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Assessment of patient satisfaction with healthcare delivery: A comparative study among insured and uninsured patients

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ABSTRACT

Objectives: Understanding the impact of health insurance on patient satisfaction with healthcare delivery is vital for healthcare policy development and resource management. The objective of this study was to comparatively evaluate satisfaction with the quality of healthcare delivery among uninsured and insured patients under the National Health Insurance Scheme (NHIS).

Materials and Methods: A cross sectional study conducted in University of Uyo Teaching Hospital using a semi-structured questionnaire to interview patients receiving care under the NHIS and uninsured patients of the hospital to comparatively assess satisfaction with healthcare delivery among both patient populations. Patient responses were graded on a 5-point likert scale and the mean satisfaction with healthcare delivery score was determined for both study populations.

Results: A total of 1,000 patients were interviewed, 500 patients in each patient population. There was a statistically significant difference in the mean satisfaction with healthcare delivery score between the insured and uninsured patients. Comparisons between groups (uninsured versus insured patients) showed a satisfaction score of 41.406 ± 8.11 versus 44.68 ± 8.632 ; $t = -6.183$; $p = 0.0001$. Predictors of satisfaction among the insured patients include gender ($B = -2.013$; $p = 0.009$), age ($B = -1.068$; $p < 0.001$), level of education ($B = 1.828$; $p = 0.002$), marital status ($B = -1.487$; $p = 0.006$) and presence of a chronic medical condition ($B = 2.592$; $p = 0.002$).

Conclusion: Patients receiving care under the NHIS were more satisfied with healthcare delivery than the uninsured patients. Age, gender, level of education, marital status and the presence of a chronic medical condition were determinants of satisfaction among the insured patients. Targeted interventions to address disparities in healthcare delivery is thus necessary.

Keywords: Health insurance, Healthcare delivery, Patient satisfaction

INTRODUCTION

Concerted efforts targeted at improving access to quality and affordable health care are being made globally. Social health insurance has been identified as an effective intervention to improve access to healthcare delivery as it provides a medium through which revenue can be mobilized and used to provide healthcare services to the general population at a minimal cost.^[1] It is a social security system that provides required healthcare services to people after the due payment of a

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token contribution at specified intervals.^[2] In Nigeria, social health insurance, termed the National Health Insurance Scheme (NHIS), was established by the Federal Government with the aim of providing affordable healthcare services to the Nigerian people.

The measure of patient satisfaction can be described as a subjective assessment of the quality of healthcare services, as it is the patient's perception of the quality and outcome of healthcare services. It is also described as the extent to which patients perceive that their overall well-being, needs, and expectations have been met through the healthcare services provided.^[3,4] It is an important parameter that can be used to audit and improve services offered by health systems, as it reflects the quality of care provided.

Research findings have shown a correlation between satisfaction and utilization of healthcare services.^[5] Satisfaction with health services has also been reported to be a determinant of treatment outcomes.^[6] There is a link between patient satisfaction with healthcare delivery and compliance with medical recommendations, including keeping clinic appointments and adherence to prescribed medications.^[2,7] Hence, patient satisfaction can affect the sustainability of an implemented healthcare intervention program.^[2]

A number of factors associated with patients' satisfaction with healthcare services have been identified. These factors include the neatness of the facility/environment, the patient-healthcare provider relationship, ease with which patients access care, ease of payment for services, clinic waiting time, and the attitude of healthcare providers.^[1,6,8,9] A number of studies comparatively evaluating satisfaction with healthcare services between insured and uninsured patients have been conducted to provide valuable insights into understanding the relationship between health insurance status and satisfaction with care. Findings from some of these studies conducted in non-Nigerian populations indicate that insured persons are more likely to be satisfied with healthcare delivery than uninsured persons.^[10,11] A similar study in Nigeria, with a unique healthcare system that is characterized by disparities in resource allocation, access, and quality^[12] is therefore necessary. Moreover, previous studies in Nigeria that evaluated patients' satisfaction with healthcare services offered under the NHIS have reported contrasting findings. The NHIS still remains the country's most viable pathway to attaining the World Health Organization's sustainable development goal of universal health coverage by the year 2030. However, the country seems to be far from attaining this feat.^[13] This study was thus undertaken to comparatively evaluate satisfaction with the quality of healthcare delivery among uninsured patients and patients insured under the NHIS.

