

HEALTH INSURANCE STATUS AND QUALITY OF CARE: A COMPARATIVE EVALUATION OF INSURED AND UNINSURED DIABETIC PATIENTS IN A TERTIARY HEALTHCARE FACILITY IN NORTH CENTRAL, NIGERIA.

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ABSTRACT

Background: Patients' satisfaction is increasingly gaining global acceptance as one of the main tools for the assessment of the quality of healthcare delivery. Despite efforts to ensure equitable quality of care for all diabetic patients, a significant gap persists between the quality of care experienced by insured diabetic and uninsured diabetic patients. This study assessed patient satisfaction with services provided, and findings are useful in healthcare policy formulation and quality improvements.

Materials and Methods: A descriptive cross-sectional study was done to evaluate satisfaction with the quality of care among insured diabetic patients and uninsured diabetic patients at Medical Outpatient clinics of UITH, Ilorin, Nigeria between 1st May to 31st July 2023. Data were collected from 144 patients selected by systematic random sampling; using pretested, structured, interviewer-administered questionnaires with each satisfaction area scored in a five-point Likert scale ordinal response. The questionnaire contained information on socio-demographic characteristics and accessed services. Data analysis was done using Statistical Package for the Social Sciences (SPSS) version 27.0 software (SPSS Inc., Chicago, IL, USA).

Results: The overall mean satisfaction of the uninsured group (68.3 ± 16.0) was slightly higher than that of the insured group (65.7 ± 15.2). This was not statistically significant with p value = 0.081. However, the uninsured group had better satisfaction scores in the domains of hospital environment (71.44 ± 16.1 vs 64.7 ± 19.7), quality of prescribed drugs (79.8 ± 16.6 vs 62.5 ± 7.3) and drug availability (76.0 ± 15.9 vs 59.8 ± 18.8), these were statistically significant with p values of 0.029, <0.001 & <0.001 respectively. On the other hand, the insured group had better satisfaction scores in the domains of drug cost and affordability (70.8 ± 14.2 vs 63.7 ± 16.2) and cost of service and care ($74.4 \pm$ vs 66.4 ± 14.4). The differences were statistically significant with p values of 0.006 and 0.001 respectively

Conclusion: Significant differences were noted in specific areas of service assessed with the uninsured having higher satisfaction with hospital environment, availability and quality of drug, while the insured were more satisfied with the affordability of drug and cost of service.

Key words: Insured diabetic patients, Uninsured diabetic patients, Patients' Satisfaction, Health insurance status, Quality of care, Nigeria

1.0 Introduction

Health insurance has proven to be an essential tool in improving access and enhancing availability of healthcare services, offering financial security against potential risks of ill-health. Consequently, numerous nations have embraced it as a strategy to enhance healthcare accessibility for their citizens. (1-3) Health insurance is a healthcare financing system based on the principle of financial protection, which ensures that the cost of care does not put people at the risk of financial catastrophe due to ill health. It is a veritable tool towards the attainment of universal health coverage through the prepayment mechanisms and also the most efficient and equitable base for increasing population coverage. (4)

The National Health Insurance Authority (NHIA) in Nigeria has the objective of removing financial barriers to healthcare access, and providing qualitative healthcare for all Nigerians. (5) Healthcare financing system in Nigeria is majorly 'out of pocket' as the patient accessing the care pays from their own earnings and government healthcare facilities provides the bulk of the needed healthcare services. The services provided under the health insurance programme comprise among other things; outpatient care, hospital admissions, laboratory investigations and prescribed drugs, including management of chronic diseases as well as consultations with medical specialists when needed. However, only a fraction of the population in Nigeria has health insurance coverage, with most of the enrollees in the formal sector and very few in the informal sector. (6,7) The quality of care under the scheme has been reported by some studies as one of the major causes of dissatisfaction and an area requiring improvement, (8-10) and this may be one of the reasons for the low level of enrollment in the scheme.

