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Acceptance and Satisfaction of National Health Insurance Scheme Services among Civil Servants in Sokoto Metropolis, Sokoto State-Nigeria

Article by Abdulrahman Adamu Ahmed[1], Aisha Aliyu[2]
[1]*Department of Health Planning Research and Statistics, Ministry of Health Sokoto, Nigeria*
[2]*Department of Chemical Pathology Specialist Hospital Sokoto, Nigeria*
E-mail: drabdulahmed13@gmail.com[1]

Abstract

Difficulty in accessing health care due to inequitable distribution has been a continuous challenge in developing countries. Insurance is a veritable tool for curbing these challenges, as proved in developed countries with assuring results. Nigeria in her efforts to tackle this problem introduced the national health insurance scheme. However, acceptance and satisfaction with the NHIS are obstacles to the achievement of its objectives. The aim of the study is to assess the level of acceptance and satisfaction with the national health insurance scheme among civil servants in Sokoto metropolis. The study was a cross sectional descriptive study conducted in Sokoto metropolis among civil servants who are currently accessing NHIS service. A multi-stage sampling technique was used to select 425 participants. Data was collected using semi-structured self- administered questionnaires and was analyzed using MS Excel Spread sheet 2016. A total 425 respondents were interviewed and their mean age was 41.75 ± 9.3 years and majority were males (282) 66.4%, Most of the respondents (311)73.2% where Hausa/fulani and Muslims (349) 82.1%, the overall Acceptance of NHIS was Good, (272) 64% however only 190 (44.7%) are satisfied with the scheme. The study showed that there is good acceptance of the scheme by civil servants in the metropolis, by the scheme is yet to meet their expectation, thus the poor satisfaction.

Keywords: *Acceptance, Satisfaction, NHIS Service, Civil Servants, Sokoto Metropolis, Nigeria.*

Introduction

Health is one of the most important sectors in any country's economy. A country that has a poor health system and policies is bound to experience poor economic growth as productivity of citizens might be greatly affected when they fall sick or die from curable cases[1]. Health status of any group of people has come to be seen as crucial not only to their well-being but also represent a strong influence on the productivity capacity of the people[2]. Various reform programs have been put in place and the government has expressed its determination to pursue a bold reform of the system. In the attempt by the government to ensure that all citizens attain a state of perfect physical, mental and social well being, it has formulated and implemented National Health Policy. The National Health Policy and Strategy to achieve health for all Nigerian's came into effect in 1988 and was revised in on 22 June 2016 in Abuja.

National Health Insurance Scheme (NHIS) is one of such policies that are fundamentally aimed at reducing high dependency on out-of-pocket (OOP) payments in form of user- charges and co-payments that often challenge the underlying tenets of equity within healthcare systems[3].

Nigeria is among the highest out-of-pocket health spending countries and poorest health indicators in the world [4]. Out-of-pocket health expenses play a major role in health financing in Nigeria which does not promote equitable access to quality health care thus the need for financial risk protection from ill-health[5]. NHIS is to facilitate fair-financing of healthcare costs through pooling and judicious utilization of financial resources to provide financial risk protection and cost-burden sharing for people, through various prepayment programs/products prior to their falling ill[6].

Health insurance is a social security system that guarantees the provision of needed health services to persons on the payment of token contributions at regular intervals[7]. its mission is to facilitate fair financing of health care costs through pooling and judicious utilization of financial reduce catastrophic health care costs and disparities in resources to provide financial risk protection and costs burden-sharing for people against cost of healthcare through various prepayments program before falling ill[8].

