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Payment for Health Care and Perception of the National Health Insurance Scheme in a Rural Area in Southwest Nigeria

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Abstract. Health insurance coverage of the informal sector is a challenge in Nigeria. This study assessed the methods of payment for health care and awareness about the National Health Insurance Scheme (NHIS) among members of selected households in a rural area in the southwest of Nigeria. Using a multistage sampling technique, a semi-structured, pretested interviewer-administered questionnaire was used to collect data from 345 households. The majority of the people still pay for health care by out-of-pocket (OOP) method. Awareness about the NHIS in Nigeria was poor, but attitude to it was encouraging; and from the responses obtained, the people implied that they were willing to enroll in the scheme if the opportunity is offered. However, lack of trust in government social policies, religious belief, and poverty were some of the factors that might impede the implementation and expansion of the NHIS in the informal sector. Stakeholders should promote socioculturally appropriate awareness program about the NHIS and its benefits. Factors that might present challenges to the scheme should be adequately addressed by the government and other stakeholders associated with prepayment schemes in Nigeria.

INTRODUCTION

The majority of the burden of disease and disability in developing countries is avoidable or at least could be considerably lessened if quality health-care services are accessible and could be used without any form of hindrance. However, in most developing countries, access to health care is impeded by financial incapacity. Payment for health-care service by individuals in Nigeria could be through several means including out-of-pocket (OOP) expenses or prepayment through health insurance. However, the majority of Nigerians still pay OOP for their health-care needs.[1–4] This method of payment is usually associated with non-utilization of health-care services, late presentation in health facilities, patronizing substandard health-care services, among others. OOP payment predisposes individuals and households to exhaust personal savings, borrow or loan money, sell properties and livestock, and sometimes pay by installments when permitted.[5–7]

Capacity to access health care may be worsened as ill-health reduces or brings to a halt the earning capacity of a household member, and if the head of the household is affected, the basic needs of other members are negatively affected, including food consumption and child education.[8,9]

Adequate knowledge and awareness about a prepayment scheme and its benefits are important for (its) implementation and sustainability. Previous studies carried out mainly among urban dwellers in Nigeria have shown that awareness and knowledge about prepayment schemes as it is available under the National Health Insurance Scheme (NHIS) was low.[10–13] Similar findings were reported in some other developing countries.[6,14,15]

Certain sociodemographic factors such as sex, educational and socioeconomic status are known to influence the awareness about available health-care services and thus, could either promote or serve as a barrier to the uptake of available health-care services.[16–19] These factors could differently affect the uptake of such services among people of differing sociodemographic factors in the same setting. Irrespective of these factors, a prepayment scheme as is available under the NHIS could to a large extent ameliorate observed differences in the uptake of health-care services, and therefore be used as a platform for equitable access to available health-care services regardless of sociodemographic divides.

The NHIS was officially launched in the year 2005, with the goal to enhance the health status of citizens through the provision of financial protection.[20] Although the NHIS commenced operations in Nigeria about a decade ago, it serves only about 4.0% of an estimated total population of 170 million people.[2,3] The majority of the current enrollees are in the formal sector and lives in the urban areas. The majority of the rural dwellers are in the informal sector, among whom any form of prepayment scheme is almost unknown, with a consequent poor access to and utilization of health-care services.[21]

Contributions under the NHIS for the formal sector are earning related, representing 15% of the employee's basic salary out of which the employee pays 5% and the employer pays the rest.[22] At present, enrollment in the NHIS in Nigeria is voluntary. Other programs under the NHIS are largely not yet implemented and are the Community-Based Social Health Insurance Programme, Urban-Self Employed Social Health Insurance Programme, Children Under-Five Social Health Insurance Programme, Permanently Disabled Persons Social Health Insurance Programme, as well as the Prison Inmates Social Health Insurance Programme.[22]

The mode of contribution into the NHIS may thus exclude those not engaged in the formal sector of the economy. These are mainly resident in the rural areas, thus creating an urban–rural disparity in access to health care. To ensure an unhindered adequate coverage and sustainable access to health-care services, a prepayment health-care financing mechanism such as is provided by the NHIS should be designed to suit the peculiar socioeconomic and cultural characteristics of its potential beneficiaries, including rural dwellers. Implementation of such health-care financing schemes requires some understanding of the socioeconomic situation, cultural values,

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and perception of the people. The literature is deficient in studies on the cultural values that may influence the design of a prepayment system for residents of rural communities, particularly in Nigeria.[1,11,23–25] Some studies on prepayment scheme from the southwest of Nigeria focused mainly on urban dwellers,[10,12,13] while none have been published about rural dwellers in the southwest of Nigeria. Thus, an assessment of these attributes among the potential beneficiaries of the scheme is a prerequisite to designing a culturally acceptable method of implementation that will also accommodate the socioeconomic situation of the people. This study was carried out as a first step to, and will contribute to findings that will assist in the design, and implementation of a sustainable prepayment scheme for health care among the informal sector of which majority are in the rural areas of Nigeria.

