ORIGINAL ARTICLE

Clients' knowledge, perception and satisfaction with quality of maternal health care services at the primary health care level in Nnewi, Nigeria

CC Nnebue[1,2], UE Ebenebe[2], ED Adinma[2], CA Iyoke[3], CN Obionu[4], AL Ilika[2]

[1]Departments of HIV Care, and [2]Community Medicine, Nnamdi Azikiwe University Teaching Hospital, Nnewi, [3]Department of Obstetrics and Gynaecology, University of Nigeria Teaching Hospital, [4]Department of Community Medicine, UNEC/UNTH, Enugu, Nigeria

Abstract

Background: Clients' knowledge, perception of and satisfaction with the quality of maternal health services (QMHS) enables maternal health programs to assess the impact of their services from the clients' perspective.

Objective: The objective of this study is to assess the knowledge, perception of and clients' satisfaction with the QMHS at the primary health care (PHC) level in Nnewi, Nigeria.

Materials and Methods: This was a cross-sectional survey. Using multistage sampling technique, 280 women utilizing maternal health services from randomly selected PHC facilities in Nnewi, Nigeria were selected for the study. Data were collected using a mix of quantitative and qualitative methods. Quantitative data were analyzed using Statistical Package for Social Sciences version 16, while qualitative data were reported verbatim, analyzed thematically and necessary quotes presented.

Results: A total of 280 women were studied. The mean age of the respondents was 29.2 ± 5.9 years. 231 (82.5%) were married. 89 (31.8%) did not report any knowledge about QMHS. Level of satisfaction was not different among women of different socioeconomic groups ($P > 0.05$). Sociodemographic characteristics of clients were not found to be associated to the perception of waiting time: ($P > 0.05$). The attitude of health care providers toward the clients was reported as good.

Conclusions: Despite the poor quality of services provided, this study showed that client's knowledge of quality of services was good. Furthermore cost, local language used, staff attitude and interaction with clients was acceptable and may be the reason for high level of satisfaction reported.

Key words: Clients' knowledge, clients' perception, clients' satisfaction, primary health care level, quality of maternal health services

Date of Acceptance: 14-Apr-2014

Introduction

Maternal health care services in health systems constitute a large range of curative and preventive health services of particular importance to the health of women of reproductive age and their infants. It includes population based services such as behavior change and health communication (e.g., promotion of antenatal care).[1] Maternal health care services aims at reducing maternal mortality and morbidity by ensuring that pregnant women remain healthy throughout pregnancy, deliver safely to healthy babies and recover fully from the physiological changes that occur during pregnancy.[2]

Address for correspondence:
Dr. Chinomnso C Nnebue,
Departments of HIV Care and Community Medicine,
Nnamdi Azikiwe University Teaching Hospital,
PMB 5025, Nnewi, Anambra State, Nigeria.
E-mail: nnebnons@yahoo.com

Access this article online	
Quick Response Code:	**Website**: www.njcponline.com
	DOI: 10.4103/1119-3077.141425
	PMID: *******

According to the World Health Organization, "quality health care is defined as that care which consists of the proper performance according to standards."[3] Therefore, maternal health care service quality is the application of those necessary multisectoral services required to ensure a state of physical, mental, social, and perhaps spiritual well-being of mothers in the community, and their offsprings.[4] This includes services required to minimize the noxious consequences of preexisting or concurrent health hazards or conditions, and upgrade the health and social functioning of those women who require it.[4]

Quality of care is an important determinant of health outcome.[5] Traditionally, as postulated by Donabedian, quality of care has been assessed in three general domains: Structure, process, and outcome.[6] Outcome assessment concerns the results of care on the health status of clients, including changes in client knowledge, perception and behavior, client satisfaction with health care, biologic changes in disease, complications of treatments, morbidity, and mortality.[6] Community defined dimensions of quality of maternal health care include: Access to a maternal facility in the community; treatment that is delivered in a respectful and timely fashion; respect for traditional practices and use of indigenous language; a clean and well-equipped facility, transportation, and free services.[7] The component of the provided maternal health care service from the clients' perspective also connotes quality. In a study on mothers' perspectives of the quality of postpartum care in Central Shanghai, China, the mothers indicated that to improve the quality of services further, greater emphasis should be placed on: Health education on child care; more time allocation for discussion with health workers during their postpartum home visit so that their questions and concerns should be addressed effectively; access to health workers in times of need rather than during official prescribed home visits; provision of continuous training for maternal and child health workers with respect to child care.[8]

