



Health Insurance and Healthcare Quality: A Comparative Study between Insured and Uninsured Patients at a Teaching Hospital in Northeast Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Objective: Patients' perception of the quality of care is essential in assessing health services and feedbacks from patient satisfaction surveys are useful in healthcare quality improvements.

Methods: A descriptive cross-sectional study was done to evaluate satisfaction with the quality of care among insured patients under the National Health Insurance Scheme (NHIS) and uninsured (Out-of-Pocket paying) patients at University of Maiduguri Teaching Hospital (UMTH), Maiduguri, Borno State, Nigeria. Data were collected from 115 respondents from each group selected by systematic random sampling; using self-administered questionnaires. Analysis was done using IBM SPSS Statistics 20.0.

Results: The overall mean satisfaction for the uninsured group (73.1 ± 7.2) was higher than that of the insured group (71.2 ± 7.5). However, the difference was not statistically significant, $p = 0.063$. The observed satisfaction levels in the various areas of services accessed among the insured and uninsured group in this study are comparable, except for the significant differences observed in

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satisfaction with hospital facilities and the availability of prescribed drugs, suggesting the need for the improvement of hospital facilities and availability of drugs.

Conclusion: Despite complaints about the NHIS, it is still generally preferred to out-of-pocket payment by both groups. Therefore, more efforts should be made to expand the population coverage of health insurance to allow the inclusion of more people, while the need for continuous improvement of quality health services cannot also be overemphasized.

Keywords: Health insurance; quality of care; insured; uninsured; Nigeria.

1. INTRODUCTION

The Federal Government of Nigeria launched the National Health Insurance Scheme (NHIS) in 2005 to provide financial risk protection and cost-burden sharing against the high cost of healthcare for the population, through the provision of accessible, affordable and quality healthcare [1]. The introduction of the NHIS has led to increased health service utilization among the insured [2,3] and this is a positive intervention towards universal health coverage. However, concerns have been raised about the quality of care received, and some of the recurrent complaints include long waiting time, unavailability of prescribed drugs, poor health workers' attitude [4-6] and treatment inequalities between insured and uninsured patients [7].

There are some notions that because NHIS enrollees do not pay cash at the point of service, they are not treated well like the cash-paying (uninsured) patients, while some others believe that poor services cuts across the entire system and that generally, the quality of patient care calls for improvement.

Available literature from previous studies showed mixed findings and perceptions about health insurance and quality of care. Perez et al in USA reported that health insurance is positively associated with improved quality of care [8], while Dalinjong, et al. in Ghana suggested that health insurance tends to have a negative influence on the quality of care [9]. Garba, et al. [10] and Ele, et al. [11] both in Nigeria and Fenny, et al. [12] in Ghana reported that insured patients expressed higher levels of satisfaction compared to the uninsured. Robyn, et al. [13] did a study on community-based health insurance schemes in some developing countries and reported that quality of care may differ between insured and uninsured patients depending largely on the provider payment method. Bauchet, et al. [14] in India reported that insurance status has no influence on the quality of care received by patients. Abuosi, et al. in

Ghana reported that overall, there was no significant difference in perceptions of quality between insured and uninsured patients [15], while some other studies in Ghana and Haiti reported that patients (insured and uninsured) experience poor quality of care and it can deter healthcare utilization as well as affect health insurance schemes negatively by discouraging enrolment and renewal [16-18].

Patients' perception of service quality is a vital aspect of quality assessment of health care [4,5] and without evaluation of patients' opinion, policymakers may err in creating standards of care which are not in line with patients values [5,19]. Studying healthcare quality from the patient's perspective can provide valid and unique information about the quality of care and feedbacks from patient satisfaction surveys are useful to healthcare quality improvements [14,20,21]. The patient is the focal point of care, and the success of the NHIS or any other health delivery programme depends to a large extent on the quality of care provided.

The mixed findings about health insurance and quality of care in previous studies is a justification for more evidence-based researches. This study explored and compared perceptions of quality of care between insured and uninsured patients to know whether there are any differences, using a comprehensive array of quality of care dimensions.

Findings from this study will assist program managers and policymakers to make evidence-based decisions towards improving service quality, while also adding to the existing literature on healthcare quality for insured and uninsured patients.

2. MATERIALS AND METHODS

This descriptive cross-sectional study was carried out among insured (NHIS) and uninsured patients at the University of Maiduguri Teaching Hospital (UMTH), Maiduguri, Borno State, North-East Nigeria.

