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ORIGINAL ARTICLE

Community Perception of Quality of Health Care received and Client Satisfaction in Lagos, Nigeria

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Keywords

Quality; Client satisfaction; Health services; Health systems; Lagos.

ABSTRACT

Background: Quality of health care and client satisfaction are key elements in improving the performance of health systems. A community-based assessment was conducted to determine the level of client satisfaction and the perception of the quality of services received by citizens of Lagos State.

Methods: A descriptive cross-sectional study using both quantitative and qualitative methods, was conducted in four local government areas of Lagos State. Respondents were selected by multi-stage sampling technique. The survey instruments included an interviewer-administered, pre-tested questionnaire and a 10-itemed focus group discussion guide.

Results: Two thousand respondents with a mean age of 37.6±10.21 years were recruited. Almost all respondents (98%) rated the health facilities to be clean, 96% felt they received effective treatment from their providers. Six out of ten respondents rated the waiting time to be short and 60% felt that most drugs were available. Eight-five percent opined that the quality of care received was good and 95% were satisfied with the services received. There was a significant correlation between quality of care and client satisfaction (ρ=0.145, p=0.001). Short waiting time was predictive of client satisfaction (OR=13.9, 95%CI, 5.68-33.33, p<0.001) and confidence in health care providers was predictive of both client satisfaction (OR=3.489, 95%CI, 1.554-7.835, p<0.001) and perception of good service quality (OR=2.234, 95%CI, 1.509-3.308, p<0.001).

Conclusion: Adequate attention needs to be paid to factors affecting client satisfaction and perception of good service quality.

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INTRODUCTION

The quality of a health system reflects the values and goals current in the medical care system and in the larger society of which it is a part. In addition, quality is an evaluation of the gap between service expectation and performance. According to the World Health Organization (WHO), quality of care is "the extent to which health care services provided to individuals and patient populations improve desired health outcomes." Quality health care is therefore health care that is safe, effective, timely, efficient, equitable and people-centred.[1]

Several authors have described conceptual frameworks that throw light on the concept of quality of health care and client satisfaction. Donabedian approached quality of care from a three-dimensional approach: structure, process and outcome.[2, 3] Structure relates to adequacy of facilities and equipment, qualification of medical staff and administrative structure of programmes. Process of care includes appropriateness, completeness, redundancy of information obtained through history taking, physical examination, diagnostic skills and competence of staff. Outcomes refer to the impact of care on health status and include patient recovery, cure, survival, disability and patient satisfaction.

The client-focused definition of quality from Donabedian et al states that "Client satisfaction is of fundamental importance as a measure of quality of care because it gives information on the providers' success at meeting those client values and expectations on which the client has authority." [4] Parasuvaman et al categorized client perspective of the dimensions of service quality into five generic domains (SERVIQUAL): tangibles (physical facilities, equipment, and appearance of personnel); reliability (ability to perform the promised service dependably and accurately); responsiveness (willingness to help customers and provide prompt services). The other dimensions include assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence) and empathy (caring individualized attention the firm provides its customers).[5] However, Bowers et al reported that although the elements of the generic SERVIQUAL dimensions are found in health care they do not completely define the constructs of health care quality. They identified empathy, reliability, responsiveness (in the SERVIQUAL model) along with communication and caring as five indicators of health care quality on a global satisfaction measure. [4]

Taylor posits that service quality perceptions should be considered as long-term consumer attitudes, whereas patient satisfaction deals with short-term, service-encounter-specific consumer judgments.[6] Woolley et al noted that patient satisfaction was a product of four variables: satisfaction and outcome, continuity of care, patient expectations, and doctor-patient communications.[7] Mosadeghrad developed a framework for measurement of quality in health care.[8] The framework includes both tangible and intangible elements. The environment is a prime influence on the opinion of patients; its cleanliness, comfortability and attractiveness. Empathy deals with interpersonal relations including effective listening, trust, responsiveness and courtesy. Efficiency is related to avoidance of wastage of resources in service delivery. Effectiveness refers to the intermediate and short-term clinical and non-clinical outcomes while efficacy refers to the final and long-term clinical outcomes such as patient well-being and quality of life.[8] The intangible elements are often not easy to measure and require a lot of observations to make unbiased decision. Furthermore, they

do not act independently of each other but are moderated by other factors as shown by Tucker and Adam.[9]

The model by Tucker and Adam builds on the framework by Mosadeghrad but includes moderating factors such as patient socio-demographic characteristics to predict client satisfaction and quality.[9] The duo reported that provider performance and access to health care were found to capture 74% of the variance in satisfaction quality and were positively associated with patients' assessment of satisfaction of quality (p=0.001) whereas patients' socio-demographic differences accounted for only 1% of the variance.[9] These models were used as the framework in developing the tools for this study.