Client's satisfaction with quality of care is the degree to which the clients' desired expectations, goals and or preferences are met by the health care provider and or service.[9] Satisfaction and dissatisfaction indicate clients' judgment about the strengths and weaknesses, respectively, of the service.[10] Some studies have reported that women may generally express satisfaction with the quality of services despite some inconsistencies between received care and their expectations of the facilities.[11-17] In these studies, women were satisfied with the care received, interpersonal relationship and the infrastructures for providing care. Health education and communication in the local language are also stressed to improve client satisfaction.[12,18]

However, other studies have revealed women's dissatisfaction with maternal care.[19-20] Reasons for dissatisfaction in most of these studies were; long waiting time, poor laboratory services, inadequate medicine supply and health workers negative attitudes. Health workers have often treated women rudely.[19,21] Furthermore, women's perception with care often determines clients' willingness to comply and continue with the service rendered.

The surveys not only provide a means for clients to express their concern with the services, but also afford the opportunity for the provider to have information with which they can improve the quality of services provided. At present, there is a paucity of data from Nigeria on clients' knowledge, perception of and satisfaction with the quality of maternal health care services (QMHCS) at the primary health care (PHC) level. This if available, could provide useful information to researchers and policy makers in identifying specific problems and developing strategies for improvement. It is against this backdrop that this study was designed to assess the knowledge, perceptions of and clients' satisfaction with QMHCS at the PHC level in Nnewi North Local Government Area (LGA) of Anambra State. This can help define the starting points for improvement in the QMHCS at this level of health care delivery.

Materials and Methods

Nnewi North LGA (NNLGA) is one of the 21 LGAs in Anambra State, Southeast Nigeria. The land mass has an area dimension of 72 km^2 and an approximate total population of 157,569 people (census 2006) giving an average population density of 2189 people/km^2[22] The people are ethnically Ibos and the inhabitants are mainly traders, with a few white collar and blue collar job workers, farmers and artisans, and are predominantly Christians. Nnewi is a town popular for industrialization, with raw materials mainly imported from outside the country, thus attracting dealers on these products from different parts of the country and beyond. Both the federal and state institutions have their offices in Nnewi.

The health program of the LGA conforms to the National Health Policy. It has a number of health facilities; a Federal Teaching Hospital, Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi. There is no public secondary health care facility in the LGA. However, there are about 30 private hospitals and clinics, 24 PHC centers. Twelve of the 24 public PHC facilities provide at least 3 maternal health care services, with staff strength of 1 medical doctor, 12 CHOs, 12 nurses/midwives, 80 community health extension workers and 48 health attendants in these 24 health facilities as at the time of this study. There are alternative health care providers and patent medicine vendors.

The study design was a cross-sectional survey. The study population comprised women utilizing maternal health care services in public PHC facilities in NNLGA during the period of the study. Women utilizing any of the maternal

health services in health facilities that provide at least three of the maternal health services viz.: Family planning, antenatal care, safe delivery services, postnatal care services and basic essential obstetric care, were enrolled into the study. Data collection in this study employed a mix of quantitative (client exit interviews) and qualitative (focus group discussion [FGD]) methods.

For the client exit interviews, the sample size was determined using the formula for the calculation of sample size in populations >10,000, $n = z^2pq/d^2$[23] where n = calculated sample size; z = standard normal deviate at 95% confidence interval = 1.96; P = percentage of births attended by skilled attendants; q = the complementary probability of P (1 - p) that is, percentage of births not attended by skilled attendants and d = precision level 5% =0.05.

In a study in Southeastern Nigeria, 81.8% of births were reported to have been attended by skilled attendants.[24] Therefore, $P = 0.82$, while $q = 1 - 0.82 = 0.18$, then the estimated minimum sample size required for the study,

$$n = \frac{1.96^2 \times 0.82 \times 0.18}{(0.05)^2} = 227.$$

Anticipating a response rate of 90%, an adjustment of the sample size estimate to cover for nonresponse rate was made by dividing the sample size calculated with a factor f, that is, n/f, where f is the estimated response rate.[23] Thus, the calculated sample size = 227/0.90 = 252. However, 280 questionnaires were distributed, completely filled and were thus analyzed.