Data were collected between March to September 2018, using a pretested, semi-structured, self-administered questionnaire, developed by the researchers with reference to existing tools used in previous related studies [4-6,10,11]. The questionnaire was used to obtain information on patients' sociodemographic characteristics, satisfaction with services accessed as well as perception about health insurance and point of service cash payment.

The study population comprised patients attending the General Outpatient Clinic, made up of general and dedicated NHIS sections. A sample size of 115 was determined for each group, utilizing the relevant sample size determination formula [22-24], with the participants selected by systematic random sampling. Adult patients who were willing to participate in the study and have accessed care in the hospital not less than three different occasions were included in the study, in order to interview patients with considerable service utilization experience, while underage patients and those in need of emergency attention were excluded. The insured patients were limited to NHIS enrollees only. The research assistants provided support in terms of explanation, translation into local languages and

administering the questionnaires to uneducated participants who could not fill the questionnaire on their own.

Patient's responses on satisfaction regarding the services accessed were scored on a 5-point Likert scale with 1 and 5 indicating the lowest and highest levels of satisfaction respectively (5), with the mean score for each domain calculated, while responses for perception were: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree, with the proportion of respondents used for analysis.

Data analysis was done using IBM SPSS Statistics 20.0. Frequency tables and cross-tabulations were generated. Chi-square test was used to determine the statistical significance of observed differences in categorical variables and t-test for continuous variables. A p-value of 0.05 was considered statistically significant.

3. RESULTS

Table 1 shows the socio-demographic characteristics of the respondents, 115 in each group (insured and uninsured). The mean age of the insured (NHIS) group was 47 ± 8.9 years, while that of the uninsured group was 43.7 ± 10.5

Table 1. Sociodemographic characteristics of respondents

Variable	Insured n (%)	Uninsured n (%)	p-value
Age group			
20 –29	8(7.0)	13(11.3)	0.660
30 – 39	8(7.0)	24(20.9)	
40 – 49	45(39.1)	37(32.2)	
50 – 59	53(46.1)	38(33.0)	
≥ 60	1(0.9)	3(2.6)	
Mean:	47 ± 8.9 years	43.7 ± 10.5 years	
Sex			
Male	84(73.0)	68(59.1)	0.360
Female	31(27.0)	47(30.9)	
Marital status			
Single	7(6.1)	22(19.1)	0.764
Married	101(87.8)	74(64.4)	
Widowed	4(3.5)	17(14.8)	
Separated	3(2.6)	2(1.7)	
Religion			
Christianity	66(57.4)	47(40.9)	0.709
Islam	49(42.6)	68(59.1)	
Level of education			
Tertiary	91(79.1)	63(54.8)	0.622
Secondary	20(17.4)	39(33.9)	
Primary	3(2.6)	4(3.5)	
None	1(0.9)	9(7.8)	

Table 2. Patients' satisfaction with various aspects of services

Variable	Insured	Uninsured	p-value (t test)
	Mean Score (%)	Mean Score (%)	
Hospital accessibility	77.2 ± 11.5	79.3 ± 11.2	0.164
Hospital facilities	77.6 ± 10.0	80.4 ± 9.2	*0.038
Hospital workers' attitude	68.2 ± 14.7	69.7 ± 10.7	0.387
Doctor's consultation	74.6 ± 11.9	77.2 ± 10.2	0.083
Nurses' attention & care	75.7 ± 13.7	78.3 ± 10.1	0.096
Laboratory Services	79.8 ± 12.8	78.6 ± 9.1	0.372
Patient waiting time	61.7 ± 16.5	57.9 ± 16.2	0.070
Availability of Prescribed drugs	60.4 ± 13.5	72.0 ± 14.7	*< 0.001
Cost of care	71.8 ± 11.9	69.6 ± 12.2	0.123
Quality of care	64.9 ± 11.1	67.7 ± 12.0	0.081
Overall Mean Satisfaction	71.2 ± 7.5	73.1 ± 7.2	0.063

*Statistically significant

Table 3. Patients' perception about health insurance and the out-of-pocket payment system

Variable	Insured	Uninsured	p-value
	n (%)	n (%)	
Patients' preference			
Prefer Health Insurance	88(76.5)	79(68.7)	0.245
Prefer Out-of-pocket payment	27(23.5)	36(31.3)	
Patients' Perception (Uninsured patients are treated better)			
Yes	44(38.3)	48(41.7)	
No	66(57.4)	60(52.2)	0.638
Neutral	5(4.3)	7(6.1)	

years. The two groups were not statistically different in all the sociodemographic variables assessed, i.e.; sex, religion, marital status and educational level, (p values = 0.660, 0.360, 0.764, 0.709, 0.622 respectively).

