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ORIGINAL ARTICLE

Knowledge and satisfaction of health insurance clients: a cross-sectional study in a tertiary hospital in Ghana

Eric Nsiah-Boateng[1,2] · Francis Asenso-Boadi[2] · Francis-Xavier Andoh-Adjei[2] · Moses Aikins[1]

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Abstract

Aim This study assesses client knowledge of, and satisfaction with services under the National Health Insurance Scheme (NHIS) in a tertiary healthcare facility.

Subject and methods A cross-sectional exit interview was conducted at the Korle-Bu Teaching Hospital in the Greater Accra region of Ghana. Respondents were classified into various groups based on the number of positive responses obtained for knowledge and satisfaction measures on a 5-point Likert scale. Descriptive statistics and multivariate logistic regression analyses were conducted to test and measure associations between client characteristics, their knowledge of the NHIS, and satisfaction with services.

Results Two hundred and four clients participated in the study, representing a 97% response rate. Seventy-nine clients (39%) had more knowledge of the NHIS, 115 (56%) were more satisfied with NHIS services, and 200 (98%) were more satisfied with healthcare services. Factors including education and years of enrolment were significantly associated with more knowledge of the NHIS. Similarly, knowledge of the NHIS, number of living children, and years of enrolment strongly correlated with more satisfaction with NHIS services. However, being a returning patient was strongly related with less knowledge of the NHIS and less satisfaction with NHIS services.

Conclusion Clients have less knowledge of the NHIS and are fairly satisfied with its services overall. However, they are more satisfied with healthcare provider services. More education and sensitization are necessary to increase knowledge and improve satisfaction and enrolment.

Keywords Client knowledge · Client satisfaction · National Health Insurance Scheme · Korle-Bu Teaching Hospital · Ghana

Introduction

The quality of healthcare delivery is gaining more and more attention in many countries around the world. The heightened interest is in response to rapid changes in healthcare systems, including new organizational arrangements and reimbursement strategies that have the potential to affect quality of care (Mainz 2003; LaVela and Gallan 2014). In many developing countries where there is a lack of mandatory national monitoring systems to track the quality of healthcare delivery, periodic client satisfaction surveys are increasingly being used (Mainz 2003; Campbell et al. 2010; Al-Abri and Al-Balushi 2014). These reviews help providers, purchasers, and regulators of care to assess quality of care delivery, and to understand the demand for healthcare services and areas of care that are most important to clients (Mainz 2003; Glick 2009). They also provide valuable feedback to programme managers and service delivery staff about programme effectiveness, and help

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✉ Eric Nsiah-Boateng
ensiah-boateng@st.ug.edu.gh

Francis Asenso-Boadi
kofiasenso@hotmail.com

Francis-Xavier Andoh-Adjei
faxandoh@gmail.com

Moses Aikins
mksaikins@ug.edu.gh

[1] School of Public Health, College of Health Sciences, University of Ghana, Accra, Ghana

[2] National Health Insurance Authority, Accra, Ghana

to identify opportunities for service improvement (Iliyasu et al. 2010; California Department of Public Health 2011). In addition, insights are gained about process measures such as cost, helpfulness of support staff, treatment received, and physical settings of services (Marie Stopes International 2016).

Many developing countries are progressively implementing social health insurance schemes to provide financial access to healthcare for their populations and to achieve Universal Health Coverage (UHC). In 2003, Ghana introduced the National Health Insurance Scheme (NHIS) to reduce out-of-pocket payment at the point of service use (Agyepong and Adjei 2008; Witter and Garshong 2009; Nsiah-Boateng and Aikins 2013). The NHIS is operational in 159 districts across the country, with a population coverage of 10.3 million clients (35%) and over 4000 accredited public and private healthcare providers (Nsiah-Boateng and Aikins 2018). It covers about 95% of disease conditions in the country and is largely tax-funded. The scheme has improved access to healthcare services for the majority of Ghanaians, and contributed to the financial resources of healthcare providers (Gobah and Zhang 2011; Dalinjong and Laar 2012; Nsiah-Boateng et al. 2016). However, there are service delivery challenges, including client's limited understanding of the scheme, delays in claims payment, perceived poor quality of service, long waiting times, and illegal charging of fees (co-payments), which may affect client satisfaction and subsequent willingness to enrol in the scheme.

