ORIGINAL RESEARCH ARTICLE

Quality of Antenatal Services at the Primary Care Level in Southwest Nigeria

Olufemi T. Oladapo[1], Christianah A. Iyaniwura[2] and Adewale O. Sule-Odu[1]

ABSTRACT

A survey of 452 pregnant women accessing care at first level public health facilities in a local government area in southwest Nigeria was conducted to assess their perspectives on the quality of antenatal care received. Majority of the women expressed satisfaction with the level of expertise and basic technical competence of their careproviders. Less than 30% were pleased with the existing patients' referral mechanisms. At least two-thirds received as much information as desired in salient aspects of antenatal health information needs. Frequency of antenatal visits was "about the same as expected" for 93.6% of the women. The mean reported waiting time before antenatal consultation was 131.1 minutes although 106 (43.3 %) women expected to be attended within 30 minutes of arrival. Approximately two-thirds of women were unhappy about their involvement in decision-making with respect to birth planning and postpartum contraception. Compared to other elements of quality, women were least pleased with constellation of services especially sanitary facilities and number of skilled healthcare providers. On the whole, respondents expressed a high level of overall satisfaction (81.4%) with the care received. The survey indicates that antenatal women may generally express satisfaction with the quality of services despite some inconsistencies between received care and their expectations of the facilities *(Afr J Reprod Health 2008; 12[3]:71-92).*

RÉSUMÉ

Qualité de services prénatals de soin principal au Sud-ouest du Nigeria Une étude de 452 femmes enceintes ayant accès au soin de premier niveau de santé publique dans une région publique du Sud-ouest du Nigeria a été faite afin de déterminer leurs vues sur la qualité de soin prénatal reçu. La majorité des femmes étaient satisfaites avec le niveau du savoir-faire et la compétence technique de base des dispensateurs de soins. Moins de 30% étaient contentes avec les mécanismes existant des recommandations des patients. Au moins deux tiers ont reçu autant de renseignements désirés dans des aspects marquants des renseignements des soins sanitaires prénatals. La fréquence des consultations prénatales étaient 'presque la même exigée' pour 93,6% des femmes. Le moyen du temps d'attente reporté avant la consultation prénatale étaient 131.1 minutes, pourtant, 106 (43,3%) des femmes qu'on devrait assister en moins de 30 minutes de leur arrivée. Approximativement deux tiers des femmes n'étaient pas heureuses concernant leur participation de prendre la décision en ce qui concerne le projet d'accouchement et le contraceptif postpartum. Par rapport aux autres éléments de qualité, les femmes sont moins heureuses avec la constellation de service surtout l'équipement sanitaire et le nombre de dispensateurs sanitaires qualifiées. Dans l'ensemble, des femmes interrogées ont exprimé une satisfaction complètement supérieure (81,4%) des soins reçus. L'étude indique que des futures mamans peuvent en général exprimer une satisfaction avec la qualité de service malgré les contradictions entre les soins reçus et leur espérance des installations *(Afr J Reprod Health 2008; 12[3]:71-92).*

[1]Maternal and Fetal Health Research Unit, Department of Obstetrics and Gynaecology; [2]Department of Community Medicine and Primary Care, Obafemi Awolowo College of Health Sciences, Sagamu, Ogun State, Nigeria.

Correspondence: *Dr. Olufemi T. Oladapo, Senior Lecturer/Consultant, Department of Obstetrics and Gynaecology, Olabisi Onabanjo University Teaching Hospital, P.M.B. 2001, Sagamu, Ogun State, Nigeria. Email: tixon_y2k@hotmail.com Tel: +234-0803-4066-537.*

Introduction

In spite of the global efforts to improve maternal health in the developing countries, the present quality of maternal care as depicted by the magnitude of severe maternal morbidity and mortality in this region makes the realization of the Millennium Development Goal for maternal health uncertain.[1-4] Among the various pillars of Safe Motherhood, antenatal care remains one of the interventions that have the potential to significantly reduce maternal morbidity and mortality when properly conducted.[5] Available data from developing countries including Nigeria found lack of antenatal care to be an important risk factor for poor pregnancy outcomes.[6-9]

However, while poor access to basic antenatal care is recognized as a major obstacle to improvement in pregnancy outcomes, there is a growing consensus that access to antenatal care alone is insufficient to alter the present maternal health profile and that the quality of antenatal services may be a key determinant of maternal and perinatal outcomes.[10] During the antepartum period, women are prone to some physiological and psychological changes that may adversely affect pregnancy outcomes.[11] Therefore, all women require high quality client-oriented antenatal care services that address personal needs throughout the pregnancy to ensure their health and that of their infants, irrespective of their socio-economic status and potential for pregnancy complications.

In spite of the increasing importance of quality of antenatal care worldwide, detailed information about the quality or effectiveness of antenatal care practices is less often available or investigated in many of the populations where they are most needed. For instance in Nigeria, where healthcare service delivery is largely based on the primary health care system, few studies that have addressed the issue of the quality of antenatal care have focused on private and referral or tertiary health institutions.[12,13] Since majority of the Nigerian populace live in suburban and rural communities with access to orthodox medical care mainly through the primary health care centres, information derived from such investigations are unlikely to achieve the desired impact on a large scale.

Interestingly, the attributes of high quality antenatal services such as accessibility, acceptability, effectiveness and suitability for the community are the essential ingredients of the primary health care services. In fact, the enhanced pillars of Safe Motherhood in Nigeria, rest on the solid foundation of primary health care. Primary health care provides the entry point into the healthcare delivery system of the country and thus represents an ideal setting for prevention of pregnancy complications by identi-fication of risk-prone pregnancies and provision of immediate linkage of high-risk women to specialist care. Information on the quality of the antenatal care services provided in the context of the primary health care system, therefore, can be used to improve on the responsiveness of the health

system to the needs of the majority of pregnant Nigerians.

In many resource-limited settings, the little amount of focus on quality of care has been from the healthcare provider's viewpoints with professional standards being used as the index of quality. However, studies have shown that perception of quality by pregnant women and their care providers may differ, with providers more interested in technical precision while women may be more concerned with other sensitive issues such as interpersonal relations with care providers, fulfillment of their information needs, birth positions and social supports during labour.[14,15] In situations where women have access to more than one facility, their perceived quality of service often becomes the key decision-making variable with respect to their choice. It is therefore imperative that the search for high quality antenatal care must reconcile the health care providers' as well as the women's perspectives in order to obtain the maximum benefits from investments in maternal health care services.

