International Journal of Community Medicine and Public Health
Adeniyi MA et al. Int J Community Med Public Health. 2026 Feb;13(2):552-564
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20260279

Original Research Article

Comparative study of patient's satisfaction with quality of maternal and child healthcare services in primary healthcare centres in urban and rural communities in Ekiti State, Nigeria

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Received: 15 November 2025
Revised: 08 January 2026
Accepted: 09 January 2026

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ABSTRACT

Background: Patients' satisfaction is related to the extent to which general health care needs and condition specific needs are met. Evaluating the extent patients are satisfied is clinically relevant as satisfied patients are more likely to comply with medication and thus have a more positive health outcome. In sub-Saharan Africa, emphasis has been more on curative aspect of MCH as a result the indices for maternal and child mortality are relatively poor. This study aims to compare patients' satisfaction with the quality of maternal and child healthcare services in primary health care facilities in rural and urban communities in Ekiti state.
Methods: A cross sectional survey with a multistage sampling technique was used. 366 rural women and 368 urban women utilizing MCH services in randomly selected PHC facilities were recruited by systematic random sampling. Data was collected using questionnaires and analyzed using SPSS version 26.0.
Results: This study found that 190 (51.6%) urban respondents received good quality ANC compared to 124 (33.9%) rural respondents. Similarly, 153 (41.6%) urban respondents received good quality delivery care compared to 71 (19.4%) rural respondents. In addition, 306 (83.2%) urban respondents received good quality immunization care compared to 267 (73%) rural respondents. Factors associated with patients' satisfaction include reception by health staff with 35.8% rural mothers and 53.0% urban mothers satisfied. Also, 38.8% rural women were satisfied with the waiting time as against 26.9% urban mothers.
Conclusions: There was a high level of satisfaction amongst both rural and urban women with urban women having a higher percentage.

Keywords: Facilities, Maternal and child health care services, Primary health care, Patients' satisfaction, Quality

INTRODUCTION

Patients' satisfaction is a critically important component in the assessment of quality of care and healthcare facility performance, it also goes a long way to determine the outcome of care.[1] Primary Health Care (PHC) involves community participation, integration of services and programs, intersectoral collaboration, all with the aim of ensuring health care is brought to the very door steps of

the members of the communities.[2] Though the PHC is about the people it serves, seldomly does the people's perspectives feature during its design and implementation.[3] In addition; there is often ignorance amongst users of services about their rights and what they can expect from their health care providers.[3] Experiences of being shouted on, being ignored, having to wait for long hours before getting attention and the likes abound.[4,5] Maternal and child healthcare 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 this includes but not limited to antenatal care, immunization, delivery care, post-natal care.[6] These services aims at reducing maternal mortality and morbidity by ensuring that pregnant women remain healthy before and after conception, deliver healthy babies safely and recover fully after delivery.[7] Donabedian defined quality of care as "that kind of care which is expected to maximize an inclusive measure of patient welfare, after one has taken account of the balance of expected gains and losses that attend the process of care in all its parts.[8]

This care should be based on the strongest clinical evidence and provided in a technically and culturally acceptable manner with good communication and shared decision making, such that the concept of quality of care is comprehensive and multifaceted.[3] The user's satisfaction can be considered as the patients' judgment on the quality and the goodness of care; what patients feel, are saying or have to say about the services they are offered should be respected.[5] Non-utilization of services is a major issue in several developing countries which may be due to patients evaluation of the care they receive.[9] Effective delivery of PHC requires availability of adequate infrastructure, diagnostic medical apparatus, drugs and well-trained health care workers however, in Nigeria, poor funding and mismanagement often characterize healthcare service delivery resulting in poor quality of healthcare services.[10]

Globally emphasis is more on preventive and promotive aspects of MCH. However, in sub-Saharan Africa, the emphasis has been more on curative aspect of MCH. The indices for maternal and child mortality are relatively poor in most developing countries, particularly in sub-Saharan Africa.

Globally, an estimated 287,000 maternal deaths occurred in 2010, a decline of 47% from levels in 1990. Sub-Saharan Africa (56%) and Southern Asia (29%) accounted for 85% of the global burden (245,000 maternal deaths) in 2010. At the country level, two countries accounted for a third of global maternal deaths: India at 19% (56,000) and Nigeria at 14% (40,000). The global MMR in 2010 was 210 maternal deaths per 100,000 live births. The MMR in developing regions (240) was 15 times higher than in the developed regions (16). Sub-Saharan Africa had the highest MMR at 500 maternal deaths per 100,000 live births. It should be noted that the maternal mortality ratio and lifetime risk of a maternal death are important measures of health system functionality and for every woman who dies, 20 others suffer injuries, infection and disability (over 50 million more women suffer from acute complications and long-term morbidities).[11-14]

In Nigeria, infant mortality rate stands at 88/1000 live births and an under 5 mortality rate is estimated to be 142/1000 live births.[11] In Nigeria, where about 5,323,000 women become pregnant annually, about 800-1500 women die in every 100,000 live births, implying that 1 in every 13 women are at a lifetime risk of maternal death compared with 1 in 5,100 in the UK and 1 in 7,700 in Canada.[15] Available figures indicate that only about 65% of women in developing countries receive antenatal care, compared with 79% for the developed countries. Furthermore, only 40% of deliveries in developing countries take place in health facilities, while only 53% of the deliveries are attended to by skilled personnel, compared with estimated figures of 98% and 99% respectively in developed countries.[14]

Data from Nigeria shows that the high maternal mortality rates and poor childhood indices may be partly due to low coverage for MCH services with the revelation that about 36% of pregnant women do not receive antenatal care (ANC), only 36.3% of them received skilled attendance at delivery, while 33% of deliveries took place in health facilities. Immunization coverage was between 32.8% and 60%, while less than 20% of children were fully immunized at age one.[11]

The need to assess patients' satisfaction with the quality of MCH services in PHC in Ekiti state and to compare with similar studies carried out in other states with a view to finding out the similarities if any and differences and using the findings to guide policy makers, HCW etc to be able to avoid the errors in such states and ensure provision of quality services that will satisfy the patients. In addition, users' perception of quality of primary health care is still insufficiently investigated in the sub-region and has not benefitted optimally from rigorous research efforts. A lot of work has been done on the different aspects of MCH but very few are facility based and fewer still have researched the quality of patients' satisfaction with services rendered in PHC facilities.

