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Original Article

Satisfaction of Enrolees and Non-Enrolees of National Health Insurance Scheme with Health Care Services: A Comparative Study at a Tertiary Hospital in Southeast Nigeria

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ABSTRACT

In the era of value-based care, patients satisfaction is paramount to quality health care delivery. Patients satisfaction is a humanistic outcome measure and a benchmark in quality assessment of patients care services. The study assessed enrollee's and non-enrollees satisfaction with health care services in the hospital. The study was a descriptive and comparative cross sectional survey using pretested structured questionnaire on national health insurance scheme (NHIS) and non- NHIS enrollees who attended the hospital between January 2014 and June 2016. Data were analyzed using descriptive and inferential statistics at $P< 0.05$ confidence interval. The mean age of NHIS and non-NHIS were 38.98±5.1 and 34.68±3.6 years. The NHIS patients average satisfaction scores with accessibility was 2.89 against 2.55 for non-NHIS. Satisfaction with hospital environment was 2.62 for NHIS enrollees and 2.38 for non-enrollees, while the hospital bureaucracy score for NHIS was 2.44 against 1.97 for non-NHIS patients. However, the average satisfaction score of non-NHIS patients for cost of care in the entire domain was higher than that of NHIS patients while the relative difference was not significant except for laboratory fees where NHIS had 2.70 against 2.48 for non-NHIS. Accessibility and patient waiting time were ranked for NHIS 2.89 and 2.81 for non-NHIS patients. Patients staff communication was 2.39 for NHIS and 2.25 for non-NHIS. The NHIS respondent's satisfaction scores with patient's provider relationship were higher than that of Non-NHIS respondents in all the selected domains of care. Majority of NHIS patients had better satisfaction to services compared to the non-NHIS enrollees. Consolidation on the domains, which improved patient's satisfaction, and improvement on the domains that led to dissatisfaction could be a way of improving the value of care to patients. NHIS patients' satisfaction with the services provided was significantly higher than that of non-NHIS patients.

Keywords: Health insurance, enrollees, patient services, hospital, satisfaction, quality, Nigeria

INTRODUCTION

Patients level of satisfaction towards programmes and services make them to have either positive or negative attitude or perception towards the services and determine their level of participation and responsiveness [1]. Experts in health interventions and health policy are becoming increasingly aware of the effects of human behavioral factors in quality health care delivery. In order to respond to community perspectives and needs, health systems adapt their strategies to findings from behavioral studies [2]. Previous research has revealed that the main health related issue facing men in the UK are their reluctance to seek access to health services [3]. Perceived quality of care can be influenced by the way users of health facilities differ in their satisfaction with quality of care [4]. It is one of the determinants of access or patronage to health care services. Different studies reported enrollees' knowledge and attitude to National Health Insurance Scheme (NHIS) [5-7]. This study assessed enrollee's and non-enrollees satisfaction with health care services in the hospital.

METHODS

Study Setting: The study was carried out among NHIS enrollees (healthcare professionals and patients) and non-NHIS patients of GOPD clinic at Nnamdi Azikiwe University Teaching Hospital (NAUTH) main site. NAUTH main site is located in the urban city of Nnewi in Anambra State. It is a tertiary teaching hospital. NAUTH serves as a

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referral centre for primary and secondary public health institutions as well as missionary and private hospitals in Anambra State and neighboring States of Enugu, Delta, Abia, Imo and Ebonyi States of Nigeria. Patients who need primary care are managed and followed up in the clinics, while those who need specialist care are referred to the respective specialist clinics for further investigations and management. Ethical approval was obtained from the research and ethics committee of the hospital before the study commenced.