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Since its introduction in Nigeria in 2005, the National Health Insurance Scheme (NHIS) has witnessed a substantial increase in coverage from less than 150,000 lives in 2005 to about 5 million (3% of the population) in 2014, the vast majority of beneficiaries being Federal Government employees and their dependents[9,10,11] Despite these efforts, out-of-pocket- payments (OOP) remain an important source of funding for healthcare, accounting for more than 90% of private expenditures on health placing a disproportionately huge financial burden on low-income earners who often end up paying more due to delay in seeking prompt care[12]. Endemic diseases such as malaria, typhoid, respiratory and diarrheal diseases are among the greatest contributors of the economic burden on both households and governments in Nigeria, accounting for over 90% of consultations under the NHIS[13]

Problem statement

Health Services are unsatisfactory and inadequate in meeting the needs and demands of the public as reflected by the poor state of health of the population of Nigeria[14]. It is realistic to argue that so of the deaths and serious illnesses, which occur among Nigerians, are due to conditions, which are easily preventable with simple remedies, lack of timely and appropriate care often increases the risk of serious complications in the course of minor ailments[15]. The current high rate of morbidity and mortality can be reduced substantially by a more rational application of available resources, even at the time of financial stringency[16]. It appears that majority of them rejected it out righty; others are still reluctant to take a stand, as they are all suspicious of government motives, intention and strategies especially when they realized that there will be a monthly deduction from their salaries as their contribution into the solidarity pool for running the scheme[17].

The government, on the other hand, sees the need for implementing the scheme and had made a frantic effort towards convincing the civil servants through Series of activities, including dialoguing with Nigerian labor congress (NLC)[18]. As at February 2009, the scheme has registered over 4 million federal civil servants and their dependents. These statistics show that only 3 percent of the 140 million Nigerians are befitting from the scheme. About 23 billion naira has been disbursed to 7850 accredited health facilities nationwide[19]. Patients satisfaction depends on many factors such as hospital infrastructure, wait time before seeing the doctors, quality of clinical services provided, physical comfort, availability of medicine, the behavior of doctor and other health staff, emotional support and respect for patients' preferences[20]

A specific benefit of NHIS to enrolees include easy access to efficient health care services at all times, protection from the financial hardship of medical bills, affordable health services for all incomes group[21]. Various reform programs put in place and government has expressed its determination to pursue a bold reform of the system[22]. in the attempt by the government to ensure that all citizens attain a state of perfect physical, mental and social wellbeing, it has formulated and implemented national health policy. The NHIS is a corporate body established under Act 35 of 1999 by the federal government of Nigeria to improve the health of all Nigerian at an affordable cost. Health insurance is an approach that protects the insured person from paying high treatment cost during an episode of sikness[23].

Health services consumers' acceptance and satisfaction are important. Since quality is one of the most important determinants in the success of any policy aimed at providing equitable efficient and sustainable health care service to the citizenry[24].

Therefore, this study is an assessment of the response of civil servants to health care delivery through the National Health Insurance Scheme. The study aims to determine the level of acceptance and satisfaction with the National Health Insurance Scheme among civil servants in Sokoto metropolis.

Methods

Sokoto state is one of the 36 states in Nigeria and it is located in the North-Western geopolitical zone of the country it lies between longitude 050 111 to 130 031 East and latitude 13000 to 130061 north and covers an area of 60.33 square Km with an estimated projected population of 5,468,795 people in the year 2019[25]. The Hausa and Fulani constitute the predominant ethnic groups and Islam is the predominant religion. Farmers form the largest proportion of the population, while the rest are mostly civil servants traders and artisans[25].

There are 23 LGAs in the state with health zones namely, East, Eest and Central zones. Sokoto South, Sokoto North, Wamakko and Dange Shuni LGAs are the four out of the 23 LGAs that make up the metropolis.

The Study population comprised of Civil Servants in Sokoto Metropolis enrolled in any form of the National Health Insurance Scheme. The study was a cross-sectional descriptive Study with a sample size of 425 respondent that were selected through a multistage sampling technique.

Data was collection via a semi-structured interviewer-administered questionnaire, coded and entered into an excel spreadsheet for analysis. Continuous variables were summarised as mean and standard deviation, while categorical data were summarized using frequency and percentage. Differences between proportions were determined using the chi-square test. Logit Regression Model was used to assess factors that influence acceptance and satisfaction, the model was adapted[26.,27].

The independent variables are Religion, Educational level, Occupational status, marital status, family type, number of children, hospital visit during the last quarter, general Knowledge on NHIS and Knowledge of financial contribution. Others are waiting time, quality of care and medication and family coverage while Dependent variables are acceptance and satisfaction.