This study therefore aims to achieve the following objectives.

To assess and compare the quality of maternal and child healthcare services at rural and urban PHC facilities in Ekiti state. To measure and compare patients' satisfaction with the quality of maternal and child health care services rendered at rural and urban PHC facilities. To identify and compare the factors associated with patients' satisfaction with the quality of maternal and child health care services rendered in both rural and urban PHC facilities.

METHODS

Study area

This study was carried out in Ekiti state, Southwest Nigeria. The state was created in 1996 when it was carved out of the old Ondo state. The state has a land mass of 5887.890 square kilometers and a population of 2,384,212 (National Population Commission figures of 2006) with a 2025 projection of 4,119,920 based on an annual growth rate of 3.2%.[16] Ekiti state has 16 Local Government Areas out of which 12 already existed in the Ekiti zone of the old Ondo state.

Ado, Ikere, Ikole and Ijero LGAs are predominantly urban, while Ilejemeje, Emure, Gbonyin and Ise/Orun LGAs are predominantly rural, the remaining are semi-urban.[16,17] The indigenous people of Ekiti state are mainly Yoruba (and speak the Ekiti dialect) with some non-indigenes such as Hausa, Igbos, Ebira and other ethnic groups also existing in the state. Most of the people of the state are Christians with some Muslims and few traditional worshippers. The people of Ekiti are involved in various occupations such as the public service, trading, farming and organized private business owners.

The state has three tertiary health institutions namely; Federal Teaching Hospital, Ido-Ekiti, Ekiti State University Teaching Hospital, Ado-Ekiti and Afe Babalola Univrtsity Teaching Hospital Ado-Ekiti. Each Local Government has at least a General Hospital. The primary health facilities are located in the wards of the Local Government. In all there are 308 PHC facilities, 20 Secondary health care facilities (General Hospitals) and 3 tertiary health care centres in Ekiti state.

Study design

This study is a facility-based comparative cross-sectional descriptive study involving rural and urban communities in Ekiti State. The study was carried out among women in both urban and rural PHC facilities to assess their level of satisfaction with MCH services rendered in the facilities. This study was conducted between November, 2019 and February, 2020.

Study population

The study groups were made up of mothers attending ANC and immunization clinics in both rural and urban PHC facilities in the selected LGAs of Ekiti State with children aged between 0–59 months.

Inclusion criteria

Married and unmarried women who did their ANC and delivered in PHC facilities in urban or rural communities in the state whose children is/are between 0–59 months. Mothers with more than one child between the ages of 0-59 months, the last child was taken into consideration.

Exclusion criteria

The following patients were excluded from the study.

Married and unmarried women who did not assessed care (ANC, DC, PNC or Immunization care) in the facility previously and those coming to the facility for the first time.

Sample size determination

The sample size was determined using the formula for comparing two proportions 18

$$n = (Z1-\alpha/2 + Z1-\beta)2\ [P1(1-P1) + P2(1-P2)]18$$

$$(P1-P2)2$$

Where,

n=Minimum sample size for each group

Z1-α/2=Standard normal deviate corresponding to the probability of type I error (α) at 5.0%=1.96

Z1- β=Standard normal deviate corresponding to the probability of making type II error (β) of 20.0%. Power at 80.0%=0.84

P1=Client Satisfaction with ANC Services in PHC centres in a previous Nigerian study in SabonGari LGA of Kaduna State (74.0%)1

P2=Client Satisfaction in a comparable (rural) population, assuming a 10.0% difference (64.0%) on the assumption that rural women would be less educated than urban.

Therefore, P1=74%, P2=64%

$$n=(1.96 + 0.84)\ 2(0.74(1-0.74) + 0.64\ (1-0.64))$$

$$(0.74-0.64)2$$

n=332 respondents each

Adjusting for non-response, assuming a non-response rate of 10%, the sample size will be adjusted using the formula, ns=n/0.90.Thus the minimum sample size calculated was 369 respondents for the rural and 369 for the urban PHC. This was rounded up to 370 for each of urban and rural community.

Sampling techniques

Multistage sampling technique was used to choose the study participants.

In selecting the respondents, a multi-stage sampling technique was used. The stages were as follows.

Stage 1: Selection of local government areas

The sixteen local government areas (LGAs) in the state were stratified into rural and urban LGAs. Ado, Ikere, Ikole and Ijero LGAs are predominantly urban, while Ilejemeje, Emure, Gbonyin and Ise/Orun LGAs are predominantly rural, the remaining are semi-urban.[16,17] Four LGAs were selected by simple random sampling using balloting. Two LGAs each were then selected from both the rural and urban LGAs.

Stage 2: Selection of PHC facilities

A list of all the PHC facilities in the selected LGA (was obtained from the Ekiti State Ministry of Health), five PHC facility were then selected by simple random sampling using balloting (from each selected LGA i.e., 4 LGA). All the PHC facilities from a LGA were given numbers and the numbers was written in a sheet of paper and folded and placed in a jar.

The jar was closed and shaken thoroughly and a paper was selected at random from the jar until 5 sheets of paper are selected corresponding to the desired 5 PHC in each LGA. This was done for each of the 4 LGAs. A total of 20 PHC facilities were selected, 10 rural PHC facilities from 2 LGA and 10 urban PHC facilities also from 2 LGA.

Stage 3: Selection of respondents

All consenting mothers who meet the study criteria were selected using a systematic random sampling technique. The number of mothers selected from each facility was proportional to the average monthly patient flow for the facility.

