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Gestational Age at First Antenatal Booking at the Federal Medical Centre Yenagoa, Bayelsa State, South-South, Nigeria

Addah Ao[1], Omietimi Je[2], Allagoa Do[3]
[1]*Department of Obstetrics and Gynaecology, Niger Delta University, Amassoma, Bayelsa State, Nigeria.*
[2]*Department of Obstetrics and Gynaecology, Federal Medical Centre, Yenagoa, Bayelsa State, Nigeria.*

Abstract:
Objective: *To determine the gestational age at first antenatal booking at the federal medical centre, Yenagoa.*
Materials and methods: This was a prospective cross sectional observational study carried out at the booking clinic of the Federal Medical Centre, Yenagoa with structured close-ended questionnaire. Information sought included gestational age at booking, factors that encourage early and late booking, awareness and knowledge on the importance of antenatal care by respondents.
Results: *The mean gestational age at booking for antenatal care was 20.86 ± 6.39 weeks. Thirty seven (15.4%) booked for antenatal care in the first trimester, 190 (70.5%) of respondents in the second trimester while 52 (21.9%) registered for care in the third trimester.*
Conclusion: *The health seeking behavior of antenatal subjects, including late antenatal care booking among others have made interventions in pregnancy difficult as most of these complications would have commenced long before the patient registers for antenatal care.*
Keywords: *Care providers, Gestational age, Health education, , Parity, Timing of antenatal care booking, Yenagoa town,*

I. Introduction

Antenatal care is no doubt the bed rock of maternal and infant survival in pregnancy, labour and the puerperium [1,2,3]. Early antenatal clinic registrations have been associated with good maternal and fetal outcome compared to those of mothers who registered late for care in pregnancy [4,5, 6, 7]. The antenatal period is a time in which a woman is guided through pregnancy and made to see pregnancy and delivery as positive experiences [8,9,10]. It is a form of prophylactic care where a population of largely healthy pregnant women is gathered on scheduled appointments, the wellbeing of the mother and baby regularly ascertained by series of interviews, examinations and investigations by care providers. This form of care evolved in Europe at the end of the 19th century [11, 12]. Care providers use opportunities of this contact with pregnant women to give them health education lectures, haematinics for prevention of anaemia, offer immunisations, antimalaria prophylaxis, pass important messages related to birth preparedness and delivery to antenatal mothers. Diseases out dating the pregnancy and new ones that will arise in the course of the pregnancy with psychological problems are detected early and treated[13,14, 15].

This first antenatal booking visit offers the care provider the opportunity to collect basic information from the pregnant woman that will form the foundation of care for the rest of pregnancy. In sub-Saharan Africa where pre-conception care is still a rarity, booking early for antenatal care allows service providers to screen out diseases like diabetes and chronic hypertension predating pregnancy and offer management protocols [2]. Early antenatal bookings also avail the service provider the opportunity to date pregnancy more accurately with early ultrasound scan.[Ten Teachers 16] It also means anomaly scans can be done at the appropriate time. In health institutions where services like amniocentesis and chorionic villous sampling are available for the screening of chromosomal abnormalities, these procedures are possible if the woman registered early for antenatal care.{Dewhurst 17}

One special advantage of early antenatal booking in sub- Saharan Africa where HIV infections are prevalent is that women can be counselled , tested and if positive, to commence antiretroviral treatment early to prevent vertical transmission. The earlier antiretroviral treatment is commenced, the greater the reduction of vertical transmission (18,19, 20).

Antenatal care has clear goals and interventions in both normal and complicated pregnancies. Registering for care early means more antenatal visits, more time to spend with care providers and better are the chances that these goals will be realisable.

II. Materials And Methods

This was a prospective, cross sectional observational study carried out at the booking clinic of the Federal Medical Centre, Yenagoa. The Federal Medical Centre, Yenagoa is a tertiary health institution that caters mostly for people in Bayelsa State and also takes referrals from neighboring Delta, Rivers and Imo states. The study consisted of a set of close ended structured questionnaires that were administered by Interns working in the Hospital to pregnant women on their first antenatal booking visit. The questionnaires were first administered on a set of thirty pregnant women, corrections made before finally administering them to the study population. Two hundred and forty-two consecutive antenatal attendees of the hospital on their booking visit in the month of March, 2014 were used for the study. Pregnancy was dated by the Last Menstrual Period (LMP) of the woman. Those who could not remember their last menstrual period, spotted or bled in early pregnancy, or got pregnant within three months of being on a contraceptive method were excluded from the study. The data so obtained were entered into SPSS and analysed.

