

# Patients' Satisfaction With Nurse Led Care In Selected Government Owned Primary-Health-Centres In South-East Nigeria

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**Abstract:** Understanding patients' expectations is crucial towards improving patients' use of social health care services. This study assessed patients' satisfaction with nurse-midwife led care in selected government owned Primary-Health-and-Maternity-Care-Centres (PHMCCs) in south-east Nigeria. A cross-sectional descriptive design was used. 232 female patients who obtained services from selected PHMCCs between August 2017 and June 2018 were studied. Multistage sampling method was used in recruiting participants for the study. Data was collected using a 5 point scale adapted Patient Satisfaction Questionnaire (PSQ-18). Collated data was subjected to descriptive statistics (frequency, percentage, mean and standard deviation). Fisher exact test and analysis of variance (ANOVA) were used for test of hypothesis. Results revealed that the participants were satisfied with nurse-midwife led services (mean 3.52(±1.05)). There was significant association between socio-demographic variables and patients' satisfaction such as pregnancy status ( $P = 0.001$ ), educational level ( $P = 0.012$ ), parity status ( $P = 0.022$ ), and age ( $P = 0.024$ ). There was significant difference in patient satisfaction across pregnancy status ( $P = 0.001$ ), parity status ( $P = 0.001$ ), age ( $P = 0.007$ ), and educational level ( $P = 0.044$ ). In Conclusion, satisfaction with nurse-midwife led care was good. Meanwhile, women classified as above 55 years, with primary education, nuliparous (no childbirth experience) and non-pregnant were less likely to be satisfied with nurse-midwife led care.

**Keywords:** Satisfaction, Primary, Health, Nurse, Midwife.

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## I. Introduction

Primary Health Care (PHC) service is the most frequently used in any healthcare system<sup>1</sup>. The World Health Organization views PHC service as essential healthcare made universally accessible to individuals and families in any community by means acceptable to them. The primary aim of PHC is to provide integrated healthcare services to a community's population. Primary Health Care Centres (PHCC) can be considered the first contact between the patient and the healthcare system<sup>2</sup>. They generally offer preventive and curative services. In many developing countries, government owned PHCC operate in both urban and rural areas. Substantial evidence indicates that the quality of care varies widely within countries<sup>1</sup>.

Providing quality care is an essential part of health services in today's competitive market especially as recent evidence suggests that patients who have positive health care experiences have improved outcomes<sup>3</sup>. The healthcare industry now strives towards continuous quality improvements to meet the healthcare needs of a teeming global population. Delivering quality service has significant relationship with customer satisfaction, customer retention, customer loyalty, cost profitability and service guarantees<sup>1</sup>. Patients are the consumers of PHC services. The importance of the patient's opinion and his perception of treatment and care at health facilities are now recognized in all developed systems of health care<sup>2</sup>. The healthcare managers that endeavour to achieve excellence take patient perception into account when designing the strategies for quality improvement of care<sup>4</sup>.

Patient's satisfaction with quality of health care is the degree to which the patient's desired expectations and preferences are met by the services of a health care provider<sup>5</sup>. Patient's satisfaction has been reported as being positively associated with quality of care<sup>6</sup>. All the same, quality of care is often assessed by surveying patient's satisfaction to determine whether an organization has delivered the care they propose to provide<sup>3</sup>. By measuring patient's satisfaction, health care services retrieve vital information which can be used to improve the quality of health care<sup>6</sup>. Patient's satisfaction with health care is a basic component in evaluating

health care quality<sup>2</sup>. Patient's satisfaction with the quality of nursing care has a substantial influence on the satisfaction with the whole PHC setting because nurses are the health care professionals patients deal with more often than others<sup>6</sup>.

Nurse-midwife led clinic is a healthcare setting where a nurse-midwife is the primary provider of care and has a patient caseload. Nurse-midwife led care is a continuum of practice ranging from the nurse having authority to make decisions regarding patient care, to being responsible for all care provided, including clinical assessment, treatment, and management of patients undifferentiated by need<sup>7</sup>.

In Nigeria, government owned Nurse-midwife led Primary-Health-and-Maternity-Care-Centres (PHMCC) are widespread in both urban and rural areas. They offer both preventive, curative and midwifery services to the Nigerian population. They are not under the direct management of a central federal authority. They are run either by the state or by the local government. There is no set role for a nurse-midwife working in a PHMCC but generally would include antenatal, midwifery and postnatal care, maternal and child health, care of vulnerable and disadvantaged population, population vaccination and public health, health education and research, health promotion and illness prevention, rehabilitation and palliation, community development, policy development and advocacy. The diversity in management style employed by different authorities who run PHMCC perhaps gives room for slight alterations in service delivery.