To date, few studies have looked at clients' knowledge of the NHIS and their satisfaction with services under the scheme. The ones that do exist were limited to client awareness of the scheme and their sources of information, and healthcare provider knowledge of the capitation payment system (Gobah and Zhang 2011; Agyei-Baffour et al. 2013). One study that looked at the prospects and challenges of the scheme focused on client reasons for joining, their health-seeking behaviour, and experiences with quality of healthcare services (Gobah and Zhang 2011). It found that the NHIS had a positive effect on health-seeking behaviour and utilization of healthcare services. Another study that examined healthcare quality under the scheme was limited to the clients' perception of quality of healthcare delivery in public healthcare facilities in Ghana, and found that they perceived their interaction with healthcare providers and the attitude of healthcare providers as good, although waiting times were generally long (Atinga 2012). The present paper seeks to add to these studies by assessing client knowledge of, and satisfaction with NHIS services and healthcare providers, using exit interviews. It differentiates itself from other knowledge- and service-quality related studies on the NHIS by identifying associated socio-demographic factors. It is hoped that assessing client knowledge of and satisfaction with key aspects of the NHIS and healthcare provider services will provide valuable contributions to guide changes and improvement in information dissemination and service delivery under the scheme.

Methods

Study design

The study was a cross-sectional exit survey using a quantitative method to examine client knowledge of and satisfaction with NHIS services at a tertiary healthcare facility. The exit survey design was employed to help develop questions relevant to the areas of interest of the study. It was also used to reduce costs, and make it easier to compile and analyse responses (California Department of Public Health 2011).

Study setting

The Korle-Bu Teaching Hospital is located in the Ablekuma South district of the Greater Accra Region. It constitutes one of the ten sub-metropolitan districts of the Accra Metropolis, with a population of 213,914 and annual growth rate of 3.1% (Ghana Statistical Service 2012). It is characterized by slums, poor sanitary conditions, low education levels, and low income status, with a household average income of US$2.00 per day (CHF International 2010). Korle-Bu Teaching Hospital was chosen for the study because it is the largest of four teaching hospitals in Ghana and the third biggest in the whole of Africa, with a bed capacity of 2000 (Korle-Bu Teaching Hospital 2016). Moreover, it is the leading national referral centre in Ghana, taking cases from across the West African sub-region.

Study population

NHIS clients aged 18 years and above and who had sought medical treatment at the Korle Bu Teaching Hospital in April 2016 were eligible to participate in the study. The age restriction was based on the NHIS's categorization of clients below the age of 18 years as children, which would make them unsuitable to take part in the exit survey.

Sampling method

A systematic sampling technique was employed to select respondents for the study based on two eligibility criteria: (i) having been enrolled in the NHIS for at least 1 year, and (ii) holding a valid membership card. A minimum sample size of 200 was estimated for the study using a 95% confidence level (95% CI), 5% margin of error, and 11% (175,554) district NHIS enrolment coverage in the Greater Accra Region. The selected sample was increased by 10 (5%) to make up for non-response and any other possible incidentals. To ensure

representativeness, 30 insured patients from the hospital's central outpatient department were sampled each day over a 7-day period. A sample interval of 50 was estimated based on the number of clients invited to respond per day (30) and the number of client visits per week (1500), using the formula below (Marie Stopes International 2016):

$$\text{Invite every } x^{\text{th}} \text{client to respond, where } x = \frac{\text{estimated number of clients invited to respond per day}}{\text{estimated number of client visits per week}}$$

Thus, 50 clients were allowed to pass before a client was invited to participate. Clients were interviewed as they left the central outpatient department, which was selected for the study based on the high number of insured patients that visited the department every day compared to the other specialised outpatient units.

Data collection methods

An exit interview method was employed to collect the data, using an open-ended interviewer-administered questionnaire, a technique employed to probe for more details and explanations, and to allow clients to share honest opinions and feelings (California Department of Public Health 2011). This approach was also designed to ensure a higher response rate, although it has been argued that it does not provide adequate time for clients to respond to interview questions (Marie Stopes International 2016). The survey captured socio-demographic characteristics of clients, selected NHIS knowledge and satisfaction measures, and healthcare satisfaction measures, as used in client satisfaction surveys.

