International Journal of Research in Medical Sciences
Oliobi WC et al. Int J Res Med Sci. 2019 Nov;7(11):4096-4101
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20194973

Original Research Article

Pattern of antenatal care among antenatal clinic attendees at Alex Ekwueme Federal University Teaching Hospital Abakaliki, Nigeria

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Received: 29 July 2019
Revised: 12 September 2019
Accepted: 26 September 2019

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ABSTRACT

Background: Antenatal care is a core component of safe motherhood initiative and it helps indirectly in reducing maternal and perinatal morbidity and mortality. Despite the obvious benefits of antenatal care, utilization of this service is very poor in our environment. Therefore, this study sought to assess the gestational age at booking, the reason for booking and determine the factors responsible for late booking among antenatal attendees at the Alex Ekwueme Federal University Teaching Hospital Abakaliki.
Methods: This was a cross-sectional descriptive study conducted 5th May 2016 and 10th June 2016 among 258 consecutive pregnant women who presented for booking at the antenatal clinic of the hospital, using self-administered, pre-tested questionnaires. Statistical analysis was done using Epi Info 7.2.1.
Results: The mean gestational age at booking was 21.5±4.8 weeks. The mean age of the respondents was 28.2±3.8 years while the mean parity was 1.5±1.6 years. Most of the women booked after the first trimester of pregnancy, only 61(24.8%) of the respondents booked in the first trimester of pregnancy. Majority of the women had no problem at booking 36.7%. Women aged 20-34 years booked late compared to women aged less than 20 years and those above 34 years and the difference was statistically significant. There was no statistically significant difference in maternal parity, education, marital status and religion with regards timing of booking. However, women who were sick during the first trimester were more likely to book early as well as women who booked early in their previous pregnancy.
Conclusions: Late booking was common in our environment. There is an urgent need for increase awareness of the benefits of early booking to pregnancy outcome.

Keywords: Abakaliki, Antenatal care, Clinic attendees, Pattern

INTRODUCTION

Antenatal care is a specialized pattern of care for pregnant women, to help them attain and maintain a state of good health throughout pregnancy and improve the chances of having safe delivery of a healthy infant(s) to a healthy mother at term.[1] Antenatal care contributes to reduction in maternal and neonatal morbidity and mortality and it is a component of safe motherhood.[2] Over 90% of maternal mortality is in the developing countries and majority of these deaths are seen in the unbooked pregnant women.[3] Five to twenty percent of all pregnancies are at risk of developing complications.[4] In developing countries antenatal care is usually the only time women make contact with the healthcare system.[5]

Antenatal care services are grouped into booking and follow up visits.[6] The world health organization (WHO)

recommends that booking visits should be within the 1st trimester.[7,8] One third of women in the developing countries do not receive antenatal care.[9] The traditional method of antenatal care is practiced in most centers in Nigeria where there is monthly visit up to 28 weeks, 2-weekly visits up to 36 weeks and weekly visits from 36 weeks till delivery.[10] Recently WHO recommends a focused antenatal care model that prioritizes four antenatal visits for low risk pregnancies.[11] The first visit should be at <16 weeks, the 2nd visit at 26 weeks, the 3rd visit at 32 week and the 4th visit at 36 weeks.[12,13] The aims of antenatal care are detection and management of the complications of pregnancy and for a good basis for appropriate management during delivery; and after childbirth, Prevention of diseases through immunization; Birth preparedness and complication readiness, as well as Health promotion.[14]

Only 61% of pregnant women attend antenatal clinic at least once which is below the recommended 90% antenatal coverage to reducing maternal mortality.[15] Antenatal care is an accessible and cost effective method of improving maternal and perinatal outcome.[16,17] Various factors influence the utilization of antenatal care in developing countries like Nigeria.[18]

These include maternal education, age, parity, desire for pregnancy, husband's education, maternal status, socioeconomic status, high cost of antenatal care including indirect cost, lack of transport, long travelling distance, cultural and religious factors, poor attitude of health care providers.[19,20] Early entry into antenatal care is important for early detection and treatment of adverse pregnancy outcomes.[21]

Despite these advantages, late booking is common in developing countries like Nigeria.[22] This study sought to provide information on the pattern of antenatal care at the Alex Ekwueme Federal University Teaching Hospital Abakaliki South East, Nigeria. Therefore, the aim of this study was to review the gestational age at booking among women attending antenatal clinic and to identify the factors that determined the gestational age at booking.