Questionnaire

Data was collected using a semi-structured, interviewer-administered questionnaire. The questionnaire was adapted from analysis of previous works done on patients' satisfaction with services rendered at PHC facilities and validated questionnaire on Quality assessment.[1,3-5,19]

Pre-test

The questionnaire was pre-tested using 10% of the subjects, mothers attending Immunization clinic in a rural PHC facility (Basic Health Centre Usi-Ekiti) and an urban PHC facility (Comprehensive Health Centre Ikere-Ekiti) both of which are outside the selected study areas.

Appropriate amendments and refinement were made on the questionnaire after the pre-test. For confidentiality, no personal identifiable information like name, phone number, address or date of birth was collected from the respondents. Four research assistants were recruited and trained for this study. Data was collected over a period of about sixteen weeks.

Data collection

A semi-structured, interviewer-administered questionnaires were used. Four research assistants (Senior Community health extension workers CHEW) were recruited and trained for two days in the appropriate use of the questionnaire and on maintenance of ethical standards. Thereafter their knowledge was tested using role plays. Questionnaires were administered only after written/thumb-printed informed consent was obtained. Each filled questionnaire was then checked daily for accuracy and completeness.

Data analysis

Data was then cleaned, coded manually and entered into the computer, analysis was done using IBM SPSS Statistics version 26.0. Quantitative variables (e.g., age of women) were summarized as means (standard deviation) and compared between rural and urban communities.

Univariate analysis

This was carried out to determine the frequency distribution of the socio-demographic variables.

Bivariate analysis

For each outcome variables on patients' satisfaction with quality of MCH services comparison between rural and urban facilities was done and Chi squared test was performed to test their association.

Multivariate analysis

Binary logistic regression with 95% confidence interval was used to determine factors that can predict patients' satisfaction with quality of MCH services rendered in the facilities. The dichotomous classification of patients' satisfaction with the quality of MCH services rendered in PHC facility into 'satisfactory' and 'not satisfactory' will be used as the dependent variable.

Assessment of patients' satisfaction

In addition to questions on maternal satisfaction with quality of ANC, Delivery care, Immunization and PNC, patients' satisfaction was also assessed using a 5 point Likert scale response and 15 questions on respondents' level of satisfaction with maternal and child health care services. Very satisfied was scored=4, satisfied=3, Neutral=2, dissatisfied=1 and very dissatisfied=0. Given a total possible score of 60 (15×4). Respondent scores were then converted to percentage. Anyone with >80% was classified to be highly satisfied and those with ≤80% was classified as having low satisfaction.[20]

Assessment of quality of MCH services

6 items were assessed under ANC (health education, food demonstration, laboratory testing, HIV screening, breast examination, ANC drugs), mothers who accessed 5 or more items were deemed to have assessed good quality ANC while mothers with less than 5 assessed poor quality ANC. Three items were assessed under delivery care (attendant at birth, drugs given at delivery and time baby was put to beast). Absence of a SBA at birth is poor DC.

Three items were also assessed for PNC (Appointment for PNC, family planning and growth monitoring), any mother who assessed the three is deemed to have assessed good delivery care, less than 3 poor delivery care. Four items were assessed under Immunization care (health education, AEFI, child's next appointment discussed, child's next appointment documented), any mother that assessed ≥3 items are deemed to have good quality immunization.

Ethical approval

Ethical approval for this study was obtained from the Human Research and Ethics committee of the Federal Teaching Hospital Ido-Ekiti with protocol number: ERC/2018/12/12/166B. Permission to conduct the study was also obtained from health facility heads/officer in charge of the health facility.

Consent

Informed consent was obtained from all the respondents with the request for consent clearly written in simple English and explained to the respondents in Yoruba for those who do not understand English. Respondents were informed of their right to decline or withdraw from the study at any time without any adverse consequences. Consents was obtained free of coercion. Respondents thumb printed or signed the consent form as appropriate.

RESULTS

The total number of respondents was 366 for rural and 368 for urban as shown in Figure 1. Most of the respondents fall within the age bracket 20–29, 262 (71.6%) for rural and 189 (51.4%) for urban. Also as seen in Table 1 majority of the women were married/co-habiting 334 (91.2%) for rural and 329 (89.4%) for urban, while the highest level of education was secondary education 158 (43.2%) for rural and 124 (33.7%) for urban. As shown in table 2 the quality of delivery care was poor 295 (80.6%) for rural and 215 (58.5%) for urban while the quality of immunization care was good 267 (73%) for rural and 306 (83.2%) for urban.

