TITLE PAGE

AN ASSESSMENT OF QUALITY OF ANTENATAL CARE SERVICES IN PRIMARY HEALTH CENTRES IN AWKA SOUTH LGA OF ANAMBRA STATE

BY

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APPROVAL PAGE

This is to certify that the project was carried out by .....in the department.

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DEDICATION

This work is dedicated to all women who lost their lives in the course of giving birth.

ACKNOWLEDGEMENT

First and foremost I want acknowledge the almighty God who saw me through all these period of carrying out this research work. I also want to appreciate my wife for her support all this while and I will never forget the input of all my colleagues towards seeing that this work became a reality. My ever understanding supervisor is not left out, I appreciate her so much for always having the interest of all her students at heart, Ma, I am grateful.

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ABSTRACT

Background: Antenatal care is a basic component of any reproductive health care programme and reproductive health is one of womenôs fundamental human rights. It aims to achieve optimal health outcomes for the mother and the baby through early detection of complications and prompt treatment and it is one of the recommended interventions to reduce maternal and neonatal mortality. High quality antenatal care is desirable as only adequate utilisation is not enough to reduce the poor maternal indices in Nigeria and sub-Saharan Africa.

Objective: To assess the quality of antenatal services in primary health centres in Awka South LGA of Anambra State.

Methodology: This was a cross sectional descriptive study carried out in Primary health centres in Awka South LGA of Anambra State. It involved an audit of structures in the facility, equipment, drugs and supply. An interviewer- administered questionnaire was used to conduct an exit interview for 258 pregnant women attending antenatal care in the facilities. Data was analyzed using SPSS version 20 and results presented in tables

Results: Findings from this study showed good quality with regards to process of care and very good quality with regards to structural and outcome attribute of quality. There was a high level of client satisfaction with antenatal care received (86.8%). A significant association was observed between client satisfaction and marital status, educational level and occupational group ($P<0.05$) but no association was observed with parity ($P>0.05$)

Conclusion: The importance of high quality antenatal care cannot be overemphasized at it will not only ensure women attendance to the clinics but will also contribute in combating

maternal mortality which is high in this part of the world. Clientsô perspective of quality of care with regards to their satisfaction with service provision is also a vital part that should always be considered to have an improved service delivery.

Keywords: Antenatal care, Quality, Structure, Process of care, client satisfaction

CHAPTER ONE

1.0 INTRODUCTION

Antenatal care is the medical care that women receive during pregnancy[1] and it includes a variety of services ranging from screening for risk factors, providing clients with information, and treating existing conditions and complications.[2] It is considered a basic component of any reproductive health care programme[3] and reproductive health is one of womenôs fundamental human rights.[4]

Antenatal care aims to achieve optimal health outcomes for the mother and the baby through early detection of complications and prompt treatment (e.g., detection and treatment of sexually transmitted infections), prevention of diseases through immunisation and micronutrient supplementation, birth preparedness and complication readiness; health promotion and disease prevention through health messages and counselling of pregnant women.[5]

It is one of the recommended interventions to reduce maternal and neonatal mortality[6] and its provision is regarded as a cornerstone of maternal and perinatal health care. It is expected to have considerable impact on achieving the Millennium Development Goals (MDG) goal 5, which aims to improve the health of mothers; a large part of goal 4, which focuses on reducing child mortality; and parts of goal 6, which seeks to combat AIDS, malaria and other diseases.[7, 8] The target of MDG 5 is to reduce maternal mortality rate by 75% by 2015 among other things through a very effective antenatal service. The situation related to pregnancy, delivery and the postpartum period is still disquieting because too many mothers and newborns die annually in developing countries. Reducing these deaths must continue to be a top-priority challenge in reproductive health.[9] Antenatal care is one of the recommended interventions to help reduce these alarming maternal and newborn

mortalities[10-12] more so in Nigeria because of the risks of malaria and anaemia in poorly nourished women, as well as risk of tetanus.[13]

One of the four pillars of safe motherhood is antenatal care, together with family planning, clean and safe delivery, and essential obstetric care[14] and of all of them, it is the one that has the potential to significantly reduce maternal morbidity and mortality when properly conducted.[14] It is also worthy of note that one important function of antenatal care is to improve the womanôs awareness about warning signs of pregnancy complications, in order to be able to seek help early.[3] This is very important as late presentation to a health facility can lead to poor outcome. But having presented to a centre where the quality of services rendered is poor, that means good outcome will still not be obtained. This calls for having high quality services.

Pregnancy can become complicated requiring more than prenatal screening but also the involvement of the community to which the woman belongs in addition to the health workers. The concept of antenatal care therefore has to be broadened to include the educational process of the health workers, the woman and her partner and the members of the community to which she belongs.[3]

The World Health Organization (WHO) advocated an improved model for antenatal care use for women without complicated pregnancies in developing countries and recommends at least four antenatal care visits which should include compulsory blood pressure measurement, urine and blood tests and non-compulsory weight and height check at each visit.[1] This is focused antenatal care which emphasizes evidence-based actions that are goal-directed i.e. methods that work, individualized, woman-centered or family centered care, quality versus quantity of visits and finally care by skilled providers.[15]

Access to appropriate healthcare services during pregnancy and childbirth is mentioned as one of the means that will provide couples with the best chance of having a healthy infant.[4]

Appropriate here means a high quality antenatal service which is very essential to the survival of the mother and the child. The emphasis is not just having antenatal services but one that provides complete package of all that is supposed to be made available to the women.

In most Sub-Saharan African countries, high rates of ANC coverage coexist with high maternal and neonatal mortality and this disconnect has fuelled calls to focus on the quality of ANC services but little conceptual or empirical work exists on the measurement of ANC quality at health facilities in low-income countries.[6] It was also observed that the level quality of antenatal care is scarce in developing countries. Models of care adopted in the western world and exported to the developing world have not been monitored early enough to discover their weak points promptly. This has transformed antenatal care into an empty and useless ritual.[3] This therefore calls for an adequate assessment of ANC services rendered in the Nigerian setting as its maternal health indices continue to be poor despite increased utilisation of antenatal services. For antenatal care to be effective, it has to guarantee the availability and proper functioning of all factors that contribute to a safe pregnancy and delivery, from the remotest health post to the health centre and hospital where complicated cases need to be referred.[3]

Quality of care is historically derived from work in industry[16] and various schools of thought have given different views about quality. Roemer and Montoya[17] see quality of care as the performance of interventions according to standards that are known to be safe, which are affordable to the society and that have the ability to produce an impact on mortality, morbidity and disability.[17] This tries to bring a distinction between the quality of the actual care and expected quality based on standards.

It was also seen as a means of closing the gap between desired and actual health outcomes as Institute of Medicine defined it as ―the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are

consistent with current professional practiceô[18] Quality can be said to be a delicate balance of expectations from the patients, their relatives on one hand, the health service providers and the health institutional expectations[19] or the functional effect of an illness and its consequent therapy upon a patient, as perceived by the patient where the domains of quality of life include physical, mental, social, and occupational function; health perceptions; and symptoms of disease.[20]

Donabedian also defined quality as the degree to which health services to individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge and it ensures that services are safe, effective, patient-centered, timely, efficient and equitable.[21] He also defined quality as the application of medical science and technology in a manner that maximises its benefit to health without correspondingly increasing the risk.[22] He went further to propose a framework for assessing quality of care which distinguishes between the attributes of the health care setting (structure), the actual care delivered (process) and the end result of the interaction between an individual and the health care system (outcome).[23] In antenatal care services, the structural attribute of quality include the human, physical and financial resources that are used to provide reproductive health care while process is the set of activities that take place between the provider and woman. Therefore process is the actual transaction whereby the provider uses the available structural elements to manage the technical and personal aspects of health. The concept of outcome include the direct impact of treatment on the current or future health of a woman or her newborn and the indirect impact on her satisfaction with the services offered and her health-seeking behavior.[24]

Maxwell also suggested six dimensions of quality[25] which can also be expanded to include availability of care, infrastructure, continuity of care, access to a referral system, management and process of care. These collectively define quality of Maternity Care, and

have an impact on the outcomes which include maternal mortality and morbidity and also utilisation of services.[26] While Studies have shown that poor access to basic antenatal care is 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.[27]

It has also been reported that ANC alone could reduce the maternal death rate by more than 20% provided that it is of good quality and regularly attended by pregnant women.[28, 29] According to the World Health Organisation, in most African countries, less than 70% of the pregnant women get proper care throughout pregnancy and many of those who attend antenatal clinics come only once or twice and sometimes late in pregnancy and this is evidence of poor quality of care.[3] Poor quality of antenatal care is likely to reduce its utilization.[30] Other studies have also suggested that poor quality, unfriendly treatment and less information sharing by health providers to the poor and disadvantaged women may lead to underutilization of health services by the poor women.[31-33]

The world health organisation in 1978 recognised primary health care as the key to achieving a state of physical, mental and social well-being for all people of the world[34] and antenatal care being a component of primary health care needs to be strengthened. This is very important especially as primary health care is the entry point into the healthcare delivery system of the country and therefore an ideal setting for prevention of pregnancy complications by identification of risk-prone pregnancies and provision of immediate linkage of high risk women to specialist care.[35] High quality antenatal services have some characteristics which are also essentials of the primary health care services and the pillars of Safe Motherhood in Nigeria rest on the solid foundation of primary health care.[35] Some of these features include accessibility, acceptability, effectiveness and suitability for the

community. Health centre is the most widespread and most numerous structure for the delivery of health services in many developing countries and because of their nearness to the population form the interface and link between the communities and the health sector.[34]

The importance of high quality antenatal care service cannot be overemphasized as it has been calculated that for every dollar spent on antenatal care for high-risk women, more than three dollars(₦450) are saved (compared to managing complications arising from pregnancy).[36] This goes to show that having a high quality antenatal care not only saves womenôs life but has a positive economic implication to the family and the society in general.

1.1 PROBLEM STATEMENT

Globally, women of reproductive age who die from pregnancy and childbirth related complications each year are close to 536,000[37] with approximately 99% of the deaths occurring in developing countries and about 10% of them are attributed to Nigeria.[38] A survey showed that in 2008, over 300,000 maternal deaths occurred worldwide and almost all of these are in low- and middle-income countries[39, 40] of which Nigeria is part of. Every day, approximately 800 women die from preventable causes related to pregnancy and childbirth[41] with an estimated 3million newborn babies dying within the first month of life[42] and between 2.1 to 3.8 million babies are stillborn.[43-45]

Maternal mortality has remained stagnant in some developing countries especially in sub-Saharan Africa[37]despite the launch of the Safe Motherhood Initiative in Nairobi Kenya in 1987.[37, 46] According to Zambian national assessment of quality of antenatal care, the percentage of women attending ANC (for at least one visit) generally tends to be satisfactory even in low-income countries, but maternal and neonatal mortality remain high.[6] This weak relationship between ANC use and maternal and newborn survival has motivated a recent call

to focus on content and quality of care provided rather than mere ANC attendance as world aims at achieving MDG 4 and MDG 5.[47]

According to the Nigerian Demographic and Health Survey of 2008, the neonatal mortality rate is 40 deaths per 1,000 births while the maternal mortality ratio is 545/100,000 live birth.[5] The same survey showed that 64% of women pregnant with their first child received antenatal care from a skilled health worker, compared with 47% of women with births of order six or higher**.** Also 58% of women age 15-49years received antenatal care from a skilled provider (doctor, nurse/midwife, or auxiliary nurse/midwife) during their last pregnancy of which 30% of them are from a nurse or midwife and 23% from a doctor. Only 3% of women received ANC services from a traditional birth attendant while 36% did not receive ANC services at all.[5] From the above, one can see that utilisation of ANC service is fair but Nigeria still has poor outcomes probably due to poor quality of care.

Estimated 15% of pregnant women suffer from life-threatening complications which could have been detected during antenatal consultations.[28] ANC alone could reduce the maternal death rate by more than 20% provided that ANC is of good quality and regularly attended by pregnant women.[28, 29] Effective maternal health programmes are supposed to address all these poor indices but they have been found to be very deficient in developing countries[48] and studies that have been reviewed from most developing countries mostly report low quality of antenatal services provided.[48] Case fatality rates for obstetric complications are often still above the United Nations level of less than 1% in many hospitals because of limited knowledge and skills of health care providers and a resulting poor quality of care.[49]

1.2 JUSTIFICATION FOR THE STUDY

Despite the increasing importance of quality of antenatal care worldwide, many areas still lack detailed information about the quality or effectiveness of antenatal care practices as

is seen 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.[50, 51] This therefore makes it imperative to examine the quality of ANC services at the primary health facilities as primary health care represents the entry point into the healthcare delivery system of a country. Information on the quality of the antenatal care services provided in the context of the primary health care system can be used to improve on the responsiveness of the health system to the needs of the majority of pregnant Nigerians.[35]

Studies have also suggested that investment in the quality of care is most important in antenatal health care[52] and the problem of maternal mortality in the country may not necessarily lie with utilization but with the quality of services.[53] Assessing and improving the quality of antenatal services can never be overemphasized as Archie Cochrane[54] rightly pointed out that ñBy some curious chance, antenatal care has escaped the critical assessment to which most screening procedures have been subjectedò and recommended that ñthe emotive atmosphere should be removed and the subject treated like any other medical activity and investigated by randomised controlled trials.[54] This goes to show how important it is to match increased ANC coverage with improved quality of care in order to really influence health outcomes. Faye et al[55] noted that where the quality of care is poor (including non-woman friendly care), women are less likely to access such care even if available.[55]

Quality has many attributes and in this environment, there is paucity of data on quality from womenôs perspective at the primary care level which could provide useful information. This therefore calls for a rigorous and regular appraisal of the quality of antenatal care services in the primary health care centres (PHCs) so as to identify specific problems and develop strategies for improvement.[35]

Studies have addressed the socio-cultural barriers to the use of health services during pregnancy and childbirth[56, 57] but relatively few studies have dealt with the factors that relate to health facilities themselves and to the quality of services provided**.** The rationale for assessing clientôs satisfaction is that care assessed to be of high quality according to the providerï defined criteria is far from ideal if the client is dissatisfied with it.[58] Still on client satisfaction with ANC services, the knowledge about users' views is still very limited, especially in developing countries.[59, 60] Consequently, an inward look and assessment of the quality of ANC services provided becomes pertinent and this is what this present study hopes to achieve. Health centre is so widespread and numerous and because of their nearness to the population form the interface and link between the communities and the health sector.[34] Therefore it is a good place to study the quality of antenatal services.