Data analysis

Descriptive analyses were conducted to determine client knowledge of the NHIS and satisfaction with services under the scheme on a 5-point Likert scale ranging from 'very poor (1)' to 'excellent (5)'. Four knowledge domains that are commonly used for assessing knowledge of the insured and uninsured were measured to determined knowledge of the NHIS, namely: (i) contribution rate, (ii) benefit package, (iii) network of accredited healthcare providers, and (iv) subscriber handbook (Mccall et al. 1986; Mohammed et al. 2011; Osungbade et al. 2014; Stern 2015). Clients who provided positive responses (score ≥ 3) to three or more of these domains were classified as having 'more knowledge', and those with less than three positive responses as having 'less knowledge' of the NHIS (Mohammed et al. 2011).

Satisfaction with NHIS services was estimated for five satisfaction domains: (i) feeling of financial protection against healthcare expenditure, (ii) treated with friendliness and respect by staff upon arrival at the NHIS office, (iii) registration and membership card processing time, (iv) availability of information on benefit package, and (v) provision of information on accredited healthcare providers (Mohammed et al. 2011; Osungbade et al. 2014). Respondents giving positive responses to three or more of the satisfaction criteria were classified as 'more satisfied', and those who gave less than three as 'less satisfied' with NHIS services.

Satisfaction with healthcare services was assessed based on eight healthcare delivery domains: (i) staff attitude and competence, defined as receipt of warm or courteous attention at the hospital, (ii) waiting times for treatment, (iii) availability of a doctor, nurse, or other health professional throughout treatment, (iv) doctor's attentiveness to patient's problems, (v) procedure and treatment, defined as receipt of required services such as laboratory tests, medicines, imaging (x-rays, scans, etc), (vi) quality of advice given to patient by clinical staff (doctor, pharmacist, nurse, etc), (vii) frequency of hospital visits, defined as the number of times a patient is asked to see a doctor at the hospital when in ill-health; and (viii) level of privacy and confidentiality during treatment (Iliyasu et al. 2010; California Department of Public Health 2011; Adekanye et al. 2013; Osungbade et al. 2014). Respondents with positive responses to five or more of these satisfaction measures were grouped as 'more satisfied', while those who gave less than five were classified as 'less satisfied' with healthcare provider services.

Chi-square analysis was also conducted to examine relationships between clients' socio-demographic factors and satisfaction with services. Client characteristics that showed significant associations at a threshold of $p < 0.1$ were advanced to multivariate logistic regression analyses. Analysis measures found in the literature to be associated with knowledge of, and satisfaction with health insurance and healthcare provider services were also included in the model. Logistic regression analysis was employed to quantify the odds of the binary outcome variables occurring as the values of the explanatory variables changed. It allows the effects or associations of multiple variables to be considered at the same time. After testing for collinearity, characteristics that showed no correlation at $r > 0.6$ (see supplementary file 1) were included in the final model, and a threshold of $p < 0.05$ was set for statistical significance. In the first multivariate logistic regression model, the 'knowledge of NHIS' outcome variable was given discrete values of 1 for 'more knowledge' of the NHIS and 0 for 'less knowledge' of the NHIS. The second model had 'satisfaction with NHIS services' as the outcome variable, with a value of 1 for the 'more satisfied' group and 0 for the 'less satisfied' group. The last model used 'satisfaction with healthcare provider services' as outcome variable, with a value of 1 for the 'more satisfied' group and 0 for the 'less satisfied' group. The explanatory variables included patient type, age, gender, religion, and marital status. Others were education, occupation, number of living children, years of enrolment, and knowledge

of the NHIS; all these were treated as binary variables. Stata version 13 was used to analyse the data.

Results

Characteristics of respondents

Two hundred and ten questionnaires were administered, of which 204 (97%) were completed. One hundred and seventy respondents (83%) were returning patients visiting the hospital for care (Table 1). Their average age was 48.35 years ($SD = 16.63$), and 47 (23%) were in the age bracket of 50–59 years. One hundred and twenty-four respondents (61%) were female, 161 (79%) were Christians, 114 (56%) were married, 99 (49%) had secondary education, and 75 (37%) were unemployed. Eighty-nine respondents (54%) lived with less than the mean number of three children ($M = 3.31$ children; $SD = 2.65$), and 117 (57%) had been enrolled in the NHIS for 6 or more years ($M = 6.44$ years; $SD = 3.21$).

