The Family Influence on the Gestational Age at Booking among Pregnant Women in Ogbomoso, Nigeria

O. T. Awotunde[1], I. O. Amole[1*], A. Adeniran[1], S. A. Adesina[1], A. O. Durodola[1], D. A. OlaOlorun[1] and T. A. Awotunde[2]

[1]*Department of Family Medicine, Bowen University Teaching Hospital, Ogbomoso, Nigeria.*
[2]*School of Midwifery, Bowen University Teaching Hospital, Ogbomoso, Nigeria.*

Authors' contributions

This work was carried out in collaboration between all authors. Author OTA designed the study and wrote the protocol. Authors OTA and IOA wrote the first draft of the manuscript. Authors AOD, AA, DAO and TAA collected the data and searched for the literatures. Authors IOA and SAA analyzed the results. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Introduction: Family plays an important role in health seeking behaviour and education of its members. Educating an individual especially a girl child usually results in improvements in the quality of life because women who attended school often have healthier families and if pregnant they often tend to book for antenatal care early.
Objectives: This study is aimed to determine the influence of family type, educational level and occupation of women on the gestational age at booking among pregnant women in Ogbomoso, Nigeria.
Methodology: The study was a cross-sectional prospective study. It was conducted among antenatal care seekers who presented for booking in the Baptist Medical Centre, Ogbomoso. The study involved consecutive recruitment of pregnant women at the antenatal booking clinic who

_____

Corresponding author: E-mail: amoleio@yahoo.com;

came for antenatal care at Baptist Medical Centre, Ogbomoso. The pretested questionnaire was used to obtain the following information: Sociodemographic characteristics, family history and history of index pregnancy.

Results: A total of 345 pregnant women at the antenatal booking clinic were recruited for the study. The age of the respondents ranged from 16 to 48 years with a mean age of 29.47±5.41 years. Not less than one-half of the subjects who were from monogamous and polygamous home booked at second trimester. A majority of the subjects who had no formal education (11, 73.3%) booked at the third trimester while the majority of the subjects who had post secondary education (56, 60.9%) booked at second trimester (P=0.01). More than one-half of the subjects who were artisans (25, 56.8%) booked at third trimester while most subjects who were civil servants (65, 61.3%) booked at second trimester (P=0.03).

Conclusion: Many women in Ogbomoso still book late for antenatal care. Occupation and educational level have a significant influence on the gestational age at booking amongst pregnant women in Ogbomoso, Nigeria. There is need to increase public awareness on the importance of educating a girl child.

1. INTRODUCTION

'Family' is a commonly used word, with many different meanings. People have many ways of defining a family and what belonging to a family means to them. Families differ in terms of economic, cultural, social, and many other aspects, but what every family has in common is that the people who claim the family are making clear that certain people are important in some way to the person identifying them his family [1].

In Family Medicine, Family is defined as a group of individual connected to a patient biologically, legally or by choice from whom the patient can reasonably expect a measure of support in the form of food, shelter, finance and emotional nurturing [2]. Family plays an important role in health seeking behaviour and education of its members. Educating an individual especially a girl child will usually result in improvement in the quality of her life.

Women who attended school often have healthier families and are more likely to seek timely medical attention when they are sick. Because they can read, literate women will be able to comply with medical instructions and keep follow up appointments. If pregnant they often tend to book for antenatal care early. Educated women can read nutritional labels and provide their family healthy meals that promote growth [3].

One of the ways of reducing maternal mortality is by making antenatal care available and accessible to all pregnant women. Though, antenatal care is available and accessible in some parts of this country, some women still do not utilize the service when they are pregnant while others that made use of the service usually registered late for the programme [4]. Women that registered late for the programme, usually do not receive much benefit.

The World Health Organization defines antenatal care as every aspect of care from screening to intensive life support provided to any woman while pregnant and up to delivery [5]. Many health problems in pregnant women can be prevented, detected and treated during antenatal care visits with trained health workers. WHO recommends a minimum of four antenatal visits, comprising interventions such as tetanus vaccination, screening and treatment for infections, and identification of warning signs during pregnancy.