A survey amongst users of health services in the United States of America (USA) on the meaning of quality health care showed that that perception of quality varies and revolves around competence and skills of providers.[10] Another researcher identified communication with patients, competence of staff, demeanour of staff, quality of the facilities and perceived costs as significant factors that explain variation in customer satisfaction with hospitals.[11]

The quality and cost of health services are determinants of utilization of these services depending on the population surveyed. A survey amongst 840 households across selected urban, peri-urban and rural communities, in southeast Nigeria, showed that utilization of public health services was significantly associated with the strength of the health system and that clients with a good perception of the quality of health service provided, rated and patronized them more.[12]

A study of waiting time and service satisfaction at antenatal clinics in Ile-Ife reported that only 55% of the women were satisfied with the quality of antenatal care received and 72% of the women felt the service was good. A higher level of education was found to be significantly (p =0.02) associated with satisfaction.[13] An assessment of client perception of service quality at outpatient clinics of a general hospital in Lagos reported that 88% rated the overall service quality to be good with the assurance domain as the most important predictor (p <0.001) of service quality.[14] In north-central Nigeria, a survey reported at the primary health care level, found that the highest perception of quality by clients was for lack of interruption during consultation while the lowest was in the domain of respect for persons. Age, sex, educational level and income were found to be significantly associated with client satisfaction in that study.[15]

Several studies on quality of health services exist in Nigeria and a few have been highlighted, but many were limited to one health facility and conducted amongst clients of the facility studied. However, a population-based survey is expected to produce a broader perspective of client expectations and whether these are being met by the health care system. Therefore, this study was conceived as a community-

based assessment of the population's perception of the quality of services received at health facilities in Lagos State, and their satisfaction with these services. It is hoped that the findings of this study will be useful for hospital management, health planners and policy makers to improve patient experiences and the quality of health care provided.

METHODOLOGY

Lagos State was created on May 27, 1967 with the capital being Ikeja. It is in the Southwest geopolitical zone of Nigeria. Lagos was the capital of Nigeria until 1991 but remains the economic capital of Nigeria. The State has 20 Local Government Areas (LGAs). Sixteen of the LGAs are classified as urban and four are rural. The population of the state by the 2006 Census was 9,113,605 and the projected population was 12,615,361 in 2017, although the state government stated the population to be 17,552,940 in 2012. Health services are provided through a mix of private and public facilities at primary, secondary and tertiary levels. According to the Healthcare Facilities Monitoring and Accreditation Agency (HEFAMAA), Lagos State has 26 registered general hospitals, 256 public healthcare centres, 2,886 private hospitals or specialist clinics and laboratories or diagnostic centres and an estimated 160 trado-medical centres.[16] The state also has two teaching hospitals.

The study design was a descriptive cross-sectional using both quantitative and qualitative methods to investigate client satisfaction and the perception of health care quality received by community members in Lagos State. An interviewer-administered questionnaire was used to obtain information for the quantitative aspect of the study. Focus group discussions (FGDs) were held for the qualitative aspect. All data was collected between February and March 2017.

The study population was drawn from adult residents aged 18 years and above who were living in the selected LGAs. All sampled consenting adults aged 18 years and above living in the selected LGAs were included in the study. The minimum sample size for quantitative data collection was determined using the Cochran's formula for cross - sectional studies.[17] The statistical assumptions for determining the minimum sample size were: a type 1 error rate of 5%, a prevalence of 0.58 of positive perception of health workers by community members,[19] a precision of ±2.5 percentage points and a 20% non-response rate. The calculated minimum sample size was 1919, and this was rounded up to 2000. The participants for the FGD were purposively selected. One FGD session was held in each LGA and the number of participants was on the average ten.

A multi-stage sampling method was used to select the participants for the quantitative data collection in this study. In the first stage, out of the 20 Local Government areas (LGAs) in Lagos State, of which 16 are urban and 4 are rural, four LGAs (three urban and one rural) were selected using stratified

random sampling by balloting. These were Ikeja, Mushin, Ojo (urban) and Badagry (rural) LGAs. In the second stage, from each of the selected LGA, two wards were selected by simple random sampling by balloting. In the third stage, using the sampling frame of all streets in the selected wards, a minimum of 10 streets were selected by using a table of random numbers. The fourth stage involved selecting consecutive houses on each street using the Local Government house numbering system starting from the first number. In the fifth stage, one household was selected by balloting and a consenting adult was approached to participate in the study. Where there was more than one consenting adult in the selected household, one was chosen by balloting. Twenty-five respondents were selected from each street, and an equal number (500) of respondents were selected per LGA to allow for equal representation from all selected areas.

For qualitative data collection, one focus group discussion was held per LGA. FGDs were held for female participants in Mushin, Ojo and Badagry and for male participants in Ikeja. Ten participants were selected by purposive sampling based on willingness and availability to participate in each FGD session.

Two instruments were developed for the study. The first was an interviewer-administered, pre-tested questionnaire and the second was a 10-itemed focus group discussion guide. The interviewer-administered questionnaire instrument was developed from a review of the literature on the subject, based on the conceptual framework of the SERVIQUAL (assessing tangibles (including physical facilities and equipment), reliability, responsiveness, assurance and empathy) and Donabedian (assessing structure, process and outcomes) models and was pre-tested in Alimosho LGA. The alpha Cronbach reliability coefficient was 0.792. The instrument was modified and administered after pre-testing. The instrument had two sections. The first dealt with socio-demographic characteristics of the respondents such as age, gender, educational level and occupation. The second focused on utilization of health facilities, accessibility, preferred places for treatment of common health conditions, assessment of perceived quality of the facilities and providers. Additional information was sought on client satisfaction and perceived quality of the service received. The FGD guide sought for information on the utilization of health facilities, facility environment (toilets, waiting areas, consulting rooms), competence and attitude of health workers, ease of using the facility and problems encountered by respondents during visits to health facilities.