Finally high quality ANC is one of the service interventions that have a potential to impact on the high maternal mortality. The majority of maternal deaths could be avoided if women had access to high quality medical care during pregnancy, childbirth, and postpartum.[37] Findings from this study will be fed into maternal health programs to improve quality of ANC in the country as this study will cover all the three attributes of quality according to Donabedian.[21-23]

1.3 OBJECTIVES

GENERAL OBJECTIVE

To assess the quality of antenatal care services in primary health centres in Awka South LGA of Anambra State.

SPECIFIC OBJECTIVES

1. To assess the infrastructure and adequacy of equipment and supplies in the study facilities.
2. To examine providersô processes of care in delivering antenatal services at the study facilities.
3. To determine the level of client satisfaction with antenatal services provided.

HYPOTHESIS

H_0: There is no significant association between client satisfaction with ANC and parity.

H_1: There is a significant association between client satisfaction with ANC and parity

CHAPTER TWO

LITERATURE REVIEW

2.1 STRUCTURAL ATTRIBUTE OF QUALITY OF CARE

The setting for delivering antenatal service is just as important as any other attribute of quality and quality assessment cannot be complete without looking at structural component which include material, human and financial resources, and organisational structure. An assessment of material resources and equipment should be viewed as part of the evaluation of the quality of the antenatal care provided, given the importance that the laboratory testing has in maternal care and the crucial need for medical equipment used to avoid the professional risk of HIV infection.[3] This study found that there were very few available means of communication, like telephones or two-way radios, which is supposed to facilitate communication between different facilities and also a lack of any kind of transportation, such as ambulance or car which means that time of transfer of women if need be will be prolonged.[3] This shows that quality of service provided is deficient.

Maternal mortality is costly to measure and professional attendance at delivery is assumed to reduce maternal mortality.[61] The proportion of deliveries with a professional or skilled attendant is used as a progress indicator[62] and report by WHO showed that only 62% of childbirths are assisted by qualified people in developing countries.[63]

In a Tanzanian study on the quality of antenatal care in rural Tanzania, BP machines, stethoscopes, weighing scales, HIV test kits, folic acid, mebendazole and SP drugs for IPT were available in nearly all (91% ï 100%) facilities during the period of this study. Haemoglobin estimation machines were available in less than two thirds (64%) of the health facilities reason given being that some essential equipment like blood pressure machines were of poor quality leading to short durability contributing to the shortage. Also Glucostik and

albustik kits were available only in 18% and 27% of all health facilities respectively. Haemoglobin estimation machines, Glucostik and albustik kits were completely unavailable in those facilities for up to 12 months before the study. There was also severe shortage of staff for antenatal care in all dispensaries and health centres. Shortage of qualified staff and irregular supply of essential equipment, drugs and consumables were considered by 91% and 64% of the respondents respectively as the major underlying factors for substandard ANC.[64]

A study done in Burkina Faso assessed the availability of specific and non-specific equipment, drugs and reagents, and data-collection tools at the facility; availability of a sufficient number of qualified staff; and training experience of the working staff on prevention of infection, family planning, use of partograph, obstetrical and neonatal emergency care, and breastfeeding. The study used a scoring system to calculate: (a) an equipment score (total number of working equipment and tools available in good condition), (b) a staff score (total number of the following categories: senior midwife and senior obstetric assistant, senior nurse, junior nurse, birth assistant, and junior health workers, and (c) a training score (total number of people trained in the following topics: infection prevention (IP), family planning (FP), use of the partograph, obstetric and neonatal emergency care (ONEC), and breastfeeding counselling.[65] It revealed that there is problem with the materials and equipment available in each health centre but with a major variation between centres (scores ranging from 8 to 21 out of a maximum of 24, with an average of 16.8). Also health centre had equipment to measure the length of the child.[65] The study also showed that the average number of health workers per health centre was three with only three health centres having the theoretical minimum number of four health workers recommended nationally. In addition, 45% of the health centres had no junior birth assistants (equivalent of CHEW). On staff training in the specific topics of reproductive health, for the whole district, an average of 1.6 agents per centre had been trained in the prevention of infection, 1.5 in family planning,

0.3 in the use of Partograph, 0.1 in breastfeeding, and none in obstetrical and emergency care for neonates with only two health centres having at least a person trained in four of five topics thus giving a very low score for staff training.[65]

Lack of appropriately trained staff, incorrect treatment, poor staff attitude, delay in referral, poor cooperation and interpersonal relationships between health providers as well as inadequate supplies and equipment are evident in many resource poor settings.[66, 67] A study in Lagos revealed that healthcare providersô attitudes were perceived to be good by 66.3% of respondents; 25.7% of clients felt providersô attitudes were fair, while 8.0% felt healthcare providers had poor attitudes.[68]

2.2 PROCESS OF CARE IN ANTENATAL SERVICE PROVISION

Process of care denotes what is actually done in giving and receiving care in antenatal setting and it is usually compared against a set standard, usually a national guideline. However, the World Health Organization recently advocated that only examinations and tests serving an immediate purpose and proven to be beneficial should be performed during antenatal visits.[69] These examinations should include, at a minimum, measurement of blood pressure, testing of urine for bacteriuria and proteinuria, and blood tests to detect syphilis and severe anaemia.[1]

According to a study carried out in Mexico, the quality of antenatal care is measured by a series of questions about antenatal services received that correspond with national clinical guidelines and they include 12 activities that are routinely conducted during history-taking and diagnostics (blood and urine samples, and history of bleeding and discharge), the physical examination (blood pressure and weight, and measurement of uterine height), and other preventive procedures (tetanus toxoid immunization and iron supplements, advice about family planning and breastfeeding, and use of the health card).[70]

In a study done in China, the quality of ANC was assessed using 16 different ANC procedures, the type of ANC providers etc. It found that eighty-one percent of women were weighed and 91% had blood pressure taken, which is close to the countryôs norms of universal coverage. The proportions of women who underwent haemoglobin, urine, syphilis, HBV, and HIV/AIDS test during pregnancy, received folic acid supplement, and were advised on nutrition during pregnancy were 79%, 77%, 48%, 59%, 47%, 50%, and 59%, respectively. However a small proportion of women were given iron supplement (22%) and advice on syphilis (13%), HBV (21%), HIV/AIDS (14%), and delaying the next pregnancy (28%), urine sample taken including bacteriologic examinations and tests for blood, protein, glucose, ketones, etc; syphilis, HBV test, and HIV/AIDS test) and preventive care procedures (iron supplements, folic acid supplements, advice on nutrition during pregnancy, advice on syphilis, HBV, and HIV/AIDS, advice on delaying the next pregnancy, and breastfeeding counselling).[71]

Similarly in Zambian national study on quality of antenatal services, ANC interventions include weight measurement, height measurement, blood pressure measurement, urine sample taken for analysis, blood sample taken for analysis, offered VCT, iron supplementation provided, antimalarial drug provided for IPT, birth preparedness plan discussed, treatment provided for intestinal parasites and tetanus toxoid vaccination.[6] The study shows that folate/ iron supplementation, tetanus vaccination and IPT of malaria were provided by the vast majority of ANC facilities but detection and prevention of mother-to-child transmission of HIV were done by only a third of ANC facilities. It also revealed that only 16% of ANC facilities provided blood test for haemoglobin and half provided screening for syphilis, urine testing for protein was done by less than a quarter of ANC facilities but majority of facilities provided family planning, delivery and postnatal care all of which ensures continuity of care.[6] Consequently over 80% of women received iron supplementation,

IPT for malaria, blood pressure and weight measurement and tetanus vaccination while VCT for HIV was received by half, drugs for intestinal parasites by about a third, and only about a quarter of women reported that their urine had been tested at ANC. Approximately half of the mothers received eight or more ANC interventions, 40% received five to seven interventions and 12% received less than five interventions.[6]

Giovanni et al also posited that a functioning referral system between health facilities needs to be part of the services provided to the pregnant woman. This will permit the transfer of the woman to the appropriate level of assistance with proper and timely management of the emergency obstetric situation, ideally at the lowest stage of severity.[3]

A study in Tanzania revealed that out of the total 754 ANC visits made by 263 women in the study, blood pressure, haemoglobin and albumin in urine were assessed in only 69%, 25% and 22% respectively and 63 (52%) were found to have at least one risk factor. Advice on delivery was provided to only 40 (33%) women attending ANC on the day of study and the most frequent delivery advice (93%) given to women with risk factors was hospital delivery, when to go and use of maternity waiting home. On the other hand, 25 (40%) women with risk factors reported that they did not receive any advice on the delivery plan.[64]

Nikiema L et al[65] working on quality of ANC in Burkina Faso carried out a non-participating observation of five consecutive antenatal consultations and assessed the quality of services based on their national standards for all the operations, attitudes, and questions put to the pregnant woman during ANC. These include five dimensions of Components of reception, types of information collected, components of clinical examination, components of gynaecological examination and components of decision-making.[65] The observation revealed failures at all the stages but especially at the level of gynaecological examination, decision-making, and clinical examination with 73% of the 81 observations having a below average score.[65] Overall reception was noted to be acceptable and some questions asked in the waiting

room were incomplete by lacking some information on the way of life (61%), personal background (59%), vaccination status (43%), and the record of current pregnancy (37%). Weight, height, and blood pressure measurements were done in groups in the waiting-room while physical examination was performed individually in a room used as an office equipped with an examination table with poor lighting daylight was the only source in 78% of the cases.[65] Antenatal examination was carried out by a birth assistant or matron in 44%, a senior nurse in 25%, a junior health worker in 19%, and a nurse in 12% of the cases and hands were washed with soap before and after each examination in a very few cases where water was available.[65] Other things observed are that a very few women were informed of the results and the course of their pregnancy and the location of childbirth, signs of alert were not properly discussed. Most risk factors were not considered in an active way, and women at risk did not benefit from any particular care. Urine test for protein and sugar was carried out in only 9% of the cases. Anti-tetanus vaccination was suggested and all the women benefited from a prescription for chloroquine for malaria and iron, folic acid for anaemia. However the dose was specified in all the cases but the importance of these regulations to the women was less emphasized. Generally women were not correctly involved in the process; they received very little individual advice on pregnancy hygiene, food hygiene (30%), and planning of childbirth during ANC meetings and the majority of the health centres held group-discussion session on a reproductive health topic with visual aids on ANC clinic days.[65]

Studying Womenôs perception of antenatal care services in public and private clinics in the Gambia, over 50% of the women in both settings felt that they had been given inadequate information on pregnancy issues with roughly 80% of the women reported that they had not been told how to recognize or manage certain danger signs during pregnancy.[72] Overall, among women who attended either a public or a private facility, 87% worried about the position of their babies, the size of the baby, having a premature baby, having an abnormal

baby or their own health and weight but very few women had received information related to these worries. Less than half of the total sample had received such information and felt reassured. Significantly more women attending private clinics felt reassured compared with their public-facility counterparts.[72]

A research on clients perception of ANC in Ibadan found out that counselling for HIV was the predominant health education subject but more than half (53.9%) of respondents did not receive information about cervical cancer. About 10% of patients did not receive information about danger signs during pregnancy, breast self-examination, family planning and prevention of sexually transmitted infections. However clinic amenities and constellation of services were rated highly.[73]

Another research comparing practice of focused antenatal care in PHC rural and urban areas of Ekiti State considered the following service areas: blood pressure check, abdominal examination, fetal heart beat check, urine test for protein, hemoglobin test , HIV test, Syphilis test as well as whether they had ever received iron drugs, Tetanus toxoid (TT) vaccines, Intermittent Preventive Treatment in pregnancy (IPTp), Long Lasting Insecticide Nets (LLIN), multivitamins and whether the women were directly observed (DOT) when taking the IPTp (sp) while health education topics include diet and nutrition, knowledge about expected date of delivery and fetal growth, birth-preparedness, complication readiness, danger signs in pregnancy and post partum, HIV screening and prevention of HIV and STIs. The result obtained showed that a lower proportion 41 (20.7%) of respondents in the rural areas had the minimum contents of focused antenatal care compared to urban areas where 58 (29.3%) of the respondents did the same. Also majority 355 (89.6%) of the respondents were taught a wide range of health education topics but the proportion of respondents taught these topics were slightly lower in the rural areas 177 (88.5%) compared to urban areas 178 (90.8%).[13]