Study Design: The study was a combination of descriptive cross sectional study and comparative study using NHIS enrollees and non-enrollees. It was carried out using structure questionnaire adapted from United States Agency for International Development (USAID) -NHIS Belize Annex B survey questionnaire on patient's satisfaction and modified through pilot survey. The questionnaire was in English Language and contained basic demographic characteristics: age, gender, marital status, occupation, level of education as well as seven dimensions for determination of level of satisfaction namely: patient-staff relationship (Attitude), patient-staff communication (Information), cost of care, hospital bureaucracy, patient waiting time, hospital environment and accessibility. Each satisfaction item was scored on four point Likert ordinal scales: excellent- 4 points (100%), good- 3 points (75%), fair- 2 points (50%), and poor 1point (25%) using operational percentage range of: excellent (76-100%), good (51-75%), fair (26-50% and poor 1-25%). Respondents18years and above who gave their informed consent to participate in the study and had several contact with the NHIS and GOPD clinics and service windows to enable them evaluate the services offered. Exclusion criteria included the respondents who refused to fill or could not complete the questionnaire, those who attended the clinic after the period of study and the twenty respondents (ten enrollees and ten non-enrollees) used to pre-test the questionnaire. The study lasted between June 2014 and November 2016.

Sample size determination: Sample size estimate for both enrollees and non-enrollees was determined using the fisher statistical formula for estimating minimum sample size proportions with entire population size <10,000 or >10,000 for NHIS and non-NHIS respondents.

a) Sample size determination for non-NHIS population

Sample size when studying proportion greater than 10,000, The estimated population of non-NHIS patients was 13,332

$$N = \frac{Z^2Pq}{d^2}$$

Where N = the desired sample size (when population is greater than 10,000)

Z = 95% confidence level, usually set at 1.96

p = the proportion in the target population estimated to have a particular characteristic. Since there is no reasonable estimate, 50% (0.50) was used.

q = 1.0-P

d = degree of accuracy desired, usually set at 0.05

$$N = \frac{(1.96)^2 \times (0.50)(0.5)}{(0.05)^2}$$

$$N = \frac{3.84 \times 0.25}{0.0025}$$

$$N = \frac{0.96}{0.0025}$$

$$N = 384$$

The final sample estimate was calculated using the formula:

$$N^1 = \frac{n}{1+\frac{(n)}{N}}$$

Where N^1 = the final sample estimate

n = the desired sample size when population is more than 10,000

N = the estimate of the population size of non-NHIS patients

$$N^1 = \frac{384}{\frac{1+384}{13,332}}$$

$$N^1 = \frac{384}{1.0288} = 373$$

We used 10% attrition to compensate for sudden withdrawal from research by patients not willing to continue with the study.

N^1 373 x 1.1

N^1 410

a)Sample size determination for NHIS patients was based on sample size when studying proportion with population less than 10,000. The estimated population of NHIS patients was 6346.

The desired sample size for NHIS patients using the formula $N = \frac{Z^2pq}{d^2}$

Where P= prevalence rate of patients satisfaction with NHIS quality of service 50% = 0.5

Federal medical centre

$$N = \frac{(1.96\%)^2 \times (0.50) \times (0.50)}{(0.05)^2}$$

$$N = \frac{0.96}{0.0025}$$

$N = 384$

The sample size estimate (nf) is calculated using the formula

$$nf = \frac{n}{1+\frac{n}{N}}$$

Where nf = the desired sample size when population is less than 10,000

n = the desired sample size when the population is more than 10,000

N = the estimated population size of NHIS patients.

$$nf = \frac{384}{1+\frac{384}{6346}}$$

$$nf = \frac{384}{1+.061}$$

$nf = 362$

$$N^1 = \frac{nf}{1+\frac{nf}{N}} =$$

$$N^1 = \frac{362}{1+\frac{362}{6346}} = \frac{362}{1+0.052} = \frac{362}{1.052}$$

$N^1 = 344$

A provision for 10% attrition rate was made to compensate the sudden withdrawal by patients not willing to continue with the study.