The quantitative data was collected by four trained research assistants (who had a minimum of secondary school education). They were trained for two days prior to data collection. Participants for the FGD were invited and reminded via text messages and calls. The selected participants were within 30-60 years of age for each FGD. All

sessions were audio recorded after obtaining written informed consent from the participants.

All completed questionnaires were reviewed on the field and in the office for completeness and consistency of information. Data was entered using Statistical Package for the Social Sciences Version 22. Data was coded and cleaned before data entry. Health facilities were categorized into four namely: government (secondary and tertiary) hospitals, private hospitals, primary health care centres and others (drug stores, nursing homes, traditional medicine stores). Outcome variables were client satisfaction (categorised into satisfied or dissatisfied) and quality of health care received (categorised as good or poor). Client satisfaction was measured on a 5-point Likert scale: very satisfied, satisfied, indifferent, dissatisfied and very dissatisfied. "Very satisfied" and "satisfied" were classified as "satisfied" while "indifferent", "dissatisfied" and "very dissatisfied" were classified as "dissatisfied". Quality of health care was measured as "good", "average", "poor" and "unable to decide." "Good" and "average" were classified as "good quality", while "poor" and "unable to decide" were classified as "poor quality." The predictor variables were socio-demographic characteristics of respondents and client assessments of various aspects of services received. Association between various respondents' characteristics and outcome variables were sought for using the chi-square test. Multi-variate analysis was done for factors found to be significant ($p< 0.05$) on bivariate analysis to identify predictors of the outcome variables. Qualitative data was analysed using ATLAS ti software version 7.[19] The data analysis was conducted using constant comparison analyses and thematic reporting.

The respondents were informed of the objectives of the study and its potential benefits for the health system and the state. There was no risk of harm to them. Written informed consent was obtained from each respondent prior to enrolment in the study. Ethical clearance was obtained from the Lagos State University Teaching Hospital (LASUTH) ethics committee with Reference Number: LREC/06/10/755 (08/11/16-08/08/17)

RESULTS

Socio-demographic characteristics of respondents

Table 1 shows the socio-demographic and work characteristics of participants. The mean age was 37.6± 10.2 years. The largest proportion (38.7%) of respondents were aged 30-39 years. Over half (55.3%) of all respondents were females. Most of the respondents (66.2%) had secondary school education. Among the 43 FGD participants, the majority 33 (76.7%) were females, married 34 (79.0%) and Christians 28 (65.1%), and 18 (41.8%) had secondary school education.

Assessment of facilities and services

Majority of respondents (98.3%) perceived the health facilities as being clean and

considered the toilet facilities to be clean. The comfort of waiting areas in the facilities were judged to be mainly good (56.3%) or fair (41.5%). Drugs and services were considered to be cheap, (43.1% and 44.4% respectively) and 59.6% were of the opinion that most drugs were usually available in these facilities. Almost all the respondents (92.3%) expressed confidence in the skills of their health care providers. The waiting time to see the care providers was judged by over half of the respondents (59.5%) as being short (Table 2).

The FGD participants generally perceived that private-owned hospitals were more conducive, more attractive and cleaner compared to government-owned hospitals in several aspects (the environment, waiting areas, toilets and consultation rooms). A participant explained that clients sometimes slept comfortably outside the private hospital he visits because the environment was conducive and neat.

"…it is ok (the environment), they perform Caesarean sections there, when you get there, you will meet all of them [patients] outside receiving fresh air, even most of those who came to visit the patients, mostly sleep outside. If the place is not ok, they won't sleep there." – ***Badagry_female_no education_58years_married***

In contrast, participants from Badagry complained about the government-owned health facility within their location.

They complained that the environment was not clean, the toilets were very dirty and the grass in the environment around the toilets was overgrown.

Table 1: Socio-demographic and Socio-economic Characteristics of Respondents

Variables	Frequency (%)
Age group (years)	
< 20	13 (0.6)
20-29	456 (22.8)
30-39	774 (38.7)
40-49	495 (24.8)
50-59	179 (9.0)
≥60	63 (3.2)
No response	20 (1.0)
Sex	
Male	895 (44.8)
Female	1105 (55.3)
Education*	
None	54 (2.7)
Primary	167 (8.4)
Secondary	1324 (66.2)
Tertiary	454 (22.7)
Marital status	
Single	422 (21.1)
Married	1537 (76.8)
Divorced/widowed	41 (2.1)
Religion	
Christianity	1428 (71.4)
Islam	559 (28.0)
Traditional African/others	13 (0.7)
Occupation	
Unemployed	226 (11.4)
Unskilled worker	629 (31.5)
Skilled worker	906 (45.3)
Professional	239 (12.0)
Income/month (₦)	
≤10,500	905 (45.3)
10,501-50,000	876 (43.8)
≥50,001	219 (11.0)

n=2000; Total < 2000 indicate non-responses

A female participant from Badagry explained that the government-owned hospital was always infested with mosquitoes, because the environment was not well kept, and the mosquito nets had not been replaced.