Client characteristics associated with knowledge of the NHIS and satisfaction with the NHIS and healthcare provider services

The chi-square analysis showed that 79 respondents (39%) had more knowledge of the NHIS, and that there were significant differences in their knowledge by education level ($p < 0.001$), gender ($p = 0.001$), type of patient ($p = 0.003$), years of enrolment ($p = 0.018$), occupation ($p = 0.020$) , and marital status ($p = 0.034$) (Table 2). One hundred and fifteen respondents (56%) were more contented with NHIS services, with their satisfaction differing significantly by knowledge of the NHIS ($p < 0.001$), years of enrolment ($p = 0.004$), and type of patient ($p = 0.010$). Similarly, 200 respondents (98%) were happier with services of the healthcare provider; however, there were no significant differences according to their socio-demographic characteristics.

Results of the multivariate logistic regression showed that education (OR = 2.14, 95% CI: 1.42–3.22) and years of enrolment (OR = 1.37, 95% CI: 1.13–1.67) were significantly associated with more knowledge of the NHIS (Table 3). Likewise, knowledge of the NHIS (OR = 4.64, 95% CI: 2.20–9.78), number of living children (OR = 1.28, 95% CI: 1.07–1.53) and years of enrolment (OR = 1.22, 95% CI: 1.02–1.47) were strongly correlated with more satisfaction with NHIS services. However, being a returning patient was significantly associated with less knowledge of the NHIS (OR = 0.27. 95% CI: 0.09–0.76) and less satisfaction with NHIS services (OR = 0.23, 95% CI: 0.08–0.72). None of the client characteristics was significantly associated with more satisfaction with healthcare provider services, and the overall

Table 1 Socio-demographic characteristics of respondents

Variable	$N = 204$ (%)
Patient type	
New	34 (16.7)
Returning	170 (83.3)
Age, years	
< 30	33 (16.2)
30–39	35 (17.2)
40–49	33 (16.2)
50–59	47 (23.0)
60–69	33 (16.2)
70+	23 (11.2)
$M = 48.35$; $SD = 16.63$	
Gender	
Male	80 (39.2)
Female	124 (60.8)
Religion	
Islam	43 (21.1)
Christianity	161 (78.9)
Marital status	
Single/never married	40 (19.6)
Married	114 (55.9)
Cohabitating	2 (1.0)
Separated/divorced	11 (5.4)
Widowed	37 (18.1)
Education level	
None/no formal education	42 (20.6)
Primary	21 (10.3)
Secondary	99 (48.5)
Tertiary	37 (18.1)
Postgraduate	5 (2.5)
Occupation	
Unemployed	75 (36.7)
Fishing/fishmongering	9 (4.4)
Trading/sales and services	56 (27.5)
Skilled manual	35 (17.2)
Clerical	8 (3.9)
Professional/technical/managerial	21 (10.3)
Number of living children	
< 3	89 (43.6)
3–5	78 (38.2)
6+	37 (18.2)
$M = 3.31$; $SD = 2.65$	
Years of enrolment	
1	16 (7.8)
2–3	31 (15.2)
4–5	40 (19.6)
6+	117 (57.4)
$M = 6.44$; $SD = 3.21$	

M mean, *SD* standard deviation

Table 2 Bivariate relationship between client characteristics and satisfaction with NHIS and healthcare provider services