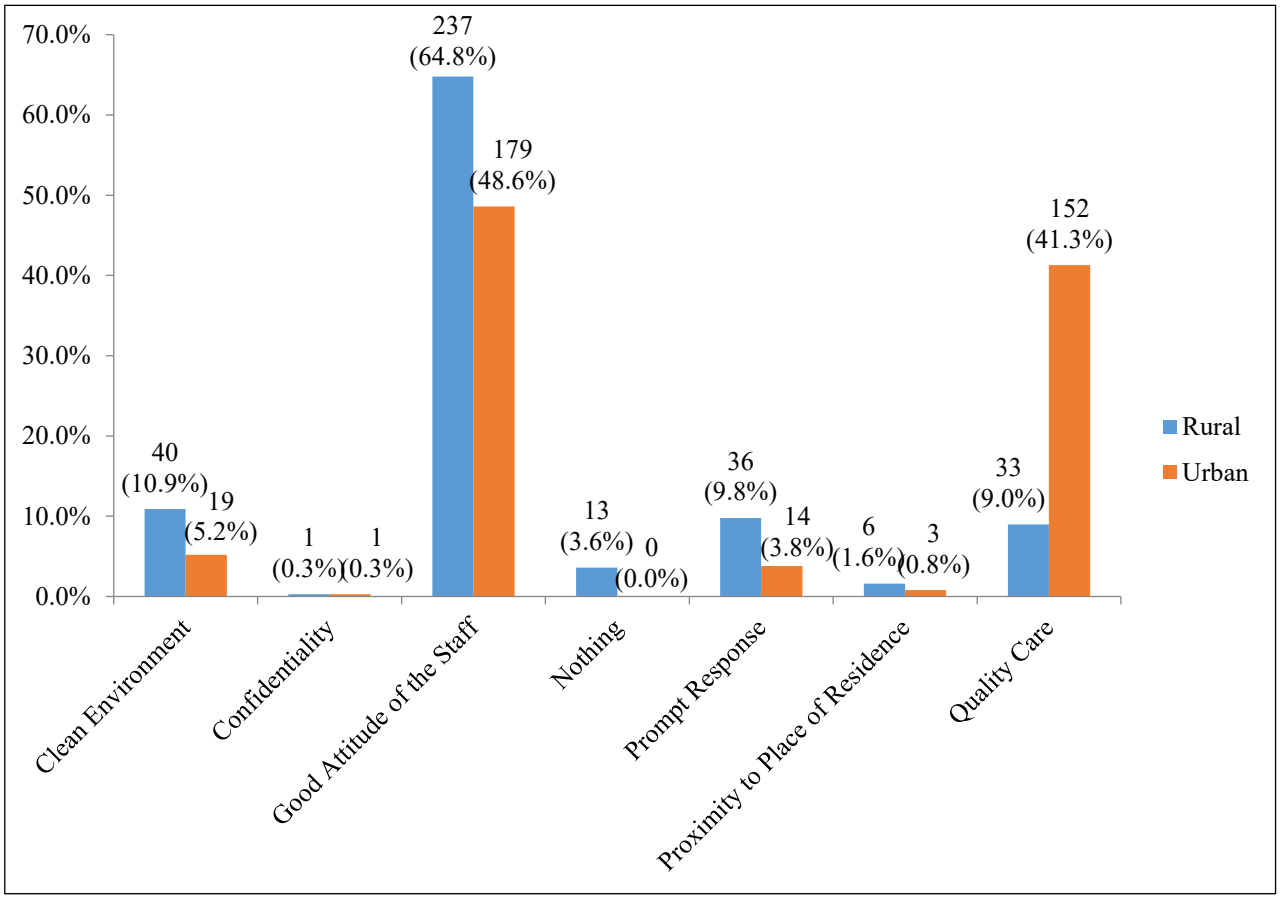

Figure 1: What the respondents liked most about the Health Facilities compared between Rural and Urban (X2=111.782, p<0.001).

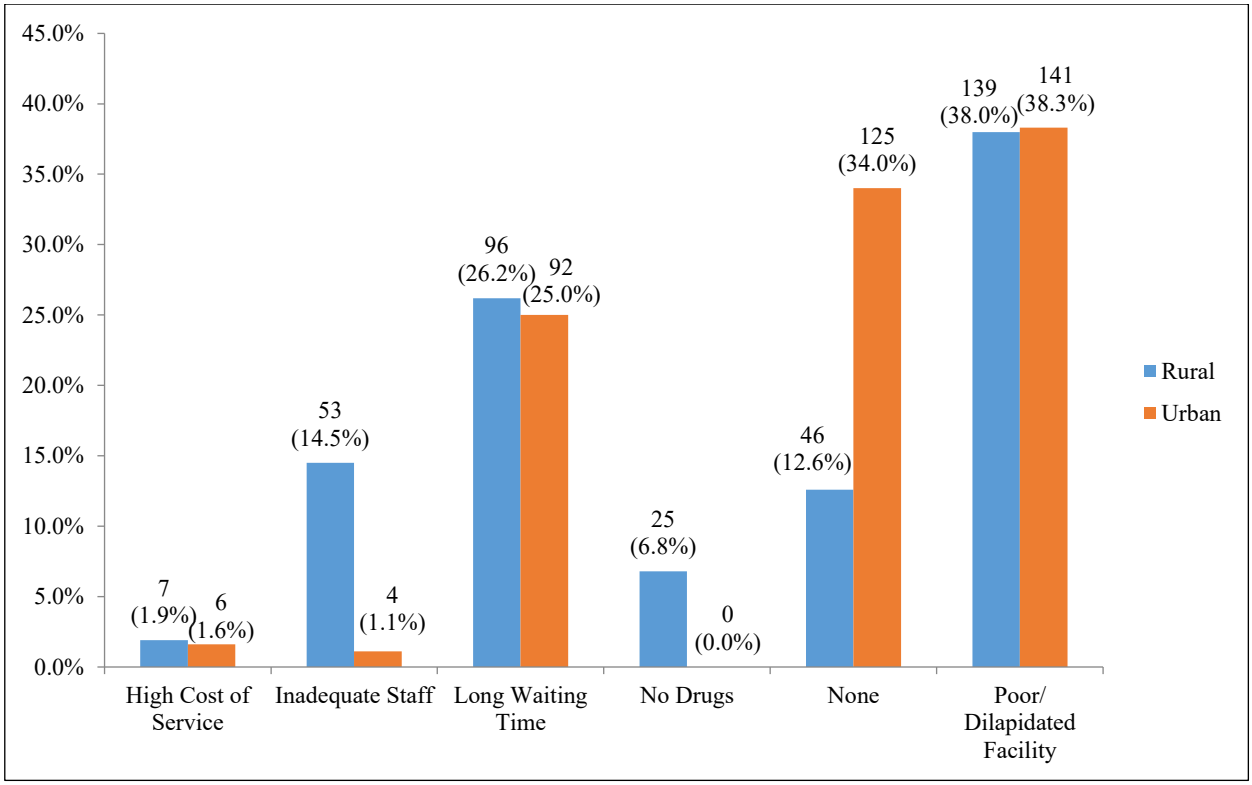

Figure 2: What the respondents disliked most about the Health Facilities compared between Rural and Urban (X2=103.792, p<0.001).