III. Results

Two hundred and forty two pregnant subjects were enrolled for the study. The mean age of the study group was 29.1 ± 6.4 years, and a median age was 30 years, with a range of 18-43 years.

One hundred and sixty-nine respondents (69,8%) were of the Pentecostal faith, 36 (14.9%) were Catholics and 29 (12%) were protestants. Two hundred and twenty-six (93.3%) were married. One hundred and thirty one (54.1%) respondents had secondary education while 90 (37.2%) had tertiary education. There was no association between gestational age at antenatal clinic booking and educational status (Pearson Chi Square test = .435 at $P \leq 0.05$). Eighty two respondents were primigravidae (33.9%f), 58 (24%) were primiparae, and para two were 50 (20.7%) respondents. Sixty three (26%) respondents were unemployed, 60 (24.8%) were Artisans/traders, 51 (21.1%) were Businesswomen and 57 (23.6%) were ftcivil servants.

See Table 1 for biodata of respondents.

The mean gestational age at booking for antenatal care was 20.86 ± 6.39 weeks. Thirty nine (16.1%) booked for antenatal care in the first trimester , 168 (64.4%) of respondents in the second trimester while 35 (14.5%) registered for care in the third trimester.There was no association between parity and gestational age at first antenatal booking. (Pearson Chi Square = 0.093 at $P \leq 0.05$).

See Fig.1 for histogram of gestational age at booking.

One hundred and twenty eight respondents (52.9%) registered only in the Federal Medical Centre, Yenagoa. Amongst the 114 (41.7%) who registered with Public and Private health institutions besides registering in the Federal Medical Centre Yenagoa, Seventy six respondents (31.5%) registered in Private Clinics, thirty respondents (12.4%) in other Government hospitals and 8 respondents (3.3%) registered with Traditional Birth Attendants.

See table 2 for other antenatal registrations besides Federal Medical centre Yenagoa

Reasons adduced by respondents for alternate antenatal bookings include the Federal Medical Centre was too far from their homes 43 (17.8%) in case they fall into labour at odd hours of the nigh: tuncertainty created by health workers incessant strikes 66 (27.2). Five respondents (2.0%) said they registered elsewhere because of the unfriendly attitudes of Nurses. There was no response from 128 (53%) of respondents on these questions.

See table 3 for patterns of alternate registrations.

Reasons given by respondents for alternate antenatal booking include –Federal Medical centre too far from home 43(17.8%), in case of strike action by Health Workers 66 (27.2%).

See table 4 for reasons given for alternate antenatal registration.

Reasons adduced by respondents for late antenatal registration include – Fifty- five (24%) respondents said they registered late because they were in good health, and there was no urgency in registering for care. A further 31(12.8%) said they registered for care late because they have delivered before and that they know little about pregnancy. Fourty two respondents (17.4%) said they registered late because antenatal fees were not readily available.

See table 5 for reasons adduced by respondents for late antenatal registrations.

Two hundred and ten (86.8%), N=242 said they registered for antenatal care because of its benefits to both mother and baby while 32 (13.2%) said they registered for antenatal care because they were sick in pregnancy.

On the question, when should a woman register for antenatal care, One hundred and eighty-five (76.4%) respondents said before three months of pregnancy,34 (14.0%) said at four months of pregnancy. See table 7 on the response to when a woman should register for antenatal care in pregnancy.