Patients' experiences, including their perception and satisfaction with the quality of care can be used as essential tools in the assessment of the quality of services, and improvement of quality and efficiency of healthcare services. (8-10) Patient satisfaction is one of the major indices of quality care and health care services outcome and it is gaining importance in health care provision globally, as outcomes assessed from the patient's perspective have been accepted as valid, important, standard indicators of quality of care. (11)

Patient satisfaction is one of the main parameters in the assessment of healthcare quality, becoming increasingly important as an indicator of the quality of care and can contribute to strategies for the improvement of healthcare services delivery. (8-10)

There is a demonstrable link between patient satisfaction, patient's compliance, service utilization and clinical outcome; as satisfied patients are likely to comply with treatment, come back to access care and recommend the services to others. (12-15) Hence a good perception and satisfaction with quality of care can substantially influence positively patient health seeking behaviour, service utilization and compliance.

There is also a growing interest in the topic of quality of care and health insurance. Some previous studies that evaluated the effects of the National Health Insurance Scheme on the quality of care from patients' perceptions reported low-quality services, and some reporting mixed satisfactions. (9,10,16-20) Hence, the need for this research to assess and compare patients' satisfaction and generate evidence to improve quality of care in the health facility.

2.0 Materials and Methods

2.1 Study Area and Population

This study was carried out at the Medical Outpatient clinics of University of Ilorin Teaching Hospital (UITH), a 600-bed facility located in Oke-Ose, Ilorin, Ilorin East local government, Kwara state, North Central geopolitical zone of Nigeria. UITH is a tertiary institution and serves as a referral centre for patients from Kwara and its surrounding states.

The healthcare facility attends to an estimated number of four hundred diabetic patients in a year, with the study population being patients with diabetes mellitus (DM) attending the outpatient clinics of University of Ilorin Teaching Hospital, Ilorin.

2.2 Study Design, Sample Size and Selection

This was a descriptive cross-sectional study to assess the level of patient satisfaction with the quality of care received by both insured and uninsured patients with DM at the Medical outpatient clinics of UITH, carried out over a period of 3 months from 1st May to 31st July, 2023.

The sampling was two-staged. In the first stage patients DM were stratified into those insured and not insured. In the second stage, the respondents were selected from each group by systematic random sampling, with a sample size of 72 for each group, using the relevant formula for calculating sample size in comparative studies. (21)

2.3 Eligibility Criteria

Inclusion criteria: Adult patients aged 18 years and above, who were aware of their medical conditions, had accessed care in the outpatient clinics of the hospital not less than four different occasions in the last 12 months, were willing to participate in the study and gave informed verbal and written consent. The insured patients were limited to health insurance enrollees under NHIA only. Patients requiring emergency medical attention, pediatric age group, pregnant, and adolescent patients, and patients on admission were excluded from the study.

2.4 Research Instrument and Data collection techniques

Data collection was done by using interviewer-administered anonymous structured close ended questionnaire in English language to patients who met the inclusion criteria.

The questionnaire captured patients' satisfaction and perception about the quality of health care received, and was developed based on patients' usual complaints during routine enrollees' education and interactions; adapting the Servqual scale which evaluates service quality dimensions and the Consumer Assessment of Health Plan Strategy, which assesses patients' experience from the patient's own perspective. (22)

The questionnaire assessed the socio-demographic characteristics of the patients, and ascertained the level of satisfaction with some selected service indices like hospital accessibility and environment, registration and patient waiting time, providers' attitudes, providers' education and counseling, and availability and affordability of drugs, cost of care and services.

Data collection was done by trained research assistants. The research assistants provided support, explanation and translation into Pidgin English and Yoruba language, when required by the patient. The questionnaire was pretested in the General hospital, Ilorin, for clarity, applicability and acceptability.

2.5 Data Analysis

Data analysis was done using Statistical Package for Social Sciences (SPSS version 27), and frequency tables and cross tabulations were generated. Satisfaction score was rated in a five-point Likert scale as follows: Patient satisfaction was scored on a 5-point Likert scale with 1 and 5 indicating the lowest and highest levels of satisfaction respectively. Very satisfied = 5 points/100%, Satisfied = 4 points/80%, Fairly Satisfied = 3 points/60%, Dissatisfied = 2 points/40%, and Very dissatisfied = 1 point/20%, with the following operational percentage range definitions: excellent (90%-100%), very good (70%-89%), good (50%-69%), fair (30%-

49%), and poor (0%-29%). (8) Chi-square test was used to determine statistical significance of observed differences in the categorical variables. The Level of significance (p-value) was ≤ 0.05 .