Osungbade et al[74] in their work found out that blood pressure measurement, abdominal palpation and detection of foetal heart rate were provided to all participants studied in their work.[74] In the same study also, three hundred and eighty-six (99%) were reached with at least one educational message, one hundred and sixty seven (42.8%) had haemoglobin or packed cell volume estimated, whereas 168 (43.1%) had urine checked for protein, at least once during antenatal visits. Routine iron and folate supplements, and malaria prophylaxis were, respectively, given to 142 (36.4%) and 25 (6.4%).[74] The number of pregnant women were reached with information on family planning/child spacing 274 (96.5), child care 263 (92.6), HIV/AIDS and other sexually transmitted diseases 262 (92.3), benefit of delivery in a health facility 263 (92.6) and what to do if there is a problem during pregnancy 250 (88.0) in hospitals than comprehensive health centres and haemoglobin estimation or checking for packed cell volume and urine analysis for protein were the only laboratory investigations carried out among the pregnant women with that less than half of the participants, 167 (42.8%), had either haemoglobin or packed cell volume estimated.[74]

2.3 CLIENT SATISFACTION WITH ANTENATAL CARE

Client satisfaction is an indirect way of measuring outcome attribute of quality[24] or clients perceived quality of care.[73] Satisfaction of clients attending ANC can be on different aspect of care and can also be measured generally by asking these three basic questions; are you satisfied, will you recommend this for a friend and will you come back if you become pregnant again.[75] Various studies used womenôs satisfaction with service delivery as an outcome indicator as it is influenced by womenôs expectations and their previous experiences.[24] This was deemed appropriate because subtle changes in the quality of care can be detected in women satisfaction long before the physical changes in health status can be seen and it was assumed that a satisfied woman user would probably benefit more from the

care offered to her than an unsatisfied woman.[24] It was observed that the little amount of focus on quality of care in many resource-limited settings has been from the healthcare providers point of view with his professional standards being used as index of quality but studies have shown that perception of quality by pregnant women and their care givers 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, fulfilment of their information needs, birth positions and social supports during labour.[76, 77]

A study done to compare traditional ANC with new ANC model showed that women in both trial arms were equally satisfied with the information provided by the caregiver about their health, tests during pregnancy and treatment they might need but women in the new ANC model were substantially more satisfied with the information received about normal labour and delivery processes, breastfeeding, family planning, and danger signs.[75] In the study above, overall satisfaction by the women was measured by three affirmative answers to the questions "If you were pregnant again, would you come back to this clinic?", "Would you recommend this clinic to a relative or friend for their antenatal checkups?" and "In general, are you satisfied/very satisfied with the ANC you have received in this clinic so far? and women in both arms of the study showed very high levels of satisfaction with no statistically significant differences between groups and the overall satisfaction index showed that more than 90% of women in both ANC models said that they were "very satisfied".[75] A Tanzanian study reported that 93 (77%) of the women were satisfied with the ANC services they received in these facilities and this include women who had a risk factor but never received any delivery advice[64] but it went ahead to state that the fact that satisfaction to ANC services is subjective, the results posed a potential limitation as satisfaction can be influenced by a number of factors including knowledge on the required types of services and attitude of the

individual clients. Based on these factors, clients might have expressed different levels of satisfaction even if they received similar services.[64]

A study done in Ethiopia got an overall level of satisfaction with delivery care was 82.9%[79] and satisfaction level was re-coded as follows ôvery satisfiedô and ósatisfiedô were classified as **satisfied** and responses óvery dissatisfiedô, ódissatisfiedô and óneutralô as **unsatisfied**. Neutral responses were classified as dissatisfied considering that they might represent a fearful way of expressing dissatisfaction represent a fearful way of expressing dissatisfaction. This is likely because the interview is undertaken within the health facilities and mothers might be reluctant to express their dissatisfaction feeling of the services they received.[78]

In University College hospital, Ibadan, client satisfaction to antenatal services was also done and most respondents were found to be satisfied with the services given at the clinic; 81.1% rated the services as good while 18.9% were not satisfied and stated that service was poor. Most women (83.3%) revealed that they would register in the same health facility in subsequent pregnancies and would recommend the clinic to someone else.[79] Similarly a study carried out at PHC in the southwest of Nigeria shows that women attending antenatal clinics at these centres were satisfied with the quality of services received in spite of some inconsistencies between the received care and their expectations of the facilities.[35]

In another study, the mean time spent during clinic visits was 3.9 +/- 1.4 hours with the waiting time rated as appropriate by most women (67.1%). However women with high education and in upper socioeconomic class tended to rate the waiting time as too long. Overall most women (96.5%) were satisfied with the care received, would use the same facility in future pregnancies and would recommend it to friends.[73]

CHAPTER THREE

METHODOLOGY

3.1 STUDY AREA

This study was carried out in Awka South Local Government Area of Anambra State in the South-East of Nigeria. The State is made up of 21 Local Government Areas[80] with three senatorial zones which are Anambra North, Anambra Central and Anambra South. The capital of the state is Awka. Its boundaries are formed by Delta State to the west, Imo State and Rivers State to the south, Enugu State to the east and Kogi State to the north.[80] The ethnic groups in the state are Ibos which constitute 98% of the population with the remaining 2% being Igalas in the north-western part of the state and most people are Christians with few practising African traditional religion and Islam.[80] Anambra is the 8th most populated state in Nigeria and 2nd most densely populated after Lagos.[80] Languages spoken are Igbo, English and Pidgin English. According to 2006 population census, the population is 4,055,048 with 62% of its population in urban area. The total area is 4,844Km^2 (1870sqm) and a density of 840/Km^2 (2,200/sqm). The GDP as at 2007 is $11.83 billion with per capita of $1,615 and currently has the lowest poverty rate in Nigeria.[80] The state is rich in natural gas, crude oil, and bauxite, ceramic with almost 100% arable soil.[80] The predominant occupation of Anambra people are farming (especially in rural areas), trading, white collar job and in industry. Health facilities in the state include two tertiary institutions, several general hospitals, primary health centres and private hospitals. The state has tropical rain forest, humid climate with a temperature of about 87^{o}F and rainfall of between 152-203cm.[81]

Awka South Local Government Area is made up of nine towns, namely, Amawbia, Awka, Ezinato, Isiagu, Mbaukwu, Nibo, Nise, Okpuno and Umuawulu. The people of Awka South LGA were well known for blacksmithing in the past but presently they are in all forms

of profession.[80] The Local Government Area has 23 Primary health facilities comprising of 8 Primary health centres, 13 health Posts, one basic health centre and one maternal and child health centre. (Appendix 2) The study was carried out at the Primary health centres Nibo, Nise and okpuno.

3.2 STUDY DESIGN

This was a cross sectional descriptive study on the quality of antenatal care services in primary health centres facilities in Awka south LGA of Anambra state.

3.3 STUDY POPULATION

The study population included women receiving antenatal services in primary health centres selected and also healthcare providers working in those facilities.

3.4 INCLUSION AND EXCLUSION CRITERIA FOR SELECTING PRIMARY HEALTH CENTRES AND CLIENTS

3.4.1 INCLUSION CRITERIA

I. Only primary health centres that provide antenatal services with a minimum of 10 women per clinic day were selected for the study. This was to ensure that the services provided in the centre were being utilised. This was used in a similar study in Tanzania.[76]

II. Women who have attended antenatal clinic at least twice were included in the study to ensure that women have been sufficiently exposed to ANC so as to form their own opinion on the quality of care they had received. This was also used in other similar studies on quality of antenatal services.[74, 82]

III. For health workerôs interview, providers who have been rendering antenatal services at the centre for at least 2years were interviewed. This was to capture enough workers

who can give account on the services being rendered. Another study[83] on the same subject made use of this and this was also to make for comparison.

3.4.2 EXCLUSION CRITERIA

I. Primary health centres that had less than 10 clients per clinic day were excluded from the study.

II. Women with a history of receiving care at another health facility in the current pregnancy were excluded from the study to eliminate recall bias. This was also used in a similar study.[74]

III. Also pregnant staff of the facility were excluded from the study to avoid bias in favour of their facility. Women who declined to participate in the study were also excluded.

3.5 SAMPLE SIZE DETERMINATION

For assessing client satisfaction, sample size was determined using the formula for calculating sample size in population greater than 10,000 [84]

$n=z^2pq/d^2$

Where n=calculated sample size

z=standard normal deviate at 95% confidence interval=1.96

p=percentage of clients satisfied with antenatal care service

q= the complementary probability of p, 1-p i.e. percentage of clients not satisfied with antenatal care service

d=precision level 5%=0.05

In a study on the quality of antenatal services at the primary care level in southwest Nigeria, it found that 81.4% of clients were satisfied with antenatal care received.[35]

Therefore p=81.4%=0.814 and q=1-p=1-0.814=0.186

$n=1.96^2$ X 0.814 X $0.186/0.05^2$

n=232.6

Therefore the estimated minimum sample size n =232.6, approximately 233

However 258 pregnant were eventually used in the study

3.6 SAMPLING TECHNIQUE

A simple random sampling was done to select primary health centres in Awka South LGA. A sampling frame made up of all the primary health centres in Awka South LGA was drawn from where facilities that meet the inclusion criteria were selected. It was ensured that the number selected cover a minimum of 25% of health facilities in the area to meet the WHO recommendation to cover at least 25-30% of the health facilities in the area when assessing quality of health care.[85] Out of all the 8 primary health centres in Awka South LGA, only 4 met the inclusion criteria of having at least 10 clients per clinic day. Three out of the four primary health centres were selected by a simple random sampling technique and this met the minimum standard as recommended by the world health organisation. The facilities selected included Primary health centre Okpuno, Nibo and Nise.

The number of clients for the study in each facility was calculated by applying proportional allocation ratio as was done in similar studies.[13, 35, 74, 86] using average number of clients in the 6months preceding the study in the selected sites thus:

N= Average monthly ANC attendance in the study facility X Sample size

Total of average monthly ANC attendance in all the facilities selected

where N in the number of clients that were interviewed in each health centre.

Average monthly attendance for PHC NIBO: 190+130+172+170+180+145/6 = 164.5

Average monthly attendance for PHC OKPUNO: 115+113+147+107+120+125/6 = 121.2

Average monthly attendance for PHC NISE: 43+76+82+113+75+75/6 = 77.3

Total of average monthly attendance for the three PHC: 164.5+121.2+77.3 = 363

Then Number of clients for PHC Nibo: 164.5/363 X 258 = 117

Number of clients for PHC Okpuno: 121.2/363 X 258 = 86

Number of clients for PHC Nise: 77.3/363 X 258 = 55

117 clients were studied in PHC Nibo, 86 in PHC Okpuno while 55 were studied in PHC Nise

A systematic sampling technique was used to select antenatal clients for the study who were interviewed at the point of exit from service. This was applied in other similar studies.[13, 35, 73] Only those that were eligible and gave consent were interviewed and the procedure continued till the sample size was reached.

3.7 RESEARCH INSTRUMENT

All the three attributes of quality according to Donabedian[21, 22, 23] which are structure, process and outcome were studied. Both qualitative and quantitative methods of data collection were used. Qualitative data instrument was focus group discussion guide for women attending antenatal clinic while quantitative instruments were observation checklists

for structure and process attribute of quality and questionnaire for ANC clients and healthcare providers in the selected facilities.

3.7.1 STRUCTURAL ATTRIBUTE: An audit of the physical infrastructure in the facilities, equipment, drugs and supplies was done in each of the health centres. This was carried out using an observation checklist that was adapted from equipment list of national primary healthcare development agency antenatal clinic/interview room[87, 88] and national essential drug lists. The observation checklist for the infrastructure has a total of 4 columns and 15 items describing the infrastructure being assessed and a minimum requirement for each item and the facility score. (Appendix 3) The checklist for equipment and supply has the same pattern with 25 items in the equipment list (Appendix 4) and 8 items in the drug list. (Appendix 5).

Human resources for the health facilities was assessed using a checklist of proposed health manpower for a primary health centre (PHC), according to National Primary Health Care Development Agency (NPHCDA).[88, 89] It is composed of seven categories of staff with minimum requirement for a primary health centre. See appendix 6. From the checklists above, scores were given for each item as follows: 1=not available, 2=available but inadequate, 3=available and adequate

Providersô perception of quality of service was assessed using a semi-structured, self administered questionnaire adopted and adapted from World Health Organisationôs providersôquestionnaire on antenatal care trial assessment of perceived quality of care.[90] This was used in a similar study conducted in four developing countries.[75] It is made up of two sections with 17 questions in all. The first section is on socio-demographic of the provider while the second section probes into issues on service provided with questions on number and spacing of antenatal visits, time spent with the women during consultation, information

provided during antenatal visit, perception of service quality and women's satisfaction. (Appendix 7)

3.7.2 PROCESS ATTRIBUTE: This was assessed by observing provider-client interaction during consultation and an observation checklist for various activities that were supposed to be carried out was used. The checklist was from national primary health care development agency requirements for activities in antenatal consultation. It is made up of 23 items of activities to be done or carried out before and during antenatal consultation. See appendix 8. Each of the items has a maximum score obtainable and each facility was scored accordingly. For an activity performed, a score of 2 was given and 1 was given for non-performance.