MATERIALS AND METHODS

Study design and site

It was a cross-sectional study carried out in the University of Uyo Teaching Hospital (UUTH), a tertiary healthcare facility located in Uyo, Akwa Ibom state, South-South Nigeria. Patients receiving care under the country's national health scheme and uninsured patients of the hospital were recruited into the study. Recruited patients were interviewed. The main aim of the survey was to comparatively assess satisfaction with healthcare delivery among both patient populations.

Data collection instrument

A structured questionnaire was developed by the researchers after a review of relevant literature.^[2,5,13-16] The developed questionnaire was subjected to review by a team of healthcare providers, and the revised questionnaire was then tested among 20 insured and 20 uninsured patients who were not part of the final study. This was to assess the readability and comprehension of the questionnaire items by the target study population. Cronbach's alpha was used to assess the instrument's reliability and internal consistency.

Participants' recruitment/eligibility criteria

Insured clients' eligibility criteria

Insured clients assessing healthcare in UUTH under the NHIS aged 18 years and above, who had subscribed to the scheme for at least 6 months and have accessed care under the scheme.

Uninsured patients' eligibility criteria

Patients of the hospital aged 18 years and above who had not subscribed to the NHIS or any other health insurance scheme.

For both study populations, only those who provided a written informed consent to participate in the study were recruited into the study.

Sample size

A sample size was determined with the aid of the Raosoft Online Sample Size Calculator, wherein the margin of error, confidence interval, and response distribution were set at 5%, 95%, and 50%, respectively.

The population size - The calculated minimum sample size for insured clients under the NHIS (with an estimated number of insured clients under the NHIS in Nigeria placed at 5,000,000 persons)^[17] using the Raosoft Online Sample Size Calculator is 385 insured persons. However, for this

study, we interviewed 500 patients assessing care in the hospital under the NHIS. A similar number of uninsured patients recruited from the general outpatient department of the hospital were interviewed, bringing the total sample size to 1,000 patients (i.e., 500 National Health Insurance Authority insured clients and 500 uninsured clients accessing healthcare in UUTH).

Statistical analysis

Data analysis was conducted using the IBM Statistical Products and Services Solution version 25.0 software. The obtained data were summarized using descriptive statistics as appropriate. Pearson's Chi-square test and independent Student's t-test were used to compare data where applicable. Furthermore, bivariate correlation analysis and multivariate regression analysis were used to assess the relationship between assessment variables. For all inferential statistical analysis, $p < 0.05$ was considered to be significant.

Ethical clearance

Ethical approval was obtained from the Health Research Ethics Committee of UUTH. In addition, informed consent was obtained from the respondents.

RESULTS

Reliability and internal consistency of the data collection instrument

The overall Cronbach's alpha of the questionnaire used in assessing patient satisfaction with healthcare delivery among the insured and uninsured patients was 0.872.

Demographic characteristics of study participants

Majority of the participants in both arms of the study attained a tertiary level of education. The demographic characteristics of our study participants are presented in Table 1.

Comparative assessment of mean satisfaction with healthcare delivery scores between insured and uninsured patients

We found a statistically significant difference in the satisfaction with healthcare delivery scores between uninsured patients and patients insured under the NHIS. Patients who received care under the NHIS were more satisfied with healthcare delivery in the facility than the uninsured patients. An item-by-item comparative assessment of satisfaction with healthcare delivery between uninsured patients and patients insured under the NHIS and the test of difference is presented in Table 2.