2.6 Ethical Consideration

Ethical approval was obtained from the Ethics and Research Committee of the University of Ilorin Teaching Hospital, Ilorin, Kwara State. A written informed consent was obtained from all respondents. The respondents were informed on the purpose of the study and assured of anonymity, confidentiality and their right to accept, decline participation or withdraw from the study, without any negative or ill action against them.

3.0 Results

A total of 144 respondents were interviewed. Seventy-two respondents from each of the insured and uninsured group. The mean ages were 49.4 ± 8.2 and 49.7 ± 11.3 years for the insured and uninsured groups respectively. There is a higher preponderance of females in both groups, with 63.9% among the insured and 69.4% in the uninsured.

Majority (95%) of the insured and 76.4% of the uninsured were married. Majority (83.3%) of the respondents in the insured group and half (50%) of the uninsured had post- secondary/ tertiary education as their highest level of education. Most (79.2%) of the insured groups were employed whereas about half (48.6%) of the uninsured groups were self-employed. The two groups were not statistically different in all the socio-demographic variables assessed.

Table 1: The Socio-demographic characteristics of the respondents (n = 144)

Socio-demographics	Insured N=72(%)	Uninsured N=72(%)	χ^2	p-value
Age(years)				
20 – 29	1(1.4)	3(4.2)	23.623	0.239
30 – 39	8(11.1)	10(13.9)		
40 – 49	22(30.6)	20(27.8)		
50 – 59	36(50.0)	23(31.9)		
≥ 60	5(6.9)	16(22.2)		
Mean age	49.4$\pm$8.2	49.7$\pm$11.3		
Sex				
Male	26(36.1)	22(30.6)	16.331	0.590
Female	46(63.9)	50(69.4)		
Marital status				
Single	1(1.4)	6(8.3)	6.868	0.651
Married	69(95.8)	55(76.4)		
Divorced	0(0.0)	1(1.4)		
Widowed	1(1.4)	10(13.9)		

Separated	1(1.4)	0(0.0)		
Educational Status				
No formal education	1(1.4)	10(13.9)	5.210	0.816
Primary school	3(4.2)	9(12.5)		
Secondary school	8(11.1)	17(23.6)		
Post-secondary/Tertiary	60(83.3)	36(50.0)		
Employment Status				
Employed	57(79.2)	25(34.7)	14.297	0.112
Not employed	2(2.8)	4(5.6)		
Self-employed	8(11.1)	35(48.6)		
Retired	5(6.9)	8(11.1)		
Medical Condition/s being managed				
DM	66(91.7)	55(76.4)	1.599	0.572
DM/other comorbidities (CKD/HTN)	6(8.3)	17(23.6)		
Duration of Medical condition/s (years)				
1 – 2	16(22.2)	19(26.4)	12.785	0.385
3 – 5	23(31.9)	28(38.9)		
6 – 9	18(25.0)	18(25.0)		
≥ 10	15(20.8)	7(9.7)		

Table 2 compares the satisfaction level of the two groups with accessed services. The overall mean satisfaction of the uninsured group (68.3 ± 16.0) was slightly higher than that of the insured group (65.7 ± 15.2). This was not statistically significant with p value = 0.081.

However, the uninsured group had better satisfaction scores in the domains of hospital environment (71.44 ± 16.1 vs 64.7 ± 19.7), quality of prescribed drugs (79.8 ± 16.6 vs 62.5 ± 7.3) and drug availability (76.0 ± 15.9 vs 59.8 ± 18.8), these were statistically significant with p values of 0.029, <0.001 & <0.001 respectively.

On the other hand, the insured group had better satisfaction scores in the domains of drug cost and affordability (70.8 ± 14.2 vs 63.7 ± 16.2) and cost of service and care ($74.4 \pm$ vs 66.4 ± 14.4). The differences were statistically significant with p values of 0.006 and 0.001 respectively.