3.7.3 OUTCOME ATTRIBUTE: The outcome attribute of quality studied in this work was client satisfaction with services provided and that was assessed using a client exit interview questionnaire adopted and adapted from WHO womenôs questionnaire on antenatal care trial assessment of perceived quality of care.[91] This was also used in various studies assessing client satisfaction with antenatal care.[35,72,75] It was an interviewer administered, semi-structured questionnaire made up of five sections with 48 questions in all. The first section is on the socio-demographic data of the clients while the second part is basically on the obstetric history of the client. The third section explored the clientôs perception on the services and information so far received in the index pregnancy while the fourth and fifth parts were on the clientsô satisfaction with individual activities and overall satisfaction with the whole services. (Appendix 9)

3.7.4 FOCUS GROUP DISCUSSION

A guide for focus group discussion was used as the qualitative data instrument. It was made up of eight open ended questions for women attending antenatal clinic in the study facilities. (Appendix 10) There was an engagement question which introduced the participants to the

topic of discussion and makes them comfortable, an exploratory question to get to the meat of the discussion and an exit question to check if anything was missed in the discussion.

3.8 TRAINING OF RESEARCH ASSISTANTS

Four research assistants were recruited and trained for two days prior to the commencement of data collection. They were community health extension workers and fluent in Ibo language because most of the respondents were Ibos. The focus of the training was on the aim of the study, accurate data collection using the instruments available, techniques for interview and clientsô eligibility. The training which lasted two hours daily was done by me, the principal investigator because of my several involvements in researches involving data collection. The training was done together for the purposes of standardisation and a role play followed which was a way to ensure their understanding of the training. The research assistants were assessed at the end of the training which further helped to correct poorly understood areas.

3.9 PRETESTING OF INSTRUMENTS

The client exit interview questionnaire was pretested at the primary health centre, Umuokpu Awka that met the criteria for the study but was not selected. This helped the reliability and validity of the questionnaire. It also enabled the determination of appropriateness of the wordings in the questionnaire and gave an idea of the time it would take to administer a questionnaire.

3.10 DATA COLLECTION

Data was collected over a 3 month period, between 3rd week of August to 1st week of November 2014 by the principal investigator and four research assistants on the days of antenatal clinic. The observation checklist was used to audit the facilityôs infrastructure,

equipment, drugs and supplies and also the personnel available. There was also physical inspection of the equipment, drugs and supplies for verification purposes. The providersô questionnaire was self-administered to all consenting antenatal care providers[69] on each clinic day i.e. only to those on duty during the clinic hours.

Process of care was assessed by a non-participating observation of antenatal consultations undertaken by the same healthcare provider on the day of visit. This was done by the principal investigator and scoring was done using the observation checklist provided. (Appendix 8) Five observations was done consecutively and this helped to ensure the consistency of the practice of the provider and such was also used in other similar study.[65] I made sure that the provider did not see the content of the check list to avoid Hawthorne bias.[92]

The research team usually gathered in the waiting area of the facility, get introduced and explain the purpose of the study to the antenatal clients. Client questionnaire was administered to eligible and consenting clients to assess their satisfaction to service provided. This was done as an exit interview after they had finished accessing care for the day. They were recruited using systematic sampling technique[68] and the sampling interval obtained by dividing the sample size for the facility by the average daily attendance to the clinic in the proceeding one month. The first subject was randomly selected from the dayôs register. The interview was done in a private[35] and quiet place away from the consulting area and this actually made the clients calm and free to talk. Verbal consent was obtained before administering the questionnaire to the clients and the interview was made as short as possible, each actually lasted approximately for 10minutes. Interviewing a client more than once was avoided by taking note of a clientôs hospital number which was recorded on each questionnaire and it was always cross-checked before each interview.

Focus group discussion was conducted for the antenatal clients, one in each of the selected primary health centres. They were eight participants selected using convenience sampling to get persons that provided the best information on the subject matter. Local dialect (Ibo) was used but it was eventually translated to English. The principal investigator was the moderator, there was a note taker and tape recorder was used to record the discussion after getting permission from the participants. It started with an introduction by the moderator at which time also the participants were encouraged to take part adequately in the discussion. The note taker recorded all the key issues raised, observed and documented some non-verbal messages and was also pointing out some questions that were not well discussed. It was ensured that sitting arrangement was in circle so as to have good eye contact with all the participants. Each session lasted for one hour at the end of which a debrief was done to examine the activities and results with reference to the objectives of the discussion. Recorded session will be transcribed and information obtained complemented with notes taken for analysis.

3.11 DETAILS OF SCHEDULE FOR THE STUDY

ACTIVITY	DURATION	RESOURCE PERSON
Training of research assistants	2days	Principal Investigator
Advocacy visit to the HOD, Health Department of Awka South LGA	1 day	Research Team
Data Collection	12weeks	Research Team
Data Analysis	4weeks	Principal Investigator/Statistician

3.12 DATA ANALYSIS

Data obtained using the observation check list was analysed manually while quantitative data from client exit interviews were analysed with the aid of computer software, Statistical Package for the Social Sciences version 20. Frequencies distributions of all relevant variables were presented in tables and charts. Means and standard deviation were also determined to summarise data further and test of statistical significance was carried out using Chi square with statistical significance set at $p< 0.05$. Information gathered from focus group discussion were translated and transcribed. Findings were reported verbatim and analysed thematically and necessary quotes presented.

In the client exit interview, the subscales of the likert scale was re-grouped into 2 variables to represent ósatisfiedô and ónot satisfiedô. Two points at the extreme that favours satisfaction was re-coded as satisfaction while the three points at the extreme favouring not satisfied was re-coded as dissatisfied as was employed in a similar study.[78]

For structural and process attribute of quality, total score of all the items in each domain was calculated and multiplied by the number of facilities studied (three in number here) to get the maximum obtainable score for that attribute of quality. The total score obtained in a particular attribute of quality was divided by the maximum obtainable score and multiplied by 100 to get a percentage score for that aspect of quality. For structural aspect of quality, the maximum obtainable score is 522 while it is 690 for process attribute of quality.

Five point scale was used to grade the quality antenatal care services into very good, good, average, poor and very poor using percentage scores as shown below.

Quality score (%)	Rank	Grade
80+	5	Very good
61-80	4	Good
41-60	3	Average (Fair)
21-40	2	Poor
0-20	1	Very poor

3.13 ETHICAL CONSIDERATION

Ethical clearance for this study sought and obtained from the Nnamdi Azikiwe University Teaching Hospital Ethics committee (NAUTHEC). (Appendix 12) and also permission was obtained from the head, Health department of Awka South Local Government Area. (Appendix 13) At the facilities where the study was carried out, permission was also obtained from the heads of the facilities. Finally, verbal informed consent was obtained from each participant after explaining the purpose of the study and sure they understood and none of the questionnaires had name on it rather number to ensure confidentiality.

3.14 LIMITATION OF THE STUDY

1.The clients might have been influenced during questionnaire administration by trying to please the researcher. This was avoided by detailed explanation to the clients that the purpose of the research was to improve on the quality of service delivery and not to victimise anyone.

2.The provider might have adjusted his/her clinical skills during the observation of process of care maybe to impress the investigator (Hawthorne bias) but it was mitigated by making sure that the provider never saw the content of the check list so did not know what was being checked.

CHAPTER FOUR

RESULTS

STRUCTURAL ATTRIBUTE OF QUALITY

Table 1: Scoring of infrastructure available at the primary health centres studied

DESCRIPTION OF INFRASTRUCTURE	REQUIRED/ MAXIMUM SCORE	PHC 1	PHC 2	PHC 3
Minimum Land area	4200 square meter	3	3	3
Colour	Green	1	3	3
Building Structure	Detached 13 Rooms	3 (>13rooms)	2 (7rooms)	2 (8rooms)
Functional, clean & separate toilets with water	3	3	3	3
Good source of water supply from motorised borehole	3	3	3	3
Connection to national grid or alternative source of power supply	3	3	3	3
Sanitary Waste collection and Disposal	3	3	3	3
Clear signpost visible from entry & exit points	3	3	3	3
Waiting Area	3	3	2	3
Functional door and netted	3	3	2	3

window				
Privacy of examination room	3	3	3	3
Water to wash hands	3	3	2	3
Cleanliness of facility	3	3	3	3
Maintenance of floors and walls	3	3	3	3
Laboratory	3	3	3	3
TOTAL	45	43	42	44

One of the three primary health centres is not painted green and only one has 13 detached rooms. All have adequate waiting area with functional doors and netted windows except one.

Table 2: Equipment available at the antenatal clinic/interview room

DESCRIPTION	MINIMUM REQUIREMENT	MAXIMUM SCORE	PHC 1	PHC 2	PHC 3
Door Name Plate	1	3	1	1	3
Mercurial Sphygmomanometer (Acossons)	1	3	3	3	3
Latex Gloves, Disposable Pack of 100	20	3	3	3	3
Stethoscope	1	3	3	3	3
Haemoglobin measuring kit	3	3	3	3	3
Urine Dipstick for sugar & albumin, pack of 20	20	3	3	3	3
Stainless galipot (medium)	1	3	3	3	3
Bowls, stainless steel with stand	1	3	3	3	3
Nail Scrubbing, Pack of 12	1	3	3	3	3
Soap/Disinfectant Dispenser	1	3	3	3	3
Dressing Trolley	1	3	3	3	3
Examination Couch	1	3	3	3	3
Fetal stethoscope	2	3	3	3	3
Pen Torch	1	3	1	1	1

Hammer, reflex	1	3	1	1	1
Height measuring Stick	1	3	3	3	3
Angle Poised Lamp	1	3	3	3	3
Wooden Long Benches	3	3	3	3	3
Ceiling fan	2	3	3	3	3
Wall Clock	1	3	3	3	3
Tables	2	3	3	3	3
Mackintosh sheet	2	3	1	3	3
Thermometer (oral)	2	3	3	3	3
Tongue Depressor (wooden and metal)	6	3	3	3	3
Weighing Scale (adult)	3	3	3	3	2 (has 2)
TOTAL		75	67	65	70

Only one of the PHCs has door name plate, none has pen torch and tendon hammer while one does not have mackintosh sheet

Table 3: Antenatal drugs and supplies available at the study sites

DESCRIPTION	MAXIMUM SCORE	PHC 1	PHC 2	PHC 3
Paracetamol tablets	3	3	3	3
Sulphadoxine-pyrimethamine	3	3	3	3
Tetanus Toxoid	3	3	3	3
Vitamin A Capsule	3	3	3	3
Ferrous Sulphate	3	3	3	3
Folic Acid	3	3	3	3
Penicillin	3	3	3	1
LLIN	3	3	3	3
TOTAL	24	24	24	22

All the PHCs have adequate essential drug supply except one that lacks penicillin

Table 4: Human resources for primary health care in the study sites

CADRE OF STAFF	NUMBER REQUIRED	MAXIMUM SCORE	PHC 1	PHC 2	PHC 3
Medical officer (if available)	1	3	3	3	3
Community Health Officer (must work with standing order)	1	3	3	3	1
Public Health Nurse	1	3	1	1	3
Nurse/Midwife	4	3	2 (has 1)	3	2 (has 3)
CHEW	3	3	3	2 (has 2)	3
JCHEW	6	3	2 (has 1)	1	1
Medical Record Officer	1	3	1	1	1
Pharmacy Technician	1or2	3	1	1	1
Lab technician	1	3	3	1	1
Security Personnel	2	3	2 (has 1)	1	1
TOTAL		30	21	17	17

All the PHCs have medical officers while all but one has a community health officer. None of the centres has a medical record officer and a pharmacy technician

KEY

1=NOT AVAILABLE

2=AVAILABLE BUT INADEQUATE

3=AVAILABLE AND ADEQUATE

STRUCTURAL ATTRIBUTE

	FACILITY 1 (OBSERVED)	**FACILITY 2 (OBSERVED)**	**FACILITY 3 (OBSERVED)**	**TOTAL EXPECTED PER FACILITY**
INFRASTRUCTURE	43 (95.5%)	42 (93.3%)	44 (97.7%)	45
EQUIPMENT	67 (89.3%)	65(86.7%)	70(93.3%)	75
ANC DRUGS/SUPPLY	24 (100%)	24(100%)	22 (100%)	24
HUMAN RESOURCE FOR PHC	21 (70%)	17 (56.7%)	17 (56.7%)	30

	TOTAL SCORE FOR THREE FACILITIES (OBSERVED)	**GRAND TOTAL FOR THREE FACILITIES (EXPECTED)**
INFRASTRUCTURE	129 (95.6%)	135
EQUIPMENT	202 (89.8%)	225
ANC DRUGS/SUPPLY	70 (97.2%)	72
HUMAN RESOURCE FOR PHC	55 (61.1%)	90
TOTAL	456	522

FINAL SCORE FOR STRUCTURAL ATTRIBUTE OF QUALITY

456/522 X100 = 87.4%

Table 5: Socio-demographic variable for health providers in the PHC studied

Age group	Frequency	Percent (%)
25-29	2	13.3
30-34	1	6.7
35-39	4	26.7
40-44	3	20.0
45 & above	5	33.3
Total	15	100.0
Sex		
Male	1	6.7
Female	14	93.3
Total	15	100.0
Type Of Provider		
Physician	1	6.7
Nurse	1	6.7
Midwife	7	46.7
CHO	2	13.3
JCHEW	1	6.7
CHEW	3	20.0
Total	15	100.0
Duration Of Working (Years)		
1	2	13.3
2	7	46.7
3	1	6.7
4	2	13.3
6	1	6.7
7	1	6.7
23	1	6.7
Total	15	100.0

Majority of the healthcare providers are 45years of age and above (33.3%) and are females (93.3%) with most being midwives (46.7%)

Table 6: Practice experience of the healthcare providers in the facilities studied

Number of ANC visit	Frequency	Percent (%)
More than necessary	3	20.0
Less than necessary	1	6.7
About right	11	73.3%
Total	15	100.0
Time Between Visits		
Too short	3	20.0
Too long	1	6.7
About right	11	73.3
Total	15	100.0
Time Spent With Each Woman		
Too short	6	40.0
Too long	1	6.7
About right	8	53.3
Total	15	100.0

Majority of the healthcare providers believe that the number of ANC visit is about right (73.3%), time in between visit about right (73.3%) and also that the time spent with each women during consultation is also about right (53.3%)

Table 7: Health information given by healthcare providers during antenatal service

	Frequency (%)	Frequency (%)	
Information given on the following during ANC	**Yes**	**No**	**Total**
Health In Pregnancy	15 (100%)	0 (0%)	15
Tests Done In Pregnancy	15 (100%)	0(0%)	15
Treatments In Pregnancy	15 (100%)	0 (0%)	15
Labour And Delivery	15 (100%)	0 (0%)	15
Breastfeeding	15 (100%)	0 (0%)	15
Family Planning	14 (93.3%)	1 (6.7%)	15
Malaria Prevention In Pregnancy	14 (93.3%)	1 (6.7%)	15
Tetanus	15 (100%)	0 (0%)	15
HIV/AIDS	15 (100%)	0 (0%)	15
Cervical Cancer	9 (60%)	6 (40%)	15
Breast Self Examination	15 (100%)	0 (0%)	15

Adequate information is given in all major areas during ANC visit except on cervical cancer (60%) where there is seem to be minimal information when compared to the others.