Each correct response of acceptance criteria was scored one point (1) while zero (0) was given for the wrong answer or no response; the respondent's acceptance is graded as yes or no. Eight criteria were used to classify acceptance into accepted for five correct points and above while less than five points as not accepted. This grading method was adopted and modified. 48 The satisfaction was on five points Likert scale ordinal response on six criteria. The responses were converted to percentage scale response as follows: Very Satisfied = 5 points (100%), Satisfied = 4 points (80%), Not Satisfied= 3 points (60%), dissatisfied = 2 points (40%), very dissatisfied = 1 point (20%) with the following operational percentage range definitions: very satisfied (81%–100%), satisfied (61%–80%), not satisfied (41%–60%), disatisfied (21%–40%), and very disatisfied (0%--20%).

The satisfactory part of the questionnaire has six questions in total, each question is scored on a scale of one to five. Enrollee with an average score of three points and above in all six questions was defined as "Satisfied". While those with an average score below three points in all six questions were defined as "not satisfied", adopted[28].

Ethical clearance was obtaine from the Health Research Ethics Committee of Sokoto State Ministry of health.

Results

Table 1. Distribution of socio-demographics of respondents (n=425)

Characteristics	Frequency	Percent
Age group (years)		
20-29	44	10.35
30-39	140	32.94
40-49	144	33.88
50-59	90	21.18
60-69	Mean age =41.7 years 7 SD ±9.3	1.65
Gender		
Male	282	66.4
Female	143	33.6
Tribe	311	73.2
Hausa/fulani	39	9.2
Igbo	55	12.9
Yoruba	20	4.7
Religion	349	82.1
Islam	74	17.4
Christian	2	0.5

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Education		
Primary	9	2.1
Secondary	134	31.5
Tertiary	282	66.4
Occupation		
Senior civil servant	246	57.9
Junior civil servant	179	42.1
Marital Status		
Single	12	2.8
Divorced	7	1.6
Widowed	8	1.9
Married	398	93.6
Type of family		
Monogamy	279	65.6
Polygamy	134	31.5
Not married	12	2.9
Number of children		
≤ 4	278	63.4
≥ 5	147	34.6

More than 60% of respondents were between 20 and 39 years, mean age was 41.7 ± 9.3 years. Majority 73.2% were Hausa/Fulani, Muslim 82.1% and 66.4% had tertiary education respectively. Almost all the respondents (93.6%) are married and 65.6 % were in a monogamous relationship.

Table 2. Distribution of responses on acceptance of national health insurance scheme

S/N	Yes (%)	Response n= 425 No (%)
1. Do you have good understanding of NHIS scheme	237 (55.8 %)	188 (44.2 %)
2. Do you accept to enrol into the NHIS Programme	343 (80.7 %)	82 (19.3 %)
3. Do you know your financial contribution into the scheme	114 (26.8 %)	311 (73.2 %)
4. Did you access service in the last Quarter	330 (77.6%)	95 (22.4%)
5. Will you recommend the scheme to others	137 (32.2%)	288 (67.8%)
6. Do you feel NHIS is necessary for civil servants	343 (80.7%)	82 (19.3%)
7. Do you accept NHIS as a means to solving health expenditure	338(79.5%)	87 (20.5 %)
8. Do you accept the benefit package	331 (77.9%)	94 (22.1 %)

The level of good understanding of the scheme was 55.8% and acceptance to enrol into the scheme as 80.7% however, only 26.8% knew their financial contribution into the scheme and 32.2 % recommend it to others. Among the respondents, 77.6% access service in the last quarter and 77.9% accepted the benefit package. Also 80.7% of the respondents feel it is necessary for civil Servants and 79.5% accepted it as a means to solving health Expenditure.