A multistage sampling technique was used. NNLGA is made up of four administrative zones/quarters (Otolo, Nnewichi, Uruagu and Umudim), and 12 PHC centers provide at least three of the services needed to meet the inclusion criteria. In the first stage, one health facility (HF) from each of these four administrative zones of the LGA was selected using simple random sampling method. Those selected were Umuenem Otolo PHC Center, Okpuno Nnewichi PHC Center, Edoji Uruagu PHC Center and Eme Court Umudim Health Clinic. In the second stage, the sample size determined was proportionately allotted to the four health centers based on the average number of clients that presented for antenatal care at this facility within the period of the study. In the third stage, based on the average number of clients for the 3 months preceding the month of the study, the total monthly antenatal attendance for the four facilities was 300. The total number of clients that was interviewed for each HF was calculated thus:

$$\frac{\text{The average monthly antenatal attendance for the health facility}}{\text{Total monthly antenatal attendance for the four health facilities}} \times 280$$

For Umuenem Otolo PHC Center, the average monthly antenatal attendance is 99. Hence, the number of clients interviewed was 99 × 280/300 = 92.

For Okpuno Nnewichi PHC Center, the average monthly antenatal attendance is 55. Hence, the number of clients interviewed was 55 × 280/300 = 52.

For Edoji Uruagu PHC Center, the average monthly antenatal attendance is 60. Hence, the number of clients interviewed was 60 × 280/300 = 56.

For Eme Court Umudim Health Clinic, the average monthly antenatal attendance is 86. Hence, the number of clients interviewed was 86 × 280/300 = 80. Therefore, the total number of clients interviewed = 280.

In the fourth stage, eligible and consenting respondents utilizing maternal health services were recruited consecutively by systematic sampling technique at the point of exit from the health facilities until the required number allotted to each selected facility has been obtained. Clients were interviewed by research assistants, after the client has received services.

A pretested standardized semi-structured questionnaire was used to obtain information on sociodemographic characteristics of the clients, knowledge of clients on quality of care (services that ensure safe delivery of healthy babies; services that ensure the mother is healthy throughout pregnancy; good health education to mothers in pregnancy; good health care worker-client relationship; prompt attention, clients' level of satisfaction with the quality of care received. Quantitative data were analyzed using Statistical Package for Social Sciences version 16. Frequency distributions of all relevant variables were presented in tables. Means and standard deviations were determined and tests of statistical significance carried out using the Chi-square test, with statistical significance set at $P < 0.05$.

In addition, four FGD sessions were conducted on women to identify the various determinants of quality from the perspectives of the clients. Information obtained from these clients include: The general physical appearance of the health facilities, the attitude of the health care providers toward clients, knowledge about maternal health services, level of satisfaction with services received and suggestions for improvement. FGDs were recorded and translated, while findings were reported verbatim and analyzed both thematically and necessary quotes presented. Qualitative data added depth to the findings of the quantitative survey.

Approval to conduct the study was obtained from the NAUTH Ethical Committee, while permission was obtained from the State Ministry of Health, and the NNLG PHC Department.

Results

A total of 280 mothers were interviewed and they included; 92 women attending Umuenem Otolo PHC, 79 women at Okpuno Nnewichi PHC, 56 women at Edoji Uruagu PHC and 52 women at Eme Court Umudim PHC. The mean age of the respondents was 29.2 ± 5.9 years. Majority of the respondents, 231 (82.5%) were married while most of them, 216 (77.2%) attained at least secondary level of education, only 7 (2.5%) did not have any formal education. Table 1 summarizes the sociodemographic characteristics of respondents.

Table 2 summarizes the knowledge of QMHCS by the respondents. 89 (31.8%) of the respondents did not report any knowledge about QMHCS. For the 191 (68.2%) that knew, most of them said that QMHCS they are services that ensure safe delivery of healthy babies (74.3%) and healthy mother throughout pregnancy (70.2%).

Figure 1 shows that more than 90% of the clients reported ranging levels of satisfaction of the maternal health care services provided to them at the facilities studied.

Table 3 shows the relationship between sociodemographic characteristics and clients' perception of QMHS. Sociodemographic characteristics of clients (age, marital status, and educational status) were not found to affect their level of satisfaction: $P > 0.05$ ($P = 0.936$, $P = 0.800$, $P = 0.440$, respectively).

Table 4 summarizes perception of respondents on waiting time for maternal health care services. Most of the respondents (75.4%) felt that the overall waiting time was adequate. However, few of them (11.1%) and (10.4%), respectively said that consultation and laboratory test took most of the waiting period.