Understanding patients' needs and expectations are crucial to nurse-midwives in improving patients' health<sup>8</sup>. Some current studies have been published regarding nurse-midwife led care and majority of these studies found sufficient patients' satisfaction<sup>9,10,11</sup>. Majority of the published studies were sited outside Africa and does not specify a PHMCC setting. At present there is paucity of current published data and literature from Nigeria relating to women's satisfaction with nurse-midwife led care in government owned PHMCC. Studies of this kind could provide useful information to researchers and policy makers in identifying specific problems and developing strategies for improvement<sup>5</sup>. It is against this backdrop that the present study is designed to assess women's satisfaction with nurse-midwife led care in government owned PHMCC in south-east Nigeria. It is expected that the present study will help define the starting points for improvements in quality nurse-midwife led care to women within PHMCC.

## **II. Material And Methods**

A cross-sectional descriptive research design was utilized in this study. The study population comprised of women between the ages of 15 and 64 years old who had obtained healthcare services in selected government owned PHMCC led by a nurse-midwife in south-east Nigeria from August 2017 to June 2018. The Health Research and Ethics Committee of Federal Medical Centre Umuahia, Abia State, Nigeria approved the study protocol (Approval No. FMC/QEH/G.596/Vol.10/269).

**Study Design:** cross-sectional descriptive design.

**Study Location:** World-Bank-PHMCC Umuahia, Municipal-PHMCC Owerri, and Polyclinic-PHMCC Awka.

**Study Duration:** August 2017 to June 2018

**Sample size:** 249 participants

**Sample size calculation:** A sample size of 249 participants was calculated for use in the study. The sample was determined using sample size formula for studies requiring proportions:  $n = \frac{Z^2 \times P(1-P)}{d^2}$ <sup>12</sup>. Where Z<sup>2</sup> (constant) = 1.96; P (Proportion) = 82% (About 82% births were reported to have been attended to by skilled birth attendants in Nnewi, South-east Nigeria<sup>5</sup>); d (tolerable error) = 0.05 at 95% confidence level. To guard against potential attrition, the calculated minimum sample size of 226 was increased by 10% to arrive at a final sample size of 249.

**Subjects and selection method:** Umuahia, Awka and Owerri are 3 of 5 state capitals within the south east of Nigeria. There are at least 2 PHMCCs in each of the named towns; each PHMCC serving about 1500 women. 8750 women constitute the target population. The calculated final sample size amounted to 2.84% of the target population size. Multistage sampling method was used for the study. At stage one, random sampling method was used to select 3 state capitals out of 5 within the south-east region of Nigeria namely Umuahia, Awka and Owerri. At stage two, random sampling technique was used to select one PHMCC in each named town, namely World-Bank-PHMCC Umuahia, Municipal-PHMCC Owerri, and Polyclinic-PHMCC Awka. At stage three, random sampling using lucky dip technique (selection with replacement) was used in each of the named PHMCCs to select and enrol participants into the study. Eligible and consenting participants utilizing PHMCC services were enrolled into the study at the point of exit from the health facilities until the required number allotted to each selected facility was reached.

**Inclusion criteria:**

1. Willingness to participate in the study
2. Females aged 15-64 years at the time of data collection
3. Obtained services from a selected health centre
4. Physically and mentally stable enough to respond to the questionnaire items

**Exclusion criteria:**

1. Severe health or emotional condition
2. Inability to read or write in English or Igbo language
3. Refusal to participate in the study.

**III. Procedure Methodology**

After written informed consent was obtained, data was collected once from each participant with the help of a self-report Questionnaire. During data collection, the participants were allowed by the research team to decide what version of the instrument they would prefer to fill-in their responses.