Therefore, a pregnant woman that attended at least four antenatal clinic visits and received among other things tetanus immunization is classified as 'booked'. [6] as well as the pregnant woman that has made a minimum of two antenatal visits no more than two weeks before delivery [7]. The first antenatal visit otherwise known as the booking visit should ideally be at the first trimester, between 8-14 weeks. It has been observed that while booking is done early in the developed world. [8] the same cannot be said for most developing countries, including Nigeria where most patients tend to book in the second trimester [9,10]. This study was undertaken to determine the influence of family type, educational level and occupation of the women on the gestational age at booking among pregnant women in Ogbomoso, Nigeria.

1.1 Study Area

Ogbomoso is a rapidly expanding city situated in Southwestern Nigeria, 100 km north of Ibadan, the capital of Oyo State. The estimated population of the town was approximately 605,847. This was calculated from the 1991 census figure of 433,030 [11]. The indigenous people belong to the Yoruba ethnic group whose primary vocation includes farming and trading.

Christianity, Islam and Traditional religion are the main religions in Ogbomoso. The majority of the inhabitants are Christian while very few are traditional worshipers. Ogbomoso is one of the main gateways to the northern region of Nigeria. The Ilorin-Ibadan trunk A federal road facilitates interstate transportation of goods and is bound by the Central Business District in the city.

1.2 Sample Size Determination

The required sample size was determined using Fisher's statistical formula for estimating minimum sample size in health studies [12].

$$N = \frac{Z^2PQ}{D^2}$$

Where

- N = Minimum sample size
- D = The degree of accuracy desired usually set at 0.05.
- P = Proportion or prevalence of late booking = 0.80 [13]
- Q = 1 – P =0.20
- Z = Two standard deviation, usually set at 1.96 which corresponds to 95% confidence level.

This yielded a sample size of 246 but this was increased to 345 in other to increase the power of the study.

1.3 Ethical Considerations

The Ethics Committee of the Baptist Medical Centre, Ogbomoso granted approval for the study. Informed consent was also obtained from the participants before commencement of the study.

2. METHODOLOGY

The study was a cross-sectional prospective study conducted among antenatal care seekers who presented for booking at the Baptist Medical Centre, Ogbomoso (now Bowen University Teaching Hospital) between August 1, 2002 and May 31, 2003. The hospital is a 200-bed mission hospital which renders primary, secondary and some tertiary health care services. It is the referral centre for all other hospitals in Ogbomoso and vicinity. The study involved consecutive recruitment of pregnant women that came to book for antenatal care at Baptist Medical Centre, Ogbomoso. Inclusion criteria include pregnant women who were sure of their last menstrual period and had compatible uterine size and those with abdominopelvic ultrasonography to confirm date due to disparity in gestational age (GA) and uterine size. The pretested questionnaire was used to obtain the following information: sociodemographic characteristics, family type whether they were from monogamous, polygamous or single parent family, parity whether they were nullipara, primipara, multipara or grandmultipara and booking gestational age in weeks.

Analysis was done using SPSS 16. Cross tabulation of variables was also done. Chi-squared test was used to test for significant associations between categorical variables. P-value < 0.05 was considered as statistically significant.

3. RESULTS

A total of 345 pregnant women who presented at the antenatal booking clinic were recruited for the study. The age of the respondents ranged from 16 to 48 years with a mean age of 29.47±5.41 years and the age group with the highest frequency (193, 55.9%) was 21-30 years. An overwhelming majority of the subjects were married (334, 96.8%). Nearly all of them were Christians (285, 82.6%) while one-third of them had at least secondary education (114, 33.0%). A majority of the subjects were from monogamous homes (300, 87.0%) while more than one-third of the subjects were traders (123, 35.7%). The mean booking gestational age among the subjects was 27.7±8.08. Nearly one-third of the subjects were nulliparus (112, 32.5%) and one-half of the subjects booked for antenatal care during the 2nd trimester (175, 50.7%).