Table 8: Health information on complications, what to do and reassurance given

Information on	Frequency (%)	Frequency (%)	
how to recognise the following during pregnancy	**Yes**	**No**	**Total**
Rupture of membrane	15 (100%)	0 (0%)	15
Haemorrhage	15 (100%)	0 (0%)	15
Premature contraction	15 (100%)	0 (0%)	15
Dizziness and fainting	15 (100%)	0 (0%)	15
High fever	15 (100%)	0 (0%)	15
how to proceed in the event of the following	**Yes**	**No**	**Total**
Rupture of membrane	15 (100%)	0 (0%)	15
Haemorrhage	14 (93.3%)	1 (6.7%)	15
Premature contraction	15 (100%)	0 (0%)	15
Dizziness and fainting	15 (100%)	0 (0%)	15
High fever	15 (100%)	0 (0%)	15
Reassurance of women concerning the following	**Yes**	**No**	**Total**
Position of the baby	15 (100%)	0 (0%)	15
Size of the baby	15 (100%)	0 (0%)	15
Prematurity of the baby	14 (93.3%)	1 (6.7%)	15
Possibility of abnormality	13 (86.7%)	2 (13.3%)	15
Weight of the baby	15 (100%)	0 (0%)	15

Information is given is given by majority of the health workers and what to do in event of some complications. However clients are less reassured on the possibility of having abnormal babies (86.7%) compared to other complications.

Table 9: Cadres of staff preferred to provide antenatal services according to Health Providers themselves

Who should provide ANC services	Yes	No	Total
Physician	4 (26.7%)	11 (73.3%)	15
Nurse	3 (20%)	12(80%)	15
Midwife	13 (86.7%)	2 (13.3%)	15
CHO	4 (26.7%)	11 (73.3%)	15
CHEW	2 (13.3%)	13 (86.7%)	15

Majority of the respondents believe that ANC should be provided by the midwives (86.7%) while CHEW are least recognised to provide ANC (13.3%)

Table 10: Frequency of areas of challenges faced by the healthcare providers

Difficulty in the following areas	Yes	No	Total
Training	10 (66.7%)	5 (33.3%)	15
Feedback on performance	5 (33.3%)	10 (66.7%)	15
Motivation	11 (73.3%)	4 (26.7%)	15
Time	9 (60%)	6(40%)	15
Work environment	6 (40%)	9 (60%)	15
Shortage of staff	15(100%)	0 (0%)	15
Supplies	7 (46.7%)	8 (53.3%)	15
Supervision	5 (33.3%)	10 (66.7%)	15

Majority of the health workers identified shortage of staff (100%) as the main difficulty faced while supervision and feedback on performance pose the least difficulty (33.3%).

Table 11: Healthcare workers perspective of clients' satisfaction and scoring of ANC

	Frequency (percent)	Frequency (percent)	Frequency (percent)	
Scoring of ANC service provided	Very good	Good	Average	Total
	4.0 (26.7%)	7.0 (46.7%)	4.0 (26.7%)	15 (100%)
Women Satisfaction With ANC Provided	Very satisfied	Satisfied	Not satisfied	Total
	3.0 (20%)	11.0 (73.3%)	1.0 (6.7%)	15 (100%)
	Yes	No		Total
Recommendation For A Friend Or Relative	15.0 (100%)	0.0 (0%)		15 (100%)

Most of the healthcare workers view ANC services they provide as being good (46.7%) and 73.3% of them believe that women are satisfied with their services. All respondents (100%) said they will recommend the clinic to a friend or relative.

PROCESS ATTRIBUTE OF QUALITY

Table 12a: Frequency of activities performed during ANC consultation

ACTIVITY	MAXIMUM SCORE PER OBSERVATION	PHC 1 (5 observations)	PHC 2 (5 observations)	PHC 3 (5 observations)	TOTAL
Seat offered	2	2,2,2,2,2	2,1,2,2,2	1,1,1,1,1	24
Interest shown	2	2,2,2,2,2	2,2,2,2,2	1,2,2,2,2	29
Non interruption of womanôs speech	2	2,2,2,2,2	2,1,2,1,2	1,2,2,2,2	27
Politeness	2	2,1,1,2,2	2,2,2,2,2	2,2,2,2,2	28
Asking about womanôs concern	2	2,2,2,2,2	2,2,2,2,2	1,2,2,2,2	29
Door closed during consultation	2	1,1,1,1,1	1,1,1,1,1	1,1,1,1,1	15
Explanation before examination	2	1,1,1,1,1	1,1,1,1,1	1,1,1,1,2	16
Explanation of diagnosis	2	1,1,1,1,1	1,2,2,2,1	1,1,2,1,1	19
Explanation of use of prophylactic drugs	2	1,1,1,1,1	2,2,2,2,1	1,2,2,1,1,	21
Any History	2	2,2,2,2,2	2,2,2,1,2	1,2,2,2,2	28
History of malaria	2	1,1,1,1,1	1,1,1,1,1	1,2,2,1,1	17
History of UTI	2	2,1,2,1,2	1,1,1,1,1	1,1,1,1,1	18
Blood Pressure	2	2,2,2,2,2	2,2,2,2,2	2,2,2,1,1	28

Measurement					
Checking of haemoglobin	2	2,2,2,2,2	2,2,2,2,2	2,2,2,1,1	28
Checking urine for protein	2	2,2,2,2,2	2,2,2,2,2	2,2,2,1,1	28
Prophylactic drugs	2	2,2,2,2,2	2,2,2,2,2	1,2,2,1,2	28
Checking eyes for pallor	2	2,1,2,1,2	2,2,1,2,1	1,1,2,1,1	22
Checking legs for oedema	2	2,2,2,2,2	1,1,1,1,2	2,1,1,1,1	22
Checking weight	2	2,2,2,2,2	2,2,2,2,2	1,2,2,1,1	27
Checking fetal heart	2	2,2,2,2,2	2,2,2,2,2	1,2,2,2,2	29
General Health Education	2	1,2,1,1,1	2,2,2,2,2	1,1,2,1,2	23
Nutrition education	2	1,1,1,1,1	2,2,2,2,2	1,1,1,1,1	20
Malaria Prevention Health Education	2	1,1,1,1,1	2,1,2,1,2	1,1,2,2,2	21
TOTAL	230(5 observations per facility)	185	195	167	

KEY: 1=NOT DONE

2=DONE

Table 12b: Frequency and scoring of activities performed during ANC consultation

ACTIVITY	MAXIMUM SCORE PER OBSERVATION	MAXIMUM OBTAINABLE SCORE (FOR ALL THE FACILITIES)	TOTAL FACILITY SCORES	%
Seat offered	2	30	24	80
Interest shown	2	30	29	96.7
Non interruption of womanôs speech	2	30	27	90
Politeness	2	30	28	93.3
Asking about womanôs concern	2	30	29	96.7
Door closed during consultation	2	30	15	50
Explanation before examination	2	30	16	53.3
Explanation of diagnosis	2	30	19	63.3
Explanation of use of prophylactic drugs	2	30	21	70
Any History	2	30	28	93.3
History of malaria	2	30	17	56.7
History of UTI	2	30	18	60
Blood Pressure	2	30	28	93.3

Measurement				
Checking of haemoglobin	2	30	28	93.3
Checking urine for protein	2	30	28	93.3
Prophylactic drugs	2	30	28	93.3
Checking eyes for pallor	2	30	22	73.3
Checking legs for oedema	2	30	22	73.3
Checking weight	2	30	27	90
Checking fetal heart	2	30	29	96.7
General Health Education	2	30	23	76.7
Nutrition education	2	30	20	66.7
Malaria Prevention Health Education	2	30	21	70
Total		690	547	79.3

The most frequent activity carried out during ANC consultation included showing interest (96.7%), asking about womenôs concern (96.7%) and checking of fetal heart (96.7%) while the least activity done was closing the door during consultation (50%)

FINAL SCORE FOR PROCESS ATTRIBUTE OF QUALITY

547/690 X100 = 79.3%

OUTCOME ATTRIBUTE OF QUALITY (CLIENT'S SATISFACTION)

Table 13: Socio-demographic distribution of ANC clients

Age group	Frequency	Percent (%)
15-19	9	3.5
20-24	59	22.9
25-29	75	29.1
30-34	57	22.1
35-39	38	14.7
>40	20	7.8
Total	258	100.0
Tribe		
Ibo	237	91.9
Yoruba	13	5.0
Hausa	6	2.3
Ijaw	2	.8
Total	258	100.0
Religion	**Frequency**	**Percent (%)**
Christianity	251	97.3
Islam	4	1.6
Traditional religion	3	1.2
Total	258	100.0
Marital status	**Frequency**	**Percent**
Single/never married	5	1.9
Currently married	245	95.0
Divorced	6	2.3
Widowed	2	.8
Total	258	100.0
Educational level	**Frequency**	**Percent**
none	12	4.7
primary	37	14.3
secondary	161	62.4
tertiary	48	18.6
Total	258	100.0
Occupation	**Frequency**	**Percent**
civil servant	50	19.4
business	132	51.2
housewife	55	21.3
student	21	8.1
Total	258	100.0

Majority of the clients are between 25-29 years of age (75; 29.1%). The mean age of the respondents is 28.9years with a standard deviation of 6.3years. The youngest of the respondents was 16years while the oldest was 41years. Most are Ibo by tribe (237; 91.9%) and are currently married (245; 95.0%). The highest educational qualification for most of the respondents is secondary (161; 62.4%) and majority are doing business (132; 51.2%)

Table 14: Frequency Distribution ANC history of the respondents

Gestational age	Frequency	Percent
1st trimester	35	13.6
2nd trimester	85	32.9
3rd trimester	138	53.5
Total	258	100.0
Gestational age at booking	**Frequency**	**Percent**
1st trimester	121	46.9
2nd trimester	110	42.6
3rd trimester	27	10.5
Total	258	100.0
Number of antenatal visits so far	**Frequency**	**Percent**
2.00	76	29.5
3.00	91	35.3
4.00	42	16.3
5.00	38	14.7
6.00	6	2.3
7.00	4	1.6
8.00	1	.4
Total	258	100.0

Most of the clients were in their 3rd trimester (138; 53.5%) while most booked at 1st trimester (121; 46.9%) and majority have had 3 ANC visits (91; 35.3%)

Table 15: Frequency Distribution obstetric history of the respondents

Number of present pregnancy	Frequency	Percent
1.00	36	14.0
2.00	74	28.7
3.00	56	21.7
4.00	39	15.1
5.00	37	14.3
6.00	8	3.1
7.00	4	1.6
8.00	2	.8
9.00	2	.8
Total	258	100.0
Number delivered	**Frequency**	**Percent**
.00	38	14.7
1.00	70	27.1
2.00	68	26.4
3.00	42	16.3
4.00	26	10.1
5.00	8	3.1
6.00	4	1.6
7.00	2	.8
Total	258	100.0
Ever delivered before	**Frequency**	**Percent**
Never delivered	38	14.7
Has delivered one or more	220	85.3
Total	258	100.0
Number ever had a miscarriage	**Frequency**	**Percent**
yes	34	13.2
no	224	86.8
Total	258	100.0
Number ever had a stillbirth	**Frequency**	**Percent**
yes	6	2.3
no	252	97.7
Total	258	100.0

Gravidity of most clients was 2 (74; 28.7%) and most have delivered 1 (70; 27.1%). Only 34 (13.2%) have ever had a miscarriage and 6 (2.3%) have had stillbirth.