The instrument had two sections. Section A was comprised of a semi-structured 5-item questionnaire which extracted the socio-demographic profile of the participants. Section B contained Patient Satisfaction Questionnaire (PSQ-18) originally developed by Marshal and Hays<sup>13</sup> but adapted by the research team to suit the objectives of the present study. The PSQ-18 is a free generic questionnaire under the hospices of the RAND Corporation. It is an 18-item questionnaire that measures patient satisfaction by tapping into each of the seven dimensions (subscales) of satisfaction with health care: General satisfaction, Technical quality, Interpersonal manner, Communication, Financial aspects, Time spent with nurse-midwife, and Accessibility and Convenience. The specific adaptations made by the research team on the PSQ-18 was replacing the words “plenty”, “doctor”, “medical” and “doctor’s office” with “enough”, “nurse-midwife”, “health” and “Primary-Health-and-Maternity-Care-Centre (PHMCC)” respectively. The questionnaire items were measured on a 5-point scale. Items 1, 2, 3, 5, 6, 8, 11, 15, 18 on the adapted-PSQ-18 were negatively worded. For the purpose of the present study, a mean score “less than 3.0” and “greater than 3.0” operationally meant “not satisfied” and “satisfied” respectively. Some items were averaged to produce mean scores for the subscales, and the averaged items were General satisfaction (items 3 and 17), Technical quality (items 2, 4, 6, and 14), Interpersonal manner (items 10 and 11), Communication (items 1 and 13), Financial aspects (items 5 and 7), Time spent with nurse-midwife (items 12 and 15), and Accessibility and Convenience (items 8, 9, 16 and 18). Scale mean of PSQ-18 was calculated by averaging the mean of all subscales. The adapted PSQ-18 was then translated by two Igbo language experts into Igbo language (the native language widely spoken in the area of study). Furthermore, the adapted PSQ-18 (Igbo version) was back translated by two English language experts into English language. This was done to and fro four times until exactly the same results were obtained between the back translated English version and the adapted PSQ-18.

To establish content validity, the instrument was submitted to five research experts who are members of the Community Care Save the Mother and Child Initiative Research Group. All five research experts were requested to mark relevant or not-relevant for each of the questionnaire items. On analysis of the generated data, Item Content Validity Index was found to be  $> 0.799$  for all items on the adapted PSQ-18 and Scale Content Validity Index was found to be  $= 0.930$ . Content Validity Index  $> 0.78$  depicted good content validity<sup>14</sup>.

To establish reliability of the instrument, the adapted PSQ-18 (English version) and the translated PSQ-18 (Igbo version) were separately pilot tested using 12 participants respectively, who were not included in the main study. Reliability analysis for the English and Igbo versions of the adapted PSQ-18 yielded Cronbach’s alpha of 0.888 and 0.724 respectively. The calculated Cronbach’s alpha of the two versions of the adapted PSQ-18 falls above a minimum standard of 0.7<sup>15</sup>. To further investigate the similarity between the English and Igbo versions of the adapted PSQ-18, the two sets of data generated in the pilot study were subjected to paired samples t-test. No significant statistical difference was found between the items on the two versions of the instrument ( $P > 0.05$ , minimum value 0.07) except for item 2 ( $t = 2.691$ ,  $P = 0.02$ ). The instrument was hence considered reliable.

**IV. Statistical Analysis**

Collated data was described using descriptive statistics (frequency, percentage, mean and standard deviation). Test of association was carried out using Fisher’s exact test. Analysis of Variance (ANOVA) was used to compare means between groups. Level of statistical significance was set at  $P < 0.05$ . Data analysis was carried out with the aid of Statistical Package for Social Sciences (SPSS) software version 21(SPSS Inc., Chicago, IL, USA).

**V. Result**

Out of 249 participants, 232 completed the study (return rate 92.17%). The mean age of participants was 28.48(±9.53) years. Majority of the participants were nulliparous (164, 70.7%) [have not experienced childbirth]. Majority of the participants were not pregnant (178, 76.7%) and had post secondary education (147, 63.4%).

Category	Details
Age in years, <i>n</i> (%)	
15 – 24	118(50.9)
25 – 34	44(19.0)
35 – 44	57(24.6)
45 – 54	10(4.3)
55 – 64	3(1.3)
Age, <b>mean</b> (SD)	28.48(±9.53)
Parity status, <i>n</i> (%)	
Nulipara (no childbirth experience)	164(70.7)
Primipara (one childbirth experience)	24(10.3)
Multipara (More than one child birth experience)	44(19.0)
Pregnancy status, <i>n</i> (%)	
Pregnant	54(23.3)
Not pregnant	178(76.7)
Educational level, <i>n</i> (%)	
Primary	4(1.7)
Secondary	81(34.9)
Post secondary	147(63.4)

Table no2, show mean scores of participants in all Patient Satisfaction Subscales. Overall, the participants were satisfied with nurse-midwife led services (scale mean 3.52(±1.05)). The participants rated all subscales of Patient Satisfaction above the critical value of 3.00. The participants were most satisfied with communication aspect of nurse-midwife led care (mean 3.87(±0.94)). Still on communication, the participants agreed that nurses were good about explaining the reason for health care tests (mean 4.33(±0.78)) and that nurses do not ignore what they (participants) say in the course of obtaining healthcare service (mean 3.41(±1.10)). Although the participants were satisfied with the confidence that the financial cost of nurse-midwife led care does not set them back financially (mean 3.45(±1.06)) or make one pay more than one can afford (mean 3.16(±1.09)), financial aspects of patient's satisfaction was rated least satisfactory (mean 3.31(±1.08)).