Table 2: Patients' satisfaction with various aspects of the services provided

VARIABLE	Insured Mean Score	Uninsured Mean Score	p-value (t-test)
Hospital Accessibility	63.6±17.9	62.2±22.1	0.795
Hospital Environment	64.7±19.7	71.4±16.1	0.029*
Hospital Staff's Attitudes	61.5±7.3	60.4±8.6	0.148
Waiting Time	65.4±27.2	64.1±21.4	0.353
Quality of Prescribed Drugs	62.5±13.0	79.8±16.6	<0.001*

Drug Availability	59.8±18.8	76.0±15.9	<0.001*
Drug Cost and Affordability	70.8±14.2	63.7±16.2	0.006*
Cost of Services and Care	74.4±13.9	66.4±14.4	0.001*
Availability of Needed Medical Equipment	66.9±13.8	68.1±14.4	0.892
Education on Medical Condition/ medications/ Self-Care, Diet & Lifestyle	69.3±8.8	69.9±8.2	0.950
Overall Mean Satisfaction	65.7±15.2	68.3±16.0	0.081

More of the respondents among the uninsured group compared with the insured group had their HbA1c test done within the past six month (55.6% vs 19.4%), eye examined within the past 1-2 years (43.1% vs 37.5%), feet examined within the past 1 year (50.0% vs 25.0%). However, more insured participants responded weight check on every clinic visit (84.7% vs 54.2%). All the differences were not statistically significant with p values of 0.335, 0.523, 0.607 and 0.169 respectively.

Table 3: Assessing the quality of diabetes care

VARIABLE	Insured N=72(%)	Uninsured N=72(%)	χ^2	P-value
HbA1c test done within the past 6 months				
Yes	14(19.4)	40(55.6)	0.536	0.335
No	58(80.6)	32(44.4)		
Eye examination done within the past 1-2 years				
Yes	27(37.5)	31(43.1)	0.034	0.523
No	45(62.5)	41(56.9)		
Feet examination done within the past 1 year.				
Yes	18(25.0)	36(50.0)	0.810	0.607
No	54(75.0)	36(50.0)		
Weight (±height) checked at every clinic visit.				
Yes	61(84.7)	39(54.2)	1.658	0.169
No	11(15.3)	33(45.8)		

Table 4 shows the perception of the respondents about health insurance and out-of-pocket payment. Ninety-three percent of the insured group and 58.3% of the uninsured group preferred health insurance, while one quarter (25%) of the insured group and a little more than a quarter (26.4%) of the uninsured group felt that uninsured patients are offered better services, with the differences not statistically significant; p values of 0.092 and 0.952.

However, 94.4% of the insured group and 81.9% of the uninsured group commended the scheme and willing to recommend it to others, with a statistically significant difference, p value; 0.042

Table 4: Patients' Perception about Health Insurance and the Out-of-pocket Payment System.

VARIABLE	Insured N=72(%)	Uninsured N=72(%)	χ^2	P-value
Patients' Preference				
Prefer Health Insurance	67(93.1)	42(58.3)	3.248	0.092
Prefer Out-of-pocket payment	5(6.9)	30(41.7)		
Patients' Perception (Uninsured patients are treated better)				
Yes	18(25.0)	19(26.4)	0.696	0.952
No	42(58.3)	25(34.7)		
Neutral	12(16.7)	28(38.9)		
NHIA is commendable/ will recommend it to others?				
Yes	68(94.4)	59(81.9)	0.933	0.042*
No	4(5.6)	13(18.1)		

4.0 Discussion

The study found that the overall mean satisfaction of the uninsured group was slightly higher than that of the insured group. However, the difference this was not statistically significant. This is in agreement with a similar study done in the North Eastern part of Nigeria. (23) However, this finding contrasted other studies which noted that insured patients were more satisfied than uninsured. (19,24) It would have been expected that insured patients who have dedicated infrastructures for the smooth running of health insurance would have had better satisfaction in the domains of hospital accessibility, hospital staff attitude, waiting time, availability of needed medical equipment and health education than the uninsured. This was not so in this study as satisfaction in all these domains were comparable in both groups and there was no statistically significant difference. This could have accounted for the relatively lower overall satisfaction score in the insured patients when compared with the uninsured. This also imply that patients experience varying levels of health care quality and these are essentially similar to the observations of other previous studies. (20,23,25,26)