Table 2 compares the satisfaction level of the two groups with accessed services. The overall mean satisfaction score for the uninsured group (73.1 ± 7.2) was higher than that of the insured group (71.2 ± 7.5), however, the difference was not statistically significant, p-value: 0.063. The insured group had higher satisfaction scores with laboratory services (79.8 ± 12.8 / 78.6 ± 9.1), patient waiting time (61.7 ± 16.5 / 57.9 ± 16.2), and cost of care (71.8 ± 11.9 / 69.6 ± 12.2), however, the observed differences were not statistically significant, (p values = 0.372, 0.070, 0.081 respectively). The uninsured group had higher levels in all other services accessed: hospital accessibility, hospital facilities, hospital workers' attitude, doctor's consultation, nurses attention and care, availability of prescribed drugs, quality of care (as shown in Table 2), with statistical significance in observed differences in satisfaction with hospital facilities, p-value: 0.038 and availability of prescribed drugs, p-value: < 0.001.

Table 3 shows the perception of the respondents about the NHIS and Out-of-Pocket payments. Majority 88(76.5%) of the insured patients and 79(68.7) of uninsured patients preferred the health insurance system, while about a quarter 27(23.5) of insured enrollees and about a third 36(31.3%) of uninsured patients preferred the cash payment method, the difference was not statistically significant (p-value: 0.245). Regarding the perception about the quality of care accessed by both groups; less than two-fifths 44(38.3%) of the insured patients and a little above two-fifths 48(41.7%) of the uninsured group felt that cash-paying patients are given better services, while more than half of both groups; insured- 66(57.4) and uninsured- 60(52.2) felt that cash-paying patients are not treated better than insured patients, the differences were not statistically significant, p-value; 0.638.

4. DISCUSSION

The study found that uninsured patients reported a slightly higher level of overall satisfaction, though the difference is not statistically significant. This is in contrast with some previous studies [10,11], which reported higher

satisfaction levels for NHIS patients compared to uninsured patients. Similar to this study, the previous studies [10,11] had designated clinics for NHIS patients. Dedicated NHIS clinics are being implemented by many healthcare facilities as one of the steps towards improving services; however, the challenges of patient labelling and discrimination by some health workers have been raised. This study observed that satisfaction levels with hospital workers' attitudes among the insured and uninsured group are comparable, showing that certain attitudes and behaviours by hospital workers may not be specifically targeted to any particular group.

Uninsured participants had statistically significant higher satisfaction scores with hospital facilities than the insured. This may be due to the inconveniences experienced by NHIS patients, as the NHIS clinic section, carved out from the General Outpatient Clinic is a bit small, especially with regards to the waiting area.

Uninsured participants were more significantly satisfied with the availability of prescribed drugs than the insured. The drug administration policy of the NHIS stipulates the use of generic drugs [1], in line with its objectives of healthcare affordability and quality. Generic drugs are often low-priced than the branded ones while still maintaining quality and effectiveness, thus lowering healthcare costs without compromising efficacy [25-29].

Previous studies have shown that one of the main reasons for dissatisfaction of most NHIS enrollees was non-availability of prescribed drugs [5,6,30]. While uninsured patients procure their drugs from out-of-pocket expenses, NHIS patients are expected to get their drugs from healthcare facilities including accredited pharmacies and pay only 10% of the total cost of drugs dispensed per prescription in accordance with the NHIS Drug Price List [1]. There have been complaints of prescribed drugs being out-of-stock in many healthcare facilities, hence, it is essential for healthcare providers to continually work towards sustainable ways of making drugs available.

Satisfaction scores with the other accessed areas were mixed: with uninsured patients expressing higher satisfaction levels with hospital accessibility, doctor's consultation, nursing care and quality of care; while NHIS enrollees expressed higher satisfaction scores with laboratory services, patient waiting time and cost

of care, all without statistical significance. These findings suggest that patients generally experience varying levels of healthcare quality, which is comparable to the result of some previous studies [16-18] and recommends that efforts towards quality improvement and sustainable delivery of excellent health services should not be targeted towards a particular group but to all the patients.