Table 16: Respondents' ANC experience in the index pregnancy

Preference of ANC check up	Frequency	Percent
more check up	55	21.3
fewer check up	80	31.0
number check up just right	123	47.7
Total	258	100.0
Expectations of check up	**Frequency**	**Percent**
more than expected	84	32.6
less than expected	48	18.6
about expected	126	48.8
Total	258	100.0
Time in between check up	**Frequency**	**Percent**
too short	53	20.5
too long	60	23.3
about right	145	56.2
Total	258	100.0
Waiting time	**Frequency**	**Percent**
less than 1hour	82	31.8
more than 1hour	176	68.2
Total	258	100.0
Happy with waiting time	**Frequency**	**Percent**
No	199	77.1
Yes	59	22.9
Total	258	100.0
Time spent with provider	**Frequency**	**Percent**
less than 30mins	203	78.7
30mins to 60mins	53	20.5
more than 60mins	2	.8
Total	258	100.0

Majority of the respondents 123 (47.7%) agree that the number of check up is just right and most also believe that their expectation from the check up is about expected 126 (48.8%). Few clients 53 (20.5%) agree that the time between check up is too short and most (176; 68.2%) responded that they had to wait for more than 1hour to see a healthcare provider and a lot majority (199; 77.1%) are not happy with the waiting time. However majority (203; 78.7%) attest to spending less than 30mins with a healthcare provider.

Table 17: Respondents' perception of provider for ANC

Time preference with provider	Frequency	Percent
a lot more time	61	23.6
a little more time	126	48.8
time about right	71	27.5
Total	258	100.0
Provider sex preference	**Frequency**	**Percent**
male provider	50	19.4
female provider	135	52.3
no preference	73	28.3
Total	258	100.0
provider preference	**Frequency**	**Percent**
Doctor	73	28.3
Nurse	54	20.9
Midwife	48	18.6
Combination	40	15.5
no preference	43	16.7
Total	258	100.0

Most respondents (126; 48.8%) would prefer a little more time with the provider and majority (135; 52.3%) would prefer a female provider. Majority (73; 28.3%) would prefer to see a doctor while 40(15.5%) will prefer a combination of doctors and nurses.

Table 18: Respondents' perception of information given during ANC

	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
	Not enough	**As much as wanted**	**Too much**	**No Information**	**Don't remember**	**Total**
Information on Health	37 (14.3)	198 (76.7)	2 (0.8)	21 (8.1)	0 (0)	258
Information on tests	51 (19.8)	164 (63.6)	11 (4.3)	30 (11.6)	2 (0.8)	258
Information on treatments	43 (16.7)	176 (68.2)	12 (4.7)	17 (6.6)	10 (3.9)	258
Information about labour	41 (15.9)	164 (63.6)	22 (8.5)	25 (9.7)	6 (2.3)	258
Information on breastfeeding	35 (13.6)	177 (68.6)	16 (6.2)	28 (10.9)	2 (0.8)	258
Information about breast self examination	44 (17.1)	142 (55)	9 (3.5)	55 (21.3)	8 (3.1)	258
Information on family planning	47 (18.2)	147 (57)	16 (6.2)	38 (14.7)	10 (3.9)	258
Information on malaria prevention	27 (10.5)	161 (62.4)	52 (20.2)	16 (6.2)	2 (0.8)	258
Information on HIV/AIDS	33 (12.8)	152 (58.9)	44 (17.1)	29 (11.2)	0 (0)	258
Information on cervical cancer prevention	31 (12)	124 (48.1)	16 (6.2)	78 (30.2)	9 (3.5)	258

Majority of the clients admitted having information a s much as wanted in all the thematic areas; health (198; 76.7%), tests (164; 63.6%), treatments (176; 68.2%), labour (164; 63.6%), breastfeeding (177; 68.6%), breast self examination (142; 55%), family planning (147; 57%), malaria prevention (161; 62.4%), HIV/AIDS (152; 58.9%), cervical cancer prevention (124; 48.1%). However the highest information was identified to be that concerning their health (198; 76.7%).

Table 19: Information on danger signs recognition

How to recognise and proceed in the following	No (%)	Yes (%)	Total
Rupture of membrane	82 (31.8)	176 (68.2)	258
Haemorrhage	28 (10.9)	230 (89.1)	258
Premature contraction	54 (20.9)	204 (79.1)	258
Dizziness & fainting	65 (25.2)	193 (74.8)	258
Fever	30 (11.6)	228 (88.4)	258

Majority of clients responded to having received information on the above danger signs with the most being on haemorrhage (230; 89.1%).

Table 20: Respondents concern about their pregnancy and reassurance given

	Worried about the following			Reassured by information from provider			
	No (%)	Yes (%)	Total	No (%)	Yes (%)	No information (%)	Total
Position of the baby	116 (45)	142 (55)	258	41 (15.9)	215 (83.3)	2 (0.8)	258
Size of the baby	88 (34.1)	170 (65.9)	258	49 (19)	204 (79.1)	5 (1.9)	258
Whether baby will be premature	129 (50)	129 (50)	258	57 (22.1)	194 (75.2)	7 (2.7)	258
Having an abnormal baby	193 (74.8)	65 (25.2)	258	47 (18.2)	204 (79.1)	7 (2.7)	258
Your health	125 (48.4)	133 (51.6)	258	53 (20.5)	197 (76.4)	8 (3.1)	258
Your weight	96 (37.2)	162 (62.8)	258	33 (12.8)	216 (83.7)	9 (3.5)	258

Most clients are worried more about the size of their babies (170; 65.9%) with the least concern being on having an abnormal baby (65; 25.2%). However a lot majority of them admitted being reassured by the level of information given.

Table 21a: Respondents' satisfaction with different aspects of ANC

Satisfied with the following	Very dissatisfied (%)	Dissatisfied (%)	Indifferent (%)	Satisfied (%)	Very satisfied (%)	Total
Waiting time	97 (37.6)	96 (37.2)	2 (0.8)	49 (19)	14 (5.4)	258
Ability to discuss problem	18 (7)	39 (15.1)	9 (3.5)	148 (57.4)	44 (17.1)	258
Amount of explanation given	12 (4.7%)	24 (9.3)	13 (5)	170 (65.9)	39 (15.1)	258
Examination and treatment given	14 (5.4)	11 (4.3)	17 (6.6)	163 (63.2)	53 (20.5)	258
Privacy from others during treatment	11 (4.3)	19 (7.4)	7 (2.7)	166 (64.3)	55 (21.3)	258
Privacy from others during discussion	18 (7.0)	47 (18.2)	15 (5.8)	138 (53.5)	40 (15.5)	258
Availability of medicines	14 (5.4)	28 (10.9)	18 (7)	162 (62.8)	36 (14)	258
Convenience of hours of service	7 (2.7)	46 (17.8)	17 (6.6)	132 (51.2)	56 (21.7)	258
Neatness of facility	11 (4.3)	14 (5.4)	13 (5)	145 (56.2)	75 (29.1)	258

Majority of the clients were very dissatisfied with the waiting time (97; 37.6%) but were satisfied with ability to discuss problem (148; 57.4%), amount of explanation given (170; 65.9%) and examination and treatment given (163; 63.2%). Also majority were satisfied with the privacy given during treatment (166; 64.3%) and from others during discussion (138; 53.5%); satisfied with the availability of medicines (162; 62.8%), convenience of hours of service (132; 51.2%) and with the neatness of the facility (145; 56.2%).

Table 21b: Respondents' satisfaction with different aspects of ANC (Recoded)

Satisfaction with the following	Not satisfied	Satisfied	Total
Waiting time	195 (75.6)	63 (24.4)	258
Ability to discuss problem	66 (25.6)	192 (74.5)	258
Amount of explanation given	49 (19)	209 (81)	258
Examination and treatment given	42 (16.3)	216 (83.7)	258
Privacy from others during treatment	37 (14.4)	221 (85.6)	258
Privacy from others during discussion	80 (31)	178 (69)	258
Availability of medicines	60 (23.3)	198 (76.8)	258
Convenience of hours of service	70 (27.1)	188 (72.9)	258
Neatness of facility	38 (14.7)	220 (85.3)	258

Table 22: Respondents' satisfaction with ANC received

	No (%)	Yes (%)	Donôt know (%)	Total
Coming back in next pregnancy	21 (8.1)	219 (84.8)	18 (7)	258
Will you recommend the facility	20 (7.8)	216 (83.7)	22 (8.5)	258

	Very satisfied (%)	Satisfied (%)	Indifferent (%)	Dissatisfied (%)	Very dissatisfied (%)	Total
General satisfaction	82 (31.8)	142 (55)	9 (3.5)	20 (7.8)	5 (1.9)	258

	Satisfied (%)	Not satisfied (%)	Total (%)
Overall satisfaction	224 (86.8)	34 (13.2)	258

Majority of the clients agreed to come back to the facility in their next pregnancy (219; 84.8%) and to recommend the facility to others (216; 83.7%). Overall, 86.8% (224) of the clients were satisfied with ANC given while 13.2% (34) were not satisfied.

Table 23a: Distribution of the determinants of respondents' satisfaction to ANC

	Satisfied n (%)	Not satisfied n (%)	Significance
AGE			P>0.05
15-19	9 (3.5)	0 (0)	
20-24	52 (20.2)	7 (2.7)	
25-29	68 (26.4)	7 (2.7)	
30-34	44 (17.1)	13 (5)	
35-39	31 (12)	7 (2.7)	
>40	20 (7.8)	0 (0)	
MARITAL STATUS			P<0.05
single/never married	5 (1.9)	0 (0)	
currently married	214 (82.9)	31 (12)	
Divorced	5 (1.9)	1 (0.4)	
Widowed	0 (0)	2 (0.8)	
EDUCATIONAL LEVEL			P<0.05
None	10 (3.9)	2 (0.8)	
Primary	22 (8.5)	15 (5.8)	
Secondary	146 (56.6)	15 (5.8)	
Tertiary	46 (17.8)	2 (0.8)	
OCCUPATIONAL GROUP			P<0.05
civil servant	50 (19.4)	0 (0)	
Business	108 (41.9)	24 (9.3)	
Housewife	47 (18.2)	8 (3.1)	
Student	19 (7.4)	2 (0.8)	
GESTATIONAL AGE			P>0.05
1st trimester	29 (11.2)	6 (2.3)	
2nd trimester	73 (28.3)	12 (4.7)	
3rd trimester	122 (47.3)	16 (6.2)	
EVER DELIVERED			P>0.05
never delivered	34 (13.2)	4 (1.6)	
has delivered one or more	190 (73.6)	30 (11.6)	

There is significant association between the respondent's satisfaction of the antenatal services and marital status (X^2 =14.058; P=0.003), educational level (X^2 =29.844; P=0.000) and occupational group (X^2=10.813; P=0.013) but no association with age group(X^2=10.992; P=0.052), gestational age (X^2 =0.849; P=0.654) and parity (X^2 =0.274; P=0.601)

Table 24: Distribution of the association of respondents' satisfaction to ANC and willingness to come back in subsequent pregnancy

	Satisfied n (%)	Not satisfied n (%)	Significance
COMING BACK IN NEXT PREGNANCY			P<0.05
No	4 (1.6)	17 (6.6)	
Yes	208 (80.6)	11 (4.3)	
Donôt know	12 (4.7)	6 (2.3)	
WILL YOU RECOMMEND THE FACILITY			P<0.05
No	6 (2.3)	14 (5.4)	
Yes	205 (79.5)	11 (4.3)	
Donôt know	13 (5.0)	9 (3.5)	

OVERALL QUALITY OF ANTENATAL CARE IN AWKA SOUTH OF ANAMBRA STATE

1. Final score for structural attribute of quality: **456/522 X100 = 87.4%**
2. Final score for process attribute of quality: **547/690 X100 = 79.3%**
3. Final score for outcome attribute of quality: **224/258 X100 = 86.8%**

STRUCTURE: 456 OUT OF 522

PROCESS: 547 OUT OF 690

OUTCOME: 224 OUT OF 258

OVERALL SCORE: $\frac{456+547+224}{522+690+258} \times 100$

$: \frac{1227}{1470} \times 100$

: 83.5%

RESULT OF FOCUS GROUP DISCUSSION

The participants know about antenatal care as what every woman goes for while pregnant. They believe itôs a time when a pregnant woman comes to see the doctor or nurse and receive information on how to take care of themselves and their unborn baby.

On the state of the infrastructure, they responded that the health centre have well built and neat structures that are well maintained. As noted by one participant:

The health centre looks fine and neat compared to what I see in some other places. I think the government really tried here. The building is well painted and the workers here are also trying in ensuring that it's always clean.

Another participant in another PHC observed that despite the good structures built, the compound is being overrun by grasses and wondered why the workers cannot clear the growing grass:

Yes, the buildings are good but why do they allow the grasses to be growing around here? Don't they know that snake can come from here and attack someone and me I am scared of creeping things whether snake or scorpion.

Generally the participants are positive about the state of the infrastructure as they attest to the cleanness of the facilities, presence of toilets, spacious consulting room except that they are not so comfortable with the fact that most times during consultation, the doors are open and one of the facilities does not have adequate waiting area.

Concerning the services rendered to the women, one participant said this:

Even before I got pregnant, I used to see people talk about ANC in this health centre and I made up my mind that I will come here anytime I conceive. I think the services I get here is

what I expected, they measure my weight, check my blood pressure and tell me the condition of my baby and encourage me to be eating good food and also the likely time I will deliver. They also give some vaccination. I am okay.

Another respondent shared her experience thus:

Immediately I missed my period, I registered for ANC here; it's been good especially with the health talk given to us as I have learnt a lot since I started coming here. However the amount of time one spends here is long as I have to forfeit every other activities anytime I have to come for ANC.

The respondents seem to be quite okay with services rendered as they acknowledge that the basic things they expect, they get. They however stress the on the point that when one needs attention in the evening time sometimes, the matron on duty may not be available.

Respondents noted in all the sessions of the discussion that drugs are always available and has never being a challenge. Its only when its something that doesnôt have to do with pregnancy sometimes that one might be asked to buy drug from outside. This was observed by a respondent who said she visited the facility for another reason though was pregnant at the time.