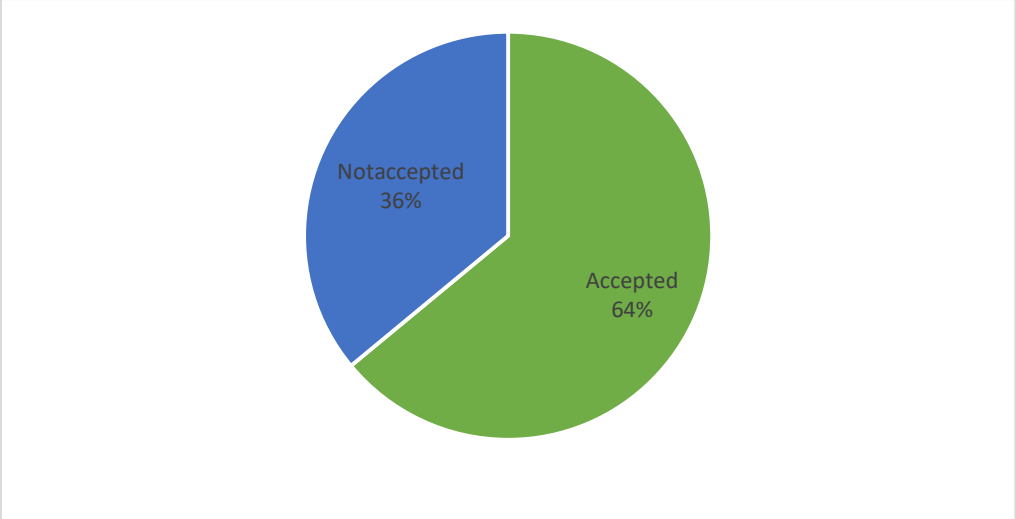

Figure 1. Overall client acceptance with national health insurance scheme shows a total of (272) 64% of the respondents accepted the scheme, while (153) 36% did not accept the scheme

Table 3. Distribution of respondents' responses on satisfaction with NHIS services

S/N	Variable	Satisfied (%)	Response n= 425 No Satisfied (%)
1	Acces to Health care	271 (63.77 %) 154 (36.23 %)	154 (36.23 %)
2	Waiting time	182 (42.93 %) 243 (57.17 %)	243 (57.17 %)
3	Patient-Provider Relationship	170 (40.0 %) 255 (60.0 %)	255 (60.0 %)
4	Qualitative of Care and Medication	182 (42.8%) 243 (57.2%)	243 (57.2%)
5	Availability of Doctor and Nurses	251 (59.1%) 174 (40.9%)	174 (40.9%)
6	Family Coverage of the Scheme	178 (41.8%) 247 (58.2%)	247 (58.2%)

More than fifty percent 243 (57.17 %) of the respondents are not satisfied with the waiting time, 255 (60.0 %) are not satisfied with the patients' provider relationship and 243 (57.2%) are not satisfied with the Qualitative of Care and Medication while 247 (58.2%) are not satisfied with the Family Coverage of the scheme. However, clients were satisfied with Acces to Healthcare and Availability of Doctor and Nurses with 271 (63.77 %) and 251 (59.1%) respectively.

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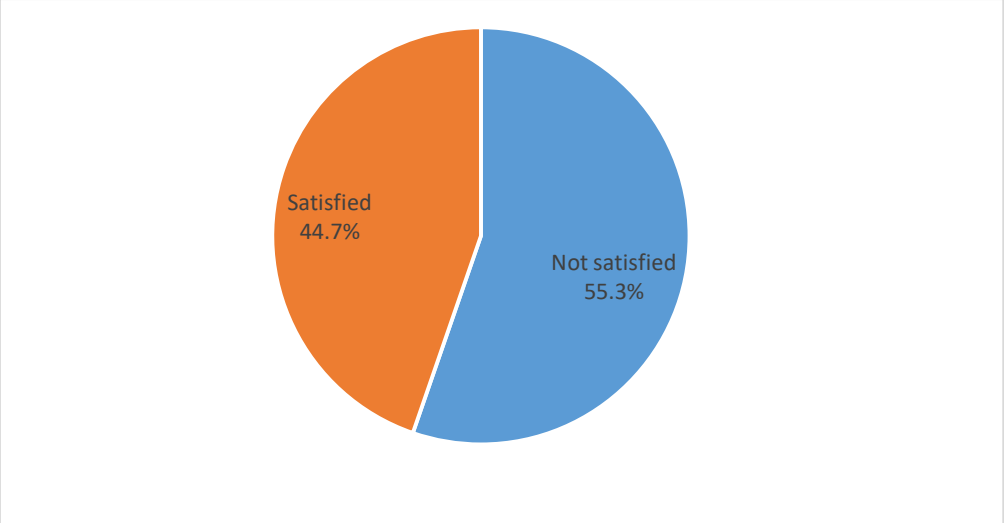