Less than two-fifths of the insured and a little above two-fifths of the uninsured group felt that cash-paying patients are given better services, while the majority (both insured and uninsured patients) preferred the health insurance system. This suggests that despite the complaints about the NHIS, it is still a preferable form of healthcare financing and many would like to enroll under the scheme. Social health insurance is a demonstrable viable path to Universal Health Coverage (UHC) and it is a common model adopted by most countries that have made considerable advancement towards UHC [30]. Hence there is a need for the advancement of social health insurance both in terms of care quality and population coverage.

5. CONCLUSION

The study found that uninsured patients had a slightly higher level of overall satisfaction, with no statistically significant difference. The observed satisfaction levels in various areas of services accessed among the insured and uninsured group in this study are comparable, showing that patients (both insured and uninsured) experience similar quality of care and certain quality of services may not be specifically targeted or reserved for any particular group. However, significant differences were observed in satisfaction with hospital facilities and availability of prescribed drugs, with the insured expressing lower satisfaction; suggesting the need for the improvement of hospital facilities and availability of drugs, especially under the NHIS.

Despite the various complaints about the NHIS, health insurance is still the preferred healthcare financing model by majority of the (insured and uninsured) patients.

Therefore, more efforts should be made to expand the population coverage of the National Health Insurance Scheme to allow the inclusion of more people, while the need for continuous improvement of quality health services cannot also be overemphasized.

CONSENT AND ETHICAL APPROVAL

Approval to conduct the research was obtained from UMTH Research and Ethical Committee. Written informed consent was obtained from participants before taking part in the study. Participation was fully voluntary, confidential and anonymous.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. National Health Insurance Scheme, Abuja. Operational Guidelines; 2012.
2. Michael GC, Grema BA, Yakubu SO, Aliyu I. Utilisation of staff clinic facility in a Northwest Nigeria hospital: Emerging challenges for the National Health Insurance Scheme. *South African Family Practice*. 2016;58(1):37-41.
3. Daramola OE, Adesina CT, Adeniran A, Akande TM. Health services utilization patterns among enrollees of the national health insurance scheme at a tertiary health facility in Federal Capital Territory (FCT) – Abuja, Nigeria. *Asian J Med Princ and Clin Pract*. 2019;2(1):1-8.
4. Osungbade KO, Obembe TA, Oludoyi A. Users' satisfaction with the services provided under national health insurance scheme in South-Western Nigeria. *Int J of Trop Dis & Health*. 2014;4:595-607.
5. Daramola OE, Maduka WE, Adeniran A, Akande TM. Evaluation of patients' satisfaction with services accessed under the national health insurance scheme at a Tertiary Health Facility in North Central, Nigeria. *Journal of Community Medicine and Primary Healthcare*. 2017;29(1):11-17.
6. Daramola OE, Adesina CT, Adeniran A, Akande TM. Healthcare quality under the national health insurance scheme: A study among patients at a tertiary health institution in Nigeria. *International Journal of Science & Healthcare Research*. 2019;4(1):303-309.
7. Ilesanmi OS, Ige OK. Equity of care: A comparison of National Health Insurance Scheme enrollees and fee-paying patients at a private health facility in Ibadan, Nigeria. *Journal of Public Health and Epidemiology*. 2013;5(2):51-55.
8. Perez D, Ang A, Vega WA. Effects of health insurance on perceived quality of care among Latinos in the United States. *J Gen Intern Med*. 2009;24:555-60.
9. Dalinjong PA, Laar AS. The national health insurance scheme: Perceptions and experiences of health care providers and clients in two districts of Ghana. *Health Econ Rev*. 2012;2:1-13.
10. Garba MR, Gadanya MA, Iliyasu Z, Gajida AU. Comparative study of patients' satisfaction between national health insurance scheme-insured and un-insured patients attending a Northern Nigerian tertiary hospital. *Niger J Basic Clin Sci*. 2018;15:118-26.
11. Ele GN, Ogbonna BO, Uche OM, Odili VU. Assessment of National Health Insurance Scheme's (NHIS) effectiveness in a tertiary teaching hospital in Southeast Nigeria. *Journal of Advances in Medical and Pharmaceutical Sciences*. 2017;13(3):1-9.
12. Fenny AP, Enemark U, Asante FA, Hansen KS. Patient satisfaction with primary health care - A comparison between the insured and non-insured under the National Health Insurance Policy in Ghana. *Glob J Health Sci*. 2014;6(4):9-21.
13. Robyn PJ, Sauerborn R, Bärnighausen T. Provider payment in community-based health insurance schemes in developing countries: A systematic review. *Health Policy Plan*. 2013;28:111-122.
14. Bauchet J, Dalal A, Mayasudhakar P, Morduch J, Radermacher R. Can insurers improve healthcare quality? Evidence from a community microinsurance scheme in India. New York City: NYC and Financial Access Initiative; 2010. Available: <https://www.microinsurancenetw.ork.org/groups/can-insurers-improve-healthcare-quality-evidence-community-microinsurance-scheme-india> [Accessed June 29, 2019]
15. Abuosi AA, Domfeh KA, Abor JY, Nketiah-Amponsah E. Health insurance and quality of care: Comparing perceptions of quality between insured and uninsured patients in Ghana's hospitals. *International Journal for Equity in Health*. 2016;15:76.

