



Acceptability of focused antenatal care by antenatal clinic attendees in Obio Cottage Hospital, Port Harcourt, Nigeria

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Abstract

Introduction: Focused antenatal care (FANC), based on fewer goal-oriented visits, is the WHO's recommended care for pregnant women. The objectives of the study were to assess the acceptability of FANC and barriers to its implementation at the hospital.

Methodology: This was a cross-sectional study conducted among antenatal clinic attendees between January and March 2011 at Obio Cottage Hospital, Port Harcourt Nigeria. Women were recruited by systematic sampling technique into the study. Questionnaires which sought demographic data, acceptability or rejection of fewer antenatal visits and reasons for decisions were administered to them. Data analysis was performed using Stata 10. Logistic regression analysis was performed to determine associations between demographic parameters and acceptance of FANC. Significance level was set at $P < 0.05$.

Results: The analysis was based on 456 out of 500 completed questionnaires. The mean age and parity of the women were 28.6 ± 4.2 and 1 ± 1 respectively. The mean number of preferred visits was 13.4 ± 6.9 visits, (IQR 9-18). Reduced visits were acceptable to 75% of the women. The main reason for accepting reduced visits was to save time 164 (40.6%). The main reasons for rejecting reduced visits were for better monitoring of pregnancy (35.1%) and early detection of problems (21.6%). The likelihood of accepting fewer visits increased with age. OR=1.04; 95% CI (1.09-1.10), $P=0.01$.

Conclusion: Focused antenatal care was acceptable to most women in the clinic. The concern it would compromise monitoring of pregnancy should be addressed during health education.

Keywords: Antenatal care, acceptability, barriers, blood donation, focused antenatal care, reduced visits

Introduction

Antenatal care was introduced in 1900 and has undergone some modifications. The traditional approach relies on 12-15 visits during the course of pregnancy. This approach was accepted worldwide and has been the standard of obstetric care [1-5]. The risk-based approach to antenatal care was later incorporated into the antenatal care package. The risk-based approach utilizes multiple parameters to identify women

deemed to be at high risk and, therefore, deserving closer care [5]. Later findings showed that only 10-30% of the women identified as high risk actually developed problem while the low risk group was found to develop unanticipated complications [6-8]. The risk-based approach therefore resulted in channeling resources toward a select few women who would not develop the anticipated complications to the detriment of the women deemed to be at low risk. Focused antenatal care was

introduced in 2001 by the World Health Organization as an evidenced-based approach to caring for pregnant women [9]. It seeks to offer women individualized goal-oriented care that best meets the woman's health needs [10,11]. Women make fewer visits [4] but still receive health promotion, screening, detection and treatment of problems, prevention of diseases, complications and birth preparedness [10]. Concerns have been raised by women and service providers that the fewer visits would result in adverse maternal and foetal outcomes [12-14]. Villar [9] in a multicenter study that involved 12,568 women in the new model arm and 11,958 in the standard care arm showed that there was really no statistically significant difference in adverse maternal and foetal outcomes in women who received traditional care and focused antenatal care. However, the focused antenatal care model has been shown to increase utilization of skilled attendance at birth and it is also cost effective [15-17].

Focused antenatal care implementation involves dispensing with traditional antenatal practices such as routine weighing and height measurement for all women. Haematocrit is estimated once at 28 weeks of gestation instead of monthly as practiced in our health facilities. These are practices women and healthcare providers had accepted as standard of care in antenatal practice. Modifying the routine practices raises concerns about the standard of care. As a result, the introduction of focused antenatal care package usually meets with resistance as women have come to expect these practices as the standard of care [18].

This study was undertaken as part of health system strengthening intervention program in Obio Cottage Hospital, Port Harcourt Nigeria. The aims of the study were to determine the acceptability of focused antenatal care prior to its introduction at the centre and to also determine issues that would constitute barriers to its implementation. The study also sought to determine women's opinion about blood donor pre-selection during antenatal period as a component of birth preparedness and preferred service provider prior to modifying pattern of care.