Figure 2. Overall client satisfaction with national health insurance scheme shows that a total of (235) 55.3 % of the respondents are not satisfied with the scheme, while (190) 44.7% are satisfied with the scheme

Table 4. Relationship between respondents' sociodemographic characteristics and overall acceptance of national health insurance scheme

Characteristics	Accepted *n* (%)	Not accepted *n* (%)	X^2	P
Age			20.359	0.000
20-29	25(7.6)	19(20.0)		
30-39	107(32.4)	33(34.7)		
40-49	120(36.4)	24(25.3)		
50-59	75(22.7)	15(15.8)		
60-69	3(0.9)0	4(4.2)		
Gender			0.000	0.993
Male	219(66.4)	63(66.3)		
Female	111(33.6)	32(33.7)		
Ethnicity			35.408	0.000
Hausa/Fulani	257(77.9)	54 (56.8)		
Igbo	31(9.4)	8(8.4)		
Yoruba	36(10.9)	19(20.0)		
Others	6(1.8)	14 (14.0)		
Religion			12.620	0.002
Islam	280(84.8)	69(72.6)		
Christian	50(15.3)	24(25.3)		
Others	0(0.0)	2(2.1)		
Education			8.116	0.017
Primary	4(1.2)	5(5.30		
Secondary	111(33.6)	23(24.2)		
Tertiary	215(65.2)	67(70.5)		
Occupation			8.428	0.038
Senior civil servants	197(59.7)	49(52.6)		
Junior civil servants	133(40.3)	44(47.4)		
Marital status	13.817	0.003		
Single	10(3)	2.1(56.8)		

Divorce	2(0.6)	5.3(8.4)		
Widow	4(1.2)	4.3(20.0)		
Married	314(95.2)	84(88.4)		
Family type			3.667	0.055
Monogamy	208(65.0)	71(75.5)		
Polygamy	112(35.0)	23(24.5)		
Number of Children			4.131	0.127
Less than four	200(60.6)	68(71.6)		
More than four	121(36.7)	26(27.4)		

There are significant associations between Age (p = 0.001), Ethnicity(p =0.001), Religion(p = 0.002), Education(p = 0.017), Occupation(p = 0.038) and Marital Status (p = 0.003) respectively with the overall Satisfaction of clients with National Health insurance Scheme

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Table 5. Binary logistic regression of acceptance with independent variables of the model

							95% C.I.for EXP(B)	
Variables	B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Age ≤ 40 year ≥ 41 years	-.708 Reference Group	.302	5.501	1	.019	.492	.272	.890
Ethnicity Hausa/Fulani Others	-1.088 Reference Group	.416	6.829	1	.009	.168	1.313	6.711
Religion Islam Others	.484 Reference Group	.494	.959	1	.327	.616	.234	1.624
Education Tertiary Primary/secondary	-1.574 Reference Group	.492	10.228	1	.001	.207	.079	.544
Occupational Status Junior civil servant Senior civil servant	1.029 Reference Group	.444	5.376	1	.020	2.798	1.173	6.679
Marital Status Married Others	.774 Reference Group	.543	2.035	1	.154	2.169	.749	6.283
Knowledge of financial Yes No	.748 Reference Group	.433	2.980	1	.084	2.113	.904	4.940
Knowledge of NHIS Yes No	.762	.295	6.681	1	.010	2.142	1.202	3.818

	Reference Group							
Waiting Time	-.304 Reference Group	.152	3.975	1	.046	.738	.547	.995
Qualitative Care	-.362 Reference Group	.149	5.875	1	.015	.696	.520	.933
Family Coverage	-.434 Reference Group	.140	9.610	1	.002	.648	.492	.852
Constant	3.431	1.230	7.780	1	.005	30.903		