**Table no2: Shows Patients' Satisfaction with Nurse-midwife Led Care**

**N = 232**

Subscale	No.	Item	Mean(±SD)	Interpretation
<b>General satisfaction</b>	3†	The health care I have been receiving is just about perfect.	3.56(±0.87)	<b>Satisfied</b>
	17	I am dissatisfied with some things about the care I receive.	3.30(±1.13)	
		<b>mean</b>	<b>3.43(±1.00)</b>	
<b>Technical quality</b>	2†	I think the Primary Health and Maternity Care Centre (PHMCC) have everything needed to provide complete health care.	3.49(±1.19)	<b>Satisfied</b>
	4	Sometimes nurses make me wonder if their diagnosis is correct.	3.16(±1.19)	
	6†	When I go for healthcare nurses are careful to check everything.	3.89(±0.99)	
	14	I have some doubts about the ability of the nurses who treat me.	3.25(±1.04)	
		<b>mean</b>	<b>3.45(±1.10)</b>	
<b>Interpersonal manner</b>	10	Nurses act too businesslike and impersonal towards me.	3.36(±1.01)	<b>Satisfied</b>
	11†	My nurse treats me in a very friendly and courteous manner.	4.12(±0.95)	
		<b>mean</b>	<b>3.74(±0.98)</b>	
<b>Communication</b>	1†	Nurses are good about explaining reason for health care tests.	4.33(±0.78)	<b>Satisfied</b>
	13	Nurses sometimes ignore what I tell them.	3.41(±1.10)	
		<b>mean</b>	<b>3.87(±0.94)</b>	
<b>Financial aspects</b>	5†	I feel confident that I can get the health care that I need without being set back financially.	3.45(±1.06)	<b>Satisfied</b>
	7	I have to pay for more of my health care than I can afford.	3.16(±1.09)	
		<b>mean</b>	<b>3.31(±1.08)</b>	
<b>Time spent with nurse-midwife</b>	12	Nurses hurry too much when they treat me.	3.39(±1.23)	<b>Satisfied</b>
	15†	Nurses do not usually spend enough time with me.	3.49(±1.00)	
		<b>mean</b>	<b>3.44(±1.12)</b>	
<b>Accessibility and Convenience</b>	8†	I have easy access to the nurse specialists I need.	3.33(±1.01)	<b>Satisfied</b>
	9	Where I get health care, people have to wait too long for emergency treatment.	3.31(±1.15)	
	16	I find it hard to get an appointment for health care right away.	3.31(±1.27)	
	18†	I am able to get healthcare whenever I need it.	3.72(±0.96)	
		<b>mean</b>	<b>3.42(±1.10)</b>	
<b>Overall Satisfaction Score</b>		<b>Mean</b>	<b>3.52(±1.05)</b>	<b>Satisfied</b>

† was scored in reverse. **Decision rule:** Mean > 3.00 = Satisfied; < 3.00 = Not satisfied.

Table no3, demonstrated that there was significant association between patients' satisfaction and demographic variables such as pregnancy status ( $P = 0.001$ ), educational level ( $P = 0.012$ ), parity status ( $P = 0.022$ ), and age ( $P = 0.024$ ).

Table no4 revealed that there were significant differences in patient satisfaction across groups in parity status ( $P = 0.001$ ), pregnancy status ( $P = 0.001$ ), age ( $P = 0.007$ ), and educational level ( $P = 0.044$ ). Table 4 may suggest that participants who were older than 35 years, primipara, pregnant and with post secondary education were more satisfied with nurse-midwife led care, whereas participants above 55 years, nuliparous, non-pregnant, and with primary education were less likely to be satisfied with nurse-midwife led care.

**Table no3: Shows Association between Socio-demographic variables and Patients' Satisfaction N = 232**

Variable	Patients' Satisfaction		df	$\chi^2$ (fisher)	P value	Significance
	Not Satisfied	Satisfied				
<b>Age in years, n</b>			4	10.501	0.024	Significant
15 – 24	12	106				
25 – 34	12	32				
35 – 44	13	44				
45 – 54	0	10				
55 – 64	0	3				
<b>Parity status, n</b>			2	7.463	0.022	Significant
Nulipara	32	132				
Primipara	0	24				
Multipara	5	39				
<b>Pregnancy status, n</b>			1	10.433	0.001	Significant
Pregnant	1	53				
Not pregnant	36	142				
<b>Educational level, n</b>			2	8.058	0.012	Significant
Primary	3	1				
Secondary	14	67				
Post secondary	20	127				

Decision rule:  $P < 0.05$  is significant.