Methodology

Study setting

Obio Cottage Hospital is situated in Port-Harcourt, the capital of Rivers state in the South-South geo-political zone, Nigeria. The hospital offers maternal and child care services as well as general medical care to men and women. It is the pioneer hospital that implements the community healthcare insurance scheme which is supported by the Shell Petroleum Development Company. Health system strengthening intervention was commenced at the facility in 2010. The introduction of Community Health Insurance scheme at the facility in 2011 led to an upsurge in the number of clients accessing health care. The hospital has annual antenatal care attendees of 9857 women.

Study design

This was a cross-sectional study of pregnant women conducted

between January and March 2011 in the hospital.

Study population

The study population consisted of pregnant women who had accessed antenatal care at the center two or more times during which they were recruited into the study. The women were educated on the focused antenatal care, its components and practice. The purpose of the study was explained to the women and consent to participate in the study was obtained from willing participants.

Inclusion and exclusion criteria

Those excluded were women on their first visit because we wanted women who had experienced antenatal care at the facility to be able to decide whether they would welcome the change in the pattern of care. We also excluded women with obstetric/medical emergencies like bleeding, asthma, severe preeclampsia and those who opted out of the study.

Sample size estimation

We used Leslie Kish's sample size formula to estimate a sample size of 383 study participants using a prevalence of 51% of women who visited ANC clinic at least four times, assuming a 95% standard normal deviate and 5% degree of accuracy. The minimum total sample size of 425 people was estimated after adjusting for 10% non-response.

Sampling technique

Using the facility roster (n=1,500), the women were selected by systematic sampling using a sampling ratio of 1 in 3 until the sample size was completed.

Training of interviewers and quality assurance

Interviewers were trained on the questionnaire which had been pretested among post-partum women who delivered at the facility. After pretesting, the questionnaire was modified to remove ambiguities. Semi-structured self-administered questionnaires were distributed to the women. Trained interviewers administered the questionnaire and assisted women who could not self-complete the questionnaire. The questionnaire sought personal data from the women as well as their views about components of evidenced based antenatal care such as fewer visits, pre-blood donor selection during the antenatal period. They also advanced reasons for their responses which were recorded in the questionnaire.

Data management and analysis

Data analysis was performed using Stata 10 statistical software. Socio-demographic variables and other variables were reported using frequency tables. We did a binary logistic regression analysis to determine variables associated with acceptance of reduced visits. Independent variables in the regression analysis were age, parity, educational level, while acceptance of reduced visits was the binary outcome variable.

A variable was considered to be statistically significant if its confidence interval excluded the null value of 1.

Result

Four hundred and fifty-six out of 500 administered questionnaires were suitable for analysis, giving a response rate of 91.2%. **Table 1** shows the socio-demographic profile of the women. The mean age of the women was 28.6±4.2 years and most of them were married 450 (98.7%). Over half of the women 258 (56.6%) had tertiary level education. The obstetric characteristics of the women consisted of 224 (49.1%) nulliparae, 126 (27.6%) primiparae, 104 (22.9%) multiparas. Most of the women, 212 (46.5%), were at gestational age of 14-28 weeks (second trimester).

The number of antenatal visits the women would like to make ranged from 5-40. Mean number of preferred visits was 13.4±6.9 visits, (IQR 9-18). Three hundred and seventy seven (82.7%) preferred to make at least 5 visits to the clinic, 77 (16.9%) and 2 (0.4%) would prefer 6-10 visits and >10 visits respectively. Asked if they would accept making fewer visits that still met their health needs, 345 (75.7%) would accept, while 111 (24.3%) would not accept. We found that for every one year increase age, the likelihood of preferring fewer clinic visits increased by 4% OR=1.04; 95% CI (1.09-1.10), P=0.01 (**Table 2**).

Table 1. The socio-demographic characteristics of the clients.

Variable	Number/Percentage
Age (years)	
<20	11 (2.4)
20-25	92 (20.2)
26-30	219 (48.0)
31-35	106 (23.3)
35-40	28 (6.1)
>40	0 (0.0)
Total	456
Mean age	28.6±4.2 years
Marital status	
Married	450 (98.7)
Single/widowed/divorced	6 (1.3)
Total	456 (100)
Educational status	
No formal education	2 (0.4)
Primary	12 (2.6)
Secondary	184 (40.4)
Tertiary	258 (56.6)
Total	456 (100)
Parity	
0	224 (49.1)
1	126 (27.6)
2-4	104 (22.9)
≥5	2 (0.4)
mean parity	1±1

Table 2. Acceptability of Reduced visits.