Table 1. Biodata of respondents

Religion	Frequency	Percent
Catholic	36	14.9
Protestants	29	12.0
Pentecostal	169	69.8
Muslim	1	.4
Jehovah's witness	7	2.9
Total	242	100.0

Marital status		
Widow	5	2.1
Single	11	4.5
Married	226	93.4
Total	242	100.0

Educational Status		Frequency	Percent
	No education	5	2.1
	Primary	16	6.6
	Secondary	131	54.1
	Tertiary	90	37.2
Total		242	100.0

Parity		Frequency	Percent
	Primigravida	82	33.9
	Para one	58	24.0
	Para two	50	20.7
	Para 3	24	9.9
	Para 4	14	5.8
	Para 5	8	3.3
	Para 6	5	2.0
	Para 7	1	.4
Total		242	100.0

Occupation		Frequency	Percent
	Unemployed	63	26.0
	Artisan/Trader	60	24.8
	Businesswoman	51	21.1
	Civil Servant	57	23.6
	Professional	11	4.5
Total		242	100.0

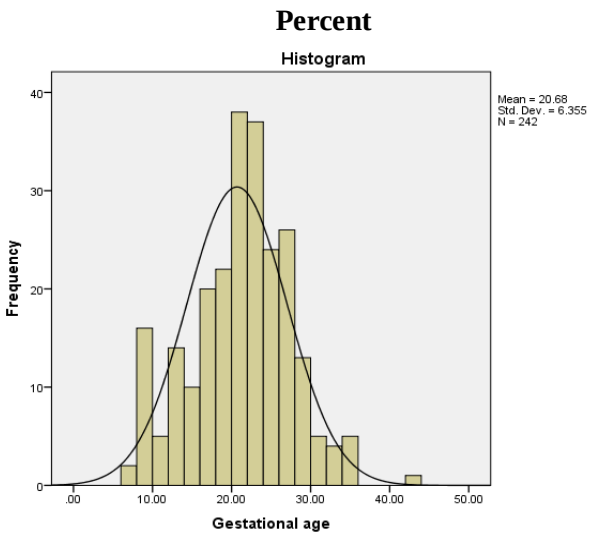

Figure 1 Histogram of gestational age at booking.

Table 2. Parity versus gestational age tabulation Parity & Frequency.

Trimester	Primigravida	Para one	Para Two	Para three	Para-four	Para five	Para- six	Para 7	Total
First Trimester	21	3	7	3	2	0	2	1	39
Second Trimester	52	45	34	16	11	7	3	0	168
Third Trimester	9	10	9	5	1	1	0	0	35
Total	82	58	50	24	14	8	5	1	242

Pearson Chi Square = 0.106 Not statistically significant at P≤ 0.05

Table 3. Other Antenatal bookings beside Federal Medical

		Frequency	Percent
	Booked only in FMC	128	52.9
	Private Clinic	76	31.5
	Booked in other Government Hospitals	30	12.4
	TBA	8	3.2

FMC = Federal Medical Centre.
TBA = Traditional Birth Attendants.

Table 4. Reasons For antenatal Bookings in other centres.

		Frequency	Percent
	No response	128	53
	FMC too far from home	43	17.8
	In case of strike action by Health Workers.	66	27.2
	Nurses are unfriendly	5	2.0

Table 5: Reasons for late antenatal booking

		Frequency	Percent
	Registration cost	42	17.4
	Delivered before and knew little about Antenatal care	31	12.8
	Transportation cost	15	6.2
	Disagreement with husband	9	3.7
	I was in good health	58	24
	To reduce number of visits	19	7.9
	Transfer from previous location of residence.	4	1.6
	No e=response	64	26.4
Total		242	100.0

Table 6. Reasons for registering for care in pregnancy.

		Frequency	Percent
	Because you have not delivered before	7	2.9
	You are sick in this pregnancy	17	7.0
	Your last baby died	4	2.0
	Because I only registered in FMC	4	1.7
	Because of the benefits of ANC	210	86.8
Total		242	100.0

Table 7. When should a woman register for antenatal care?

		Frequency	Percent
	At three months	185	76.4
	At four months	34	14.0
	At Six months	20	8.3
	At eight months	3	1.2
Total		242	100.0

IV. Discussion

Pregnant women should register for antenatal care before the end of first trimester of pregnancy [21, 22]. The timing for antenatal care registration has not been vigorously scrutinized by evidenced based studies [23]. Early antenatal booking will avail pregnant women of ample time to spend with care givers in pregnancy, health education passed to them and enough time to implement interventions when the need arises (21).