METHODS

Ebonyi state is located in South Eastern Nigeria and was created on 1st October 1996. It has 13 local government areas. Abakaliki is the state capital and is the only urban settlement in the state which also has one semi urban community; the rest are rural settlements. It has a total population of 2.17million based on the 2006 census and occupies a land mass of 5,932 kilometers square.

Alex Ekwueme Federal University Teaching Hospital (formerly known as Federal Teaching Hospital) is a tertiary institution located in Abakaliki. The hospital was established on December 7, 2011 following the merger of defunct Federal Medical Center and Ebonyi State University Teaching Hospital.

It receives referral from all parts of the state and neighboring states of Benue, Enugu, Cross River and Abia, as well as any part of the country. The Obstetrics and Gynecology department is one of the many departments in the hospital. The functions of the gynecologic unit are performed in the gynecological clinics and ward; the emergency unit, the intensive care unit as well as theatre.

This was a cross sectional questionnaire-based study that was conducted between 5th May 2016 and 10th June 2016 in the antenatal clinic of the hospital. The study involved consecutive consenting pregnant women who presented for booking at the antenatal clinic. Women recruited involved only clients who were sure of their last menstrual period or had an early ultrasound scan within the first three months of the pregnancy for dating. The exclusion criteria for the study were women who did not remember their last menstrual period and those that did not give consent to participant in the study.

The sample size was calculated using the formula; N= Z2PQ\d2 where N= sample size. Z= standard normal deviation set at 1.96 with confidence limit of 95%. P= prevalence rate of antenatal care in our environment=0.831. Q= degree of accuracy desired set at 0.005, Q=1-P=0.169

N= (1.96)2x0.831x0.169\ (0.05)2=215

To correct for any attrition 20% of the minimum calculated sample size was added

Hence final sample size= 43+215 = 258

Data collection

The instrument for data collection was a structured questionnaire which was validated on the spot.

RESULTS

Two hundred and forty-six women completed the questionnaire correctly. The mean gestational age at booking was 21.5±4.8 weeks, with a range of between 8 and 38 weeks.

The socio-demographic characteristics of the respondents. The age of the clients ranged from 15 to 42 years; the mean age was 28.2±3.8 years. The modal age group was 20-34 years. The mean parity was 1.5±1.6 years. A total of 107(43.5%) of the respondents were primigravidae, while 215(47.7%) had at least one previous delivery and 22(9.0%) where grandmultiparae.

Most of the respondents were married, Christians and had tertiary education as their highest educational qualification. The commonest occupation among these women was trading. (Table 1)

Most of the women booked after the first trimester of pregnancy, only 61(24.8%) of the respondents booked in the first trimester of pregnancy, while 60% of the client booked in the second trimester, only 14 percent booked in the third trimester (Table 2).

Table 1: Socio-demographic characteristics of the respondents.

Parameter	Frequency	Percentage
Age		
<20	37	15.0
20-34	180	73.2
≥35	29	11.8
Parity		
0	107	43.5
1-4	117	47.5
≥5	22	9.0
Marital status		
Single	16	6.5
Married	215	87.4
Widow/separated	15	6.1
Education		
None/primary	31	12.6
Secondary	92	37.4
Tertiary	123	50.0
Religion		
Christianity	224	91.1
Islam	17	6.9
Traditional	5	2.0
Occupation		
Housewife	44	17.9
Civil servant	83	33.7
Student	34	13.8
Trader	64	26.0
Artisan	12	4.9
Farmer	9	3.7

Table 2: Timing of booking.