N1 = 344 x 1.1

N1 = 378 NHIS patients [27]

Data collection: Participants for the survey were selected using convenience sampling technique among all the enrollees among the NHIS and non-enrollees at the General Outpatients Department (GOPD) clinics who met with the inclusion criteria and assessed healthcare within the period of study except during weekends and public holidays. The respondents gave informed voluntary consent before participating and were assured of confidentiality, anonymity and their right to withdraw from participation at any time. The questionnaire was first pretested with ten enrollees and ten of the non-enrollees who were excluded from the study population. The updated questionnaire was distributed to the two groups of participants at the NHIS and GOPD Clinics. Thus, 378 and 410 pretested same questionnaires were self-administered to the enrollees (healthcare professionals and other client-enrollees) and the non-enrollees respectively. The questionnaires were collected after completion same day.

Data Analysis: All data from the study were collected, sorted, and checked for completeness and accuracy. The data were then entered into the statistical Package for Social sciences SPSS version 20. Descriptive Statistics for continuous variables was presented as mean ± SD while categorical variables were presented as frequency and percentages. Student t-test and Chi-square were used to compare differences in means and proportion between NHIS and non-NHIS satisfaction scores. *P*-values < 0.05 were considered statistically significant.

RESULTS

Table 1: Basic socio-demographic characteristics of NHIS and non-NHIS patients

Variables	Characteristics	NHIS N (%)	Non-NHIS N (%)	Chi-Square	P-Value
AGE	18-29	54 .0(14.3)	165.0 (40.2)	12.28	0.725
	30-39	108.0 (28.6)	83.0 (20.2)		
	40-49	124.0 (32.8)	46.0 (11.2)		
	50-59	38.0 (10.1)	34.0 (8.3)		
	Above 60	6.0 (1.6)	21.0 (5.1)		
	Did Not Initiate	48.0 (12.7)	61.0 (15.0)		
	Total	**378.0 (100)**	**410.0 (100)**		
Gender	Female	292.0 (77.2)	253.0 (61.7)	0.289	0.591
	Male	82.0 (21.7)	155.0 (37.8)		
	Did Not Initiate	4.0 (1.1)	2.0 (0.5)		
	Total	378.0 (100)	410.0 (100)		
Level of Education	None	2.0 (0.5)	6.0 (1.5)	18.14	0.316
	Primary	4.0 (1.1)	15.0 (3.7)		
	Secondary	42.0 (11.1)	84.0 (20.5)		
	Tertiary	318.0 (84.1)	296.0 (72.2)		
	Did Not Initiate	12.0 (3.2)	9.0 (2.2)		
	Total	378.0 (100)	410.0 (100)		
Marital Status	Single	56.0 (14.8)	193.0 (47.1)	1.23	0.976
	Married	307.0 (81.2)	201.0 (49.0)		
	Divorced/Separated	0.0 (0)	1.0 (0.2)		
	Widowed	13.0 (3.5)	10.0 (2.4)		
	Did Not Initiate	2.0 (0.5)	5.0 (1.2)		
	Total	378.0 (100)	410.0 (100)		
Occupation	Business/Trading	10.0 (2.6)	76.0 (18.5)	13.58	0.558
	Public/Civil Servant	350.0 (92.6)	182.0 (44.4)		
	Student	12.0 (3.2)	122.0 (29.8)		
	Unemployed	4.0 (1.1)	13.0 (3.2)		
	Farming	0.0 (0)	7.0 (1.7)		
	Did Not Initiate	2.0 (0.5)	5.0 (1.2)		
	Total	**378.0 (100)**	**410.0 (100.0)**		

Table 2: **NHIS patients' satisfaction with selected domain of care in the hospital**