The mean gestational age for antenatal booking amongst the study group was 20.86 ± 6.39 weeks. Sixteen point one percent (16.1%) booked in the first trimester, 69.4% and 14.5 % registered for care in second and third trimester respectively. By definition of timing of the age at first antenatal booking, 83.9 % of respondents registered late for care. These results were similar to works done in South Western Nigeria by Adekunle, Okunlola, Oladokun; in Benin by Enabudoso (South-South, Nigeria) and in Kano (Northern Nigeria) by Ibrahim where the gestational age at first antenatal registration ranges between 20-24 weeks.(1,25, 26, 27, 28). The study population was very religious as 99.6% were Christians. Such religious affiliations could impact on decision making in Pregnancy. A sizeable portion, 69.8 % were of the Pentecostal faith, whose religious beliefs are occasionally in conflict with Orthodox medicine especially in patronizing antenatal care and delivery (24). Such diversionary religious faith beliefs can result in substandard antenatal care. There was significant association between gestational age at antenatal clinic booking and religion (Pearson Chi Square ≤ .000 at P≤ 0.01). The study population was very educated as 52.9% and 39.3 had secondary and tertiary education respectively. However, educational status did not impact on the timing for antenatal clinic registration in the the study (Pearrson Chi Square test = .434 at P≤ 0.05). The high literacy level amongst the study group did not translate into knowledge and practice of early registration for antenatal care.

Having delivered previously (parity), did not have influence on the gestational age at first antenatal care registration (Pearson Chi Square 0.093, not statistically significant at P≤ 0.05). Having delivered before may have given this group of respondents false confidence on their knowledge of antenatal care and therefore the urge to register for care late in pregnancy.

Fifty-two point nine percent of respondents (52.9%) registered for care only at the federal Medical centre, Yenagoa while 41.77% had additional antenatal registration besides this centre. Reasons adduced for additional antenatal bookings include incessant strike by Health workers and the Federal Medical Centre Yenagoa, being too far from their residence of abode. These extra registrations were to act as back up to fall on when in labour in case health workers at the Federal Medical centre were on strike while in labour and transportation difficulties to the centre in case they fall into labour at odd hours of the night. However, such dual antenatal registrations tend to encourage late antenatal care booking and lost of focus as the individual shuttles between those centres and time to do other useful things for themselves in their everyday lives. Dual antenatal booking impacted on the timing of the gestational age for antenatal booking (Pearson Chi Square test = 0.001 at P≤ 0.01). This results were similar to the work of Kisuuli in Kampala where about 30% had dual antenatal registrations (21). However, these results were at variance to the works done by Enabudoso in Benin where 90.7 % of respondents in a previous pregnancy had multiple antenatal bookings (27).

Predictors for late antenatal care registration in the study among others include the assumption by pregnant women that they were in good health (21% of responents), and there was no urgency in booking for care. Such erroneous beliefs tend to erode the benefits of antenatal care. Other reasons adduced for late registration include lack of money to pay for antenatal booking (10.7% of respondents).

Determinants of early registrations by respondents include being sick in the index pregnancy (7% of respondents), or that they have little experience in pregnancy because they have not delivered before (2.9% of respondents) [16]. The advantages of antenatal care overwhelmed respondents as 89.2 % said they registered for care because of its benefits to the mother and baby. The awareness and knowledge of respondents on antenatal care was tested by the question when a pregnant woman was supposed to register for antenatal care?

Seventy-six point fout percent (76.4%) of respondents were able to say correctly that a woman should register for care at three months of the missed period. However, as we saw in this study, 83.9% registred late for care. Majority of the study population thus knew they were supposed to register before the end of the first trimester, yet this was not put into practice.

V. Conclusion

Early antenatal booking will no doubt improve on maternal and fetal outcome in pregnancy as this would mean more time to spend with care givers, more to learn on issues concerning pregnancy by patients. Fine -tuning antenatal care in sub-Saharan Africa with corrections of issues like late booking for antenatal among others will go a long way to reduce maternal/perinatal morbidity and mortality that is so prevalent in the sub- region.

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