Time	Frequency	Percentage
<13 weeks	61	24.8
13-26 weeks	49	60.6
27-40 weeks	36	14.6

The reasons given by the respondent for booking at the gestational ages they did. Majority of the women had no problem at booking 36.7%, while 35(8.2%) booked because they felt seek and needed medical care 31(7.3%) been elsewhere. (Table 3)

Other reasons given by the respondents for booking at the gestational age they did was due to financial constraints, delay of approval from their spouse, lack of awareness about the best time to book while others preferred to book at a similar gestational age they did in their previous pregnancy. A cross tabulation of some maternal socio-demographic characteristics and some obstetrics parameters to timing of booking. (Table 4)

Table 3: Reasons for booking.*

Reason	Frequency	Percentage
Have no problem	156	36.7
Sickness	35	8.2
Booked elsewhere	31	7.3
Financial constraints	42	9.9
Delay of approval by spouse	23	5.4
Ignorance of appropriate timing	84	19.8
Same gestation as last pregnancy	54	12.7

*Multiple answers were allowed.

The perception of the client to the effect of booking. Eighty seven percent of the pregnant concurred to the positive effects of antenatal care to the pregnancy outcome. The remaining 13% were uncertain about the benefits of antenatal to pregnancy outcome. (Figure 1)

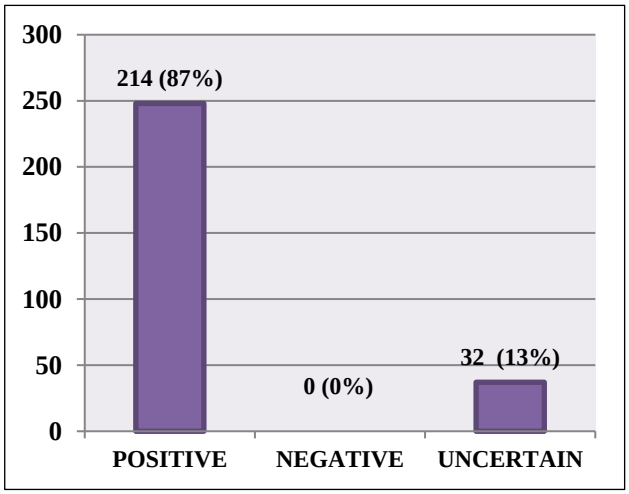

Figure 1: Effect of early booking on pregnancy outcome.

Among the socio-demographic characteristics only maternal age was related to booking in this study; women aged 20-34 years booked late compared to women aged less than 20 years and those above 34 years and the difference was statistically significant.

There was no statistically significant difference in maternal parity, education, marital status and religion with regards timing of booking.

However, women who were sick during the first trimester were more likely to book early as well as women who booked early in their previous pregnancy. Also, women who are aware of the appropriate time to book were also more likely to book early.

Table 4: Association between socio-demographic characteristics and obstetric parameters with timing of booking.

Parameter	Total	Early booking	Late booking	Chi square	P-value
Age					
<20	37	16	21		
20-34	180	35	145	9.63	0.001
≥35	29	10	19		
Parity					
0	107	24	83		
1-4	117	32	85	0.14	0.70
≥5	22	5	17		
Marital status					
single/engaged	16	4	12		
Married	215	55	160	0.56	0.45
widow	15	2	13		
Education					
none/primary	31	8	23		
secondary	92	21	71	0.01	0.89
tertiary	123	32	91		
Religion					
christianity	224	50	174		
islam	17	9	8	2.20	0.13
traditional	5	2	3		
Was sick					
yes	27	17	44	5.59	0.01
no	158	44	202		
Booked early before					
yes	56	20	36	4.61	0.03
no	190	41	149		
Not aware of appropriate booking time					
yes	84	30	54	8.11	0.004
no	162	31	131		