Table 5 reveals the outcome of the relationship between, dependent variables and client acceptance. According to the results, age p = 0.019, ethnicity p = 0.009, educational p = 0.001, occupation, p = 0.020, knowledge on NHIS p = 0.010, waiting time p = 0.046, qualitative of care/medication p = 0.015, and Family coverage p = 0.002 has significant relationship with Client Acceptance

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Table 6. Regression analysis of satisfaction with independent variables of the model

Variables	B	S.E.	Wald	Df	Sig.	Exp B)	95 C.I. for EXP(B)	
							Lower	Upper
Age ≤ 40years ≥ 41 years	-.437 Reference Group	1.471	.086	1	.769	.649	.036	11.608
Ethnicity Hausa/Fulani Others	4.170 Reference Group	2.365	3.109	1	.078	64.740	.628	67.174
Religion Islam Others	.629 Reference Group	2.384	.070	1	.792	1.876	.018	20.482
Education Tertiary Primary/secondary	-1.065 Reference Group	2.266	.221	1	.038	.345	.004	29.271
Occupational Status Junior civil servant Senior civil servant	2.027 Reference Group	2.133	.903	1	.042	7.588	.116	6.400
Marital Status Married Others	.306 Reference Group	15.252	.000	1	.984	1.358	.000	13.076
Know Contribution Yes No	2.993 Reference Group	2.017	2.202	1	. .138	19.950	.383	39.571
Knowledge NHIS Yes No	1.286 Reference Group	1.629	.623	1	.430	.276	.011	6.728
Waiting Time	-9.145 Reference Group	3.337	7.509	1	.006	.000	.000	.074
Qualitative Care	-4.309 Reference Group	1.631	6.977	1	.008	.013	.001	.329
Family Coverage	-9.345 Reference Group	3.804	6.037	1	.014	.000	.000	.151
Constant	70.140	25.702	7.447	1	.006	2.893		

Educational p = 0.038, Occupation p = 0.042, Waiting time p = 0.006, qualitative of care and Medication p = 0.008, and Family coverage p = 0.014, all has significant relationship on satisfaction

Discussion

In this study, 425 respondents participated with a mean age of 41.75 ± 9.3 years, with the ages ranging from 20-69. The study revealed that majority of the respondents were in the age group 40 – 49. This is in contrast to a study conducted in General hospital, Minna- Niger state- Nigeria where the mean age was 38 years and the majority of the respondents are within the age group of 25 – 40 years[29]. It is also in contrast to a study among employees in Ibadan, southwest Nigeria where (26.0%) of the respondents were within the age limit of 31-35 with a mean age of 34.6±1.7 years[30]. It is also in contrast to a study conducted in Kano Northwest Nigeria on Assessment of the level of satisfaction of the national health insurance scheme where the mean age of respondents was 36 years[31]. However, it is similar to a study on the level of Patients' satisfaction toward national health insurance in Istanbul city (Turkey) with 388 respondents and age range of 20-70 years and mean age was 41.97±13.87 years[26]. It is also similar to a study conducted in Zaria Northwest Nigeria on Understanding client satisfaction with a health insurance scheme in Nigeria: factors and enrolees experiences, where the mean age of the study participants was 41.09 ± 8.97 years[28]. In this study, most of the respondents are within the age groups of 30-39 and 40-49, with 32.94% and 33.88% respectively this is in keeping with the fact that the study group is civil servants who are at their active (productive) age working class of the population. According to this study, majority of the respondents (282) 66.4%, where men and married (398) 93.6%, this agrees with the report of other local and international studies[26, 28]. In addition, the study shows that majority of the respondents are Hausa/Fulani (311)73.2% and the religion of most of the respondents is Islam (349) 82.1%, this is in keeping with studies conducted in the same geopolitical zone of Nigeria (Northwest) [28, 31] and the fact that the predominant religion in the study area is Islam. Most (282) 66.4% have tertiary education and (246) 57.9% are senior civil servants; this finding conforms with other studies[28, 30, 31]. The majority of the respondents (279) 65.6% are in a monogamous relationship and (267) 62.8 had four children and below.