**Table no4: shows Comparison of Patients' Satisfaction across socio-demographic groups N = 232**

Variable	N	Scale Mean	Std. Deviation	F	P value	Significance
<b>Age in years</b>				3.59	0.007	Significant
15 – 24	118	3.43	0.44			
25 – 34	44	3.46	0.54			
35 – 44	57	3.65	0.58			
45 – 54	10	3.83	0.37			
55 – 64	3	3.06	0.00			
<b>Parity status</b>				20.77	0.001	Significant
Nulipara	164	3.38	0.45			
Primipara	24	3.88	0.31			
Multipara	44	3.76	0.59			
<b>Pregnancy status</b>				39.36	0.001	Significant
Pregnant	54	3.85	0.45			
Not pregnant	178	3.40	0.47			
<b>Educational level</b>				3.16	0.044	Significant
Primary	4	3.00	0.82			
Secondary	81	3.44	0.47			
Post secondary	147	3.55	0.51			

Decision rule:  $P < 0.05$  is significant.

## VI. Discussion

An adapted PSQ-18 was used in the present study to describe women's satisfaction with nurse-midwife led care in selected PHMCCs. Results of this study indicate that majority of the participants were satisfied with all aspects of nurse-midwife led care such as general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with nurse-midwife, and accessibility and convenience. This finding was seemingly in line with a study set in Alexandria (Egypt) which found that overall satisfaction with PHC services was good<sup>8</sup>. Also in support of this finding was a study set in Bostwana which found that all

domains of satisfaction with nurse-led services were greater than 3.4 on a 5 point likert scale<sup>16</sup>. The close similarity in findings between the present study and the study set in Bostwana may be linked to the use of an instrument designed to measure patient satisfaction in a 5 point likert scale. Furthermore, this finding was in agreement with a study set in Jordan which found that all subscales of patient satisfaction with nurse-led services were above 3.00 on a 5 point scale<sup>6</sup>. Nevertheless, the finding of this study was not supported by a study set in south-south Nigeria which found poor overall satisfaction with PHC services<sup>17</sup>. The discrepancy in findings between the present study and the study set in south-south Nigeria may be due to differences in nature of PHC facilities used for the study. Where as the present study singled out PHMCCs managed by nurse-midwives, the study set in south-south Nigeria included PHCs headed by Community Health Officers and Physicians.

This study found a significant relationship between patients' satisfaction and demographic variables such as pregnancy status, educational level, parity status, and age. This finding was supported by a study set in Jordan which found a significant relationship between patient satisfaction with educational level and age<sup>6</sup>. The agreement in findings may be connected to the use of standardised instruments for data collection. The study set in Jordan utilised a Satisfaction Scale for Community Nursing (a standardised instrument). However, the finding was not supported by a study set in the south-east Nigeria which found no relationship between patient satisfaction and socio-demographic variables<sup>5</sup>. The deviation in findings may be tied to differences in methods of data collection. The study set in the south-east Nigeria utilised a mix of quantitative and qualitative methods in data collection, whereas the present study utilised only a quantitative method in data collection.

Further investigating the nature of relationship between patient satisfaction and socio-demographic variables, the present study revealed significant differences in patient satisfaction across groups in parity status, pregnancy status, age, and educational level. The finding hinted that participants who were above 55 years, nuliparous, non-pregnant, and those with primary education were less likely to be satisfied with nurse-midwife led care. This probably calls for an intervention. Nonetheless, this finding was not completely in line with a study set in Jordan who found lower patient satisfaction in older and more educated patients<sup>6</sup>. The difference in findings may be linked to differences in sample size. Where the study set in Jordan utilized a sample size above 300, in the present study 232 participants completed the study. A smaller sample size may increase the chance of type I error.

While appraising the findings of this study, it may be important to consider that in view of the size of south-east Nigeria (including urban and rural areas) and its total population, the sample size used in this study may not have been enough to make a one time conclusion pertaining to women's satisfaction with nurse-midwife led care in the region. The researcher considers this a limitation. More studies in this area are thus required.

## **VII. Conclusion**

Patients' satisfaction with nurse-midwife led care was good. Females categorized as aged above 55 years, with primary education, nuliparous and non-pregnant were less likely to be satisfied with nurse-midwife led care.

The researcher recommends that nurse-midwives who work within PHMCCs should design ingenious methods that would regularly study patients' satisfaction-related complains especially of the aged and individuals with primary education. This intervention should be geared towards greater protection of the health of sections of society within the stated socio-demographic classifications.

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