In Table 3, among the rural respondents 131 (35.8%) were very satisfied (VS), 136 (37.2%) were satisfied (S), 40 (10.9%) were neutral (N), 45 (12.3%) were dissatisfied (D) and 14 (3.8%) were very dissatisfied (VD) with the reception by the health staff, while among the urban respondents 195 (53%) were very satisfied (VS), 87 (23.6%) were satisfied (S), 53 (14.1%) were neutral (N), 32 (8.7%) were dissatisfied (D) and 2 (0.5%) were very dissatisfied (VD) with the reception by the health staff. As shown in Table 4, tertiary level of education at a p value of 0.028 for rural and a p value of 0.047 for urban, distance≤30 minutes from the PHC at a p value of 0.046 for rural and a p value of 0.140 for urban and respondents who had a car as their main means of mobility at a p value of <0.001 for rural and 0.029 for urban were found to be predictors of high patients' satisfaction with the binary logistic regression. Figure 1 shows that majority of the rural respondents 237 (64.8%) in the rural area liked the good attitude of the staff while 179 (48.6%) in the urban area liked the good attitude of the staff. Only 33 (9%) of the rural respondents like the quality of care while 152 (41.3%) urban respondents like the quality of care received. Figure 2 shows that 96 (26.2 %) of the rural respondents disliked the long waiting time while 92 (25%) of the urban respondents disliked this. 139 (38%) of the rural respondents disliked the poor/dilapidated facility while 141 (38.3%) of the urban respondents disliked same.

Table 1: Socio-demographic characteristics of respondents compared between rural and urban.

Variable	Rural n=366	Urban n=368	Chi square	P value
Age groups (in years)				
≤19	21 (5.7)	3 (0.8)	61.424	<0.001
20–29	262 (71.6)	189 (51.4)		
30–39	68 (18.6)	158 (42.9)		
40–49	15 (4.1)	18 (4.9)		
Mean age±SD	26.9±5.3	29.7±5.1	-7.358[t]	<0.001
Age range	17–43	19–46		
Marital status				
Married/co-habiting	334 (91.2)	329 (89.4)	5.503	0.138
Divorced/separated	11 (3.0)	6 (1.6)		
Widowed	1 (0.3)	5 (1.4)		
Single	20 (5.5)	28 (7.6)		

Continued.

Variable	Rural n=366	Urban n=368	Chi square	P value
Ethnicity				
Yoruba	287 (78.4)	311 (84.5)	18.142	<0.001
Hausa	22 (6.0)	7 (1.9)		
Igbo	3 (0.8)	13 (3.5)		
Others	54 (14.8)	37 (10.1)		
Religion				
Christian	257 (70.2)	312 (84.8)	22.335	<0.001
Islam	109 (29.8)	56 (15.2)		
Highest level of education				
None	26 (7.1)	9 (2.4)	119.640	<0.001
Primary	85 (23.2)	11 (3.0)		
Secondary	158 (43.2)	124 (33.7)		
Tertiary	97 (26.5)	224 (60.9)		

t=Students' independent t test.

Table 2: Socio-demographic characteristics of respondents compared between rural and urban (continued).

Variable	Rural n=366	Urban n=368	Chi square	P value
Employment status				
Employed	271 (74.0)	328 (89.1)	27.826	<0.001
Unemployed	95 (26.0)	40 (10.9)		
Husband's employment status				
Employed	355 (97.0)	334 (90.8)	12.390	<0.001
Unemployed	11 (3.0)	34 (9.2)		
Number of children				
1	134 (36.9)	193 (52.4)	19.318	<0.001
2	135 (37.2)	90 (24.5)		
≥3	94 (25.9)	85 (23.1)		
Distance to primary health facility				
≤ 30 minutes	286 (78.1)	265 (72.0)	3.686	0.055
>60 minutes	80 (21.9)	103 (28.0)		
Main means of mobility				
Car	45 (12.3)	95 (25.5)	43.140)	<0.001
Tricycle	5 (1.4)	21 (5.7)		
Motorcycle	204 (55.7)	193 (52.5)		
None	112 (30.6)	60 (16.3)		
Average monthly income (in Naira)				
<30,000	319 (87.2)	219 (59.5)	71.664	<0.001
≥31,000	47 (12.8)	149 (40.5)		

Table 3: Assessment of quality of maternal and child healthcare compared between rural and urban respondents.

Variable	Rural n=366	Urban n=368	Chi square	P value
Quality of antenatal care				
Good	124 (33.9)	190 (51.6)	23.620	<0.001
Poor	242 (66.1)	178 (48.4)		
Quality of delivery care				
Good	71 (19.4)	153 (41.6)	42.562	<0.001
Poor	295 (80.6)	215 (58.4)		
Quality of postnatal care				
Good	178 (48.6)	165 (44.8)	1.063	0.303
Poor	188 (41.4)	203 (55.2)		
Quality of immunization				
Good	267 (73.0)	306 (83.2)	11.152	0.001
Poor	99 (27.0)	62 (16.8)		

Table 4: Respondents' levels of satisfaction with Maternal and Child Healthcare Services compared between Rural and Urban.