DISCUSSION

Antenatal care contributes indirectly to reduction of maternal mortality rate.[23] The gestational age at booking affects number of antenatal visits.[24,25] Recently the world health organization recommended that the first trimester is the ideal gestational age for booking.[26] This allows for some prenatal diagnosis and interventions that may promote better maternal and neonatal outcomes.[27] The mean gestational age at antenatal booking in this study was 21.5±4.8 weeks. This is lower than the 24.33±5.52 previously reported in Abakaliki. It was also lower that the 24 weeks and 31 weeks reported in Benin and in Niger Delta Nigeria respectively.[21,22] Conversely, this value is much higher than between 16 and 20 weeks reported in other similar Nigerian studies.[3,5,23] More so, lower mean gestational age had been reported in similar studies in Africa and developed countries.[13,17] Only about a quarter of the women that participated in this study booked early for antenatal care. This was higher than 16% previously reported in Abakaliki1, and it was also higher that the 14.15% reported in Ibadan.[4]

Duru and coworkers had reported that only 14.7% of women booked early for antenatal care in Orlu, while Isra Hyderabad in Pakistan reported 29% rate for early booking.[24] This value is however, lower that the 35.4% reported in Ethiopia, East Africa, higher proportions have been reported in developed countries.[26] The mean parity and mean maternal age and other maternal socio-demographic characteristics are similar to the values obtained in similar studies in our environment.

About a third of the women had no problem at booking. While nearly twenty percent of the patients do not know the ideal time for booking. Other reasons given by the respondents for booking at the gestational age they did were similar to the findings in other studies. Onoh et al, had previously highlighted that illness, tight schedule, and monetary factors were factors that determined timing of booking in a similar study in Abakaliki.[1] Other studies had identified long distance from health facility, unawareness of pregnancy, unplanned pregnancy, previous or ongoing health problems, cost of antenatal care, booked elsewhere, fear of too many follow up visits,

problem getting husband's consent to book as constraints to early booking.[3,8,12,13] A study done in Pakistan showed that 67.43% of women came late because of past uneventful pregnancy.[24]

Despite the fact that eighty seven percent of the pregnant women asserted to the positive effects of antenatal care to the pregnancy outcome the proportion of women who booked early for antenatal care was disproportionately low. More so, 13% were uncertain about the benefits of antenatal to pregnancy outcome. This highlights the need to improve on the quality of the antenatal education women receive during antenatal care visit.

With regards to maternal socio-demographic characteristics in this study only women aged between 20 and 34 years were more likely to book late p=0.001. These women are more likely to be multiparous and may have had a previous delivery. In contrast, all the socio-demographic characteristics considered in the previous study in Abakaliki did not have any influence on the gestational age at booking.1 Some similar studies have demonstrated that parity was found to significantly influence the gestational age at booking as nulliparous women were more likely to book early.[18,23] More so, in the study in the Benue North central Nigeria maternal education was a significant determinant of early booking.[3]

Past and present obstetric factors were statistically significant determinants to early booking. Women who were ill during the first trimester were more likely to book early as well as women who booked early in their previous pregnancy. Women who are aware of the appropriate time to book were also more likely to book early.

This is in contrast to the finding in Ibadan where events of previous pregnancies including complications, booking, status and illness in previous pregnancy did not affect the timing of booking.[27] These findings are rather surprising because such patients are often counselled for early booking in subsequent pregnancies. This further emphasized the need for correct and consistent health education on the benefit of early booking in pregnancy.

CONCLUSION

In conclusion, late booking was common in our environment. There is an urgent need to increase awareness of the benefits of early booking to pregnancy outcome.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The approval for the study was sought for and obtained from the Research and Ethical Committee of the Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria.

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Cite this article as: Oliobi WC, Nwafor JI, Ikeotuonye AC, Nweke NA, Uche-Nwidagu NB, Okoye PC et al. Pattern of antenatal care among antenatal clinic attendees at Alex Ekwueme Federal University Teaching Hospital Abakaliki, Nigeria. Int J Res Med Sci 2019;7:4096-101.