Variable	*N*	More knowledge of NHIS		More satisfaction with NHIS services		More satisfaction with HCP services	
		%	*p* value	%	*p* value	%	*p* value
Patient type			0.003		0.010		0.366
New	34	61.8		76.5		100	
Returning	170	34.1		52.4		97.7	
Age (yrs)			0.102		0.634		0.438
< 30	33	57.6		66.7		93.9	
30–39	35	42.9		57.1		97.1	
40–9	33	27.3		54.6		100.0	
50–59	47	36.2		46.8		97.9	
60–69	33	27.3		57.6		100.0	
70+	23	43.5		60.9		100.0	
Gender			0.001		0.401		0.556
Male	80	52.5		60.0		98.8	
Female	124	29.8		54.0		97.6	
Religion			0.560		0.438		0.152
Islam	43	34.9		51.2		95.4	
Christianity	161	39.8		57.8		98.8	
Marital status			0.034		0.455		0.089
Single/never married	40	40.0		60.0		92.5	
Married	114	43.0		57.0		99.1	
Cohabitating	2	100.0		100.0		100.0	
Separated/divorced	11	45.5		63.6		100.0	
Widowed	37	18.9		46.0		100.0	
Education level			0.000		0.601		0.537
None/no formal education	42	11.9		50.0		100.0	
Primary	21	19.1		57.1		92.2	
Secondary	99	42.2		54.6		97.0	
Tertiary	37	64.9		67.6		100.0	
Postgraduate	5	80.0		60.0		100.0	
Occupation							
Unemployed	75	33.3		61.3		98.7	
Fishing/fishmongering	9	33.3		55.7		100.0	
Trading/sales and services	56	28.6		46.4		98.2	
Skilled manual	35	45.7		51.4		97.1	
Clerical	8	75.0		75.0		87.5	
Professional/technical/managerial	21	61.9	0.020	66.7	0.371	100.0	0.355
No. of living children			0.127		0.153		0.397
< 3	89	40.5		51.7		96.6	
3–5	78	43.6		55.1		98.7	
6+	37	24.3		70.3		100.0	
Years of enrolment			0.018		0.004		0.407
1	16	31.3		50.0		100.0	
2–3	31	22.6		48.4		100.0	
4–5	40	27.5		35.0		95.0	
6+	117	47.9		66.7		98.3	
Knowledge of NHIS					0.000		0.108
Less knowledge	125			42.4		96.8	
More knowledge	79			78.5		100	
Total	204	38.7		56.4		98.0	

NHIS National Health Insurance Scheme, *HCP* healthcare provider

model was also not significant; logistic regression (LR) chi-squared 13.04, $p = 0.1104$.

Discussion

Assessment of clients knowledge of the NHIS and their satisfaction with services under the scheme show that they overall have less knowledge of the scheme but are nevertheless satisfied with the services. The findings also show that patients are more satisfied with healthcare provider services. A number of socio-demographic characteristics are also significantly associated with their knowledge of, and satisfaction with the NHIS services.

The high level of clients having less knowledge of the NHIS might be attributed to the limited knowledge of insurance products in general among the majority of the Ghanaian population, particularly the low income group, as found in a

Table 3 Multivariate logistic regression model of knowledge of NHIS, and satisfaction with NHIS and healthcare provider services

Variable	Knowledge of NHIS		Satisfaction with NHIS services		Satisfaction with HCP services	
	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]
Patient type (ref.: new)	0.27	0.09–0.76*	0.23	0.08–0.72*	1.00	
Age (ref. < 30 yrs)	0.99	0.97–1.01	0.99	0.97–1.01	1.01	0.93–1.11
Gender (ref.: female)	1.58	0.79–3.20	0.78	0.38–1.60	9.37	0.25–356.38
Religion (ref.: Islam)	1.82	0.79–4.18	1.33	0.60–2.95	26.87	0.79–919.16^{i}
Marital status (ref.: single/never married)	1.09	0.79–1.51	0.85	0.63–1.15	31.49	0.48–2077.26
Education level (ref.: none/no formal education)	2.14	1.42–3.22***	0.98	0.68–1.42	1.10	0.25–4.80
Occupation (ref.: unemployed)	1.06	0.85–1.33	0.88	0.70–1.11	0.52	0.17–1.62
No. of living children (ref.: < 3)	1.05	0.87–1.28	1.28	1.07–1.53**	0.77	0.31–1.92
Years of enrolment (ref.: 1 yr)	1.37	1.13–1.67**	1.22	1.02–1.47*	0.76	0.29–1.96
NHIS knowledge (ref.: less knowledge)			4.64	2.20–9.78***	1.00	
Number of observations	204		204		112	
LR chi-squared	52.83		47.15		13.04	
Prob>chi-squared	0.0000		0.0000		0.1104	
Log likelihood	−109.77		−116.17		−10.73	
Pseudo R-squared	0.1940		0.1687		0.3779	