The majority of married or single subjects booked at second and third trimester. The subjects who were single had an equal percentage of subjects who booked at second (5, 45.0%) and third trimester (5, 45.0%) while half (170, 50.9%) of

the married subjects booked at first trimester. Considering the family type, not less than one-half of the subjects who were from monogamous and polygamous homes booked at second trimester (P=0.66). A majority of the subjects who had no formal education (11, 73.3%) booked at the third trimester while majority of the subjects who had post secondary education (56, 60.9%) booked at second trimester (P=0.01). More than one-half of the subjects who were artisans (25, 56.8%) booked at third trimester while most subjects who were civil servants (65, 61.3%) booked at second trimester (P=0.03). Most of the subjects who were Christians (148, 51.9%) booked at the second trimester while most of the subjects who were Muslims (32, 53.3%) booked at third trimester (P=0.19). About one-half of the nulliparus (57, 50.9%) booked at the second trimester while most grandmultiparus (10, 58.8%) booked at third trimester (P=0.90). Most of the teenagers (9, 50%) booked at the third trimester while most members of the rest of the age groups booked at the second trimester (P=0.87).

4. DISCUSSION

The mean booking gestational age found in our study was 27.7±8.08 weeks. This value is higher than the mean gestational age at booking found in Sokoto, [7] (23.7 weeks), Benin, [14] (21.4 weeks) and Ibadan, [15] (16 weeks) but lower than the value that was found in Enugu [16] (29.16 weeks).

It was also observed that the majority of the subjects who had no formal education (11, 73.3%) booked at the third trimester while a majority of the subjects who had post secondary education (56, 60.9%) booked at second trimester. This finding is compatible with a report that women who are educated are more likely to seek medical help on time when compared with uneducated women. (3) Thus, it is inferred that educated women have more information about the importance of booking early than uneducated women. This finding is statistically significant and it is similar to what was found in north central, Nigeria [17] where women with a tertiary level of education were more likely to book at or earlier than seventeen weeks of gestation.

Furthermore, we found about-half of the nulliparus (57, 50.9%) booked at the second trimester while grandmultiparus booked at the third trimester. The experience acquired from previous pregnancies by grand multiparus may explain why many of these women book late for

antenatal care. Their thinking may be that they have acquired all the necessary knowledge to have a safe delivery, as was by Ekele in Northern Nigeria(7)and Baldo et al. [18] in Saudi Arabia where grand multiparus women booked late because of previous successful pregnancy outcomes but at variance to what was found in Sagamu, Nigeria where grand multiparus booked early [9]. However, Ebeigbe et al. [19] in their study in Niger Delta, Nigeria discovered that parity did not significantly influence the gestational age at booking.

Table 1. Socio-demographic characteristics

Variables	Frequency (%)
Age group	
≤20	18 (5.3)
21 − 30	193 (55.9)
31 − 40	129 (37.4)
41 − 50	5 (1.4)
Mean age = 29.47±5.41	
Educational status	
No formal education	15 (4.4)
Primary	66 (19.1)
Secondary	114 (33.0)
Post secondary lower than University	92 (26.7)
University	58 (16.8)
Marital status	
Single	11 (3.2)
Married	334 (96.8)
Family type	
Monogamous	300 (87.0)
Polygamous	34 (9.9)
Single parent	11 (3.1)
Religion	
Christianity	285 (82.6)
Islam	60 (17.4)
Occupation	
Artisan	44 (12.8)
Trading	123 (35.7)
Civil servant	106 (30.7)
Student	28 (8.0)
Farming	20 (5.8)
Unemployed	24 (7.0)
Parity	
Nullipara	112 (32.5)
Primipara	81 (23.5)
Multipara	135 (39.1)
Grand multip	17 (4.9)
Booking gestational age	
1st Trimester	17 (4.9)
2nd Trimester	175 (50.7)
3rd Trimester	153 (44.3)
Mean booking GA (Week)	27.7±8.08