- Available:<https://doi.org/10.1186/s12939-016-0365-1>
[Accessed June 29, 2019]
16. Kotoh A, Aryeetey G, Van der Geest S. Factors that influence enrolment and retention in Ghana' National Health Insurance Scheme. *International Journal of Health Policy and Management*. 2018; 7(5):443-454.
 17. Abuosi AA, Domfeh KA, Abor JY, Nketiah-Amponsah E. Health insurance and quality of care: Comparing perceptions of quality between insured and uninsured patients in Ghana's hospitals. *Int J Equity Health*. 2016;15:76.
 18. Gage AD, Leslie HH, Bitton A, et al. Does quality influence utilization of primary health care? Evidence from Haiti. *Global Health*. 2018;14(1):59.
 19. Andoh-Adjei FX, Nsiah-Boateng E, Asante FA, Spaan E, Van der Velden K. Perception of quality health care delivery under capitation payment: A cross-sectional survey of health insurance subscribers and providers in Ghana. *BMC Fam Pract*. 2018;19(1):37.
 20. Debono D, Travaglia J. Compliments and patient satisfaction: A comprehensive review of the literature. Centre for Clinical Governance Research in Health, UNSW; 2009.
Available:https://www.researchgate.net/profile/Mohamed_Hammad11/post/How_we_can_improve_patients_satisfaction2/attachment/59d64556c49f478072eadc6d/AS%3A273824103239680%401442296161092/download/literature_review_patient_satisfaction_and_complaints.pdf
[Accessed July 01, 2019]
 21. Ahmed F, Burt J, Roland M. Patient; 2014. Available:<https://link.springer.com/article/10.1007/s40271-014-0060-5>
[Accessed July 01, 2019]
 22. Charan J, Biswas T. How to calculate sample size for different study designs in medical research? *Indian J Psychol Med*. 2013;35(2):121–126.
 23. Iloh G, Ofoedu JN, Njoku PU, Odu FU, Ifedigbo CV, Iwuamanam KD. Evaluation of patients' satisfaction with quality of care provided at the National Health Insurance Scheme clinic of a tertiary hospital in South- Eastern Nigeria. *Niger J Clin Pract*. 2012;15:469-474.
 24. Iloh GU, Njoku PU, Ofoedu JN, Amadi AN, Godswill-Uko EU. Satisfaction with quality of care: A comparative study of National Health Insurance Scheme and non-National Health Insurance Scheme patients of a tertiary hospital in South-Eastern Nigeria. *Port Harcourt Med J*. 2012;6:440-449.
 25. Colgan S, Faasse K, Martin LR, Stephens MH, Grey A, Petrie KJ. Perceptions of generic medication in the general population, doctors and pharmacists: A systematic review. *BMJ Open*. 2015;5(12):e008915.
 26. Wong ZY, Hassali MA, Alrasheedy AA, Saleem F, Yahaya AH, Aljadhey H. Patients' beliefs about generic medicines in Malaysia. *Pharm Pract (Granada)*. 2014;12(4):474.
 27. Auta A, Bala ET, Shalkur D. Generic medicine substitution: A cross sectional survey of the perception of pharmacists in North-Central, Nigeria. *Med Princ Pract*. 2014;23:53-58.
 28. Daramola OE, Adeniran A, Akande TM. Patients' satisfaction with the quality of services accessed under the national health insurance scheme at a tertiary health facility in FCT Abuja, Nigeria. *Journal of Community Medicine and Primary Healthcare*. 2018;30(2):90-97.
 29. Okpani AR, Abimbola S. Operationalizing universal health coverage in Nigeria through social health insurance. *Niger Med J*. 2015;56(5):305-310.
 30. Atun R, De Andrade LO, Almeida G, Cotlear D, Dmytraczenko T, Frenz P, et al. Health-system reform and universal health coverage in Latin America. *Lancet*. 2015;385:1230-1247.

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