Table 5 shows the association between sociodemographic characteristics and perception of waiting time.

Table 1: Sociodemographic characteristics of the respondents studied

Sociodemographic characteristics	*n*=280	Percentage
Age group (in years)		
<19	12	4.3
20-29	135	48.2
30-39	116	41.5
40-49	15	5.3
Nil response	2	0.7
Total	280	100
Marital status		
Married	231	82.5
Never married	39	13.9
Separated	10	3.6
Total	280	100
Highest educational level		
Nil formal	7	2.5
Primary	57	20.4
Secondary	169	60.4
Tertiary	47	16.8
Total	280	100

Table 2: Knowledge of QMHCS, QMHS by respondents. *n*=280

Knowledge of QMHS	*n*	Percentage
Reported knowledge of QMHCS	191	68.2
Did not reported knowledge of QMHCS	89	31.8
Services that ensure safe delivery of healthy babies	142	74.3
Services that ensure the mother is healthy throughout pregnancy	134	70.2
Good health education to mothers in pregnancy	70	36.7
Good HCW-client relationship	64	33.5
Prompt attention	38	19.9

*Multiple responses. QMHCS=Quality of maternal health care services; QMHS=Quality of maternal health services; HCW=Health care worker

Table 3: Relationship between sociodemographic characteristics and client's perception of quality maternal health services

Sociodemographic characteristics	Perceived services to be of quality *n*=181	Perceived not to be of quality *n*=99	χ^2	*P* value
Age (in years)				
<19	9	3	1.29	0.936
20-24	30	14		
25-29	56	35		
30-34	46	27		
35-39	26	15		
40-44	10	5		
Marital status				
Married	141	77	0.60	0.800
Never married	35	17		
Divorced	5	5		
Educational status				
Nil	4	3	2.70	0.440
Primary	33	24		
Secondary	113	55		
Tertiary	28	17		

Table 4: Perception of respondents on waiting time for maternal health care services

Waiting time	*n*=280* (%)			
	Too short	Adequate	Too long	Nil response
Registration/records	68 (24.3)	179 (63.9)	11 (3.9)	22 (7.9)
Accounts	42 (15.0)	148 (52.9)	23 (8.2)	67 (23.9)
Consultation of medical doctor	34 (12.1)	190 (67.9)	31 (11.1)	25 (8.9)
Laboratory	36 (12.9)	142 (50.7)	29 (10.4)	73 (26.1)
Overall time spent	5 (1.8)	211 (75.4)	34 (12.1)	30 (10.7)

*Multiple responses

Sociodemographic characteristics of clients (age, marital status, and educational status) were not found to have an association with the perception of waiting time: $P > 0.05$ ($P = 0.545$, $P = 0.013$, $P = 0.859$, respectively).

Table 6 summarizes the ways of improving QMHCS as suggested by respondents. Most common suggestions for improving QMHCS include, adequate staffing of health care facilities with skilled personnel (89.5%), availability of equipment and supplies (78.0%) and availability of services (67.0%).

Table 5: Association between sociodemographic characteristics and perceived waiting time

Sociodemographic characteristics	Waiting time adequate $n=216$	Waiting time too long $n=34$	χ^2	*P* value
Age (in years)				
<19	8	2	2.13	0.545
20-24	31	8		
25-29	73	11		
30-34	58	8		
35-39	32	6		
40-44	13	0		
Marital Status				
Married	188	24	6.17	0.013
Never married	21	9		
Divorced	7	1		
Educational status				
Nil	6	1	0.30	0.859
Primary	36	6		
Secondary	130	20		
Tertiary	35	7		

Table 6: Ways of improving QMHCS, QMHS as suggested by respondents. $n=280$

Ways of improving QMHS	*N*	Percentage
Adequate staffing of HFs and with skilled personnel	171	89.5
Ensuring availability of equipment and supplies	149	78.0
Availability of services	128	67.0
Provision of staff accommodation, security and 24 h services	38	20.0
Accessibility	32	16.8
Good physical appearance of HF	29	15.2
Making services available	25	13.1
Good HCW-client interpersonal relationship	25	13.1
Effective referral	19	9.9
Provision of amenities	17	8.9
Empowerment of women	3	1.6
Good welfare package for HCWs	3	1.6
Encouraging community involvement	2	1.1
Training and regular retraining of HCWs	1	0.5

*Multiple responses. QMHCS=Quality of maternal health care services; QMHS=Quality of maternal health services; HF=Health facility; HCW=Health care worker

Focus group discussions

The focus group discussants have been utilizing the HF for a varying period of time for as recent as 1 month to as long as 5 years. The discussion centered on the following themes.