Variable	Rural n=366					Urban n=368				
	VS N (%)	S N (%)	N N (%)	D N (%)	VD N (%)	VS N (%)	S N (%)	N N (%)	D N (%)	VD N (%)
	X^2=11.309, df=4, p=0.023									
Reception by health staff	131 (35.8)	136 (37.2)	40 (10.9)	45 (12.3)	14 (3.8)	195 (53.0)	87 (23.6)	52 (14.1)	32 (8.7)	2 (0.5)
	X^2=36.086, df=4, p<0.001									
Attitude of staff to clients	145 (39.6)	169 (46.2)	17 (4.6)	30 (8.2)	5 (1.4)	134 (36.4)	188 (51.1)	21 (5.7)	15 (4.1)	10 (2.7)
	X^2=8.527, df=4, p=0.074									
Waiting time before you were attended to	142 (38.8)	163 (44.5)	27 (7.4)	29 (7.9)	5 (1.4)	99 (26.9)	133 (36.1)	46 (13.3)	72 (19.6)	15 (4.1)
	X^2=40.383, df=4, p<0.001									
Length of time staff spent with you	116 (31.7)	182 (49.7)	44 (12.0)	22 (6.0)	2 (0.5)	135 (36.7)	167 (45.4)	28 (7.6)	34 (9.2)	4 (1.1)
	X^2=8.871, df=4, p=0.064									
Cleanliness of the environment	91 (24.9)	161 (44.0)	50 (13.7)	46 (12.6)	18 (4.9)	120 (32.6)	119 (32.3)	69 (18.8)	50 (13.6)	10 (2.7)
	X^2=15.766, df=4, p=0.003									
Cost of services	58 (15.8)	163 (44.5)	65 (17.8)	45 (17.8)	35 (9.6)	155 (42.1)	144 (39.1)	37 (10.1)	23 (6.2)	9 (2.4)
	X^2=75.512, df=4, p <0.001									
Other additional services like treatment of common ailments like malaria	92 (25.1)	166 (45.4)	44 (12.0)	43 (11.7)	21 (5.7)	165 (44.8)	158 (42.9)	18 (4.9)	23 (6.2)	4 (1.1)
	X^2=49.452, df=4, p <0.001									

Table 5: Binary logistic regression for the predictors of high patients' satisfaction compared between rural and urban respondents.

Variable	Rural		Urban	
	AOR (95% CI)	P	AOR (95% CI)	P
Age of respondent (in years)				
<19	1.637 (0.034–77.754)	0.802	63.877 (2.125–1920.143)	0.017
20–29	0.559 (0.017–18.826)	0.746	12.560 (2.554–61.768)	0.002
30–39	1.037 (0.026–41.466)	0.985	6.422 (1.320–31.230)	0.021
40–49*	1.000		1.000	
Ethnicity				
Yoruba	43.112 (6.344–292.979)	<0.001	-	-
Hausa	22.357 (1.753–285.217)	0.017	-	-
Igbo	64.860 (1.053–3995.386)	0.047	-	-
Others*	1.000		-	-
Highest level of education				
None*	1.000		1.000	
Primary	4.535 (0.977–21.042)	0.054	1.971 (0.074–52.670)	0.686
Secondary	2.426 (0.547–10.754)	0.244	9.275 (0.803–107.163)	0.074
Tertiary	6.377 (1.222–33.284)	0.028	9.674 (1.038–111.642)	0.047
Employment status				
Employed	1.338 (0.386–4.637)	0.646	-	-
Unemployed*	1.000		-	-
Number of children				
1	9.552 (2.729–33.432)	<0.001	1.124 (0.558–2.262)	0.743
2	1.062 (0.313–3.599)	0.923	1.821 (0.852–3.891)	0.122
≥3*	1.000		1.000	
Distance to PHC				

Continued.

Variable	Rural		Urban	
	AOR (95% CI)	P	AOR (95% CI)	P
≤ 30 minutes	2.900 (1.020–8.240)	0.046	1.587 (0.859–2.934)	0.140
>60 minutes*	1.000		1.000	
Main means of mobility				
Car	74.957 (12.148–462.522)	<0.001	2.662 (1.104–6.416)	0.029
Tricycle	5.122 (0.321–81.828)	0.634	5.353 (1.356–21.127)	0.017
Motorcycle	8.154 (2.845–23.370)	0.002	2.070 (0.968–4.424)	0.061
None*	1.000		1.000	
Average Monthly Income (in Naira)				
< 30,000*	1.000		1.000	
≥ 31,000	0.705 (0.171–2.901)	0.628	0.751 (0.416–1.355)	0.341
Awareness of your rights as a client				
Yes	4.516 (1.380–14.780)	0.013	13.906 (3.101–62.365)	0.001
No	1.000		1.000	
Quality of antenatal care				
Good	6.386 (2.208–18.470)	0.001	1.814 (1.097–2.999)	0.020
Poor	1.000		1.000	
Quality of delivery care				
Good	1.570 (0.565–4.362)	0.387	2.719 (1.620–4.563)	<0.001
Poor	1.000		1.000	
Quality of postnatal care				
Good	-	-	1.530 (0.893–2.622)	0.122
Poor	-		1.000	
Quality of immunization				
Good	3.370 (1.023–11.909)	0.049	1.772 (0.736–4.262)	0.202
Poor	1.000			

AOR–Adjusted Odds Ratio, *Reference category (variables were dichotomize into high and low satisfaction).

DISCUSSION

This study found the mean age±SD of both the rural and urban respondents similar, the mean age of the rural respondents was 26.9±5.3 and that of the urban respondent was found to be 26.7±5.1 This was found to be statistically significant with a p value of <0.001. This may be due to the fact that the mothers are all within the reproductive age group. The age range was however slightly different between rural and urban respondents in this study with an age range of 17–43 years among the rural respondents and 19–46 among the urban respondents showing the age range of the rural respondents to be lower than that of the urban respondents. This may be due to the fact that rural women with a lower level of education compared to the urban women tend to marry earlier than their urban counterpart also more urban women are employed 328 (89.1%) compared to rural women 271 (74%).