She stated, "*…secondly mosquitoes, I can't sleep, and they said there is net, you will just see some nets, some are already torn.*

They won't replace …. You can't sleep, mosquitoes will continue to bite you, and the fever will get worse"
(Badagry_female_secondary_45years_married).

Table 2: Respondents' Perception of Quality of Facilities and Services

Domain assessed	PHC Centres n (%)!	Secondary/ Tertiary facility n (%)!	Private Hospitals n (%)!	Other facilities n (%)!
Cleanliness				
Clean	134 (97.8)	790 (97.1)	758 (99.9)	273 (95.5)
Indifferent	1 (0.7)	19 (2.3)	0 (0.0)	12 (4.2)
Dirty	2 (1.5)	5 (0.6)	1 (0.1)	1 (0.3)
Toilets *				
Clean	90 (97.8)	563 (97.7)	551 (100.0)	72 (96.0)
Dirty	2 (2.2)	13 (2.3)	0 (0.0)	3 (4.0)
Comfort of waiting area				
Good	66 (48.2)	439 (53.9)	471 (62.1)	148 (51.7)
Fair	67 (48.9)	362 (44.5)	285 (37.5)	114 (39.9)
Poor	4 (2.9)	13 (1.6)	3 (0.4)	24 (8.4)
Waiting time				
Short	61 (44.5)	282 (34.7)	582 (76.6)	262 (91.9)
Average	45 (32.8)	302 (37.1)	160 (21.1)	15 (5.3)
Long	31 (22.6)	229 (28.2)	18 (2.4)	8 (2.8)
Staff attitude				
Good	125 (91.2)	626 (76.9)	684 (90.1)	272 (95.1)
Pompous/rude	11 (8.0)	173 (21.2)	72 (9.5)	7 (2.4)
Cannot assess	1 (0.7)	15 (1.8)	3 (0.4)	7 (2.4)
Confidence in **HCP skills				
Yes	123 (89.8)	718 (88.2)	725 (95.4)	278 (97.2)
Partially	10 (7.3)	73 (9.0)	23 (3.0)	7 (2.4)
No/not sure	4 (2.9)	23 (2.8)	12 (1.6)	1 (0.3)
Effective Treatment				
Yes	130 (94.9)	775 (95.3)	739 (97.5)	277 (97.2)
No	3 (2.2)	24 (3.0)	14 (1.8)	3 (1.1)
Not sure	4 (2.9)	14 (1.7)	5 (0.7)	5 (1.8)
Availability of drugs				
All	23 (16.8)	93 (11.4)	241 (31.8)	146 (51.0)
Most	83 (60.6)	542 (66.7)	465 (61.3)	99 (34.6)
Few/None	31 (22.6)	178 (21.9)	53 (6.9)	41 (14.3)
Cost of card (₦)				
None	49 (35.8)	119 (14.7)	37 (4.9)	256 (89.8)
<500	54 (39.4)	425 (52.4)	188 (25.0)	12 (4.3)
≥500	34 (24.8)	268 (33.0)	528 (70.1)	17 (6.0)
Cost of drugs				
Cheap	75 (54.7)	379 (46.7)	187 (24.6)	219 (76.6)
Fair	42 (30.7)	321 (39.5)	332 (43.7)	48 (16.8)
Expensive	20 (14.6)	112 (13.8)	240 (31.6)	19 (6.6)
Cost of services				
Cheap	83 (60.6)	366 (45.0)	225 (29.6)	213 (74.5)
Fair	41 (29.9)	387 (47.5)	389 (51.3)	57 (19.9)
Expensive	13 (9.5)	61 (7.5)	145 (19.1)	16 (5.6)
Satisfaction				
Satisfied	127 (92.7)	743 (91.3)	741 (97.6)	280 (97.9)
Dissatisfied	10 (7.3)	71 (8.7)	18 (2.4)	6 (2.1)
Total	137 (100.0)	814(100.0)	759(100.0)	286 (100.0)

!Total < 2000 indicate non-responses by participants
*Only health facilities that had toilets
**HCP = Health Care Provider

As regards public/government owned health facilities, more participants mentioned that the modalities of operations were stressful. A participant said:

"…it's not easy at all in government hospitals. When you first arrive, you might need to obtain a card from one of the rooms and you will have to queue. The place where

you are to receive drugs at the pharmacy, might be located in the second or the third block. If they now discover that it is operation that you want to do, they might now tell you to go and take the X-ray or some other test, before you now move from that point to the section where the operation will be performed. This really stresses some people. If it is a private facility, all that you need to do will be taken care off in one place. That is why that one is different, but for government hospital, the distance you will cover there, it's not small at all, the distance you will cover there [within the hospital premises] will be similar to taking public transport, and for someone who is sick and is not feeling well and going through pain and distress and who is in God's hands…. The departments are always too far apart. You go to one place, and when you finish there, you have to go to another place to pay and then another place." –

Ikeja_male_secondary_38years_single

A participant's opinion of private health facilities is shown below.

"…At the private hospital that I use, at Badagry, for anything you need, it is the nurse that will get it for you, but the government their problem is too much, the units are too far apart."