The uninsured patients in this study had higher statistically significant satisfaction score regarding the hospital environment compared with the insured patient and this is similar with the study done in northeastern Nigeria. As noted by Daramola et al. (23) this may be closely related to inconveniences encountered by the insured patients at the NHIA sections which are usually inadequate in size. Uninsured patients were more significantly satisfied with the availability and quality of drugs prescribed than the insured. This is in agreement with the previous study done in

the North East. (23) On the other hand, the insured patients were more satisfied with affordability of drug and cost of service than the uninsured. The NHIA drug administration guidelines only allow the prescription of generic drugs and the payment of only 10% of the prescribed drugs. (23) In addition, most of the cares received by the insured patients are also catered for under the health insurance scheme. (5) These reasons could have accounted for the significant satisfaction observed in the insured as relating cost of drugs and cost of service. However, there is a general distrust towards generic drugs by physicians and patients alike, (27-30) affecting prescription pattern of doctors who might give uninsured patients who are paying out of pocket branded drugs which in the opinion of the patient has “better quality”.

Duku et al. (31) in their study in Ghana, reported that the perceptions of the insured were found to be significantly more negative than the uninsured. Stating that insured patients based on their experiences at the health facilities tend to perceive the quality of healthcare they receive as poor compared to those without insurance, and calling on policy makers to consider restructuring the National Healthcare Insurance Scheme to ensure the provision of quality healthcare for all. (31)

Quality of diabetic care was higher among the uninsured compared with the insured. Biannual HbA1c test, annual eye and feet examination was more commonly done among the uninsured compared with the insured, though these observations were not statistically significant. This study therefore suggests that there is no evidence that health insurance makes a difference in the overall quality of diabetic care. This observation was also made by Okoro (32) who found that patient under NHIA Abuja, Nigeria were less likely to have eye examination (0.85 times), feet examination (0.98times) and HbA1c requested (0.98 times) compared with those without insurance although without statistical significance difference.

The insured patients (93.1%) were more in agreement in preferring health insurance, the uninsured patients were divided on their preference for health insurance as close to three-fifth (58.3%) opted for health insurance while about two-fifth (41.7%) preferred out-of-pocket payment. Also, the uninsured were equally divided on their perception on the uninsured being treated better than the insured. Although, these observations were not statistically significant, it suggests mixed reactions by the uninsured patients about health insurance, and calls for an action on the improvement of quality of care. However, very high number of both the insured patients (94.4%) and uninsured (81.9) viewed the health insurance scheme as commendable and were willing to recommend it to others. This was statistically significant, suggesting an overall positive perception of the NHIA by both the insured and the uninsured despite the various complaints, and pointing to Social Health Insurance as a reliable pathway to achieving sustainable healthcare financing and ensuring access to healthcare services.

This study was limited by the fact that it was conducted in a single healthcare facility and a region of the country, findings from the study cannot be generalized for the other healthcare facilities or the whole country at large.

5.0 Conclusion and Recommendation

This study found that uninsured patients had a statistically significant higher level of overall satisfaction than their insured counterparts. In addition, significant differences were noted in specific areas of service assessed with the uninsured having higher satisfaction with hospital environment, availability and quality of drug, while the insured were more satisfied with the affordability of drug and cost of service. Thus, while being enrolled in health insurance scheme and getting insured improves patients' satisfaction with cost of drug and care received; it does not make a difference in the quality of care received nor in the quality and availability of drug.

Furthermore, there was an overall positive perception of health insurance by both the insured and the uninsured, suggesting that Social Health Insurance as a reliable pathway to achieving sustainable healthcare financing and ensuring access to healthcare services. Hence, a need for continuous efforts towards improving not only access to care, but also the quality of care delivered to the general population. We recommended that similar studies be conducted in other healthcare facilities and regions in the country to generate a robust data for healthcare policy formulation which will increase the patients' coverage.

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Declaration

We hereby declare that the work in this manuscript is our original research work

Author Contributions

Author 1, 2, 3, 4, 6: Conceptualization, research coordination

Author 1, 2, 4, 5, 7, 8: Developed research tools, manuscript drafting

Author 1, 2, 3, 4, 6, 7, 8: Supervision of data collection and analysis, manuscript drafting

Author 1, 2, 3, 5, 6, 7, 8: Data cleaning, curation and analysis

All authors: Critical review of the Manuscript and editing

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