Relationship between demographic characteristics of respondents and satisfaction with healthcare delivery

Among the NHIS insured patients, a statistically significant relationship was found between satisfaction with healthcare delivery and gender, age, level of education, marital status, number of children, and the presence of a chronic medical condition. Table 3 shows the results of the bivariate correlation analysis to determine the relationship between the demographic characteristics of the respondents and their satisfaction with healthcare delivery in the hospital.

Predictors of satisfaction with healthcare delivery among participants

Results of the multivariate linear regression analysis showed that gender, age, the level of education, and the presence of a chronic medical condition were predictors of satisfaction with healthcare delivery among patients insured under the NHIS [Table 4].

DISCUSSION

Patient satisfaction, usually viewed as a patient's perception and assessment of the quality of healthcare services provided, is an important parameter for consideration in the assessment of the quality of healthcare delivery.^[14] Our study, conducted among insured and uninsured patients receiving care at a public tertiary healthcare facility in southern Nigeria, found a statistically significant difference in the satisfaction with healthcare delivery between uninsured patients and patients insured under the county's NHIS. Patients who received care under the health insurance scheme were more satisfied with healthcare delivery in the facility than the uninsured patients. Previous studies carried out in Nigeria among patients who received care under the NHIS have reported a high level of satisfaction.^[3,18-21] Similar studies on satisfaction with healthcare delivery among insured patient populations in Europe and Asia have also reported high overall patient satisfaction scores.^[22,23]

An item-by-item comparative assessment of satisfaction with healthcare delivery between the uninsured and insured patients in our study revealed that the patients insured under the NHIS were significantly more satisfied with the access to information and guidance on healthcare services and procedures provided in the hospital than the uninsured patients. The insured patients were also significantly more satisfied with the convenience of using available medical services in the hospital, the explanation and guidance received from physicians in the hospital, the services provided by the nurses; inter-professional collaboration among clinicians, and the clinic waiting time. Research findings have shown that patients who are more satisfied with healthcare services are more likely to utilize available clinical services, keep clinic appointments, and adhere to

Table 1: Demographic details of uninsured patients and patients on the NHIS.

Demographic characteristics	Uninsured patients		Patients on the NHIS	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	242	48.4	252	50.4
Female	258	51.6	248	49.6
Age (years)				
18–25	124	24.8	79	15.8
26–35	127	25.4	168	33.6
36–45	105	21.0	109	21.8
46–55	55	11.0	75	15.0
56–65	36	7.2	48	9.6
>65	53	19.6	21	4.2
Level of education				
No formal education	15	3.0	14	2.8
Primary	23	4.6	14	2.8
Secondary	143	28.6	71	14.2
Tertiary	319	63.8	401	80.2
Employment status				
Unemployed	93	18.6	79	15.8
Self-employed	156	31.2	134	26.8
Employed in the private sector	101	20.2	50	10.0
Civil servant	94	18.8	210	42.0
Retired	56	11.2	27	5.4
Religion				
Christianity	478	95.6	468	93.6
Islam	22	4.4	15	3.0
African traditional religion	-	-	13	2.6
Others	-	-	4	0.8
Marital status				
Single	181	36.2	217	43.4
Married	253	50.6	260	52.0
Separated	12	2.4	3	0.6
Widowed	42	8.4	18	3.6
Divorced	12	2.4	2	0.4
Number of children				
None	181	36.2	229	45.8
1–3	173	34.6	146	29.2
4–6	128	25.6	104	20.8
>6	18	3.6	21	4.2
Salary range (Naira)				
None	90	18.0	-	-
<30,000	47	9.4	115	23.0
30,000–60,000	96	19.2	136	27.2
>60,000–90,000	78	15.6	90	19.0
>90,000–120,000	56	11.2	60	12.0
>120,000	133	26.6	99	19.8
Living with a chronic medical condition				
Yes	130	26.0	142	28.4
No	370	74.0	358	71.6

NHIS: National Health Insurance Scheme

Table 2: Comparative assessment of mean satisfaction with healthcare delivery scores between insured and uninsured patients and test of difference.