NHIS National Health Insurance Scheme, *HCP* healthcare provider, *LR* logistic regression, *R-squared* coefficient of determination, *OR* odds ratio; $^{i}p < 0.10$; $*p < 0.05$; $**p < 0.01$; $***p < 0.001$

study by Ackah (Ackah and Owusu 2012). Another plausible explanation is that the NHIS's education and information dissemination strategies for increasing client knowledge may be ineffective. This finding corroborates previous studies, where the insured and partially insured had limited or no NHIS knowledge (National Development Planning Commission 2009; Ackah and Owusu 2012). It is also consistent with a similar study in the United States, which showed that beneficiaries had low levels of knowledge about both Medicare and their supplementary health insurance (McCall et al. 1986). Our findings, however, contradict a study by Gobah and Zhang (2011), where clients' basic knowledge of the NHIS was high. It is also at variance with findings from a client satisfaction survey in Nigeria, where clients showed more knowledge of the country's NHIS (Mohammed et al. 2011). These contradictions may be due to differences in the study designs and settings. Whilst this study is a healthcare facility-based, cross-sectional study using exit interviews, the two studies mentioned above have descriptive and retrospective cross-sectional survey designs, using both face-to-face and key informant interviews.

Factors such as level of education, years of enrolment, and type of patient are associated with knowledge of the NHIS. Clients with a high level of education are more knowledgeable about the NHIS, and differ significantly from those with no formal education. This is expected because educated individuals can easily access information from the NHIS website or offices across the country. The community and institutional-based education and sensitization programmes that were rolled out during the initial stages of implementation might also account for this finding. Similarly, clients who have been enrolled for a considerable number of years are more knowledgeable about the scheme compared to those with just a year of enrolment. The reason might be that as clients retain their coverage for a longer period of time, they are more likely to inform themselves about how the scheme operates. These findings support previous studies (McCall et al. 1986; National Development Planning Commission 2009). Surprisingly, returning patients knew significantly less about the NHIS relative to new patients. However, the reason for this phenomenon could not easily be ascertained by the present study.

Our findings also revealed that on average, clients are more satisfied with services of the NHIS, and their satisfaction is significantly associated with knowledge of the scheme, number of living children, years of enrolment, and type of patient. One explanation for this high rate of satisfaction might be that they no longer have to pay out-of-pocket at the point of service use, which could be interpreted as an indication of financial protection against their healthcare costs. Understandably, clients with more knowledge of the NHIS are more satisfied with its services than those with less knowledge, which corroborates a study by Mohammed et al. (2011). Similarly, the more children clients have, the more satisfied they are with the services, as are clients with more years of enrolment. Returning patients, however, are significantly less satisfied with services. Our findings support earlier studies, which showed that members of the NHIS and the general public

are satisfied with the performance of the NHIS (National Development Planning Commission 2009; Gobah and Zhang 2011; Osungbade et al. 2014). The findings are also similar to a Nigerian study, which found that user satisfaction with the overall service of its NHIS was high (Osungbade et al. 2014). However, they contradict the study by Mohammed et al. (2011), where the satisfaction rate with the NHIS in Nigeria was somewhat low.

Remarkably, a substantial proportion of the clients were satisfied with healthcare provider services, although there were no significant associations between their socio-demographic characteristics and satisfaction ratings. The probable reasons for this are client trust in the provider and provider behaviour (respect and politeness), as found in previous studies (Mendoza Aldana et al. 2001; Adekanye et al. 2013; Chang et al. 2013). The Korle-Bu Teaching Hospital being the main referral facility in the country could also account for the high satisfaction levels expressed, because there is no alternative healthcare facility for comparison in the district. These high satisfaction ratings are similar to studies carried out in Ghana by Gobah and Zhang (2011) in the Akatsi district of the Volta region, which revealed that about two-thirds of NHIS clients were satisfied with the quality of services received from healthcare providers under the scheme, and by Dalinjong and Laar (2012) in the Bolgatanga and Buisa districts of the Upper East region, which found that both the insured and the uninsured were satisfied with care received from providers. Our findings also confirm studies by Iliyasu et al. (2010), where 84% of respondents were satisfied with services of the Kano Teaching Hospital in Nigeria, and by Adekanye et al. (2013), where 79% of clients were satisfied with the services of a tertiary hospital in north-central Nigeria. In addition, the findings are consistent with previous patient satisfaction surveys in other developing countries (Agosta 2009; Hutchinson and Do 2011; Janicic et al. 2011). Our findings also showed that married subjects are more satisfied with services of the healthcare provider than the unmarried, although the difference was not significant. The married subjects' satisfaction with services of the healthcare provider corroborates a study by Osungbade et al. (2014). However, the lack of significant correlation between client characteristics and their satisfaction with healthcare provider services in the present study contradicts previous investigations (Mendoza Aldana et al. 2001; Hekkert et al. 2009; Meseguer-Santamaria et al. 2013).