"… in private hospital, units/departments are not far flung, but in the general hospital, if the reception is here, the doctor's office is somewhere else, you will receive your drugs in another place, … … … it [the general hospital] is very big.

-Ikeja_male_tertiary_married

Determinants of client satisfaction

Almost 94.7% of the respondents were satisfied with the services they received. A significantly higher proportion (95.7%) of married respondents were more satisfied with services received (p=0.002). Respondents who were employed were significantly more satisfied than the unemployed (p=0.012). A higher level of income was significantly associated with client satisfaction (p=0.026). The type of health facilities used was also significantly associated with client satisfaction as more than 90% of respondents using all types of facilities were satisfied with services received (p<0.001). Age of respondents which showed a direct relationship however was not significantly associated with client satisfaction (p=0.056) and education which showed an inverse relationship was also not significantly associated with client satisfaction, (p=0.252) (Table 3). Cost of drugs showed an inverse but significant association with client satisfaction (p<0.001) whereas availability of drugs was significantly associated with client satisfaction (p< 0.001). Other service characteristics found to be significantly associated with client satisfaction included: cost of services, cleanliness of the facility, cleanliness of toilets, short waiting time and positive staff attitudes, (p<0.001) (Table 4).

Table 5 shows the predictors of client satisfaction found on multi-variate analysis. Being single had a two-fold higher odds of being satisfied with services received (odds ratio (OR) =2.190, 95% Confidence interval (CI), 1.406-3.165). The use of PHC facilities (OR=5.00 (95% CI, 1.715-14.286) and the of government-owned secondary/tertiary hospitals (OR=5.78, 95% CI, 2.433-13.70) were predictive of client satisfaction whereas the use of private hospitals was not. Short waiting time (OR=13.9, 95% CI, 5.68-33.33), average waiting time (OR=

5.08, 95% CI, 4.167-23.256), positive staff attitudes (OR= 1.652, 95% CI, 1.311-2.081), confidence in health care providers (OR=3.489, 95% CI, 1.554-7.835), cost of drugs (OR=1.757, 95% CI, 1.365-2.261) and cost of services (OR=2.163, 95% CI, 1.636-2.861) were predictive of client satisfaction.

Table 3: Association between Respondents' Socio-demographic Characteristics and Client Satisfaction

Socio-demographic variable	Satisfied n (%)!	Dissatisfied (%)!	Test of significance
Age group (years)			
<20	11 (84.6)	2 (15.4)	x^2=10.77
20-29	422 (92.5)	34 (7.5)	p=0.056
30-39	740 (95.7)	33 (4.3)	
40-49	467 (94.3)	28 (5.7)	
50-59	174 (97.2)	5 (2.8)	
≥ 60	61 (96.8)	2 (3.2)	
Sex			
Male	842 (94.1)	53 (5.9)	x^2=1.458
Female	1052(95.3)	52 (4.7)	p=0.227
Education			
No formal	52 (96.3)	2 (3.7)	x^2=4.089
Primary	160 (95.8)	7 (4.2)	p=0.252
Secondary	1260(95.2)	64 (4.8)	
Tertiary	421 (92.9)	32 (7.1)	
Marital status			
Single	386 (91.5)	36 (8.5)	x^2=12.283
Married	1470 (95.7)	66 (4.3)	**p=0.002**
Divorced/widowed	38 (92.7)	3 (7.3)	
Religion			
Christianity	1352 (94.7)	75 (5.3)	x^2=0.00
Islam/others	541 (94.7)	30 (5.3)	p=1.0
Occupation			
Unemployed	200 (90.1)	22 (9.9)	
Unskilled work	599 (95.2)	30 (4.8)	x^2=10.94
Skilled work	865 (95.5)	41 (4.5)	**p=0.012**
Professionals	226 (95.0)	12 (5.0)	
Income (N)			
≤10,500	856 (94.6)	49 (5.4)	
10,501-50,000	824 (90.4)	51 (9.6)	x^2=12.766
>50,000	212 (97.6)	5 (2.4)	**p=0.026**
Sources of health care services			
Government hospitals	743 (91.3)	71 (8.7)	
Private hospitals	741 (97.6)	18 (2.4)	x^2=39.167
Primary health centre	127 (92.7)	10 (7.3)	**p<0.001**
Others	280 (97.9)	6 (2.1)	

!Total < 2000 indicate non- responses by participants

Determinants of quality of care

About 85.2% of the respondents perceived the quality of services they received to be of good quality. A significantly higher proportion of females (89.6%) perceived the service quality to be good, (p<0.001). Income was found to have an inverse but significant association with perception of good service quality, (p=0.001).