S. No.	Questions	Uninsured patients			Patients on the NHIS			t-test	p-value
		Mean score	SD	SEM	Mean score	SD	SEM		
1.	How satisfied are you with your access to information and guidance on healthcare services and procedures?	3.092	±0.985	0.044	3.388	±1.018	0.046	-4.674	0.000
2.	How satisfied are you with the inter-professional or inter-departmental collaborations in this clinic?	3.122	±0.851	0.038	3.476	±1.014	0.453	-5.980	0.000
3.	How satisfied are you with the convenience of using medical services, such as laboratory tests?	3.026	±0.935	0.042	3.470	±1.006	0.450	-7.229	0.000
4.	How satisfied are you with the availability of the healthcare services?	3.330	±0.896	0.401	3.362	±1.085	0.049	-0.509	0.611
5.	How satisfied are you with the clinic infrastructure and the cleanliness of the environment?	3.820	±1.991	0.089	3.716	±0.966	0.043	1.051	0.294
6.	How satisfied are you with the consultation, explanation, and guidance you have received from medical doctors?	3.468	±0.878	0.039	3.922	±0.924	0.041	-7.966	0.000
7.	How satisfied are you with the services of laboratory scientists?	3.098	±0.918	0.041	3.618	±0.937	0.042	-8.866	0.000
8.	How satisfied are you with the clinic waiting time?	2.124	±0.916	0.041	2.416	±1.074	0.048	-4.627	0.000
9.	How satisfied are you with the pharmaceutical services you have received from pharmacists?	3.336	±0.861	0.038	3.294	±1.209	0.054	0.633	0.527
10.	How satisfied are you with the quality of drugs dispensed at the pharmacy?	3.408	±0.774	0.346	3.424	±1.120	0.050	-0.263	0.793
11.	How satisfied are you with the availability of drugs in the hospital pharmacy?	3.204	±0.790	0.035	3.054	±1.227	0.055	2.298	0.022
12.	How satisfied are you with the nursing services you have received from nurses?	3.054	±0.951	0.043	3.764	±0.952	0.043	-11.797	0.000
13.	How satisfied are you with the overall quality of treatment and care you have received in this facility?	3.324	±0.825	0.037	3.776	±0.986	0.044	-7.863	0.000
Total		41.406	±8.105	0.362	44.680	±8.632	0.386	-6.183	0.000

SD: Standard deviation, SEM: Standard error of the mean, NHIS: National Health Insurance Scheme, t-test = Student's *t*-test. *P*-value < 0.05 shows statistical significance.

Table 3: Relationship between demographic characteristics of respondents and satisfaction with healthcare delivery.

S. No.	Sociodemographic characteristics	Uninsured patients		Patients on the NHIS	
		Pearson Chi-square test	Spearman correlation	Pearson Chi-square test	Spearman correlation
1.	Gender	80.475; <i>P</i> ≤0.001	-0.045; <i>P</i> =0.057	89.734; <i>P</i> ≤0.001	-0.117; <i>P</i> =0.009
2.	Age	490.094; <i>P</i> ≤0.001	0.047; <i>P</i> =0.050	346.024; <i>P</i> ≤0.001	-0.117; <i>P</i> ≤0.001
3.	Level of education	166.670; <i>P</i> =0.003	-0.030; <i>P</i> =0.510	239.635; <i>P</i> ≤0.001	0.116; <i>P</i> =0.009
4.	Religion	101.392; <i>P</i> =0.053	-0.020; <i>P</i> =0.651	217.497; <i>P</i> ≤0.001	-0.084; <i>P</i> =0.062
5.	Marital status	255.477; <i>P</i> ≤0.001	-0.170; <i>P</i> ≤0.001	244.172; <i>P</i> ≤0.001	-0.160; <i>P</i> ≤0.001
6.	Number of Children	278.513; <i>P</i> ≤0.001	-0.109; <i>P</i> =0.015	256.191; <i>P</i> ≤0.001	-0.120; <i>P</i> =0.007
7.	Salary range	385.617; <i>P</i> ≤0.001	-0.120; <i>P</i> =0.007	371.900; <i>P</i> ≤0.001	-0.067; <i>P</i> =0.132
8.	Presence of chronic medical condition	95.242; <i>P</i> =0.117	0.074; <i>P</i> =0.098	89.193; <i>P</i> ≤0.001	0.133; <i>P</i> =0.003