	Acceptance of reduced visits	
	Univariate OR (95% CI) p-value	Multivariate OR (95% CI) p-value
Age (years)	1.04 (1.09-1.10) 0.01	*
Gestational age of present pregnancy		*
<13 weeks	1	
14-28 weeks	1.14 (0.73-1.79) 0.55	
29-40 weeks	1.44 (0.58-3.70) 0.45	
>40 weeks	4.31 (0.55-33.89) 0.17	
Educational status		*
Primary	1	
Secondary	1.03 (0.27-3.97) 0.97	
Tertiary	1.03 (0.27-3.93) 0.07	
Parity		*
0	1	
1-4	1.11 (0.72-1.71) 0.63	
>5	1.04 (0.78-1.93) 0.77	
Number of clinic visits in present pregnancy	0.96 (0.87 – 1.05) 0.36	*

*Only age was significantly associated with acceptance of reduced visits in the univariate logistic regression model; hence, multivariate modelling was not done.

The main reasons for accepting reduced visits by 345 women were that it would save time 164 (40.6%) and 64 (16.5%) said they were healthy and so had no need for very frequent visits. However 81 (8.9%) said it would save time and money (**Table 3**). The major reasons advanced by 111 women who rejected reduced visits in preference for multiple visits were multiple frequent visits would allow close monitoring of pregnancy 39 (35.1%), early detection of problems 24 (21.6%), allay anxiety 11 (9.9%) while 13 (11.7%) would like to comply with Doctors preferred schedule.

We also sought women's views about pre-delivery selection of blood donors as a component of birth preparedness; Among the 456 study participants, 298 (65.4%) accepted they had relations who could donate blood for them if necessary. However 65.13% would be willing to have their relations screened during the antenatal period to determine compatibility for blood donation. Among those who were unwilling to have relations screened, the reasons were mainly because they have not asked their relations if they could donate blood 35 (22.01%) and they were healthy so would not need blood transfusion 33 (20.75%) **Table 4**.

Discussion

The study showed that majority of women in the centre who were already receiving traditional antenatal model of antenatal care preferred frequent visits during their antenatal care. They would accept reduced visits care model to save time. They were also willing to accept blood donor pre-selection as a component of birth preparedness.

Table 3. Reasons for Accepting/Rejecting Reduced visits.

Reason for accepting reduced visits	No/Percentage
N=345	
Saves time	140 (41)
Healthy	64 (18.6)
Saves time and money	31 (9.0)
Will improve care	17 (5.0)
Reduce stress/anxiety/crowd	16 (4.6)
Doctors discretion	16 (4.6)
No reason	55 (16.0)
Reasons for rejecting reduced visits	Number/Percentage
N=111	
Monitoring of pregnancy	39 (35.1%)
Early detection of problems	24 (21.6)
Doctors preference	13 (11.7)
Allay Anxiety	11 (9.9)
Miss problem	9 (8.1%)
Satisfied with traditional method	9 (8.1%)
Other reasons	6 (5.4)

Table 4. Blood donor preselection during Antenatal period.

Do you have relations to donate blood	No (%)
Yes	298 (65.35)
No	158 (34.65)
Willingness to have relations screened	
Yes	297 (65.13)
No	159 (34.87)
Reasons for not accepting Donor preselection/screening	
Has not asked relations	35 (22.01)
Healthy (will not need blood)	33 (20.75)
Not acceptable	17 (10.7)
Does not know relatives blood group	15 (9.4)
Religion	7 (4.4)
God will not allow need for blood	2 (1.3)
Did not need blood in previous deliveries	2 (1.3)
Relations are not around	5 (3.1)
Risk of transmission of infection	1 (0.6)
No reason	41 (25.8)
Total	159