Table 4: Association between Service Characteristics and Client Satisfaction

Facility/Service variable	Satisfied n (%)!	Dissatisfied n (%)!	Test of significance
Cost of card (₦)			
< 500	1087 (95.3)	54 (4.7)	x^2=1.329
>500	798 (94.1)	50 (5.9)	p=0.249
Cost of drugs			
Cheap	831 (96.5)	30 (3.5)	x^2=25.333
Fair	708 (95.3)	35 (4.7)	**p<0.001**
Expensive	351 (89.8)	40 (10.2)	
Available drugs			
All drugs	497 (98.8)	6 (1.2)	x^2=61.903
Most drugs	1133 (95.2)	57 (4.8)	**p<0.001**
Few/No drugs	262 (86.2)	42 (13.8)	
Cost of services			
Cheap	866 (97.3)	24 (2.7)	
Fair	820 (93.6)	54 (6.2)	x^2=31.556
Expensive	208 (88.5)	27 (11.5)	**p<0.001**
Cleanliness of facility			
Clean	1868 (95.5)	89 (4.5)	x^2=102.198
Dirty	4 (44.4)	5 (55.6)	**p<0.001**
Indifferent	21 (65.6)	11 (34.4)	
Cleanliness of toilet facility			
Clean	1228 (96.2)	48 (3.8)	x^2=11.26
Dirty	14 (77.8)	4 (22.2)	**p<0.001**
Comfort of waiting area			
Good	1098 (97.6)	27 (2.4)	x^2=73.452
Fair	763 (92.0)	66 (8.0)	**p<0.001**
Poor	32 (72.7)	12 (27.3)	
Waiting time			
Short	1171 (98.6)	17 (1.4)	
Average	502 (96.2)	20 (3.8)	x^2=232.870
Long	219 (76.3)	68 (23.7)	**p<0.001**
Effective treatment			
Yes	1838 (95.6)	85 (4.4)	x^2=75.938
No/not sure	52 (72.2)	20 (27.8)	**p<0.001**
Confidence in health provider			
Yes	1782 (96.5)	64 (3.5)	x^2=138.14
No	112 (71.7)	39 (28.3)	**p<0.001**
Attitude of staff			
Good	1662 (97.3)	46 (2.7)	x^2=158.76
Pompous/rude	221 (78.9)	59 (20.1)	**p<0.001**

!Totals < 2000 indicate non- responses by participant

The use of formal sources of care (both public and private hospitals) was also significantly associated with perception of good service quality (p=0.001). Age (p=0.39), education (p=0.108), religion (p=0.603) and marital status (p=0.924) were not significantly associated with perception of good service quality (Table 6).

Service characteristics that were found to be significantly associated with perception of good service quality included: availability of drugs, comfort of waiting area, short waiting time, confidence in health care provider, perceived effectiveness of treatment received and cleanliness of the facility, (p < 0.001).

Costs (of card, drugs and services) did not show a significant association with perception of good service quality (Table 7). Factors found to be predictive of perception of good quality were: availability of drugs (OR=1.120, 95% CI, 1.007-1.244), confidence in the health care providers (OR=2.234, 95% CI, 1.509-3.308), perceived effectiveness of treatment received

Table 5: Predictors of Client Satisfaction

Predictors at usual source of care	Odds ratio	95% CI		p-value
		Lower limit	Upper limit	
Marital status				
Single	2.109	1.406	3.165	**<0.001**
Married	1.0			
Occupation				
Unskilled worker	1.912	0.939	3.896	0.074
Skilled worker	1.148	0.589	2.24	0.685
Professional	1.213	0.639	1.805	0.554
Unemployed	1.0			
Income group (₦)				
≤10,500	1.128	0.289	4.408	0.863
10,501-50,000	2.538	0.988	6.518	0.053
> 50,000	1.0			
Facility attended				
PHC	5.00	1.715	14.286	**0.003**
Secondary/Tertiary public hospitals	5.780	2.433	13.700	**<0.001**
Private hospitals	1.495	0.577	3.876	0.407
Others	1.0			
Cleanliness of facility				
Clean	1.617	0.735	0.797	0.086
Dirty	1.0			
Cleanliness of Toilets				
Clean	5.421	0.742	39.916	0.196
Dirty	1.0			
Comfort of waiting area				
Good	2.94	0.449	19.23	0.26
Fair	3.326	0.507	19.23	0.320
Poor	1.0			
Waiting time				
Short	13.90	5.68	33.33	**<0.001**
Average	5.082	4.167	23.256	**<0.001**
Long	1.0			
Attitude of staff				
Good	1.652	1.311	2.081	**<0.001**
Poor	1.0			
Confidence in HCP*				
Yes	3.489	1.554	7.835	**0.001**
No	1.0			
Perception of effective treatment				
Yes	2.495	0.761	8.186	0.131
No	1.0			
Availability of drugs				
Yes	1.129	0.883	1.448	0.333
No	1.0			
Cost of drugs				
Cheap	1.757	1.365	2.261	**<0.001**
Expensive	1.0			
Cost of services				
Cheap	2.163	1.636	2.861	**<0.001**
Expensive	1.0			

*HCP= Health care provider

(OR=1.835, 95% CI, 1.06-3.179), comfort of waiting area judged to be good (OR=2.817, 95% CI, 1.44-5.49). The use of PHC facilities (OR=1.867, 95% CI, 1.066-3.269), government owned secondary/tertiary hospitals (OR=24.689, 95% CI, 2.207-276.147) and private hospitals (OR=4.629, 95% CI, 3.202-6.692) were predictive of perception of good service quality. Being male (OR=0.468, 95% CI, 0.364-0.602) and earning less than ₦10,500 monthly (OR=0.363, 95% CI, 0.141-0.934) were

predictive of perception of poor service quality (Table 8). A significant correlation was found between client satisfaction and service quality, (Spearman's correlation, ρ=0.145, p=0.001).