Acceptance

From the 425 respondents, (272) 64% of the respondents accepted the scheme, while (153) 36% did not accept the scheme, the findings aline with a study on NHIS in Kano State North-west Nigeria, where 74.7% opined that the NHIS is a good initiative[32]. It is also similar to a study by Adebimpe & Adebimpe in Osun state southwestern part of Nigeria where they found out that 52% of the respondent agree to participate in the Scheme[33] also in agreement with a study in Edo State Nigeria, where the results revealed that 59.4% expressed willingness to participate in Health insurance[34]. The findings are contrary to the study by Osungbade et ol in Nigeria where they found that 83.9% are willing to participate and 76.6% are willing to pay their premiums[35]. A major difference was noticed when comparing our findings to a study in Punjab where only 11.9% are ready to buy health insurance without any conditions and remaining are willing to buy only if certain conditions will fulfill [36]. The study finds out that there is acceptance of the scheme among civil servants (64%), this may be attributed to the fact that it is compulsory for federal civil servants who are currently enjoying the scheme, it may also be connected with the persistent awareness camping since the inception of the scheme. Client acceptance of NHIS has incresed in recent times especially since the publication of the 1983 NHS management Inquiry and its call for the users' opinion[37].

Satisfaction

The study revealed that there is poor satisfaction with the scheme, only 190 (44.7%) are satisfied and 235 (55.3 %) of the respondents are not satisfied with the scheme. This finding is in keeping with similar studies conducted on client satisfaction in Minna 48.9% satisfaction by Abdulqadir et al [29], also in Ibadan 48.6% satisfaction by Gbadamosi and Famutimi [38], in Sokoto clients' satisfaction was found to be 46.7% by Muhammed and Ibrahim[28] and in Zaria satisfaction was found to be 42.1% by Shafi'u et al, [39]. However, in this study, factors used to assess client satisfaction shows that majority of the clients are satisfied with the Access to service 271 (63.77 %), Availability of Doctor and Nurses 251 (59.1%). However, majority of the client is not satisfied with other factors, which are Waiting Time 182 (42.93 %) satisfaction, Patient-Provider Relationship 170 (40.0 %) satisfaction, Qualitative of Care and Medication 182 (42.8%) satisfaction and Family Coverage of the Scheme 178 (41.8%) satisfaction.

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Factors influencing clients' acceptance

Another very important and interesting area of this study is investigating the factors that influence the clients' Acceptance. To determine which of the study variables best explain the variation in the level of acceptance; multiple logistic regression was done after the establishment of correlation amongst factors, the establishment of association and control of cofounder. Based on the results obtained from the regression analysis, it became clear that eight variables are significant predictors of the level of acceptance in the model. These variables are; age ($p = 0.019$), ethnicity ($p = 0.009$), (educational $p = 0.001$), occupation, ($p = 0.020$), knowledge on NHIS ($p = 0.010$), waiting time ($p = 0.046$), qualitative of care/medication ($p = 0.015$), and Family coverage ($p = 0.002$). The Hosmer and Lemeshow test indicated a good fit chi square of 8.973 and ($p = 0.345$). The logistic regression model was statistically significant, $X^2 = 110.236$, ($p<0.001$). The model explained 35.2% (Nagelkerke R^2) of the variance in acceptance and correctly classified 81.0 % of acceptance. The Nagelkerke R Square R^2 of 0.352 explain the joint influence of all the independent variables on the dependent variable, and the remaining 0.648 is explained by other factors that were not included in the model. This implies that a unit change in all the independent variables could bring about 35.2% changes in the dependent variable (client Acceptance).