Selected domain of care in the hospital	Mean score	(%)
Patient-staff relationship (attitude)		
Medical doctors	2.08	(52.0)
Pharmacy staff	2.41	(60.3)
Laboratory staff	2.77	(69.3)
Nursing staff	2.41	(60.3)
Radiology staff	2.60	(65.0)
Medical records staff	2.47	(61.8)
Average score	**2.46**	**(61.5)**
Patient-staff communication (information)		
Medical doctors	2.24	(56.0)
Pharmacy staff	2.21	(55.3)
Laboratory staff	2.66	(66.5)
Nursing staff	2.19	(54.8)
Radiology staff	2.56	(64.0)
Medical records staff	2.47	(61.8)
Average score	**2.39**	**(59.8)**
Patient waiting time		
Medical doctors	2.84	(71.0)
Pharmacy staff	2.98	(74.5)
Laboratory staff	2.93	(73.3)
Nursing Staff	2.84	(71.0)

Radiology staff	2.84	(71.0)
Medical records staff	2.41	(60.3)
Average score	**2.80**	**(70.0)**
Cost of care		
Laboratory investigation	2.48	(62.0)
Radiology services	2.50	(62.5)
Medication fees	2.61	(65.3)
Average score	**2.53**	**(63.3)**
Hospital environment		
General cleanliness	2.48	(62.0)
Interior/exterior	2.75	(68.0)
Average score	2.62	(65.4)
Hospital bureaucracy	2.44	(61.0)
Accessibility	2.89	(72.3)
Overall satisfaction	**2.24**	**(56.0)**

DISCUSSION

The study showed that patients' satisfaction with the quality of care from all the selected domains was generally good. Studies have shown that perceived quality of care can be influenced by the way users of health facilities differ in their satisfaction with quality of care [4]. The overall satisfaction score 2.24 (56%) obtained from this study is lower than the overall satisfaction score of 83% reported in Kano, Northern Nigeria [9]. The satisfaction of patients with the patient-staff relationship (attitude) was good in this study with the medical doctors rated lowest. This finding is similar to the low rating of patient staff attitude reported in Eastern Ethiopia [4] and Ilorin in western Nigeria [10] but different from the report obtained in Benin City with the highest rating in the attitude of doctors to patients [11, 12].Proper attitudinal disposition to patients could influence them positively because good patient-staff relationship will help to improve patients adherence to treatment and their overall quality of life [13, 14]. The NHIS patients were satisfied with the patient-staff communication and information dissemination on the different services provided. This is in line with a study where patient-staff communication resulted in better patient's satisfaction and adherence in a hospital during recovery [14]. This study demonstrated that patients were very satisfied with the waiting time. The time spent by patients at all the service windows were quite short except for the medical records section. The actual patient waiting time at the service windows were not measured or estimated, but patients' perception of the waiting time at the service windows were subjectively assessed using the questionnaire. The short waiting time at the clinics and service windows could be attributed to the activities of the management of the hospital through its public relation and staff service monitoring group called SERVICOM Unit from where disciplinary measures and queries were issued to loitering staff. The SERVICOM unit visits other sections of the hospital to ensure that adequate services were given to patients. Dissatisfaction with waiting time has been reported in Benin-City, Edo State, and Ibadan [15, 16]. Prolonged patient waiting time can undermine the quality of care and lead to patient dissatisfaction. It can result in loss of patronage in places with competitive healthcare delivery system. The patients were satisfied with the cost of care from all the selected sensitive services in the hospital. This finding is similar to the report from Kano northwest Nigeria where majority of the patients (73%) were satisfied with the cost of care [9]. The majority of patients were satisfied with the sanitation and cleanliness of the clinic and hospital environment .This finding is similar but lower than the report from Kano, Northern Nigeria where (87%) of the patients were satisfied with the hospital environment and in southern Trinidad (West Indies) where the rating was generally very good. The finding of good satisfaction score in this study however, was higher than that from eastern Ethiopia where the patients were least satisfied with the cleanliness of the health facility [12, 17]. This finding has shown that environmental factors can influence the patients quality of care and satisfaction. Dissatisfaction with hospital bureaucracy has been reported in Abia State, southeast Nigeria. Bureaucracy is universally applied in every complex organization such as the tertiary hospitals and is one of the causes of organizational inefficiency. Though NHIS enrollees had anticipated prompt services, they were satisfied with the level of hospital bureaucracy. Accessibility to the hospital was rated quite high. This shows that the patients easily access the hospital and the service windows. It could be attributed to the strategic location of the hospital. This finding is similar to the work done in Abia State, souteast Nigeria where the satisfaction for accessibility was 74.2% but slightly less than

that of a study in Kano northwest Nigeria which recorded 84% satisfaction with accessibility [5, 6].