At present, data about the quality of antenatal care services at the primary care level, as perceived by pregnant women, which could provide useful information to researchers and policy makers in this environment are lacking. In order to improve on the present maternal health profile for majority of pregnant women dwelling in this region, rigorous and regular appraisal of the quality of antenatal care services in the primary health care centres (PHCs) are needed to identify specific problems and develop strategies for improvement. It is against this background that this study was designed to assess the quality of antenatal care services provided in the primary health care facilities within Sagamu Local Government Area (LGA) of Ogun State, as perceived by pregnant women accessing these facilities, which can help define the starting points for improvement in the quality of antenatal care at this level of health care delivery. Within this context, the study explored the perceptions of the pregnant women on the various aspects of quality of antenatal care services and assessed their overall level of satisfaction with the quality of antenatal care they received.

Methods

Background of the Study Area

The study was conducted in Sagamu LGA of Ogun State, Nigeria over a period of two months. Sagamu LGA is one of the 20 Local Government Areas in Ogun State, southwest of Nigeria. This area has a population of 244, 500 inhabitants projected from the 1991 census figure and consists essentially of Remo-speaking people of Ogun State. There were seven centres for primary health care services and five other health posts spread all over the Local Government Area. As at the time of this study, primary health care centres that provided antenatal services were located at Ogijo, Sabo and Makun.

Ogijo PHC

Maternity services were provided in the main ward of a 10-bed health centre. During the period of study, staff

providing maternity services included one doctor, three Nurses, two Nurse/Midwives, one Community Health Officer (CHO), 10 Community Health Extension Workers (CHEWs) and six non-medical personnel. Antenatal care was offered in a regular outpatient waiting area where health talk and initial assessment were done in a 21 x 30 feet open space covered with aluminum roofing sheets. Regular antenatal care was delivered by Nurses, Nurse/ Midwives and CHOs who worked on rotation, with the help of CHEWs. The doctor attended to women with specific problems during antenatal visits after an initial consultation with the Nurse/ Midwives. Antenatal clinics were held weekly on Mondays as from 9.00 a.m. till 4.00 p.m. Clients were financially responsible for the services they received. The centre had an ultrasound scan machine and routine ultrasound examinations were performed by the doctor at the centre.

Sabo PHC

This centre is located at Sabo, a densely populated area that is dominated by non-indigenes (notably Hausa and Igbo) within Sagamu township. Staff for maternity services included three staff nurses, one Nurse/Midwife, seven CHEWs and five non-medical personnel. The antenatal clinic had an open waiting area for initial antenatal assessments before consultation in a 12 x 12 feet examination room. Referrals were often directed to Olabisi Onabanjo University Teaching Hospital, Sagamu.

Makun PHC

This centre is located in Makun, within Sagamu township. Staff providing maternity services included three staff Nurses, two Nurse/Midwives, nine CHEWs, one CHO and five non-medical personnel. The Medical Officer of Health (MOH) who also doubled as the Director of Primary Health Care for the local government attended to women with problems during the pregnancy in addition to his administrative works. Patients' waiting area for antenatal care was an open space along the corridor of the ward. Antenatal care was delivered by Nurse/Midwives, CHO, CHEWs and other non-medical personnel. Antenatal clinics also held weekly on Mondays from 9.00 a.m. till 4.00 p.m.

Study Subjects

This was a descriptive cross-sectional survey that quantitatively explored the perspectives of pregnant women on the various aspects of quality of antenatal care received. All consenting pregnant women who have had at least two antenatal visits at the study sites were eligible to participate in the study.

Sampling Process

The minimum sample size required for the study was estimated to be 384 using the formula $n = p (1-p)(Z_\alpha/d)^2$ where n is the sample size, Z_α is the standard normal deviate, set at 1.96 (for 95% confidence level), d is the desired degree of accuracy (taken as 0.05) and p, is the estimate of the satisfaction rate among our target population (which was assumed to be 50% in the absence of a

pre-existing estimate)[16]. Adjustment for a 10% rate of non-responses responses yielded a final sample size of 427. Using the available statistics at each centre, the average number of pregnant women seen during each antenatal clinic day at each centre was estimated a priori. To achieve the desired sample size for the study, the number of pregnant women selected from each centre was determined by a proportional allocation ratio method, i.e. the total number of women sampled from each centre was in accordance with the relative proportion of its weekly antenatal clinic's population. Women at each centre were selected by systematic random sampling method during the antenatal clinic days until the estimated sample size for the centre was achieved. Recruitment of women were conducted first at Ogijo, followed by Sabo and lastly at Makun.

Study Instrument

The instrument was a structured questionnaire adapted from the validated questionnaire used for a WHO study to evaluate the perception of antenatal care services in selected centres in four developing countries as part of the landmark trial comparing the old and new models of antenatal care.[17] The questionnaire, which contained 49 items, was divided into eight sections. These included sections on socio-demographic characteristics of clients, frequency and spacing of visits, technical quality of care, continuity of care mechanisms and provision of choices, information and counselling, constellation of services, client-provider interpersonal relationships

and summary. These sections were tailored along Turan et al's[18] adaptation of the framework for quality of care by Bruce[19] and Jain, [20] which was used for the evaluation of antenatal services in a developing country setting.

The socio-demographic section included information on socio-demographic data such as age, marital status, parity, number of living children, occupation of the woman and her husband, ethnicity, town of residence, educational level completed income level of woman and religion. Others were duration of pregnancy at the time of interview, duration of pregnancy at the first antenatal visit, number of antenatal visits, place of antenatal care in the previous pregnancy and concurrent antenatal care at other facility. Women's views, preferences and expectations were respectively explored in the other sections about the following issues; the frequency and spacing of antenatal visits and the time spent in the waiting room/area and with attending healthcare provider; technical competence of their care providers; the mechanisms for ensuring that care is maintained by the same healthcare provider and involvement of women in making decisions pertaining to their care; amount and appropriateness of information received during the visit; and interactions between the women and their healthcare providers.