NHIS: National health insurance scheme. *P*-value < 0.05 indicates statistical significance.

treatment recommendations, and thus, satisfaction with care is a predictor of treatment outcomes.^[2,6,7,9]

The extent of a patient's satisfaction with healthcare intervention program influences their perception or attitude

Table 4: Predictors of satisfaction with healthcare delivery among uninsured patients and patients on the NHIS.

S. No.	Sociodemographic characteristics	Uninsured patients		Patients on the NHIS	
		Unstandardized coefficients beta	p-value	Unstandardized coefficients beta	p-value
1.	Gender	-	-	-2.013	0.009
2.	Age	-	-	-1.068	<0.001
3.	Level of education	-	-	1.828	0.002
4.	Marital status	-1.013	0.007	-1.487	0.006
5.	Number of children	-0.885	0.037	-0.740	0.085
6.	Salary range	-0.568	0.004	-	-
7.	Presence of chronic medical condition	-	-	2.592	0.002

NHIS: National Health Insurance Scheme, *P*-value < 0.05 indicates statistical significance.

and responsiveness toward such program. The reluctance to access healthcare services among members of a population can be attributed to their level of satisfaction with the services provided. A similar study in South East Nigeria by Ele *et al.* reported that patients who enrolled into the NHIS were relatively satisfied with the patient–staff relationship, including patient–staff communication and information dissemination.^[15] Their report also showed that the patients were satisfied with the clinic’s waiting time. On the other hand, a previous study in a hospital in Port-Harcourt, Nigeria, showed patient dissatisfaction with clinic waiting time.^[14] Delays in attending to patients at different service points in the hospital may affect patient perception of the quality of care provided, causing patients to seek alternative means of meeting their healthcare needs. Long waiting time in hospitals is commonly attributed to a large volume of patients assessing care in the hospital and insufficient clinical personnel. Implementing measures to reduce clinic waiting time may boost satisfaction with healthcare services among patients.^[16]

We found no significant difference in the level of satisfaction with the clinic infrastructure/neatness, pharmaceutical services, availability of drugs, and quality of drugs between the insured and uninsured patients. Enrollees of the NHIS in a study in Port-Harcourt, Nigeria, by Olamuyiwa and Adeniji expressed satisfaction with the level of cleanliness of the clinic where they received healthcare services under the insurance scheme.^[14] This is similar to the findings of previous studies where majority of the patients rated the clinic environment as being comfortable, clean, and suitable for healthcare delivery.^[24,25] A report from Yola, Northern Nigeria, showed that majority of the patients were dissatisfied with the availability of drugs in the healthcare facility.^[16] This appears to be a common finding, as other studies in different parts of the country have reported similar results.^[9,18] When prescribed drugs are not available in the hospital where insured clients receive care, they are compelled to make out-of-pocket payments to obtain the medications at

pharmacies outside the hospital, thus negating the essence of the insurance scheme, undermining its primary purpose, and may contribute to the feeling of dissatisfaction among the insured patients. A study at an NHIS clinic in southeastern Nigeria found that non-availability of drugs was a common complaint among the insured patients. Other complaints from the enrollees of the insurance scheme reported in the study were poor services, long waiting times, poor attitude of members of staff, and denial of services.^[21]

The non-availability of essential medicines, which appears to be a frequently occurring situation in many government-operated hospitals in the country, may be due to delays in the release of funds for drug purchase caused by the bureaucratic administrative procedures in these hospitals.