There was no statistical significant association observed between the NHIS and non-NHIS patients in all the basic socio-demographic characteristics. Comparison of NHIS and non-NHIS patient satisfaction with selected domains of care in NAUTH showed that the overall satisfaction of NHIS patients with the services was significantly higher than that of non-NHIS patients as shown on tables 3a and 3b. This corresponds with the study by Iloh *et al.*, on NHIS and non-NHIS patients in a tertiary hospital at Umuahia, Abia State, in southeast Nigeria [5]. The difference could be attributed to staff-patients communication, and patients' perception of the hospital environment, bureaucracy, and accessibility. This could be a reflection of the observation that users of health facilities differ in their satisfaction with the quality of care at the facilities [4, 18]. The NHIS clinic was recently renovated to give it a face lift compared to other old apartments used for non-NHIS outpatient clinics. Most NHIS patients are civil servants. The initial enrollment into the scheme started with the federal civil servants. The NHIS patients therefore by virtue of being civil servants have better social interaction, perception, and knowledge of bureaucratic organizations such as hospitals. The NHIS patients were more educated and better understand of information and could easily understand written directions and access the clinic with ease. There was no significant difference in satisfaction with the cost of care for NHIS and non-NHIS patients in spite of the fact that the NHIS patients are more likely to utilize the hospital services. It could be due to the monthly contributions paid on their behalf to Health Management Organizations (HMOs) by the Federal Government. The non-NHIS patients who paid for their hospital expenses out-of- pockets showed better satisfaction in the cost of care than the NHIS patients. This could be attributed to the fact that the NHIS patients still have to pay more out of pocket due to non-availability of drugs and other essential services. The NHIS patients were more satisfied with the attitude of the staff of laboratory and radiology units than the non-NHIS patients were. Marked difference in relationship was evident. The average attitudinal score for NHIS and non-NHIS patients were less than that of a comparative study in Umuahia, Abia State (81.5% vs. 78.0%) [5]. The NHIS patients were least satisfied with the attitude and communication of pharmacists and doctors. The importance pharmacists attach to vital health promotion behaviors and their health promotion belief have been shown to affect their practices. The community pharmacists performance regarding disease prevention/health promotion activity has been reported to be poor in a study carried out in London. The findings from this study showed that the pharmacists' communication (information) with the patients was minimal. This result is similar to the work done among the community pharmacists in Benin City, Edo State [19] and London [20]. The World Health Organization (WHO) revised drug Strategy Resolution-WHA 47-12 recognizes the key role of pharmacists in public health and the use of medicines. It emphasizes their responsibility to providing informed objective advice on medicines and their use, to promote the concept of pharmaceutical care and actively participate in disease prevention and health promotion [21]. The discrepancies between patients' expectations and the new role of pharmacists can affect the overall patient satisfaction with pharmacists consultations. Recent studies suggest several channels in helping both parties to agree on their roles and expectations of each other. One suggestion was through patient education and collaborative efforts of other healthcare providers, especially physicians, so that patients could be better informed and expect more help from the pharmacists [22, 23]. These interactions may improve the understanding between pharmacists and patients, leading to higher and better patients' satisfaction level since satisfied patients are more likely to adhere to their medications [24]. Patients' experience in waiting time can therefore influence their perception of quality of care. Efforts should be geared towards reducing waiting time [25]. In view of this, timelessness of care is the second most important driver of patients satisfaction after service delivery based on SERVICOM index [26].