To assess women's overall satisfaction with the quality of antenatal care, the summary section of the questionnaire contained three indicators employed by WHO to summarise

women's overall perception in the antenatal care trial.[21] These indicators included one direct and two indirect summary questions asked against the background of women's responses to previous enquiries on the various aspects of antenatal care quality. It was expected that this "overall satisfaction" variable would reflect women's overall perception of the quality of antenatal care received.[17] This variable was determined by respondents' affirmative answers to these three questions: "if you were pregnant again, would you come back to this clinic?", "would you recommend this clinic to a relative or a friend for their antenatal check ups?" and "in general, how satisfied are you with antenatal care you have received so far in this clinic?". For the purpose of this study, an affirmative answer to all of the three questions by respondent was considered an index of true satisfaction with the quality of antenatal care received (satisfaction index). The questionnaire was pretested among 25 women receiving antenatal care at primary health care facilities in Ikenne Local Government, a nearby Local Government to the study area. Appropriate adjustments were then made to the questionnaire to improve its internal validity before beginning the study.

Ethical Consideration

The MOH/Director of Primary Health Care at Sagamu Local Government Secretariat was approached and permission was obtained to conduct the survey. At each of the selected study sites, the Matron and Medical Officer in-charge were contacted for consent and relevant data before the commencement of the study. The purpose, general content and nature of the investigation were explained to each respondent to obtain verbal consent before inclusion into the study.

Data Collection and Management

Women were interviewed using a structured questionnaire, which was administered by five trained interviewers. The interviewers were all female doctors; four were interns rotating through the Obstetric and Gynaecology Department of Olabisi Onabanjo University Teaching Hospital during the period of study and one was a resident doctor in the same department. The data were collected on antenatal clinic days by the interviewers at the respective primary health care centres. Women were interviewed for approximately 15 to 20 minutes in a private environment away from the antenatal clinics to avoid influence of healthcare providers. Completed questionnaires were scrutinized on the spot and at the end of daily field sessions for immediate correction of erroneous entry.

The data were coded and entered into a computer database and analysed using EPI INFO 2002 statistical package.[22] The results are presented as percentages, frequencies and summary statistics. Categorical variables were compared with the chi-squared or Fisher's exact test while continuous variables were compared with the *t*-test or Kruskal Wallis test as appropriate. Differences between comparison groups were

considered statistically significant when $P < 0.05$.

Results

Out of 461 women randomly selected at the study sites, 452 consented to participate in the study: Ogijo (216), Sabo (157) and Makun (79). Nine women declined citing lack of time as their reasons for not participating: five at Ogijo, two at Sabo and two at Makun.

Thus, the response rate for the study was 98.0%.

Characteristics of Women Receiving Antenatal Services

The socio-demographic character-istics of clients interviewed at the health centres are presented in Table 1. Majority of the respondents were married, within the active reproductive age groups (20-34 years) and of the Yoruba ethnic background. About a quarter of the

Table 1: **Baseline socio-demographic characteristics of respondents (n=452)**

Women's characteristics	n (%)
Age (years)	
<20	16 (3.6)
20-24	96 (21.2)
25-29	159 (35.3)
30-34	112 (24.8)
≥35	69 (15.3)
mean (±SD)	27.8 (5.4)
Range	15-40
Marital Status	
Single	21 (4.7)
Married	08 (90.7)
Divorced	4 (0.9)
Living with steady partner	9 (4.2)
Parity	
Nulliparous	120 (26.7)
Para 1-4	313 (69.3)
≥ 5	19 (4.2)
median	1.00
Number of living children	
0	148 (32.7)
1-2	196 (43.3)
3-4	93 (20.7)
≥5	15 (3.3)
median	1.0
Client's Occupation	
Unemployed	86 (19.0)
Unskilled	273 (60.7)
Semi-skilled	54 (12.0)
Skilled/Professional	39 (8.7)

Table 1: **continued**

Estimated monthly earning of client (Naira)	
<5000	248 (54.5)
5001-10,000	92 (20.4)
10,001-20,000	56 (12.4)
>20,000	6 (12.4)
Mean	8,216.7 (6,349.1)
Range	0-60,000
Husband's Occupation	
Unemployed	20 (4.4)
Unskilled	219 (48.7)
Semi-skilled	138 (30.7)
Skilled/Professional	75 (16.7)
Tribe	
Yoruba	348 (77.3)
Ibo	31 (6.9)
Hausa	22 (4.9)
Others	51 (11.3)
Religion	
Islam	153 (34.2)
Christianity	291 (65.1)
Traditional	5 (1.1)
Educational level completed	
None	23 (5.1)
Primary	156 (34.5)
Secondary	192 (42.5)
Tertiary	72 (15.9)
Quranic	9 (2.0)
Town of residence	
Ogijo	138 (30.5)
Odongunyan	45 (10.0)
Ikorodu/Ketu	33 (7.3)
Sagamu	236 (52.2)
Duration of pregnancy at interview (weeks)	
Mean ± SD	30.7 (7.6)
Number of antenatal visits	
3	165 (39.3)
4	53 (11.7)
≥5	204 (48.6)
median	4.0
Previously used centre for ANC	98 (21.7)
Concurrent ANC elsewhere	76 (16.8)

_____

respondents were expecting their first child and approximately one-third had no living children. About one-fifth of the respondents were not gainfully employed. Of those that were employed, only 39 (8.7%) were engaged in skilled occupation while most (60.7%) were unskilled workers. Over half of the respondents were earning less than ₦ 5,000 monthly. Almost half of the respondents have had five or more antenatal clinic visits and the mean gestational age at the time of interview was 30.7 weeks. One-fifth of the respondents had used the same centre for antenatal care in their previous pregnancies. Seventy-six (16.8%) of the women were concurrently receiving antenatal care at other facilities; half of such individuals were receiving care at churches and mission houses.

Perception of Technical Aspects of Quality

Information from the careproviders revealed that the standard recommended number of antenatal visits at all the centres was every other week until 36 weeks and once weekly till delivery. This number of visits is inconsistent with that recommended by the Federal Ministry of Health of Nigeria and is substantially greater than the four high quality visits currently re-commended by the WHO.