Table 2. Association between sociodemographic characteristics and gestational age at booking

Variables	Gestational age in trimester			
	1st trimester	2nd trimester	3rd trimester	p-value
	N(%)	N(%)	N(%)	
Marital status				
Single	1 (9.0)	5 (45.5)	5 (45.5)	0.79
Married	16 (4.8)	170 (50.9)	148 (44.3)	
Educational status				
No formal education	0 (0.0)	4 (26.7)	11 (73.3)	0.01
Primary	1 (1.5)	34 (51.5)	37 (47.0)	
Secondary	5 (4.4)	47 (41.2)	62 (54.4)	
Post secondary lower than University	6 (6.5)	56 (60.9)	30 (32.6)	
University	5(8.6)	34 (58.6)	19 (32.8)	0.66
Family type				
Monogamous	16 (5.4)	151(50.3)	133 (44.3)	
Polygamous	0 (0.0)	19 (55.9)	15 (44.1)	0.19
Single parent	1 (9.0)	5 (45.5)	5 (45.5)	
Religion				
Christianity	16 (5.6)	148 (51.9)	121 (42.5)	0.03
Islam	1 (1.7)	27 (45.0)	32 (53.3)	
Occupation				
Artisan	1 (2.2)	18 (40.9)	25 (56.8)	
Trading	5 (4.1)	62 (50.4)	56 (45.5)	
Civil servant	7 (6.6)	65 (61.3)	34 (32.1)	
Student	2 (7.2)	16 (57.1)	10 (35.7)	0.90
Farming	0 (0.0)	5 (25.0)	15 (75.0)	
Unemployed	2 (8.3)	9 (37.5)	13 (54.2)	
Parity				
Nullipara	6 (5.4)	57 (50.9)	49 (43.8)	
Primipara	4 (4.9)	43 (53.1)	34 (42.0)	0.87
Multipara	7 (5.2)	68 (50.4)	60 (44.4)	
Grandmultip	0 (0.0)	7 (41.2)	10 (58.8)	
Age group				
≤20	1 (5.6)	8 (44.4)	9 (50.0)	
21 – 30	7 (3.6)	100 (51.8)	86 (44.6)	
31 – 40	9 (7.0)	64 (49.6)	56 (43.4)	
41 – 50	0 (0.0)	3 (60.0)	2 (40.0)	

There was a statistically significant association between booking gestational age and the occupation of the subjects. More than one-half of the subjects who were artisans (25, 56.8%) booked at the third trimester while most subjects who were civil servants (65, 61.3%) booked at second trimester. This finding is not surprising because most artisans are likely to be uneducated and may therefore not be well informed about the importance of early booking for antenatal care. This finding also shows the importance of education because a well educated woman has a better chance of securing a good job. Women who are gainfully employed will definitely have financial independence and will be able to access health care on time when necessary. But, this finding is at variance to what Nwagha et al. [20] found in Enugu, Nigeria, where they discovered that occupation did not significantly influence the gestational age at booking.

In this study, we observed that most of the teenagers who were supposed to book for antenatal care early actually booked at the third trimester (9, 50%) while most of the subjects that were not teenagers booked at the second trimester. This finding may not reflect a teenager's attitude toward early booking for antenatal care because teenagers were poorly represented in this study. However, this finding may not be unconnected to the fact that most

teenage pregnancies were not usually planned for, thereby delaying the time of booking for antenatal care. Sometimes social issues like delay in informing the parents about the pregnancy or inability to identify the person responsible for the pregnancy may lead to late booking.

We observed that religion, family type and marital status have no significant effect on the time of booking for antenatal care in our environment. Non-randomization of the subjects and the fact that the study was a hospital based study place limitations on the result reported here.