Table 6 shows the result of the logistic regression of independent variables against client Satisfaction. Inverting the odds ratio for age and holding all other variables constant, indicates that those above 41 years old are 2.03 times likely to accept than those below 41years. Inverting the odds ratio for ethnicity reveals that other tribes are 5.95 times likely to accept the scheme than Hausa/Fulani. Inverting the odds ratio for education also shows that those with tertiary education are 4.83 times likely to accept than those with primary/secondary education. According to the results, senior civil servants are 2.7 times more likely to accept than junior civil servants are. So also, married respondents are 2.1 times more likely to accept than others are. Those with good knowledge of the scheme and knowledge of financial contribution are twice more likely to accept the scheme than others. Accordingly, waiting time, quality of care/medication and family coverage means that for each one-point decrease on the five-point Likert scale there are a 1.35, 1.54, and 1.45 odds of not accepting the scheme, respectively. Due to the strong relationship between the dependent and independent variables and more importantly the significant relationship between Occupation, Marital Status, Good knowledge on NHIS and knowledge of financial contribution and the dependent variable (Acceptance), the null hypothesis was rejected, while the alternative hypothesis was accepted.

Factors influencing client satisfaction

Another aspect of the study is to determine the factors that influence clients' satisfaction. To determine which of the study variables best explain the variation in the level of satisfaction; Binary logistic regression was done after the establishment of correlation amongst factors, the establishment of association and control of cofounder. Based on the results obtained from the regression analysis, it became clear that five variable has a positive relationship on the level of satisfaction in the model. These variables are; educational ($p = 0.038$), occupational ($p = 0.043$), waiting time ($p = 0.006$), quality of care/medication ($p = 0.008$) and Family coverage ($p = 0.014$).

The Hosmer and Lemeshow test indicated a good fit chi square of 4.663 and ($p = 0.793$). The logistic regression model was statistically significant, $X^2 = 556.697$, ($p<0.001$) and accounted for 97.9 % of the variance (Nagelkerke R Square = 0.979) and correctly classified 98.8 % of Satisfaction. The Nagelkerke R Square R^2 of 0.979 explain the joint influence of all the independent variables on the dependent variable, this implies that a unit change in all the independent variables could bring about a 97.9% changes in the dependent variable (client Satisfaction). The findings are similar to a study in Turkey by Jadoo et al [26], where educational level and occupational status amongst other factors that influence satisfaction. Furthermore, the result is in the agreement of reports of Abdulqadir et al [29], Onyedibe et al[25], and Mohammed et al [28], who all claimed that clients with more knowledge about the scheme and those that are aware of their financial contributions are more satisfied with the scheme.

Table 6 shows the result of the logistic regression of the independent variables against satisfaction. Inverting the odds ratio for education and holding all other variables constant, indicates that those with tertiary education are 2.89 times likely to be satisfied than those with primary/secondary education.

According to the results, senior civil servants are 7.5 times more likely to be satisfied than junior civil servants are. Also, waiting time and quality of care/medication while holding all other variables constant, indicates that for each one-point decrease on the five-point Likert scale there is a 100 odd of not being satisfied with the scheme. Inverting the odds ratio for family coverage means that for each one-point decrease on the five-point Likert scale there are 76.9 odds of not being satisfied with the scheme.

Therefore, based on these results, the null hypothesis was rejected while the alternative hypothesis was accepted. Because there is a relationship between the dependent and independent variables, and more importantly there is a significant relationship between waiting time, quality of care and medication, family coverage on the dependent Variable (Satisfaction).

Conclusion

This study revealed that the majority of civil servants in Sokoto state have accepted the national health insurance scheme however the level of satisfaction is low. This show that, civil servants are accepting to enroll in the scheme but are not satisfied with the services, the services do not meet their expectation. The acceptance of the scheme by civil servants could be because of the compulsory nature of the scheme on civil servants. Civil servants' satisfaction with national health insurance scheme can be influenced by various factors especially the poor knowledge of health insurance specifically their financial contribution into the scheme, also most clients are not satisfied with the waiting time, quality of care, medication, and their family coverage of the scheme.

Both acceptance and satisfaction are influenced strongly by the educational level, occupational status, and knowledge of the scheme.

Recommendation

1. There is a need to create regular sustained publicity awareness.
2. Government and Stakeholders should provide appropriate educational materials on NHIS for dissemination information to both federal and state civil servants and non-civil servants
3. The government should ensure periodic identification of related influencing factors on clients' satisfaction as a basis to improve on its services and thereby utilization
4. Enrolment should be voluntary among civil Servant.

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