Four hundred and thirty seven (96.7%) of the respondents expressed satisfaction with the way their care providers were moitoring their health and that of their unborn babies. A total of 419 (92.7%) respondents were satisfied with the level of expertise demonstrated by their antenatal careproviders. Women who had used the same centre for antenatal care in their previous pregnancies (n=98) were significantly less likely to express satisfaction with the level of expertise demonstrated by their careproviders compared to those who had never used the centre for antenatal care (n=354) (85.7% vs. 94.6%; X^2=9.0, p=0.0027). Two hundred and two respondents (44.7%) would prefer to see the same cadre of care provider, while 166 (36.7%), three (0.7%) and 81 (18%) would prefer a more senior, a more junior and any cadre of provider during their next antenatal visit, respectively. Four hundred and nineteen (92.7%) of the respondents felt their careproviders could effectively treat malaria in pregnancy while 340 (75.2%) of them felt their careproviders could effectively handle minor obstetric complications. Women who had secondary or more education (n=264) were significantly less likely to feel their careproviders could effectively handle minor obstetric complications compared to those who had primary, quranic or less education (n=188) (69.7% vs. 83.0%; χ^2=10.4, p=0.0013). Four hundred and forty (97.3%) respondents were pleased with vaccination against tetanus.

Continuity of Care Mechanisms and Provision of Choices

Most women saw a different care provider at each clinic visit because clinic staff worked on a rotation system. All (100.0%) were given information about the timing of their next visit. Individual antenatal records were kept at the centre.

Four hundred and twenty two (93.3%) of women preferred their antenatal card to be kept in the clinic rather than keeping it themselves, while 3.3% preferred to keep it at home and 3.3% had no preference. Three hundred and twenty one (71.0%) respondents were not pleased with the existing method of patients' referral of their centre. Of these, 64.4% cited lack of ambulance to transfer patients while 32.1% cited absence of accompanying health worker to the referral centre as the reasons for their displeasure. If given the choice, 34.0% of respondents would prefer to be seen by a female care provider, 1.3% would prefer a male care provider and 64.7% had no preference. Also, 34.0% of respondents preferred to be seen by a doctor, 12.0% preferred a nurse, 3.3%, a midwife, 20.0%, a combination doctor and nurse and 30.7% had no preference.

In Table 2, three hundred and forty four respondents (76.1%) expressed their satisfaction with the extent to which they were involved with decision-making regarding procedures and tests and planning for infant feeding and care.

Approximately two-thirds of women were unhappy about their involvement with decision-making with respect to birth planning and postpartum contraception. Over half of the respondents also recorded their displeasure on their inability to decide on the providers that attend to them.

Information and Counseling

Table 3 shows the women's view with respect to the information provided by their caregivers on their personal health, tests during pregnancy, treatment they might need during pregnancy, development of unborn baby, nutrition, labour and delivery process, family planning and breastfeeding. From the women's general point of view, antenatal health information needs were fairly met. Over two-thirds of respondents had received enough information "as much as they wanted" in every aspects of the information and counseling assessed. Respondents were most satisfied with the information on nutrition in pregnancy (85.6%) and least with information on the development of their unborn babies

Table 2: **Showing the percentage of antenatal clients who reported being involved in decision-making with respect to care**

Decision-making in	1=No	2=Yes	3=No decision yet
Procedures and tests	96 (21.2)	344 (76.1)	12 (2.6)
Attending healthcare provider	248 (54.9)	204 (45.1)	0 (0.0)
Planning for birth	299 (66.2)	117 (25.9)	36 (7.9)
Planning for infant feeding and care	66 (14.6)	366 (80.9)	20 (4.4)
Postpartum contraception	302 (66.8)	115 (25.4)	35 (7.7)

(66.4%). Those who received no information ranged from 15 (3.3%) for information on nutrition while pregnant to 63 (13.9%) for information about fetal development.

Table 4 shows the proportion of the respondents who reported they were provided with information on danger signs during pregnancy. Overall, at least 60% of respondents reported having received information on how to recognize and what to do on rupture of membranes, haemorrhage, premature contractions, dizziness and fainting and fever. Only a quarter of the respondents were told how to recognize oedema and even less than that were told what to do if such sign developed during pregnancy.

Perception of Constellation of Services

Women were generally satisfied with the frequency and spacing of their

\
Table 3: **Extent of information provision as perceived by antenatal clients, by type of information**

Information	Not enough	As much as desired	Too much	No information received	Don't remember	Total
Your own health	53 (11.7)	357 (78.9)	9 (2.0)	30 (6.6)	3 (0.7)	452 (100.0)
Tests during pregnancy	92 (20.4)	315 (69.7)	6 (1.3)	39 (8.6)	0 (0.0)	452 (100.0)
Treatment client might need	74 (16.4)	333 (73.7)	6 (1.3)	39 (8.6)	0 (0.0)	452 (100.0)
Development of unborn baby	68 (15.0)	300 (66.4)	9 (2.0)	63 (13.9)	9 (2.0)	452 (100.0)
Nutrition while pregnant	38 (8.4)	387 (85.6)	6 (1.3)	15 (3.3)	6 (1.3)	452 (100.0)
Labour and delivery	50 (11.1)	342 (75.7)	6 (1.3)	54 (11.9)	0 (0.0)	452 (100.0)
Family planning	41 (9.1)	369 (81.6)	6 (1.3)	33 (7.3)	3 (0.7)	452 (100.0)
Breastfeeding	38 (8.4)	381 (84.2)	6 (1.3)	24 (5.3)	3 (0.7)	452 (100.0)

*Percentages in parentheses

Table 4: **Information on recognition of danger symptoms/signs in pregnancy**

Danger symptoms/signs	Told how to recognize	Told what to do
Rupture of membranes	273 (60.3)	273 (60.3)
Haemorrhage	303 (67.0)	303 (67.0)
Premature contractions	297 (65.7)	264 (58.4)
Dizziness and fainting	288 (63.7)	303 (67.0)
Fever	306 (67.7)	315 (69.7)
Oedema	114 (25.2)	105 (23.2)

antenatal visits and it was "about the same as expected" by 423 (93.6%) of the women. Twenty one (4.6%) expected lesser number of visits while only 6 (1.3%) expected more antenatal visits. Women reported widely varying waiting times before antenatal consultation. Generally, women endured long waiting periods before being attended to, with an average of 131.1 minutes (SD: 81.3) of waiting before being attended to by the healthcare provider (range 2-360 minutes). The median waiting time was 120 minutes. About half of the women (50.7%) were dissatisfied with the time they normally had to wait. The mean time of waiting by those who were satisfied was 97 minutes and 164 minutes for those who were not satisfied. The difference in the reported waiting times of women who were and those who were not satisfied was statistically significant (t=9.6; P=0.0000). With respect to waiting time, the expectations of respondents were far from reality. The average waiting time respondents would be satisfied with was 57.5 minutes (range 0-360 minutes; median 60 minutes). One

hundred and ninety six (43.3 %) women expect that they should be attended to within 30 minutes of their arrival at the clinic.