In addition, this could be due to rural urban migration with the younger women migrating to urban areas in search of formal education, white collar jobs and opportunities for establishment of small and medium business enterprises. The mean age for this study is however lower than the 26.3±7.2 reported in a study from Sokoto metropolis, Northwestern Nigeria this is likely due to the fact that Sokoto town is a predominantly Muslim town and Muslim women tend to marry early.[21] The mean age was also lower than 29.2±5.9 from a study done in Nnewi, Southeastern Nigeria.[22] The difference in the mean age of this study and the study done in Nnewi, Southeasten Nigeria could be due to the fact that Eastern women tend to marry late possibly due to the high bride price placed on women from the Southeast especially educated women. The age range in this study is slightly higher than that of a study done in Sabon Gari LGA of Kaduna State North central Nigeria1 where the age range was 15-45 years this may also be due to the fact that Kaduna state is a predominantly Muslim state and Muslim women tend to marry early.

This study also found that majority of the respondents in both rural and urban health centres were married 334 (91.3%) of the rural respondents were married while 329 (89.4%) of the urban respondents were married with a non-significant p value of 0.138. This may not be unconnected to the fact that majority of the respondents are Christians and the Christian faith frowns at divorce and separation and single mothers.

This finding is higher than what was found in a similar study done in Nnewi Southeastern Nigeria, where 82.5% of the respondents were married also possibly because Nnewi is located in Anambra State which is also a predominantly Christian state but lower than what was found in a study done in Kwara state where 98.5% of the respondent were married.[22,23] Kwara state is dominated by both Christians and Muslims and both religions do not encourage divorce or separation or single motherhood. This study also found that majority of the rural respondents had secondary level of education 158 (43.2%) while majority of the urban respondents had

tertiary level of education 224 (60.9%). Level of education was found to be statistically significant (p value of <0.001). This may not be unconnected to the predominant occupation of rural dwellers which include farming, petty trading etc.

Furthermore, this study found that most of the rural respondents were employed 271 (74%) and 328 (89.1%) urban respondents were also employed with a statistically significant p value of <0.001. This is similar to findings in a study carried out in Ilorin where 70% of the respondents were employed.[23] However, this is in sharp contrast to a study carried out in Sokoto where 63.7% of the respondents were unemployed or full-term housewives.[21] This study also found that most of the husbands of the respondents in the rural area were also employed 355 (97%) compared to 334 (90.8%) of the husbands of urban respondents with a statistically significant p value of <0.001. The difference might be due to the high rate of unemployment found in urban areas. This study found that the average monthly income (in Naira) for most of the rural respondents 319 (87.2%) was <30,000 compared to the urban respondents where 219 (59.5%) earn <30,000. This was found to be statistically significant p value of <0.001.

In this study urban respondents received more good quality MCH services compared to their rural counterparts. In terms of quality of ANC 190 (51.6%) urban respondents received good quality ANC compared to 124 (33.9%) rural respondents with a significant p value of <0.001 similarly, 153 (41.6%) urban respondents received good delivery care compared to 71 (19.4%) rural respondents also with a significant p value of <0.001. In the same vein 306 (83.2%) urban respondents received good quality immunization care compared to 267 (73%) rural respondents who received same with a significant p value of 0.001. This urban rural disparity may be due to the difference in the level of education of the respondents with the urban respondents' having more mothers with tertiary level of education.

Mothers with secondary and tertiary level of education are more likely to receive good quality MCH services than those with primary or no education at all. Also, an educated mother is more likely to demand for her right than a mother who is not educated. In addition, average monthly income of the respondents may also affect the quality of the MCH services received as 149 (40.5%) of the urban mothers earn a monthly income of ≥30000 compared to 47 (12.8%) rural mothers who earn same. The findings in this study are similar to those in a study done in Nnewi South East Nigeria where most of the mothers interviewed opined that the received good quality MCH services.[22] These findings are however different to the findings in a study done in Tanzania where approximately 31% of the mothers received good ANC.[24] This study found that among the rural respondents who assessed ANC services 146 (39.9%) were very satisfied and 121 (33.1%) were satisfied with the ANC services received compared to 212 (57.6%) who were very satisfied and 80 (21.7%) who were satisfied with this service among the urban respondents with significant p value of <0.001. This is lower than the satisfaction level in a study done in Enugu, Southeastern Nigeria where 94.3% were satisfied with the ANC services but higher than the study done in Kaduna state, North central Nigeria where 74% of the respondents were satisfied with the ANC services provided.[1]

In this study it was found that among the rural respondents that assessed DC 147 (40.2%) were very satisfied and 110 (30.1%) were satisfied with the services received compared to 193 (52.4%) who were very satisfied and 81 (22%) who were satisfied with this service among the urban respondents with a significant p value of 0.003. This is also lower than the satisfaction level of 95.8% found in a study in Enugu state, Southeastern Nigeria.[25]

Furthermore, this study also found that among the rural respondents who assessed PNC 154 (42.1%) were very satisfied and 107 (29.2%) were satisfied with the quality of PNC care received compared to 194 (52.7%) who were very satisfied and 83 (22.6%) who were satisfied among the urban respondents also with a significant p value of 0.013. This study also found that among the rural respondents 151 (41.3%) were very satisfied and 116 (31.7%) were satisfied with the quality of immunization services received in the rural health facilities while a higher number of respondents 198 (58.8%) were very satisfied and 102 (27.7%) were satisfied with the quality of immunization service received among the urban respondents with a significant p value of 0.002. This is lower than the satisfaction level of 95.9% found in a study done in Enugu state, Southeastern Nigeria.[25]

The higher number of respondents who were very satisfied among the urban respondents may not be unconnected with the better education of both the mothers and their spouses as found by the study. Also, the Inverse Care law where the availability of good medical care tends to vary inversely with the need for it in the population served may also be responsible for this. However, this is in contrast to a study carried out in PHC facilities in Calabar, South South Nigeria where majority of the mothers 56.4% were dissatisfied with the immunization service received.[26]

A study done in Egypt also found a high level of satisfaction with immunization services among mothers attending PHC facilities where 95.2% of the mothers were satisfied with the immunization services received.[27] Mensah et al in a study in Ghana, reported that inadequate use of MCH services is more of a rural phenomenon, they also found out that the woman's education, health information via the media, women autonomy, wealth, partner's education and an interaction between the educational levels of both the woman and her partner are the major determinants of MCH service utilization and

patients satisfaction with the quality of MCH services in Ghana.[28] This study found out that 111 (30.3%) of the rural respondents had a high satisfaction score of >80% compared to 147(39.9%) of the urban respondents who also had a high satisfaction score of >80% with a significant p value of 0-006. The mean satisfaction score±SD for the rural respondents was 71.6±13.3 compared to that of the urban respondents which was 78.0±9.6 with a significant p value of <0.001.