Knowledge about maternal health services

The level of knowledge on maternal health services show variations depending on the respondent and the issue under discus. For instance on tetanus toxoid, its dosage and usefulness, majority of discussants said a mother is expected to have 2-3 doses in each pregnancy to protect her and her child, while minority said it was either for the protection of the child alone, or mother alone. One discussant, a primary school dropout said: "Dey talk sayna to protect mother from malaria and typhoid." A 25-year-old fresh university graduate responded thus: "TT is given twice in each pregnancy, but I have been told by a doctor, that if you do not take it up to 5 times, it must be completed in subsequent pregnancies to ensure full protection for life."

General state of the facilities

Most of the discussants said that the facilities were clean, had a good appearance, but do not have enough seats. According to a 35-year-old civil servant "they need to have modern comfortable chairs, but here they make use of old benches." In general, the facility buildings were described as insufficient, with a few bed spaces and there were no security personnel to open the gates especially at odd hours of the night.

In one of the health centers, the discussants complained about the walls which they said needed to be plastered and painted. A young mother of two had this to say: "Accommodation for women who delivered is poor in this facility. When I was delivered of my first baby, I was not

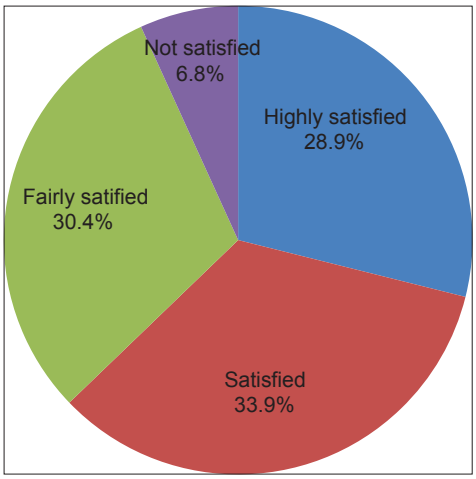

Figure 1: Clients degree of satisfaction with maternal health care services

supposed to be discharged, but another woman made us four, and since there were only three beds, the matron pleaded with me to go home." According to a 29-year-old nursery school teacher, "You know the time for labor is not planned, if a woman comes in labor at night, there will be no security men to open the gates for her, and she will be forced to go back."

Attitude of health care providers toward clients

The common opinion among discussants on the attitude of health care providers toward the clients was good. A 22-year-old primigravida spoke and others supported her. She said: "They are friendly and receptive; they listen to you and treat you well. When my sister was pregnant and we brought her here at night in labor, they did not even ask for anything until after delivery, that made me to say when I am pregnant I will come here, and also now that I am here they are still very caring."

Level of satisfaction with services received

Nearly, all but one of the discussants was satisfied with the services received. On the reasons for their satisfaction, some discussants mentioned the low cost of services in the health facilities as well as use of local language, compared to the hospitals around. Others said: "The drugs and money for registration cards are cheaper here." "They also give us free drugs when it is available." "They attend to us well, that is why we are still coming."

Ways for improvement

The discussants offered suggestions on the ways of improving the QMHS. These include: Outreaches and public awareness campaigns, provision of ambulance for referral, provision of pipe borne water or borehole to ensure adequate water supply, provision of generators as an alternate source of power supply, and employment of skilled health personnel.

Discussion

This study was conducted in the four public PHC facilities selected from the 12 that offered at least three maternal health care services during the period of the study, out of the 24 public health facilities in the study area. This proportion that that offered at least three maternal health care services is a pointer to the poor level of QMHCS in the study area. The study revealed that the maternal health care services commonly accessed by the clients in these facilities include: Antenatal care, child welfare, delivery care, and postpartum care services.

The clients' knowledge of QMHCS was good. This agrees with the findings of a study in rural and urban primary health centers in Ekiti State, Nigeria.[25] It is however contrary to the finding in a study in Turkey, where there was the lack of clients knowledge, and could be as a result of health information not given in local languages.[26] Knowledge of QMHCS will aid clients in making strategic choices and in matching expectations with service provision.