The mean time spent with caregiver as reported by the women was 8.1 minutes (SD: 2.4) (median 5 minutes). Only sixty-nine (15.3%) respondents were not satisfied with the length of consultation time. Two hundred and eighty five (63.1%) of the respondents thought 5 minutes is more appropriate to be spent with the care provider when there are no complaints. Three hundred and eighty three (84.7%) believed that they spent enough time with the care provider during consultation, 33 (7.3%) preferred a little more time while 48 (10.7%) preferred a lot more time with the care provider.

With respect to available facilities at the respective centres, a total of 285 (63.3%) respondents expressed satisfaction with waiting room/area at the antenatal clinics. Most respondents (66.7%) were also pleased with the examination room during the antenatal clinic visits. One hundred and ninety

Table 5: **Women's satisfaction with interpersonal aspects of antenatal care received**

Interpersonal relations	1=No	2=Yes
Treated you with respect	28 (6.2)	424 (93.8)
Protected your privacy	16 (3.5)	436 (96.5)
Showed respect for your culture	4 (0.9)	448 (99.1)
Treated you equally like other clients	43 (9.5)	409 (90.5)
Carried out unnecessary procedure/examination on you	420 (92.9)	32 (7.1)
Treated you with empathy	8 (1.8)	444 (98.2)

Table 6: **Proportion of clients who expressed satisfaction with the antenatal care they received in Sagamu Local Government Area**

Measure of satisfaction	452 (%)
Client would use this centre's antenatal care service again	388 (85.8)
Client would recommend centre	420 (92.9)
Client said she was satisfied or very satisfied	424 (93.8)
Client said she was "very satisfied"	137 (30.3)
Satisfaction index (truly satisfied)	368 (81.4)

three (42.7%) respondents were unhappy about the toilet facility for antenatal women at their centre. Two hundred and ninety eight (66%) of respondents were satisfied with drugs and supply at the centres; 310 (69.4%) with the costs of services; 270 (60.0%) with the service hours; 345 (76.7%) with distance to residence; 264 (58.7%) with number of skilled providers employed at the centre.

Client-Provider Interpersonal Relation-ships

Majority of the clients expressed satisfaction with all the various aspects of interpersonal relation assessed (Table 5). Less than 10% of all respondents reported displeasure with any of the assessed components of client-provider interactions.

Overall Perception of Antenatal Care

The overall perception of antenatal care quality, expressed as the level of overall satisfaction with antenatal care, is shown by the responses to the three summary questions in Table 6. As shown in this Table, there are significant disparities in the responses to the three questions. In summary, respondents expressed a high level of overall satisfaction as indicated by the satisfaction index (368: 81.4%) although less than one-third (137: 30.3%) reported being "very satisfied" with the quality of antenatal care received.

Discussion

This study examined the quality of antenatal care services in the primary health care centres as perceived by women, among a suburban antenatal population in Ogun State, Nigeria. The study shows that women attending antenatal clinics at these centres, in general, were satisfied with the quality of services received in spite of some inconsistencies between the received care and their expectations of the facilities. Besides the overall assessment of their perspectives on care received, this deduction was also made from the above-average level of contentment with many elements of quality of antenatal care that were explored in the study. Specifically, majority of the women were pleased with the level of expertise of their care providers, and a significant proportion was confident of basic technical

competence of their providers. Though many women expressed displeasure with the existing referral system, they supported other aspects of continuity of care mechanism. Furthermore, at least two-thirds of women received as much information as they desired in salient aspects of antenatal health information needs and majority of them expressed positive client-provider interactions.

Overall, these results show that antenatal care services provided at the primary health care centres in this Local Government were rated high by a significant proportion of antenatal clinic users in spite of some important reservations with various attributes of quality. However, within this structure, each attribute of quality of care deserves specific consideration.

Technical Quality of Care

The perception of the technical aspects of quality of care is often avoided in studies of this nature because antenatal women are thought to be generally uncritical about the care they receive.[23] Expectations of women as well as their perception would largely depend on their knowledge about expected care, which may be dependent on previous experience as well as their level of education. This assertion is supported by the finding in this study that shows that women who had more education and who had used the facility previously were less pleased with some aspects of the technical quality. Although 44 percent of women preferred to be seen by care provider of the same cadre at the next visit, the proportion of women who

preferred staff of higher cadre at their next visit raises questions on the expressed level of satisfaction with the level of expertise of the care providers.

It should be realized that while women may be readily willing to express dissatisfaction with structural quality of care which are generally within the financial responsibilities of the State government (e.g. diagnostic equipment and facilities), courtesy bias could have motivated their favourable responses to questions on their views about their careproviders' technical capabilities. Nonetheless, it is reassuring that the majority of the women in this study perceived their care providers as being capable of treating malaria (a common complication with significant detrimental effects on pregnancy outcomes). This indicates that most of these women are likely to seek care at these centres whenever they develop malaria. Some qualitative research has shown that when women are knowledgeable about different modes of treatment they are more inclined to question their rights and demand choices. These women's confidence in their care providers' ability to treat malaria may indicate the understanding of the various modes of treatment (both traditional and orthodox) for this endemic disease or a general underestimation of the technical competence required to manage malaria.

However, it is important to note that observed technical quality of care is unlikely to achieve the same level of satisfaction compared to its perception by women. Contrary to the report of women, usage of checklist considering history

taking, questions about malaria and physical examination by an observer during consultation might expose the deficiency in the actual technical quality of care more so that women spent an average of 5 minutes for consultation.