In a study done in Nnewi, Nigeria it was found that level of satisfaction was not significantly different among women of different socio-economic groups (p>0.05) however the quality of MCH services rendered was poor.[22] Also in a study done on women attending ANC in SabonGari LGA, Kaduna state it was found that 74% of the clients were satisfied with services received in the PHC facility.[1] In another study conducted in Sokoto metropolis it reported that 96.7% of the respondents were satisfied with the services received in the PHC facilities.[21] This is in contrast to a study done in Calabar where only 43.6% of the clients was satisfied with the immunization services.[27] A study done in Vietnam showed that over 80% of the rural and urban respondents were satisfied with both the delivery care and ANC.[29]

This study found that the factors associated with patients' satisfaction include age. Rural respondents between the ages 20-29 had 30.2% high satisfaction while urban respondents in the same age bracket had 30.3% high satisfaction with respect to level of education 29.1% of the rural mothers with secondary education had high satisfaction while 40.2% urban respondents with tertiary level of education had a high satisfaction. Employment status as a factor also influenced patients' satisfaction as 33.6%, rural respondents who are employed had a high level of satisfaction while 40.2% employed urban respondents had a high level of satisfaction. About 33.6% rural mothers whose home is less than or equal to one hour to the PHC had a high level of satisfaction while 44.5% urban mothers whose home is similar distance to the PHC had a high satisfaction.

Other factors significantly associated with patients' satisfaction include reception by health staff with 35.8% rural mothers were very satisfied and 53.0% urban mothers very satisfied. About 39.6% rural mothers were very satisfied with the attitude of the staff while 36.4% urban women were very satisfied with attitude. Similarly, 38.8% rural women were very satisfied with the waiting time while 26.9% urban women were satisfied with the waiting time. Also, about 24.9% rural respondents were satisfied with the cleanliness of the environment while 32.6% urban respondents were very satisfied with same. About 15.8% rural mothers were very satisfied with the cost of service while 42.1% urban respondents were very satisfied with same. A study done in Nnewi, Nigeria found that level of satisfaction wasn't significantly different among women of different socio-economic status.[22] Another study done in Sokoto, Nigeria found that major areas of mothers' dissatisfaction with services received in PHC facilities include long waiting time, poor sanitary facilities and poor staff attitude.[21] A study done in Kwara state, Nigeria found that mothers with higher educational status were more likely to assess MCH services than those less educated.[23]

A study done in Kenya, East Africa found that the mothers' level of education was the most important factor in determining the mothers' satisfaction with care.[30] Similarly, a study done in Ghana found that education of both parents, location of residence and socioeconomic factors were most responsible for clients' satisfaction or dissatisfaction.[28] A study done in Hossana town in Ethiopia found that age, educational status, distance, cleanness and respect were associated with patients satisfaction.[33] A comparative study between rural and urban mothers in Vietnam showed that low socioeconomic status was associated with low utilization of ANC and over 80% of the women were satisfied with the delivery care because of the presence of a Skilled Birth Attendant (SBA) during delivery.[31] Another study in Ethiopia found that educational status, number of visits and waiting time were associated with clients' satisfaction.[32]

Implication of the study to public health

Improvement in the quality of MCH services will help to improve the poor MCH indices of the country and also ensure improved, effective, efficient and quality health care services for the users of the services This study being a facility-based study accessed patients' satisfaction with quality of MCH services, further studies can also be done using community members and staffs and findings from this can be compared to give a more objective and whole perspective which can be used to assist policy makers to make policies that will help to ensure improvement in the quality of MCH services.

Strengths

This study being facility-based is a true reflection of patients' satisfaction with the quality of MCH care services received in the health facilities. The use of a systematic sampling technique also helped to minimize selection bias. The use of inter and intra comparison between the satisfied group also helped to give a clearer picture of the patients' satisfaction with the quality of care even among the satisfied group.

Limitations

A likely limitation of this study is the sensitivity of the topic, as most mothers would rather want to give a positive account of PHC facilities to prevent reprimand to the staffs that are in most cases resident of the communities and friends to the patients. Moreover, the study design being cross-sectional, would limit the extent to which inferences can be drawn with respect to the

causal relationships among variables and also the adaptation of a questionnaire designed specifically for the mother for this study may limit the generalizability of the study findings.

This study was limited to ANC, PNC, DC and immunization care. Other aspects of MCH services can also be researched and compared to give a more detailed and whole picture of the quality of MCH services.

CONCLUSION

This study showed that urban respondents received more good quality MCH services from the HCW compared to their rural counterpart, possibly due to the better educational level of the urban respondents and also the better employment status of both the mothers and their spouses in the urban area. Again, more urban respondents were aware of their rights and thus, may likely demand for a better quality service unlike their rural counterpart. There was a high level of satisfaction amongst both rural and urban respondents although more urban respondents appeared to be more satisfied than the rural respondents, this may also be due to the better educational status of the urban respondents. This study therefore concludes that education and gainful employment of the mothers were associated with a high level of satisfaction and thus with an improvement in the education of the rural respondents their level of satisfaction with MCH services would also improve.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Adeniyi MA, Adewoye RK, Durowade KA, Isa A, Adebisi OO, Azees AS. Comparative study of patient's satisfaction with quality of maternal and child healthcare services in primary healthcare centres in urban and rural communities in Ekiti State, Nigeria. Int J Community Med Public Health 2026;13:552-64.