With regards to the attitude of the healthcare providers to them while rendering service, it was noticed that they are more or less comfortable with the health providers except that they feel they can be harsh occasionally especially when one doesnôt keep to appointment or come very late when the clinic is about to close. A participant reacted thus:

In my case since I started coming here, I have not had any issues with any of the workers. I try to do the right thing as much as I can. I believe they are really out to take care of us. Though I have seen of the nurses scolding a woman whom I think did not do what she was

supposed to do which is very much in order. They are nice people. I am happy with the way the doctor examines and explains things to me though we have to wait for long before the doctor comes, but that's okay.

However, another participant disagrees by saying that one particular nurse is always rude to her since she started coming to the centre and she might change her mind from coming. Hear her:

I noticed a particular nurse, I don't even know if she is qualified. I never like the way she talks to me. Anytime I have to meet here to register my name, I don't feel relaxed. I am always trying not to exchange words with her because I like respecting people in their office. But I wish somebody could caution her so she can change because with this her attitude she will not go far. One day she will meet someone that will teach her a bitter lesson that she will not forget.

That notwithstanding, most of the participants in all the sessions of the focus group discussion are appreciative of the healthcare providers. They believe they are trying their possible best to ensure their pregnancy go on well with good outcome. This they say is from the regular health education they give, their politeness and also the prayer session they organise with them handing all things into the hands of God.

The challenges noted by most respondents are that of waiting time as they have to spend a long time in the hospital anytime they come for ANC. Also the doctor may not always available or coming late in some occasion. When they have to see they matron, they noticed that she might be in a hurry as she has so many people to see and thereby not giving them the necessary attention. To this they suggest if possible for the government to employ more staff to be running the ANC. This is because as the matron is seeing them, you see her also attending to other people with other medical problems.

On satisfaction with service provision, there are varied opinions on that. Participants are actually satisfied but with some reservations on some areas. One respondent in one of the PHC said thus:

Whether I am satisfied or not depends. There are some things that happen here that I am okay with while there are some I don't like at all. Yes the talk is okay, the prayer is okay, the assurance is okay but the time it takes before they start attending to women is just too much. They will tell you that clinic starts by 8am and you will come but before you leave, you must have stayed for almost 4-5hours. You may just go in now, the next minute they say you can go and you may not have discussed some things. Also there could be too much interruption from people coming in and going out. But all the same, I can say I'm satisfied but not very very satisfied.

Similarly, a respondent noted the absence of ultrasound machine which she believes should be available as most pregnant women need to do scan from time to time.

I am satisfied because if not I won't be coming here. There are other places I can go for antenatal. But my problem is that there is no ultrasound machine in this place. Every pregnant woman need to be doing scan to know the condition of her baby. I don't find it comfortable at all. I needed to do a scan and I had to go looking for where to do that. With the number of women coming for ANC here, is it not time for the government to provide that for us?

CHAPTER FIVE

DISCUSSION

This study looked at the all the three aspects of quality according to Donabedian[23] and it is worth noting that quality of antenatal care is likely to influence effective utilization and compliance with interventions with its negative effects on maternal mortality indices. The facilities studied all had adequate minimum land area with all the basic infrastructures as found in similar study[93] though not all the facilities had the requisite room numbers. This must have contributed to the high level of satisfaction reported on the privacy enjoyed during treatment 221 (85.6%), availability of medicines 198 (76.8%) and the neatness of the facility 220 (85.3%). Its contribution to good patronage of the facilities cannot be ruled out.

Consistent with some other findings[64], [65] this study revealed availability of equipment, supplies and drugs in all the facilities though another work in Uganda reported poor availability of drugs.[93] The only short coming in this work in area of supplies was the absence of pen torch and tendon hammer in two of the facilities may be because they are not used in day to day management of normal pregnancy as complicated cases are usually referred and also because nurses are the people are in charge in most of the health centres, they might not have been trained on how to use them.

The importance of adequate human resource for health cannot be overemphasized for there to be high quality service provision. It is evident in the study that a lot still need to be done in the area of health manpower. There are medical officers and nurses/midwives but the other lower cadres of staff like medical record officers, pharmacy technician, lab technician etc are not adequate. Security of a facility is of a very big essence but the results showed absence of security personnel (table 4) in almost all the facilities except one that has only one security man instead of the recommended two. The implication is that women might be feeling reluctant to come in the night in labour as they wonâ t be sure of their safety and may

eventually visit an alternative birth place. This also predisposes the health facilities to robbery attack and possible looting of available supplies. The gap in health workers availability in health facilities for antenatal care seems to be a recurring issue as many studies reported same.[64, 65, 93]

The quality of service provision as evidenced in the study is being threatened by both shortage of staff and this could negatively affect the productivity of the few staff available. The findings revealed poor training and supervision, inadequate supplies etc as some of the challenges faced by the health workers. This is an issue that need to be addressed especially in the area of training to expand workers capacity. Regular in-service training comes highly recommended, supervision and various form of motivation to boost the productivity of the available workers.

The traditional antenatal care being practised is well accepted by both the clients and the providers as was identified in the study. This might be a pointer of a possible non-acceptance of focused antenatal care when introduced. With the shortage in health manpower for antenatal care, focused antenatal care is actually needed so that the small number of staff will have a limited number of women in each clinic day and give them the utmost attention.

Results show that adequate information on relevant health topics are delivered by the health providers though a lot more need to be done in areas of family planning and cervical cancer. Other researchers reported poor information on cervical cancer in their work also.[73, 79] Not giving as much information on family planning like other topics may be because it is emphasized during six weeks postnatal visit. Cervical cancer should be discussed with all women as it is a leading cause of death in women in sub-Saharan Africa and this makes it very necessary to create awareness on the importance of regular screening.

There was adequate information on how to recognise and proceed in some danger signs of pregnancy. This is in contrast with findings in a study in Gambia where roughly 80% of

the women reported that they had not been told how to recognize or manage certain danger signs during pregnancy.[72] This probably contributed to the clients having little worries about some pregnancy related issues when compared with facilities in similar study[72, 73] where women were not given as much information.

The observation of processes of care revealed poor practice of the minimum procedures to be done in antenatal consultations. In almost all the facilities, doors were not closed during consultation, no explanation given before examination or about diagnosis and also on the importance of taking prophylactic drugs. Consulting while the doors are open does not guarantee confidentiality and this was reported in a study where there was always interruption by another health worker, a visitor or even a stranger during consultation.[65] Similarly, not explaining the importance of prophylactic drugs may lead to poor adherence and its possible negative effects. However blood pressure measurement, checking the foetal heart and urine for protein were never missed just like in most studies on antenatal women.[65, 74] The availability of instrument for measuring these and the common knowledge on the importance of these in pregnancy must be contributory to providers not missing them. However, blood pressure measurement and urine testing are a routine for all women once they come for antenatal visit though it was reported to have been done for a small number of clients some other researchers.[64, 65, 93] The involvement of women in all the processes of care is very paramount to achieving a good maternal outcome. This however is not the case as seen in the study and also in other similar studies.[65] Group health talk is good but not enough thereby it should be complemented by in depth interaction with the clients during one on one consultation. It is during this time that issues like birth preparedness, complication readiness etc should be discussed and the woman put in the right perspective on what she should do and be doing.

A very important aspect of quality is client satisfaction with service provision and there are many determinants to that. This study has an overall clients satisfaction of 86.8% with 84.8% and 83.7% of the clients admitting willingness to come back in subsequent pregnancies and recommend the facility to someone else respectively. That is quite reasonable though there are still so many areas of dissatisfaction that need to be emphasised. Waiting time is a big problem that needs to be handled very well. This is a big source of dissatisfaction to women and was also reported in some other works.[72, 79, 93, 94] though Fawole et al[73] in their work had a lot of the women rating the waiting time as appropriate.

Many respondents had to wait for longer than one hour before being attended to but it is worth noting that the time they responded that they wait includes the time usually devoted to group health talk. Not having enough staff could contribute to long waiting time. Other major sources of dissatisfaction identified were inability to discuss problem with health providers contrary to findings by Sholeye OO et al[68]and lack of privacy during discussion consistent with a work in Gambia[72] Lack of privacy is a reflection of the practice of leaving the doors open in most consultation and inability to discuss problems well with the clients can be linked to shortage of staff which may make the providers to always be in a hurry to see everybody.

The socio-demographic factors that have significant associations with the respondent's satisfaction of the antenatal services include marital status, educational level and occupational group ($P<0.05$) and is consistent with findings from similar studies.[78, 95] Being currently married, doing business and having at least secondary education has a positive effect on client satisfaction. This goes to show that among other things, having a husband, being educated and possibly some level of source of income influence satisfaction with service provision. However the age of a woman, gestational age and having delivered before do not really contribute to satisfaction. Also more of the people that are ready to continue with

antenatal care in the facility in subsequent pregnancy and to recommend it for others are satisfied with the services. The health providers themselves believed that the services they are rendering are good, that their clients are satisfied and all acknowledged the willingness to recommend it for friends and relatives.

Despite some shortcomings, majority of the women attending the antenatal clinic reported high level of satisfaction. This was also seen in some other works.[64, 72, 73, 79, 93] From the grading system above, it can be seen that the quality of antenatal care in terms of structural and outcome attribute are very good but process attribute is good. However the overall quality of antenatal care services in Anambra State can be said to be very good. (83.5%).

CHAPTER SIX

CONCLUSION

There is no doubt that the antenatal care services provided in the local government area is very good despite some observed shortcomings. Lack of enough manpower is a very big challenge to providing adequate antenatal service especially the lower cadre of staff. This is very important as everybody has a role to play at different stages in accessing care.

RECOMMENDATION

1. There should be a periodic assessment of quality of antenatal care as this will help for continuous improvement in service delivery especially looking at quality from the clientsô perspectives.
2. The authority should employ workers in the primary health centres especially the lower cadre of staff that provide allied services in the centre like security personnel, pharmacy technician etc
3. There should be regular supervision and in-service training for the staff to keep them abreast with recent development on best practices in patient care with regards to things like client privacy, health education etc.
4. There should be awareness creation on the part of the service providers on the need to reduce client waiting time as it is a major cause of dissatisfaction and also on the part of the government to employ more staff to meet the required minimum standard so as to reduce provider-client ratio.

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APPENDIX 1

THE 21 LOCAL GOVERNMENT AREAS IN ANAMBRA STATE

1. **Awka South**
2. Awka North
3. Idemili North
4. Idemili south
5. Njikoka
6. Onitsha North
7. Onitsha South
8. Orumba North
9. Orumba South
10. Nnewi North
11. Nnewi South
12. Ihiala
13. Ekwusigo
14. Ogbaru
15. Ayamelum
16. Anambra East
17. Anambra West
18. Anaocha
19. Oyi
20. Dunukofia
21. Aguata

COURTESY, NATIONAL POPULATION COMMISSION AWKA.

APPENDIX 2

PUBLIC PRIMARY HEALTH FACILITIES IN AWKA SOUTH LGA OF ANAMBRA STATE

1. **Primary Health Centre Umueze Amawbia**
2. **Primary Health Centre Nise**
3. **Primary Health Centre Nibo II**
4. **Primary Health Centre Isiagu**
5. **Primary Health Centre Umuokpu –Awka VI**
6. **Primary Health Centre Mbaukwu**
7. **Primary Health Centre Okpuno**
8. **Primary Health Centre Umuawulu**
9. Health Post Amawbia II
10. Maternal and Child Health Amawbia III
11. Health Post Agulu-Awka
12. Health Post Amikwo-Awka
13. Health Post Nibo I
14. Health Post Ezinato
15. Health Post Ifite-Awka
16. Health Post Ngodo-Nise
17. Health post Isiakpu-Nise
18. Basic Health Centre Nibo III
19. Health Post Umuogbunu Awka IV
20. Health Post Umudioka III
21. Health Post Nkwelle-Awka I
22. Health Post Akabo-Mbaukwu
23. Health Post Ovolo

SOURCE: PUBLIC HEALTH DEPARTMENT, MINISTRY OF HEALTH, AWKA, ANAMBRA STATE

APPENDIX 3

STRUCTURAL ATTRIBUTE

STRUCTURAL ATTRIBUTE	DESCRIPTION	REQUIRED	FACILITY SCORE/AVAILABILITY
INFRASTRUCTURE	Minimum Land area	4200 square meter	
	Colour	Green	
	Building Structure	Detached 13 Rooms	
	Functional, clean & separate toilets with water		
	Good source of water supply from motorised borehole		
	Connection to national grid or alternative source of power supply		
	Sanitary Waste collection and Disposal		
	Clear signpost visible from entry & exit points		
	Waiting Area		
	Functional door and netted window		
	Privacy of examination room		
	Water to wash hands		
	Cleanliness of facility		
	Maintenance of floors and walls		
	Laboratory		

APPENDIX 4

ANC CLINIC/INTERVIEW ROOM EQUIPMENT

EQUIPMENT	DESCRIPTION	MINIMUM REQUIREMENT	FACILITY SCORE/AVAILABILITY
	Door Name Plate	1	
	Mercurial Sphygmomanometer (Acossons)	1	
	Latex Gloves, Disposable Pack of 100	20	
	Stethoscope	1	
	Haemoglobin measuring kit	3	
	Urine Dipstick for sugar & albumin, pack of 20	20	
	Stainless galipot (medium)	1	
	Bowls, stainless steel with stand	1	
	Nail Scrubbing, Pack of 12	1	
	Soap/Disinfectant Dispenser	1	
	Dressing Trolley	1	
	Examination Couch	1	
	Fetal stethoscope	2	
	Pen Torch	1	
	Hammer, reflex	1	
	Height measuring Stick	1	
	Angle Poised Lamp	1	
	Wooden Long Benches	3	
	Ceiling fan	2	
	Wall Clock	1	
	Tables	2	
	Mackintosh sheet	2	
	Thermometer (oral)	2	
	Tongue Depressor (wooden and metal)	6	
	Weighing Scale (adult)	3	

APPENDIX 5

ANC DRUGS AND SUPPLY

DRUGS AND SUPPLIES	DESCRIPTION	MAXIMUM SCORE	FACILITY SCORE
	Paracetamol tablets		
	Sulphadoxine-pyrimethamine		
	Tetanus Toxoid		
	Vitamin A Capsule		
	Ferrous Sulphate		
	Folic Acid		
	Penicillin		
	LLIN		

APPENDIX 6

HUMAN RESOURCES FOR PHC

HUMAN RESOURCE	CADRE OF STAFF	NUMBER REQUIRED	NUMBER AVAILABLE
	Medical officer (if available)	1	
	Community Health Officer (must work with standing order)	1	
	Public Health Nurse	1	
	Nurse/Midwife	4	
	CHEW	3	
	JCHEW	6	
	Medical Record Officer	1	
	Pharmacy Technician	1or2	
	Lab technician	1	
	Security Personnel	2	

APPENDIX 7

PROVIDERS QUESTIONNAIRE

TITLE OF PROJECT: An Assessment of Quality of Antenatal Care Services in Primary Health Centres in Anambra State

INTRODUCTION,

Dear respondent, this is a research to find out about the quality antenatal services you render in this centre and how to make for further improvement. Your name is not needed and any information provided is just for research purposes and will be kept with utmost confidentiality. Thanks.