MATERIALS AND METHODS

Study area. This study was carried out in Orire Local Government Area (LGA) of Oyo State, Nigeria. Orire LGA is a rural area of 10 wards with a total population of 170,858 people and a landmass of 2,040 km^2.[26] The headquarters is at Ikoyi-Ile, a distance of approximately 150 km from Ibadan, Oyo State capital.[27] It comprises quite a few relatively big settlements of between 200 and 300 houses, but majority are smaller settlements linked by mainly untarred, dusty roads and footpaths. Social infrastructure such as electricity and potable water supply are not available. However, there are primary and secondary schools as well as a primary health-care facility at the LGA headquarters.

The study population. These were the residents of Ikoyi-Ile, Tewure, and Olorunda, three of the 10 wards of the LGA. Majority of the residents were farmers, artisans, and traders, while few were civil servants such as school teachers and health-care workers.

Study participants. Only adults aged 18 years and above, who resides and worked in the selected communities and consented to participate, were eligible for the interview. Casual visitors were excluded from the study.

Study design. This is a cross-sectional, descriptive survey carried out between February and March 2012.

Sample size. Sample size was estimated using the result of a previous study where the proportion of those who had a good knowledge of the NHIS was 28.7%,[10] with a power of 80% and a confidence level of 95%. This yields a sample size of 315, and adjusting for a 10% nonresponse rate, a total of 350 respondents were estimated for the study.

Sampling technique. A multistage sampling technique was applied in the choice of respondents for the study as follows: in stage 1, Orire LGA was selected from a list of 33 LGAs in Oyo State. The selection was purposive, to meet one aspect of the general study objectives of conducting the study in a rural population. In stage 2, a list of 10 wards in the selected LGA was obtained. Three wards were randomly selected by simple balloting. Stage 3 involved a total sampling method: a list of the houses in each of the selected wards was obtained from the National Immunization Program office of the Primary Health Care Department of the LGA. All the houses were selected in the study. Stage 4 involved selection of households. Only one household in a building was randomly selected by simple balloting. Also only one person was interviewed in each household. Where the respondent in the first household visited was a male, the selected respondent in the next household was a female. This method was adopted to ensure a balance in gender selection and opinion of the issue under research. The rationale of adopting this selection method was explained because of the patriarchal nature of the society that always prefers a male to represent a household.

Data collection. A semi-structured, pretested interviewer-administered questionnaire was used to collect the data. The questionnaire was developed based on the study objectives and review of relevant literature. A pretest field exercise of the questionnaire was carried out in another ward about 15 km from the study area but within the same LGA. A review of the completely filled questionnaires was done. Ambiguous questions were reconstructed and some were removed entirely. Ethical approval to conduct the study was obtained from the Bowen University Teaching Hospital Research Ethics Committee. Informed verbal consent was also obtained from all participants before the interviews. Participation was limited to permanent residents of the three selected wards. Casual visitors were excluded from the study. The basics of a prepayment scheme for health were appropriately explained to them because it was discovered that the majority of the respondents had never heard about any prepayment scheme for health including the NHIS before the time of the study. Questions from the respondents about the scheme were also permitted. Potential respondents who were skeptical of the scheme gave reasons. They were made to understand the benefits of a prepayment scheme as is available in the NHIS and the importance of the study. Those who declined after the explanation were excluded from the study. Final data collection was completed over a period of 4 weeks.

Data analysis. The data was analyzed using SPSS version 17 (SPSS Statistics for Windows, Version 17.0. Chicago, IL). Frequency tables were generated. χ^2 test was used for bivariate analysis to test associations between selected sociodemographic characteristics and awareness about the NHIS, while logistic regression model was used to determine predictors of awareness about the NHIS. Only variables associated with a P value < 0.10 in bivariate analyses were considered eligible for inclusion in multiple logistic regression analyses. Level of statistical significance was set at $P < 0.05$.

RESULTS

A total of 345 consenting adults aged 18 years and above participated in the study. Thus, the response rate was 98.6%.

Sociodemographic characteristics of respondents. Mean age of respondents was 39 ± 15.3 years. As shown in Table 1, men and women were almost equal in proportion because of the method of selection of units of enquiries adopted. The majority (63.2%) of the study participants had at least received a primary or secondary school education. The majority (78.0%) of the respondents were married, of the Yoruba ethnic group (89.3%), predominantly artisans or traders (62.3%), and more than half (56.2%) of them were of the Islamic faith.

Methods of payment for health care. The most common method of payment for health care reported was by OOP, 94.2%, as shown in Table 2. Estimated monthly health expenditure was less than 2,000 Niara (₦2,000) (approximately $12.1 equivalent) in 61.2% of the respondents.