The important implication of limited client knowledge of the NHIS is that it has the potential to affect enrolment. Studies have found that lack of awareness of the existence of insurance products and poor understanding of the concept of insurance have a direct effect on insurance uptake and retention (Ackah and Owusu 2012; Stern 2015). A substantial gap in client knowledge of the NHIS may also result in apathy towards uptake of coverage and improper utilization of healthcare services, as evidenced in a technical brief by Stern (2015). Thus, more effective education and communication strategies would be necessary for increasing client knowledge and ensuring uptake and retention of coverage over a long period. However, higher satisfaction ratings given by the clients in this study reflect general acceptance of the scheme. This finding is hopeful, as the NHIS strives to achieve the overarching goal of UHC. Satisfied clients are more likely to renew their membership year-on-year, thereby increasing enrolment in the scheme. Nonetheless, continued education about the scheme is required to increase knowledge among clients and the general public, since knowledge was found to be a significant factor associated with satisfaction. Enrolment strategies targeting younger people would also be important because they are more satisfied with services than older people, as shown by the study. Moreover, the higher than expected client satisfaction with healthcare provider services is reassuring, in the sense that their healthcare needs are being met, and the NHIS's overall aim of providing financial risk protection for all insured clients is being achieved. This positive finding from the study also suggests promotion of better health outcomes for clients. In the long term, this could improve enrolment and revenue for the scheme, as evidence shows that when clients are satisfied with services, they tend to renew their membership (Wipf and Garand 2010).

Limitations

This study has a number of limitations worth mentioning. First, the interview survey design does not capture those patients who did not return to the healthcare facility because of an unsatisfactory experience. Secondly, exit interviews do not provide adequate time for clients to assess the efficacy of treatment. These design limitations have the tendency to affect findings, although the study protocol was strictly followed to minimize their influence. There is also the possibility of 'courtesy bias' (Marie Stopes International 2016), whereby clients tend to provide positive responses to healthcare satisfaction measures during exit interviews because they are worried about being identified or unattended to in their subsequent visits. Nonetheless, this fear was allayed by assuring respondents of their privacy and the confidentiality of the information provided. Lastly, the Korle-Bu Teaching Hospital does not provide drug services under the current contractual agreement with the NHIS, a situation that could affect clients' responses to questions on satisfaction with healthcare provider services. This has to be taken into account when generalising the findings of our study.

Conclusions

Our study reveals that the majority of clients have less knowledge of the NHIS; however, they are fairly satisfied with services under the scheme, viewing it as receipt of financial protection against their healthcare costs. It also shows that client knowledge of the NHIS is associated with their level of education and years of enrolment, whilst their satisfaction with services correlates with knowledge of the scheme, number of living children, and years of enrolment. Therefore, more education and sensitization are necessary to increase knowledge and improve satisfaction and subsequent willingness to enrol. We propose further research to assess the effectiveness of the NHIS's education and sensitization programmes aimed at increasing the knowledge of clients and the general public. Further client satisfaction surveys would also be needed in a healthcare facility that also provides drug services in addition to other services, in order to give a holistic view of client satisfaction with healthcare provider services.

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Compliance with ethical standards

Disclosure of potential conflicts of interest Eric Nsiah-Boateng, Francis Asenso-Boadi, and Francis-Xavier Andoh-Adjei are employees of the National Health Insurance Authority; however, their affiliations did not in any way, influence findings of the study. Moses Aikins has no conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee, and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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