SECTION A: SOCIODEMOGRAPHIC DATA

1. Age (In years).....

2. Sex 1-Male..... 2- Female.....

3. Which type of provider are you 1-Physician.....2-Nurse.....3-Midwife..... 4-CHO..... 5-JCHEW..... 6-CHEW.....

4. How many years since graduation from medical/nursing schoolé .....

5. How many years since graduation from specialty (when applicable).....

6. How long have you being working hereé é é .

SECTION B: PRACTICE EXPERIENCE

7. In your opinion, have the number of antenatal visits in this clinic been

1-more than necessary..... 3-about right.....

2-less than necessary.....

8. In your opinion, was the time between visits

1-too short..... 3-about right.....

2-too long.....

9. Do you think that the time you spent with each woman at each visit was

1-too short..... 3-about right.....

2-too long.....

10. During antenatal visits, did you usually provide information about

1-No 2-Yes

a. Health during pregnancy

b. Tests done during pregnancy.....

c. Treatments during pregnancy.....

d. Labour and delivery.....

e. Breastfeeding....

f. Family Planning.....

g. Prevention of malaria in pregnancy....

h. Tetanus.....

i. HIV/AIDS.....

j. Cervical cancer....

k. Breast self examination..

11. Were you usually able to provide information to the patient about how to recognize and proceed when serious problems happened during pregnancy

1-No 2-Yes

	How to recognize	How to proceed
a. Rupture of membrane	.....	.....
b. Haemorrhage	.....	.....
c. Premature contraction	.....	.....
d. Dizziness and fainting	.....	.....
e. High fever	.....	.....
f. Others (Specify)	.....	.....

12. Did you usually reassure pregnant women regarding

1-No 2-Yes

a. The position of the baby.....

b. Whether the baby might be too big or too small.....

c. Whether the baby might be premature.....

d. The possibility of having a baby with disability or abnormality.....

e. Her weight.....

f. Any other concern (Specify).....

13. In your own opinion, what type of provider should be in charge of antenatal care of a normal healthy pregnant woman in this clinic

1-No 2-Yes

a. physician..... c. Midwife.....

b. nurses..... d. CHO.....

e. CHEW.....

14. In your work, do you have difficulties in any of these

1 ï No 2- Yes

a. Training..... f. Staff shortage.....

b. feedback on performance..... g. Supplies.....

c. Motivation..... h. Supervision.....

d. Time..... i. Others (Specify).....

e. Work environment.....

15. How would you score the antenatal care provided in this clinic

1-Very good..... 3-Average.....

2-Good..... 4-Inadequate.....

16. Do you think that women who attended this clinic are satisfied with the care they got

1-Very satisfied..... 3-Not Satisfied.....

2-Satisfied.....

17. Would you recommend this clinic to a pregnant relative or friend

1-No.....2-Yes.....

APPENDIX 8

PROCESS OF CARE

PROCESS ATTRIBUTE	ACTIVITY	MAXIMUM SCORE	FACILITY SCORE
	Seat offered	2	
	Interest shown	2	
	Non interruption of womanôs speech	2	
	Politeness	2	
	Asking about womanôs concern	2	
	Door closed during consultation	2	
	Explanation before examination	2	
	Explanation of diagnosis	2	
	Explanation of use of prophylactic drugs	2	
	Any History	2	
	History of malaria	2	
	History of UTI	2	
	Blood Pressure Measurement	2	
	Checking of haemoglobin	2	
	Checking urine for protein	2	
	Prophylactic drugs	2	
	Checking eyes for pallor	2	
	Checking legs for oedema	2	
	Checking weight	2	
	Checking fetal heart	2	
	General Health Education	2	
	Nutrition education	2	
	Malaria Prevention Health Education	2	

APPENDIX 9

CLIENT EXIT INTERVIEW FORM

TITLE OF PROJECT: An Assessment of Quality of Antenatal Care Services in Primary Health Centres in Anambra State.

INTRODUCTION,

Dear respondent, this is a research to find out your satisfaction with antenatal services you receive in this centre and how to make for further improvement. Your name is not needed and any information provided is just for research purposes and will be kept with utmost confidentiality. Thanks.

SECTION A: SOCIODEMOGRAPHIC DATA

1. Age as at last birthday (in years)é é é é é é é .
2. Tribe: a. Ibo.... b. Yoruba... c. Hausa.... d. Ijaw..... e. Others (Specify)é ..
3. Religion: a. Christianity....b. Islam.....c. Traditional Religion..... d. Others (Specify)é .
4. Marital Status a. Single/Never married..... b. Currently Married c. Separated..... d. Divorced..... e. Widowed.....
5. Educational level a. none..... b. Primary..... c. Secondary.... d. Tertiary..... e. Others(Specify)
6. Occupation.....
7. Occupation of Spouse.....

SECTION B: OBSTETRIC HISTORY

8. How many weeks is your pregnancy. Weeks..é . Donôt Knowé ..
9. How many weeks was your pregnancy the first time you cameé é
10. Number of antenatal visits including this oneé é é é é .
11. What number is this present pregnancy? 1é .. 2é .. 3é .. 4é . 5é .. Others (Specify).....
12. How many did you deliveré é ..
13. Have you ever had a miscarriage Yesé é . Noé é
14. Have you had a stillbirth Yesé é . Noé é é

SECTION C: ANC EXPERIENCE IN INDEX PREGNANCY

15. Are you happy about the number of antenatal checkups you have had or would you have preferred

    1-more checkups..... 3-number of checkups was just right.....

    2-fewer checkups.....

16. Have the number of antenatal checkups been

    1-more than you expected..... 3-about the same as you expected.....

    2-less than you expected.....

17. Has the time between checkups been

    1-too short..... 3-about right.....

    2-too long.....

18. How long do you usually have to wait at the unit (clinic/hospital) before being seen by a doctor/nurse/midwife that provides antenatal care? <1 houré .....
    >1 hour.....

19. Are you happy with the time you normally have to wait
    1-No..... 2-Yes.....

20. How much time do you usually spend with the doctor/nurse midwife who provides you antenatal care? <30mins..... 30-60mins..... >60mins.....

21. Do you have enough time with the doctor/nurse during your checkups or would you prefer
    1-a lot more time..... 3-time is about right.....
    2-a little more time.....

22. If you had a choice, would you prefer to be seen by
    1-a male provider..... 3-No preference.....
    2. a female provider.....

23. If you had a choice, would you prefer to be attended by
    1-a doctor..... 4-a combination.....
    2-a nurse..... 5-No preference.....
    3-a midwife.....

24. Was the information you received about looking after your own health
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

25. Was the information you received about tests (blood, urine) during this pregnancy
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

26. Was the information you received about any treatment you might need during this pregnancy
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

27. Was the information you received about labour
    1-not enough..... 3-too much.....
    2-as much as you wanted..... 4-no information received.....

5-donôt remember.....

28. Was the information you received about breastfeeding
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

29. Was the information you received about breast self examination
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

30. Was the information you received about family planning
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

31. Was the information you received about prevention of malaria in pregnancy
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

32. Was the information you received about HIV Counselling and testing
    1-not enough..... 4-no information received.....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

33. Was the information you received about prevention of cervical cancer
    1-not enough..... 4-no information received....
    2-as much as you wanted..... 5-donôt remember.....
    3-too much.....

34. Were you told how to recognize and proceed about some serious problems that can happen in pregnancy
    1-No 2-Yes
    a. Rupture of membrane..... d. Dizziness and fainting.....
    b. Haemorrhage..... e. Fever.....
    c. premature contraction..... f. Others (Specify).....

35. During your pregnancy, were you worried about any of the following conditions
    1-No 2-Yes

a. the position of the baby.....

b. The size of the baby.....

c. Whether you baby will be premature.....

d. The possibility of having a baby with disability or abnormality.....

e. Your health f. Your weight.....

g. Other possible complications of pregnancy.....

36. If yes to any of 35 above, Did the information given by the doctor or nurse reassure you

1- No 2-Yes 3-Did not receive information

a. the position of the baby.....

b. The size of the baby.....

c. Whether you baby will be premature.....

d. The possibility of having a baby with disability or abnormality.....

e. Your health.....

f. Your weight.....

g. Other possible complications of pregnancy.....

SECTION D

	Very Dissatisfied	Dissatisfied	Indifferent	Satisfied	Very Satisfied
37. Waiting time					
38. Ability to discuss problems concerning the pregnancy with the provider					
39. Amount of explanation about the problem or treatment					
40. Examination and treatment provided					
41. Privacy from others when being examined					
42. Privacy from others hearing your discussion					
43. Availability of medicines at the					

facility					
44. Convenience of the hours of services					
45. Neatness of the facility					

SECTION E: YOUR OVERALL SATISFACTION

46. A. If you get pregnant again, will you come back to this unit (clinic/hospital)
    1-No..... 3-Donôt know.....

    2-Yes.....

    B. Whyé é é é é é é é é .

47. Would you recommend this unit (clinic/hospital) to a relative or friend for their antenatal check-up?
    1-No..... 3-Donôt know.....

    2-Yes.....

48. In general, how satisfied are you with the antenatal care you received so far in this unit (clinic/hospital)
    1-Very satisfied..... 4- Dissatisfied.....

    2- Satisfied..... 5-Very Dissatisfied.....

    3- Indifferent.....

APPENDIX 10

FOCUS GROUP DISCUSSION GUIDE FOR CLIENTS RECEIVING ANTENATAL SERVICES IN THE STUDY FACILITIES

1. Can you please tell me what you know about Ante Natal Care?
2. In your own opinion, what can you say about the state of infrastructure in this facility
3. What do you think about the services you are receiving in this facility?
4. Since you started coming to this facility, what is you view about the availability of drugs and other supplies here?
5. Can you briefly describe the attitude of the staff in this facility
6. Which aspect of the ANC services do you have the most challenge in and which do you think needs improvement?
7. Can you say that you are satisfied with ANC services you are receiving in this hospital and why
8. Letôs summarize some of the key points from our discussion. Is there anything else? Do you have any questions?

   Thank you for taking the time to talk to us!!

APPENDIX 11

INFORMED CONSENT FORM

INTRODUCTION

Dear respondent, the aim of this consent form is to make available to you the necessary information concerning this research on assessing the quality of antenatal care services provided in this facility.

PURPOSE OF THE STUDY

This study will be looking at the different aspects of quality which include the structure of this facility you are accessing care from, the services they provide to you and finally whether you are satisfied with the services or not.

STUDY PROCEDURE

Participants will be required to understand very well the reason for this study, give their informed consent and answer questions contained in the questionnaire to the best of their ability. Participation in this study is completely voluntary and no punishment is attached to non-participation.

CONFIDENTIALITY

All the information given will be kept with utmost confidentiality and you are not expected to write your name.

POTENTIAL RISKS IN THE STUDY

There is no harm for the participants involved in this study.

POTENTIAL BENEFITS FROM THE STUDY

Results from this study will help to know the quality of antenatal service provided in this facility which will help for further improvement. This improvement in quality will go a long way to increase the level of utilization of the services as good quality care increases utilization and will eventually reduce the number of women that die from pregnancy related causes.

CONSENT

Having well understood the purpose, procedure and benefits of this research, I do hereby give my consent to participate in the study without fear or favour.

é é é é é é é é é ... é é é é é ..

Signature of Participant Date

For further information and clarification, please do contact

Dr Uchenna Ugwoke (PRINCIPAL INVESTIGATOR), 08038684859 or uchennaneme@yahoo.com

APPENDIX 12

NNAMDI AZIKIWE UNIVERSITY TEACHING HOSPITAL ETHICS COMMITTEE APPROVAL

APPENDIX 13

LETTER OF PERMISSION FROM HOD, HEALTH AWKA SOUTH