Information and Counseling

One of the main goals of antenatal care is the provision of adequate information that is essential for maintaining and improving pregnancy outcomes. Antenatal care provides a unique opportunity for health education and information, not only for preparation for childbirth and infant care but also for spacing of births and family planning. A large proportion of women in this study perceived that their information needs were satisfactorily met in spite of the median number of antenatal visits, which was 4. It should be noted that information "as much as they wanted" would generally be influenced by the social, cultural and educational context of women in these communities. Women only want to receive information that is relevant to their needs, desires and lifestyles and therefore may only perceive information that addresses personal circumstance as useful. It is also possible that women in this study have tailored their health information needs along the expected consultation time, which averaged 5 minutes. This consultation time is a far cry from the 30 minutes recommended for focused antenatal care, which aims to consolidate the information components of antenatal care[10]. It is unlikely that adequate information can be provided within the reported consultation time in this study. Providers should be aware of the importance of meeting women's information needs during antenatal clinic visits and then be prepared to satisfy them by increasing their consultation time. Some women also reported having no information on various aspects of health information especially with respect to the development of their unborn baby. This may be a reflection of the preferences that caregivers sometimes place on the kind of information they believe that women need. It is likely that caregiver felt women may not appreciate information on the growth and development of the unborn baby, perceiving it as technical issue that is the responsibility of the provider compared to issues such as nutrition in pregnancy.

Studies where observations of information procedures are combined with women's exit interview shows that women received less information than they often report[18]. Therefore, there are chances that the information received by the women in this study may actually be less than expressed. Information "as much as they wanted" may be related to the fact that many of the women perceived themselves as healthy and thus think they need less information more so that they were eager to leave the antenatal clinic after long waiting hours. Perceived health status is an important determinant of satisfaction with care at the primary care level[24].

Of note is the proportion of women who were not provided any information on how to recognize and proceed when danger symptoms or signs appear.

Surprisingly, only a quarter of the respondents were given information on how to recognize oedema. This causes serious concern as oedema is often the only clinical signs of pre-eclampsia (a major cause of morbidity and mortality in this environment) [25] that can readily be identified by these women. Unfortunately, this study did not look at providers' views or reasons for perceived deficiency in information provided to some women. It may be due to poor knowledge of providers about these issues or time constraints. Therefore, strategies to improve information provision would benefit from training providers in information and counseling skills, increasing the staff strength to cope with the clients' load, increasing the consultation time and addressing possible providers' attitude that often create barriers to communication with the clients.

Continuity of Care and Provision of Choices

In recent time, the importance of continuity of care in improving the outcome of care is being realised[26]. These include home-based records, women held antenatal record and functioning referral system. With respect to antenatal record keeping, the practice in most Nigerian health facilities is contrary to what is presently recommended[26]. Women attending primary healthcare facilities in Sagamu LGA, however, were generally in agreement with the current practice in their centres, citing the possibility of loss or damage to the antenatal cards if kept by them. While such reason is genuine, it removes the ability of patients to be in control of their care and is associated with loss of information if care needs to be transferred elsewhere for whatever reason, be it social or medical.

Of all the aspects of continuity of care assessed in this study, women were least pleased with the existing referral mechanisms of the centres. This was not surprising as none of the centres had a standby ambulance or a standardized protocol for referring patients to secondary or tertiary care facilities. More often than not, women misunderstand referrals. Sometimes women view referrals as a failure of the staff or health unit to correctly identify their problems, as mentioned by some of the women interviewed who cited their previous experience as examples. Women often expect centres to have well qualified personnel that could handle any eventuality in pregnancy. It is therefore important that women should be made to realise the limitations of primary care centres and the need to transfer patients to centres with better capabilities when such limit is reached. Women also need to be intimated with the protocol for referral as part of their birth preparedness plan. Since in the present circumstances, absence of ambulance translates to financial problems for the women in terms of additional transport cost and unfamiliarity with a distant health facility, ambulances should be provided for all centres and appropriate linkages to specialist centres instituted before hand.

Provision of alternative methods of care can help women find those that match their health circumstances,

lifestyles and preferences. Provider bias, which occurs when careproviders believe they are in the best position to choose the most appropriate method for the clients, or are biased towards certain method or intervention, may preclude women from using the method that is most appropriate for their circumstances and needs. Most women in this study were not pleased with their involvement in decision making on postpartum contraception, planning for childbirth and attending care provider. While it is understandable that in the present circumstance, patients had little choice with respect to careproviders that attend to them, allowing patients to make informed choice on postpartum contraception would go a long way in determining whether contraception is started at all and whether continuous use is maintained.

Client-Provider Interpersonal Relation-ships

Studies have shown that the most powerful predictor for client satisfaction with government services is providers' behaviour, especially respect and politeness[15,27]. For patients, this aspect was much more important than the technical competence of the provider. In settings where cultural values are still being upheld, client provider relationship appears to be an important factor that strongly influences women's perception and is more important for women compared to the technical aspect that is often focused on by the careproviders and health authority. In a developing country setting, for instance, many women refer to high quality care as "being treated as

human beings" without considering the technical aspect of quality. [27] In this study, women had positive impression of all aspects of interpersonal relationship. It is possible that the interpersonal relationship recorded in this study have overshadowed all the reservations expressed within the contents of other elements of quality which women were unhappy about such as physical infrastructures and number of skilled workers.

Constellation of Services

Structural features of health care provide the opportunity for individuals to receive care but do not guarantee it. On the whole, structures while being able to increase or decrease the likelihood of receiving high quality care are indirect and conditional influences on care. The structural attribute of care also includes its organizational factors that define the health system under which care is provided and thus spacing of antenatal visits, opening hours, waiting period, consultation time, cost of service in addition to physical characteristics of the centre as itemized in the study tool were very relevant.