The results of our study also showed that gender, age, the level of education, marital status, and the presence of a chronic medical condition were predictors of satisfaction with healthcare delivery among patients insured under the NHIS. Evidence derived from studies suggests that the interaction between patient sociodemographic variables and factors within the healthcare system varies and thus results in varied determinants of satisfaction with healthcare services among its users.^[5,26,27] In our study, younger age was a predictor of satisfaction. Several studies have also identified age as a predictor of satisfaction with healthcare services. For example, Adewole *et al.* had reported that younger age was a predictor of satisfaction with healthcare services among enrollees of the NHIS in Ibadan, Nigeria.^[5] Another study in Ethiopia had also suggested that younger patients are more likely to be satisfied with healthcare services than older patients.^[27] This finding is also corroborated by other reports from Europe and Africa.^[28,29] The higher degree of satisfaction that is reported among younger persons may be due to the absence of certain chronic coexisting diseases in this population of patients. Unlike the young, elderly patients often present with multiple morbidities and thus tend to be less easily satisfied with the provision of basic healthcare services.^[5]

We did not find salary range as a predictor of satisfaction among the insured respondents. However, for the uninsured, the salary range was negatively correlated and a predictor of satisfaction with care. This is probably because, unlike the insured, the uninsured made out-of-pocket payments before being able to access healthcare. Out-of-pocket payment is the predominant healthcare financing mechanism in Nigeria. It limits access to healthcare services for poor households and individuals with low financial purchasing power. It also hinders the attainment of universal health coverage and may negatively affect the health-seeking behavior of the people.^[30,31]

Our results show that among the insured patients, those with a higher level of education were more likely to be satisfied with healthcare services received than those with a lower level of education. It is at variance with the findings from an earlier investigation among women receiving ante-natal care services, which found that women with lower levels of education were more likely to be satisfied with healthcare services than those who attained a tertiary level of education.^[32] It is also inconsistent with that of Seenivasan *et al.*, who reported a lower level of satisfaction with healthcare services among highly educated people seeking care at a dental clinic.^[33] Persons with higher levels of education are believed to have better access to information regarding best healthcare practices and services available in various settings than less educated persons,^[5] thus the expectation of a high-quality healthcare service delivery may be found more among those with a higher level of education. These high expectations, if not met, may affect their level of satisfaction with the services actually provided, as it is believed that people with low expectations of quality of healthcare services are more easily satisfied with the service provided than those with a higher level of expectation.^[5]

The findings of this study may not be a true reflection of the entire Nigerian healthcare system, as it is limited in generalizability because only one facility was used in the study. Furthermore, the study relied on self-reported data from patients, which may be subject to recall and social desirability bias. Furthermore, there may be a risk of selection bias in the sampling, as patients who were willing to participate in the study may differ from those who choose not to participate in the study. Moreover, without controlling for baseline differences in access or resources, it may be difficult to attribute observed satisfaction solely to the presence or absence of insurance.

Nonetheless, our findings provide valuable insights and trends to inform future efforts aimed at improving the quality of healthcare delivery in the country. The questionnaire used in this study can serve as a tool to evaluate the quality and efficacy of healthcare systems in the country.

CONCLUSION

Patients receiving care under the NHIS were more satisfied with healthcare delivery than the uninsured patients. The insured patients were significantly more satisfied with the convenience of using available medical services in the hospital, the explanation and guidance received from physicians in the hospital, the services provided by the nurses, inter-professional collaboration among clinicians, and the clinic waiting time. Gender, age, the level of education, marital status, and the presence of a chronic medical condition were determinants of satisfaction with healthcare delivery among the NHIS enrollees. Targeted interventions to address disparities in healthcare delivery are thus necessary.

Ethical approval: The research/study was approved by the Institutional Review Board at University of Uyo Teaching Hospital Health Research Ethical Committee, number UUTH/AD/S/96/VOL.XXI/762, dated July 04, 2023.

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