5. CONCLUSION

Late antenatal care booking is a norm in Ogbomoso. We discovered that many of the women in Ogbomoso still book late for antenatal care. Occupation and educational level have a significant influence on the gestational age at booking amongst pregnant women in Ogbomoso, Nigeria. There is a need to increase public awareness of the importance of education. Empowering women will help reverse the trend of late booking for antenatal care observed in Ogbomoso.

ACKNOWLEDGEMENTS

We would like to appreciate the contributions of Dr Victor Ebenuwa, Dr O.T Ogunseye and the staff of the Maternity and Maternal and Child Health Centres of the Baptist Medical Centre Ogbomoso.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Michelle Blessing. Meaning of Family- love to know; 2006. Accessed 18 Oct 2015. Available:http://family.lovetoknow.com/about-family-values/meaning-family
2. Bob Mash. Handbook of Family Medicine. 3rd ed. Southern Africa: Oxford University Press; 2000.
3. The Beehieve- Nigeria. Importance of Girls' Education; 2004. Accessed 18 Oct 2015. Available:http://nigeria.thebeehive.org/content/28/2797
4. Dairo MD, Owoyokun KE. Factors affecting the utilization of antenatal care services in Ibadan, Nigeria. BJPM. 2010;12(1).
5. Guillermo C, Rooney C, Villar J. How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of the evidence. Paed. and Perinat. Epid. 2001;15(1):1-2.
6. Ilesanmi AO. An overview of antenatal care in West Africa. Personal Communications; 2001.
7. Ekele BA, Audu LR. Gestational age at first antenatal attendance in Sokoto, Northern Nigeria. Trop. J. Obstect. Gynaecol. 1998;15(1):39-40.
8. Banta D. What is the efficacy/effectiveness of antenatal care? World Health Organization; 2003. Accessed 18 Oct 2015: Available:http://www.euro.who.int/Document/E82996.pdf
9. Lamina MA. Gestational age at first antenatal attendance in Sagamu, western Nigeria. Nig J Clin Pract. 2004;7(1):13.
10. Gharoro EP, Igbafe AA. Antenatal care: Some characteristics of the booking visit in a major teaching hospital in the developing world. J Obstet Gynaecol. 2006;26(3):195 - 7
11. Nigeria General Information. Geohive; 2015. Accessed 18 Oct 2015. Available:http://www.geohive.com/cntry/nigeria.aspx
12. Araoye M. Sample size estimation. Research methodology with statistics for Health and Social sciences Ilorin: Nathadex Publishers. 2004;55-81.
13. Onoh RC, Umeora OUJ, Agwu UM, Ezegwui HU1, Ezeonu PO, Onyebuchi AK. Pattern and Determinants of Antenatal Booking at Abakaliki Southeast Nigeria. Annals of Medical and Health Sciences Research. 2012;2(2):169-175.
14. Gharoro EP, Igbafe AA. Antenatal care: Some characteristics of the booking visit in a major teaching hospital in the developing world. Med SciMonit. 2000;6:519-22.
15. Okonlola MA, Owonikoko KM, Fawole AO, Adekunle AO. Gestational age at antenatal booking and delivery outcome. Afr J Med Med Sci. 2008;37:165-9.
16. Nwagha UI, Uguru VO, Nwagha TU, Anyaehie USB. The influence of parity on gestational age at booking among pregnant women in Enugu, South East Nigeria. Niger J Physiol Sci. 2008;23:67-70.

17. Dennis II, Bernard TU. Gestational age at booking for antenatal care in a tertiary health facility in north-central, Nigeria. Nigerian Medical Journal. 2012;53(4):236-239.

18. Baldo et al. Antenatal Care: Attitude and Practices J Trop Paed. 1995;[suppl]:21-29.

19. Ebeigbe PN, Igberase 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(11):529-32.

20. Nwagha UI, Ugwu1 OV, Nwagha TU, Anyaehie USB. The influence of parity on the gestational age at booking among pregnant women in Enugu, South East Nigeria. Nigerian Journal of Physiological Sciences. 2008;23(1-2):67-70.

_____