In terms of the number of visits and spacing, the study shows that women were generally pleased and less than 5% expected fewer visits even though it was a far cry from that recommended by the FMOH, WHO or based on any scientific evidence. This was not surprising since majority of the women were multiparous who were probably aware of the frequency of antenatal visits from their previous experiences and have accepted

them in the faith that it is the most scientifically appropriate for them. There is no doubt that incentives for women to attend clinics, such as socialization and social support, and the need to be constantly reassured of fetal health, are strong motivating factors for the expression of such views. This indicates that introduction of the focused antenatal care of reduced visits by the FMOH into the primary health care system might meet some degree of dissatisfaction from these women. Studies in which fewer visits were compared with the standard model have shown that more women are dissatisfied with reduced number of visits and longer spacing between them[28,29]. However, it would be beneficial to explore the views of careproviders on the present frequency of visits via-a-vis the workload it creates for them. It is important to strike a balance between traditional practices that satisfies antenatal women and a practice that is based on solid scientific evidence in order to achieve the desired objectives of antenatal care.

Like in other developing country setting where clinic attendance is not based on appointment, the study shows that waiting time remains a big problem. Although, it varies from as low as two minutes to as high as three hours, it averages over two hours. In spite of this duration, half of the women were satisfied with this reported time supporting findings from other studies, which indicate that women may express satisfaction for services that are of poor quality[18]. Many women cited the volume of the patients at the clinics as reasons for

their satisfaction with the waiting period. One needs to differentiate between women's thoughtfulness of organization- al problems and true satisfaction with service they are receiving. Satisfaction may be expressed in the context of appreciating the number of women that needed to be attended to at each clinic visits vis-à-vis the number of care providers available at the centres. This is highlighted in the difference between the reported waiting time by those who were satisfied (97 minutes) and the average waiting time that women would be satisfied with (57 minutes). Besides, over 40% of these women expected that they should be attended to within half an hour of their arrival at the clinic. In view of this finding, it is important for authorities at this centre to find means of reducing the waiting time of antenatal women since it may indirectly reduce the time spent with the care provider. This can be done by increasing the antenatal clinic days per week to at least two instead of the present weekly visit. Increasing the staff strength would also go a long way to spread the clinic workload and thus reduce waiting time. Efforts need to be made to reduce the present waiting time close to that expected by the women.

With respect to available facilities, women are generally less satisfied compared to other elements of quality assessed. Similar proportions of women expressed displeasure with waiting area, private examination room and drugs and supply. The centres' toilet facilities also scored very low among the women. With relatively small-scale investments, many physical infrastructures can be upgraded

to meet minimum standards. The waiting area, private examination room and toilet facilities need to be upgraded in these centres to meet expectation of antenatal women.

Overall Perception of Antenatal Care

Like in similar studies[17,18], the questions used to explore women's overall perception showed high level of satisfaction among women, considering the fact that varying proportion of women expressed concerns about some elements of quality of care. It should be noted, however, that respondents are often inclined to respond positively to questions on satisfaction with care received, especially when asked within clinical settings, as is systematically noted in research on perceived quality or satisfaction. This implies that caution should be entertained in interpreting our results and may be better considered in a relative rather than an absolute sense. This observation is corroborated by the disparities in the responses to the three questions used for evaluating women's overall perception of antenatal care. The differences in the percentages of women who would use the centre again and those who were "satisfied or very satisfied" indicate that 8 percent of the women expressed satisfaction although they were no longer willing to use the centre again. Some studies have blamed women's general uncritical attitude of health care as the reason for the satisfaction they often express and thus suggest that more emphasis should be placed on their expressed preferences than the absolute magnitude of expressed satisfaction.

Limitation of Study

An important limitation of this study was the lack of qualitative exploration of women's views and expectations, which did not permit one to know which aspect of quality best determines their satisfaction. It should be realized, however, that while qualitative methods allow women to disclose their feelings in greater depth than quantitative research methods, their low external validity limits applicability of the findings to the population from which the study sample was drawn. Careful sampling process and extensive interviews by trained assistants as performed in this study provided results that are generalisable to antenatal clients at first level facilities in this environment with significant degree of confidence. Another aspect to consider is the possibility of introducing bias by the presence of the interviewers in the premises of the health centres. In spite of adequate information and reassurance, women may feel that the study was an audit process conducted by the Ministry of Health or other higher authority and thus responded in favour of the health facility in fear of indicting the personnel at the centre.

Conclusions

This study has provided an insight into an important but often neglected aspect of antenatal care that is necessary to improve on the current maternal health profile in this environment. The research provides valuable indications about the areas that should be focused on to promote the quality of antenatal services in the primary health care centres in

Sagamu LGA of Ogun State, Nigeria. It also shows the complexity of women's views on the quality of care they receive during their antenatal clinics. Overall, women generally expressed satisfaction with antenatal care in spite of their displeasure with some important aspects of care and the inconsistencies between received and preferred care. In addition, it reflects the variations in individual woman's perception of care, their preferences and expectations in spite of similar social and cultural circumstances. It also shows that women's expression of satisfaction may not indicate that all the elements of care are completely good or in accordance with standards set by national or international guidelines. This was illustrated by the disparity between the reported service and expectations of women.

Important areas that deserve serious consideration include the waiting time, information about danger symptoms and signs, particularly oedema, involvement of clients in decision-making with respect to planning of birth, postpartum contraception and establishment of functional referral system. There is need to commit political will and resources in order to improve the quality of antenatal care provided at the primary health care facilities in Sagamu LGA of Ogun State. From this study, recommendations that address the most serious concerns of women as depicted from their preferences and expectations, and which could be implemented within the organizational and economic constraints of the health-care system of the Local Government can be developed.

Continuity of care should be promoted by the provision of functional ambulances at all the centres and explanation provided to women during antenatal care why they sometimes need to be referred by enumerating the provider's limitations. Standard guidelines should be developed on transfer procedures and made known to the clients during antenatal visits, so that pregnant women experiencing complications can be referred efficiently to a better-equipped hospital.

Additional hospital personnel, equipment and space should be allocated for antenatal care in areas where these are major problems. Sanitary facilities that meet minimum standards should be provided at all the centres. With respect to information provision, pregnant women should at the minimum be given information about warning symptoms and signs of complications, especially those that are responsible for significant morbidity and mortality within this environment. Health workers needs education on patients' rights and choices and should be taught how to involve women in the decision-making process concerning their own maternity care. Overall, the findings of this study have demonstrated the feasibility of conducting a detailed assessment of perceived quality of antenatal services at primary health care centres in other Local Government Area of the State.

