeria. Online J Health Allied Sci. 2008;7:4.
12. Ndidi EP, Oseremem IG. Reasons given by women for late initiation of Antenatal Care in the Niger Delta, Nigeria. Ghana Med J. 2010;44:47-51.
13. Charkraborty N, Islam MA, Chewdhury RI, Bari W. Utilisation of Postnatal care in Bangladesh: evidence from a longitudinal study. Health Social Care Community. 2002;10:495-502.
14. Gupta S, Yamada G, Mpembeni R, Frumence G. Callaghan-Koru JA et. al. Factors Associated with four or more antenatal care visits and its decline among pregnant women in Tanzania between 1999 and 2010. PLOS One. 2014;9(7):e101893.
15. Antenatal Care routine care for the healthy pregnant women. London; Royal College Obstetricians and Gynaecologists (RCOG) Clinical Guideline. RCOG Press; 2003.
16. Alemayehu T, Yilma M, Zewditu K. Previous utilization of service does not improve timely booking in antenatal care: Cross sectional study of timing of antenatal care booking at public health facilities in Addis Ababa. Ethio J Health Dev. 2010;24:226-33.
17. Ebeigbe PN, Igberese GO. Antenatal Care: A comparison of demographic and obstetric characteristics of early and late attendees in the Niger Delta, Nigeria. Med Sci Monit. 2005;11:529-32.
18. Oladokun A, Oladokun RE, Morhason Bello I, Bello AF, Adedokun B. Proximate predictors of early antenatal registration among Nigerian Pregnant women. Annals Afr Med. 2010;9(4):222-5.
19. Briggs N. Commentary. Maternal Health: Illiteracy and Maternal Health; Educate or Die. The Lancet. 1993.341:1063-4.
20. Abasiattai AM, Utuk NM, Udoma EJ, Umoh AV. Grandmultiparity: outcome of delivery in a Tertiary Hospital in Southern Nigeria. Nig J Med. 2011;20(3):345-8.

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