CONCLUSION

Overall, NHIS patients satisfaction with the services provided was good with accessibility rated highest and patient-staff communication the least. There is still need to improve on the present level of services rendered to NHIS patients through the service windows. NHIS patients' satisfaction with the services provided was higher than that of non-NHIS patients. The non-NHIS patients were most satisfied with patients waiting time and least satisfied with the hospital bureaucracy. Bureaucracy is universally applied as the basis of organizational order in any complex organization such as the teaching hospitals. However, if it is not carefully applied, it might result to patients' dissatisfaction. Patients' satisfaction with the services provided will likely affect the image and perception of clients on the hospital, its services, and patronage. Value-based care should be encouraged at all levels for all.

CONFLICT OF INTEREST: The authors declared no conflict of interest.

Table 3a: NHIS and non-NHIS patients' satisfaction with selected domain in the hospital

Selected domains of care	Patient- staff relationship (Attitude)			Patient-staff communication (Information)			Patient's Waiting time		
	NHIS	GOPD	P. Value	NHIS	GOPD	P. Value	NHIS	GOPD	P. Value
	N Mean ± SD	N Mean ± SD		N Mean ± SD	N Mean ± SD		N Mean ± SD	N Mean ± SD	
Medical Doctors	365 2.08 ±0.78	389 1.92 ±0.87	0.126	375 2.24 ±0.86	365 2.05 ±0.78	0.003	366 2.84 ±0.85	395 2.89 ±1.02	0.398
Pharmacy staff	359 2.41 ±0.87	308 2.33 ±1.02	0.266	357 2.21 ±0.80	309 2.11 ±0.92	0.133	353 2.98 ±0.91	306 2.85 ±1.10	0.101
Laboratory staff	358 2.77 ± 0.92	367 2.55 ±1.02	0.003	353 2.66 ±0.25	349 2.50 ±0.98	0.026	347 2.93 ±0.91	357 2.97 ±1.10	0.330
Nurses	367 2.41 ±0.81	395 2.41 ±0.90	0.949	371 2.19 ±0.87	389 2.05 ±0.95	0.029	365 2.83±0.84	392 2.87±0.01	0.392
Radiology staff	322 2.60 ±0.95	381 2.41 ±0.96	0.015	331 2.56 ±0.86	279 2.37 ±0.97	0.009	321 2.84 ±0.02	284 2.69 ±1.06	0.075
Medical Record staff	372 2.47 ±0.87	406 2.44 ±0.93	0.591	372 2.47 ±0.87	406 2.44 ±0.93	0.539	374 2.41 ±0.85	404 2.57 ±0.97	0.010

Table 3b: NHIS and non-NHIS patients' satisfaction with selected domain in the hospital (contd.)

Cost of care	NHIS N Mean ± SD	GOPD N Mean ± SD	P- value
Medication fees	357 2.61 ±1.02	311 2.63 ±1.01	0.799
Laboratory fees	352 2.48 ±1.03	382 2.70 ±1.03	0.008
Radiology fees	314 2.50 ±1.11	272 2.64 ±1.10	0.126
Hospital environment			
General cleanliness	371 2.48 ± 0.78	393 2.22 ± 0.90	0.000
Interior and exterior	373 2.75 ± 0.93	394 2.53 ± 1.10	0.002
Hospital Bureaucracy	373 2.44 ± 0.89	406 1.97 ± 0.83	0.000
Accessibility	362 2.89 ± 0.83	380 2.55 ± 0.98	0.000

Table 4: Ranking of domain of care for NHIS and Non-NHIS patients

Care parameter	NHIS Average satisfaction scores	Ranking of domain	Non-NHIS Average Satisfaction scores	Ranking of domain
Accessibility	2.89	1st	2.55	3rd
Patient waiting time	2.81	2nd	2.81	1st
Hospital environment	2.62	3rd	2.38	4th
Cost of care	2.53	4th	2.66	2nd
Patient staff relationship	2.48	5th	2.34	5th
Hospital Bureaucracy	2.44	6th	1.97	7th
Patient – staff communication	2.39	7th	2.25	6th

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