Acknowledgements

References

1. Prual A, Huguet D, Gabin O, Rabe G. Severe obstetric morbidity of the third trimester, delivery and early puerperium in Niamey (Niger). *Afr J Reprod Health* 1998; 2 (1): 10-19.

2. Pattinson RC, Buchmann E, Mantel G, Schoon M, Rees H. Can enquiries into severe acute maternal morbidity act as a surrogate for maternal death enquiries? *BJOG* 2003; 110 (10): 889-893.

3. Cochet L, Pattinson RC, MacDonald AP. Severe acute maternal morbidity and maternal death audit- a rapid diagnostic tool for evaluating maternal care. *S Afr Med J* 2003; 93 (9): 700-702.

4. Haines A, Cassels A. Can Millennium Development Goals be attained? *BMJ* 2004; 329 (7462): 394-397.

5. World Health Organization. Mother-Baby package: Implementing Safe Motherhood in Developing Countries. Practical Guide. Document WHO/FHE/MSM/94.11; 1994. Geneva: World Health Organization.

6. Kwast BE, Liff JM. Factors associated with maternal mortality in Addis Ababa, Ethiopia. *Int J Epidemiol* 1988; 17 (1): 115-121.

7. Garenne M, Mbaye K, Bah MD, Correa P. Risk factors for maternal mortality: a case control study in Dakar hospitals (Senegal). *Afr J Reprod Health* 1997; 1 (1): 14-24.

8. Mbizvo, MT, Fawcus S, Lindmark G, Nystrom L, Maternal Mortality Study Group. Operational factors of maternal mortality in Zimbabwe. *Health Policy Plan* 1993; 8 (4): 369-378.

9. Sule-Odu AO. Maternal deaths in Sagamu, Nigeria. *Int J Gynaecol Obstet* 2000; 69 (1): 47-49.

10. Villar J, Ba'aqeel H, Piaggio G et al. WHO antenatal care randomised trial for the evaluation of a new model of routine antenatal care. *Lancet* 2001; 357 (9268): 1551-1564.

11. Campagne DM. The obstetrician and depression during pregnancy. *Eur J Obstet Gynecol Reprod Biol* 2004; 116 (2): 125-130.

12. Adeoye S, Ogbonnaya LU, Umeorah OU, Asiegbu O. Concurrent use of multiple antenatal care providers by women utilising free antenatal care at Ebonyi State University Teaching Hospital, Abakaliki. *Afr J Reprod Health* 2005; 9 (2):101-106.

13. Balogun OR. Patients' perception of antenatal care service in four selected private health facilities in Ilorin, Kwara State of Nigeria. *Niger Med Pract* 2007; 51(4): 80-84.

14. Boller C, Wyss K, Mtasiwa D, Tanner M. Quality and comparison of antenatal care in public and private providers in the United Republic of Tanzania. *Bull World Health Organ* 2003; 81 (2): 116-122.

15. Aldana JM, Piechulek H, Al-Sabir A. Client satisfaction and quality of health care in rural Bangladesh. *Bull World Health Organ* 2001: 79 (6): 512-517.

16. Centres for Disease Control and Prevention (CDC), Family Health International (FHI), World Health Organization (WHO). Sample size and power. In: Wingo PA, Higgins JE, Rubin GL, Zahniser SC, eds. *An epidemiologic approach to reproductive health*. Geneva: World Health Organization 1994; 5: 151-200.

17. Langer A, Nigenda G, Romero M, Rojas G, Kuchaisit, Al-Osimi M et al. Conceptual bases and methodology for the evaluation of women's and providers' perception of the quality of antenatal care in WHO Antenatal Care Randomised Controlled Trial. *Paediatr*

Perinat Epidemiol 1998; 12 (Suppl. 2): 98-115.

18. Turan JM, Bulut A, Nalbant H, Ortayh N, Akalin AAK. The Quality of hospital-based antenatal care in Istanbul. *Stud Fam Plann* 2006; 37 (1): 49-60.

19. Bruce J. "Fundamental elements of the quality of care: a simple framework". *Stud Fam Plann* 1990; 21 (2): 61-91.

20. Jain AK. "Fertility reduction and the quality of family planning services". *Stud Fam Plann* 1989; 20 (1): 1-16.

21. Nigenda G, Langer A, Kuchaisit C, Romero M, Rojas G, Al-Osimy M, Villar J, Garcia J, Al-Mazrou Y, Ba'aqeel H, Carroli G, Farnot U, Lumbiganon P, Belizán J, Bergsjo P, Bakketeig L, Lindmark G. Womens' opinions on antenatal care in developing countries: results of a study in Cuba, Thailand, Saudi Arabia and Argentina. *BMC Public Health* 2003; 3: 17.

22. Centres for Disease Control and Prevention (CDC) and World Health Organization. Epi Info 2002 - *Database and statistics software for public health professionals*. Atlanta, Georgia, USA: Centres for Disease Control and Prevention, 2002.

23. Potter M, Macintyre S. What is must be best: a research note on conservative or deferential responses to antenatal care provision. *Soc Sci Med* 1984; 19 (11): 1197-1200.

24. Al-Mandhari AS, Hassan AA, Haran D. Association between perceived health status and satisfaction with quality of care: evidence from the users of primary health care in Oman. *Fam Pract* 2004; 21 (5): 519-527.

25. Olatunji AO, Sule-Odu AO. Presentation and outcome of eclampsia at a Nigerian University Hospital. *Niger J Clin Pract* 2007; 10 (1): 1-4.

26. Patterson K, Logan-Sinclair P. Continuum of care and the antenatal record in rural new South Wales. *Aust J Rural Health* 2003; 11 (3): 110-115.

27. Vera H. The client's view of high quality care in Santiago, Chile. *Stud Fam Plann* 1993; 24 (1): 40-49.

28. Sikorski J, Wilson J, Clement S, Das S, Smeeton N. A randomised controlled trial comparing two schedules of antenatal visits: the antenatal care project. *BMJ* 1996; 312 (7030): 546-553.

29. McDuffie RS, Beck A, Bischoff K, Cross J, Orleans M. Effect of frequency of prenatal care visits on perinatal outcomes among low risk women: a randomized trial. *JAMA* 1996; 275 (11): 847-851.