DISCUSSION

This study investigated client satisfaction and quality of care received amongst residents of Lagos State, Nigeria and found that nine out of ten of the participants were satisfied with the care received and eight out of ten judged the quality to be fair/good at the usual place of care, with a significant correlation between the two, indicating that both should be addressed simultaneously in the provisions of health services. The proportion (95%) of clients who were satisfied in this study was far higher than the 55% reported from Ile-Ife. [13] While the reasons for such non-concordance are not known to the authors they may have to do in part with differences in the study populations, and the fact that the study assessed perception of the quality of health talks received, while ours dealt with satisfaction with services received. In the present study, being single was predictive of client satisfaction but we did not find other predictive factors such as education as reported from Ile-Ife [13] or age and gender as reported from Ilorin. [15] Furthermore, the inability to identify other respondents' characteristics to be predictive of client satisfaction is supported by the work of Tucker et al [9] who had reported that clients' socio-demographic characteristics account for less than 1% of the variance of client satisfaction. It may also be that identification of the factors required more rigorous methods beyond the scope of the present study. Our study showed that service characteristics such as cost of service, costs of drugs, staff attitudes and confidence in the health care providers were predictive of client satisfaction in consonance with the works of other researchers in the USA.[9-11]

These findings show that client satisfaction is achievable if adequate attention is paid to delivering good and affordable services. The level of good service quality (85%) in this study was higher than values reported from Nnewi (65%),[20] Ile-Ife (72%),[13] but similar to Lagos (88%)[15] and Bangladesh (90%).[21] Moreover, the proportion of respondents who rated the environment clean in this study was much higher than the 46% reported from Benin City, which was an assessment of a single facility as opposed to ours which assessed perception of a variety of facilities utilized by the participants. [22] Comfort of the waiting area, effectiveness of treatment, availability of drugs and confidence in the health care providers were found to be predictive of perception of good service quality. The study did not find use of private facilities to be predictive of client satisfaction, which is similar to a report from Abeokuta, Nigeria[23] and in contrast to the views expressed by the FGD participants. The factors found to be associated with good service quality in that Abeokuta study [23] are similar to our findings.

Table 6: Association between Respondents' Socio-demographic Characteristics and Perception of Service Quality

Socio-demographic variable	Good quality n (%)!	Poor quality n (%)!	Test of significance
Age group (years)			
<20	13 (100.0)	0 (0.0)	x^2=5.262
20-29	397 (87.3)	58 (12.7)	p=0.385
30-39	653 (84.5)	120 (15.5)	
40-49	412 (83.6)	81 (16.4)	
50-59	154 (86.0)	25 (14.0)	
≥60	53 84.1)	10 (15.9)	
Sex			
Male	713 (79.8)	181 (20.2)	x^2=37.612
Female	987 (89.6)	115 (10.4)	**p<0.001**
Education			
No formal/Primary	200 (90.5)	21 (9.5)	x^2=6.078
Secondary	1111 (84.2)	209 (15.8)	p=0.108
Tertiary	350 (85.4)	60 (14.6)	
Postgraduate	38 (86.4)	6 (13.6)	
Marital status			
Single/ divorced/widow	392 (85.0)	69 (15.0)	x^2=0.009
Married	1308 (85.2)	227 (14.8)	p=0.924
Religion			
Christianity	1208 (84.8)	217 (15.2)	x^2=0.603
Islam/traditional/others	491 (86.1)	79 (13.9)	
Occupation			
Unemployed	186 (83.8)	36 (16.2)	x^2=1.66
Unskilled work	539 (85.7)	90 (14.3)	p=0.645
Skilled work	764 (84.5)	140 (15.5)	
Professionals	207 (87.3)	30 (12.7)	
Income (₦)			
≤10,500	144 (96.0)	6 (4.0)	
10,501-50,000	745 (85.1)	130 (4.9)	x^2=13.219
>50,000	186 (85.3)	32 (14.7)	**p=0.001**
Sources of health care services			
Primary health centre	119 (87.5)	17 (12.5)	
Sec/tertiary hospitals	753 (92.6)	60 (7.4)	x^2=81.459
Private hospitals	619 (81.6)	140 (18.4)	**p<0.001**
Others	206 (72.3)	79 (27.7)	

!Total < 2000 indicate non- responses by participants

Probable factors responsible for the favourable assessment by the respondents include the environment of the facilities which were found to be clean and comfortable including the toilets, short waiting time, affordable fees and availability of drugs. When these service factors actually meet client expectations, such clients will tend to continue to utilize the facility and perhaps refer others. Using the SERVIQUAL model domains,[5] this study found that four of these were rated very highly; tangibles (environment), responsiveness (promptness of service), assurance (explanation of health conditions and knowledge) and reliability (competence) in concordance with a study at the out-patient clinics of a general hospital in Lagos.[15]

It is to be noted that patients in diverse health facility settings report differently their expectations on the importance of domains of quality. In teaching hospitals in south west Nigeria, reliability dimension was the most important [24] whereas at general hospitals in the same region, empathy was the most important. [25] This may be related in part to the more severe illnesses presenting at teaching hospitals and