The study showed that women preferred five or more visits during prenatal period. More visits as in the traditional approach is often perceived to mean better care and pregnancy outcome by women. This is not often the case as studies have shown that the maternal and fetal complication outcome are not necessarily different when women have fewer goal-oriented visits, which is the concept of focused antenatal care [18-21]. Three quarters of the women were willing to accept fewer visits. The reasons advanced were to save time. Waiting time in antenatal care has been a pervasive issue in antenatal

service delivery as women spend up to 4-6 hours in antenatal clinics on a typical visit [22-25]. A similar study in Enugu State, south-east region of Nigeria showed that a lower percentage of women (20.3%) accepted reduced visits. The Enugu study was conducted in a teaching hospital setting where more women with complicated pregnancies were more likely to receive care than at our facility. The majority of the acceptors in Enugu (65%) gave convenience as the reason for accepting reduced visits [26]. Long waiting time in antenatal care clinic is associated with dissatisfaction with care [27-29]. An antenatal care practice that still meets the goal of antenatal care without adverse maternal or fetal outcome would save women's time. The quality time spent in the clinic during the fewer visits is tailored towards identifying the individual woman's need and addressing those needs.

A few of the women expressed concern that fewer visits could compromise monitoring of the pregnancy with the potential of late detection of complications. Women find multiple visits reassuring and it is also an excuse to socialize [30]. Where it is implemented, women have been generally satisfied with focused antenatal care, although women in developed countries have expressed dissatisfaction with their care. Concerns [9,31-33] have been raised by women and service providers about fewer visits and spacing of visits. Secondary analysis of the WHO 2001 randomized control trial of focused antenatal care showed excess of foetal deaths in those who had fewer visits [34]. Studies have suggested that the long interval between visits from 32-36 weeks could result in non-detection of intrauterine growth restriction and other problems that could arise and cause foetal death in the third trimester [31,34,35]. In implementing focused antenatal care, health care workers must be trained to spend quality time screening, treating and addressing problems that could result in adverse maternal and fetal outcome. Fewer visits should not translate to poorer care.

Obstetric hemorrhage is the leading cause of maternal mortality [36-38]. Timely availability of blood for transfusion saves lives. Often, when women experience obstetric hemorrhage, blood often arrives too late or it is insufficient to save lives [39]. Pre-donor selection during antenatal period would ensure availability of blood for the woman when needed. Majority of the women had relatives who could donate blood if needed and where willing to have the relations screened for suitability for blood donation. A few would not want relations to donate blood for a variety of reasons ranging from false perception that they were healthy and so were unlikely to need blood to religious reasons and not knowing donors blood group. There is need to enlighten women about complication readiness including blood donation as complications could be unpredictable and ready availability of blood for transfusion would convert a possible fatal episode to near miss experience.

The views of the women were taken into consideration when focused antenatal care was later introduced. A five

visit model of antenatal care which would ensure that women whose pregnancy went beyond 40 weeks of gestation would be seen at 41 weeks and offered induction of labour was adopted. Fear that complications would be detected late was allayed by educating the women about danger signs in pregnancy and complication readiness. They were offered the opportunity to report to hospital even before their appointment dates if they had any concern about their pregnancies.

The strength of the study lies in the fact that the study was conducted in a busy obstetric setting in a cosmopolitan town. The findings of the study could be extrapolated to the general population as the hospital catered for a mix of women with diverse educational levels and background. The limitation of the study lies in the fact that the services are almost free for the patients, as a result there is increased patronage which makes women spend long periods in the clinic. This would make them readily accept fewer visits as it would save their time. There is need to seek the views of women who pay out of pocket to assess their views about focused antenatal care.

Focused antenatal care based on fewer visits was acceptable to majority of women in the health facility. The concern that it could compromise monitoring of pregnancy and detection of problems raised by few women should be addressed during health education component of antenatal care.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

Authors' contributions	MIE	EE	UO	SA	AU	FA	FB
Research concept and design	✓	✓	✓	--	--	--	--
Collection and/or assembly of data	✓	✓	✓	--	--	--	--
Data analysis and interpretation	✓	✓	✓	✓	✓	✓	✓
Writing the article	✓	✓	--	--	--	--	--
Critical revision of the article	✓	✓	✓	✓	✓	✓	✓
Final approval of article	✓	✓	✓	✓	✓	✓	✓
Statistical analysis	--	--	--	✓	--	--	--

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