Most respondents reported that the health facilities had a good appearance, and were in fair condition. This finding tallied with the community defined dimensions of quality of maternal health care.[7] It however differed from the findings of an evaluation of PHC in Nigeria where many of the PHC facilities were dilapidated with little or no evidence of maintenance or repair.[27] This difference may be as a result of perceived philanthropic gestures of the indigenes of the town in complementing governments' developmental efforts. Nonetheless, some of the respondents made observations on the need for more buildings to serve as residential accommodation for the health workers, and the need for the employment of security personnel. These according to them will enable 24 h provision of services at the health facilities. This submission showed that services were not readily accessed by clients at all times they are needed. Clients would appreciate access to health workers in times of need rather than on prescribed official periods.[8]

Respondents also complained about the lack of constant water supply similar to the findings of other studies where water supply was found to be inadequate in PHC facilities.[27-29] The primary sources of water were borehole, most of which are far from the health facilities assessed. Refuse disposal was found to be inadequate in half of the health facilities. This was similar to the findings of a Nigerian study by Olumide *et al*., in 2000, where about half of the PHC facilities surveyed had inadequate refuse disposal.[28] All these are evidence of the poor QMHS rendered to the clients. In 2000, where about half of the PHC facilities surveyed had inadequate refuse disposal.[28] All these are evidence of the poor QMHS rendered to the clients.

Our study showed that the waiting time is adequate based on the perception of respondents. Few of them, about one-tenth reported that consultation and laboratory services, respectively took most of the waiting period. Long waiting time has been reported as a principal factor leading to the high rate of discontinuation of service utilization.[27] This agrees with findings of other studies where long waiting time and poor laboratory services among other factors were cited as reasons for dissatisfaction.[19,20] Though perceived, the adequate waiting time reported in our study differs from the findings of other studies where comparative long waiting time was found.[30,31] Effective health services delivery is built on trust between the health service provider and the clients. This is based on meeting the felt needs of the clients.

According to respondents, the disposition of the staff toward punctuality and interaction with clients was acceptable. This may be a reason for the high level of satisfaction with the maternal health services reported by the clients

in this study despite the poor quality of services provided. This finding corresponds with the overall high level of satisfaction related in different studies carried out by Uzochukwu *et al*., in the Southeast Nigeria, Oladapo *et al*., and Fawole *et al*., respectively in Southwest Nigeria as well as by Iliyasu *et al*., Sufiyan *et al*. and Balogun, respectively in Northern Nigeria.[11,16,32-35] This also conforms to the findings of other studies that reported a high level of satisfaction and posited that clients may generally express satisfaction with the quality of services despite some inconsistencies between received care and their expectations.[7,12-15,17,18] These studies also stated that women were specifically satisfied with the care received. The reasons given include: Health education and communication in the local language as well as interpersonal relationship with those providing the care. It has been reported that interaction of caregivers with the clients has always been the key to high satisfaction with the service.[12-15,17,18]

Limitations of the Study

The client exit interviews questionnaires were interviewer administered and this might have influenced the responses from the participants. However, in the training of research assistants it was ensured that efforts were made by these research assistants to assure respondents of confidentiality of their responses. Qualitative data were also used to cross-check the quantitative results obtained from the questionnaires.

Conclusion

This study has provided an insight into an important, but often neglected aspect of maternal health care. This is necessary to improve on the current maternal health profile in the PHC centers in NNLGA of Anambra State, Nigeria. Overall, the findings of this study have demonstrated the feasibility of conducting a detailed assessment of perceived QMHCS at PHC centers in other LGAs of the State. We therefore recommend that laboratory facilities for routine investigations should be made available in the LGA, and laboratory technicians employed. There should be provision of adequate potable water, power supply, refuse disposal system, and renovation of facilities in the health centers as well as adequate staffing of health care facilities with skilled personnel, such as medical doctors and midwives.

Acknowledgments

This work was part of a dissertation submitted to the National Postgraduate Medical College of Nigeria in part fulfillment of the requirements for the award of the fellowship of the college in public health. The authors would like to thank all the consultants and residents in the Department of Community Medicine, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria for their active support for this research.

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How to cite this article: Nnebue CC, Ebenebe UE, Adinma ED, Iyoke CA, Obionu CN, Ilika AL. Clients' knowledge, perception and satisfaction with quality of maternal health care services at the primary health care level in Nnewi, Nigeria. Niger J Clin Pract 2014;17:594-601.

Source of Support: Nil, **Conflict of Interest:** None declared.