Table 7: Association between Service Characteristics Respondents' Perceptions of Service Quality

Variable	Good quality n (%)!	Poor quality n (%)!	Significance
Cost of card (₦)			
< 500	978 (85.9)	161 (14.1)	x^2=0.60
>500	715 (84.5)	131 (15.5)	p=0.44
Cost of drugs			
Cheap	723 (84.1)	137 (15.9)	x^2=3.706
Fair	646 (87.2)	95 (12.8)	p=0.157
Expensive	328 (83.9)	62 (16.1)	
Available drugs			
All drugs	410 (81.7)	92 (18.3)	x^2=14.655
Most drugs	1042 (87.7)	146 (12.3)	**p=0.001**
Few/No drugs	247 (81.2)	57 (18.8)	
Cost of services			
Cheap	761 (85.7)	127 (14.3)	
Fair	751 (86.0)	122 (14.0)	x^2=5.816
Expensive	187 (79.9)	47 (20.1)	p=0.055
Cleanliness of facility			
Clean	1672 (85.6)	282 (14.4)	x^2=10.841
Dirty	27 (65.9)	14 (34.1)	**p=0.001**
Toilet facility			
Clean	1113 (87.4)	161 (12.6)	Fisher's exact
Dirty	12 (66.7)	6 (33.3)	**p=0.021**
Comfort of waiting area			
Good	984 (87.6)	139 (12.4)	x^2=17.185
Fair	684 (82.6)	144 (17.4)	**p<0.001**
Poor	31 (70.5)	13 (29.5)	
Waiting time			
Short	984 (83.0)	202 (17.0)	
Average	474 (91.3)	45 (8.7)	x^2=20.584
Long	241 (84.0)	46 (16.0)	**p<0.001**
Effective treatment			
Yes	1647 (85.8)	273 (14.2)	x^2=13.415
No	50 (69.4)	22 (30.6)	**p<0.001**
Confidence in health provider			
Yes	1593 (86.4)	250 (13.6)	x^2=13.584
No	107 (74.8)	36 (25.2)	**p<0.001**
Attitude of staff			
Good	1461 (85.7)	244 (14.3)	x^2=2.292
Pompous/rude	238 (82.1)	52 (17.9)	p=0.130

!Total < 2000 indicate non- responses by participants

staff attitudes. Using the Donabedian model,[2] we affirm that the "structure and process dimensions" of health services offered in Lagos State were good. The cross-sectional nature of the study did not allow for assessment of the "outcome dimensions". Quality of care and client satisfaction have a potentially great effect on service utilization. A qualitative study from Uganda reported high costs, poor attitude of staff, and non-availability of services as barriers to utilization of services and there was the perception that public health facilities in that country offered low quality care. [26] Besides, a Nigerian study had shown that utilization of health services was higher when the perceived quality was good. [12] This is important in Nigeria and other countries where health services are paid for largely through out-of-pocket mechanisms and as such clients should therefore get maximum value for money spent.

Limitations of the study: The study limitations included social desirability bias as respondents are known to speak positively to interviewers.

Table 8: Predictors of Respondents' Perceived Assessment of Good Service Quality

Variable	Odds ratio	95% confidence interval		p-value
		Lower limit	Upper limit	
Sex				
Male	0.468	0.364	0.602	**<0.001**
Female	1.0			
Income (₦)				
≤10,500	0.363	0.141	0.934	**0.036**
10,501-50,000	1.040	0.648	1.669	0.871
>50,000	1.0			
Facility used				
PHC Centre	1.867	1.066	3.269	**<0.001**
Secondary/tertiary government hospitals	24.689	2.207	276.147	**0.009**
Private hospitals	4.629	3.202	6.692	**<0.001**
Others	1.0			
Clean facility				
Clean	1.218	0.942	1.575	0.132
Dirty	1.0			
Cleanliness of toilets				
Yes	1.015	0.909	1.134	0.789
No	1.0			
Waiting time				
Short/average	1.120	0.800	1.572	0.506
Long	1.0			
Comfort of waiting area				
Good	2.817	1.440	5.490	**0.002**
Fair	1.916	0.981	3.740	0.057
Poor	1.0			
Confidence in Health provider				
Yes	2.234	1.509	3.308	**<0.001**
No	1.0			
Effectiveness of treatment				
Yes	1.835	1.060	3.179	**0.030**
No	1.0			
Availability of drugs				
Yes	1.120	1.007	1.244	**0.036**
No	1.0			

**HCP = Health Care Provider

Careful explanation of the objectives and the anonymity required helped to minimize this. In addition, recall bias is a known limitation of questionnaire-based surveys.

Strengths of the study: The study had several strengths. First, the sample size was large allowing for valid inferences about the study outcomes to be made. Being a community-based study enabled the study to investigate the key issues and include clients who have and those who have not used health facilities. In addition, the study design included users of private and public health facilities across multiple levels of care.

Conclusion: Majority of the respondents were satisfied with the services received and perceived the services to be of good quality. We recommend that the management of the health facilities should continue to pay adequate attention to the environmental conditions of health facilities to ensure they are clean and comfortable for clients. In addition, health facility managers should ensure that health workers undergo serial retraining on communication skills and inter-personal relationship to improve service quality.

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