First source of information about the NHIS. Only, 6.4% of the respondents were aware of the NHIS (Table 2). Those

TABLE 1
Sociodemographic characteristics of participants

Characteristics (N = 345)	Frequency (no.)	%
Age (years)		
< 20	8	2.3
20–29	99	28.7
≥ 30	238	69.0
Mean age	39.0 ± 15.3	
Sex		
Male	174	50.4
Female	171	49.6
Marital status		
Married	269	78.0
Others*	76	22.0
Religion		
Christianity	146	42.3
Islam	194	56.2
Traditional worshipper	5	1.4
Tribe		
Yoruba	308	89.3
Others†	37	10.7
Educational status		
No formal education	94	27.2
Primary/secondary	218	63.2
Postsecondary	33	9.6
Occupation		
Farming	61	17.7
Trading/artisan	215	62.3
Others‡	69	20.0

*Separated, divorced, widow, and widower.
†Ibo, Hausa, Igede, Idoma, Togolese, and Ghanian.
‡Civil servant, commercial vehicle driver, and housewife.

who were aware (45.5%) cited the electronic media such as the radio and television (TV) as the main source of information. This was closely followed by close associates as reported by 41.0% of the respondents.

Opinions of respondents about the NHIS. Respondents generally were willing to participate in prepayment scheme for healthcare (Table 3). Almost all (89.9%) agreed that it is a better method of paying for health services than the OOP method and that they (95.7%) would be willing to encourage other people to enroll.

Concerns about the NHIS as a government program. Although a great majority of the respondents showed an interest in a prepayment scheme such as the NHIS as reported in Table 3, many of the respondents expressed concerns about the scheme as a social policy program initiated by the government. Table 3 shows the various areas of their concerns despite their interest. Their greatest concern is transparency if the fund is managed by public officials (88.4%), followed by trust in government public policies for its reliability and sustainability (62.3%).

TABLE 2
Estimated monthly expenditure, mode of payment for health care, and awareness about the NHIS

Variable	Frequency (no.)	%
Monthly health expenditure (Naira) (N = 345)		
< 2,000	211	61.2
≤ 2,000	108	31.3
Cannot estimate	26	7.5
Method of payment for health-care costs (N = 345)		
OOP	325	94.2
Upfront payment	8	2.3
Other forms of payment	7	2.0
Declined response	5	1.4
Ever heard about the NHIS (N = 345)		
Yes	22	6.4
No	323	93.6
First source of information about the NHIS (N = 22)		
Radio	7	31.8
TV	3	13.6
Print media	3	13.6
Close associates	9	41.0

NHIS = National Health Insurance Scheme; OOP = out-of-pocket; TV = television.

Respondents' sociodemographic characteristics and awareness about the NHIS. Table 4 shows the association between certain sociodemographic characteristics of respondents and awareness about the NHIS. Awareness about the NHIS was associated with education. Postsecondary education was significantly associated with the awareness about the NHIS ($\chi^2 = 35.536$, $P < 0.001$); more males compared with females were aware of the scheme than females ($\chi^2 = 9.258$, $P = 0.002$); while a monthly health expenditure of ₦2,000 or more was also significantly associated with awareness about the scheme ($\chi^2 = 4.260$, $P = 0.039$). Age was not significantly associated with awareness about the NHIS.

Predictor of awareness about the NHIS among respondents. Men were over seven times more likely to be aware of the scheme than women (odds ratio [OR] = 7.35, confidence interval [CI] = 1.63–33.11, $P = 0.009$) (Table 5). Education was also found to be associated with awareness about the NHIS. Lower education (no formal/primary/secondary) was significantly associated with less likelihood of awareness about the NHIS. Furthermore, monthly health expenditure of less than ₦2,000 was associated with less likelihood of awareness about the NHIS, though the association was not statistically significant.

DISCUSSION

Study participants comprise young adults and middle age people. Men and women were almost equally represented. More than 90% of the respondents in this study reported paying OOP for health care. They live in the rural areas where access to formal health facility is poor and utilization of health care is also low.[28,29] This finding is consistent with previous findings, which show that OOP payment is quite common in low- to middle-income countries, a payment method that predisposes to catastrophic health expenditure especially where there is a high rate of poverty and poor access to quality health services, which is a common feature especially in the rural areas of most developing countries including Nigeria.[13,15,30] With this finding and in agreement with previous studies, those who pay for their health care by OOP as well as their household members face the risk of inequitable access to and delayed utilization of health care, limited health care, or failure to seek care at all. It could also disrupt children education.[1,31,32] The consequence can be enormous with poor health outcome, poverty, and sometimes death. Most of these are avoidable where there is a well-functioning prepayment scheme for health. In Nigeria, there is an inequitable access to health services resulting in general poor health outcome indicators. This is worse in the rural areas.[4,21,29]

Some of the fallout of the reported OOP payment among the study participants was the strategies adopted by those who reported difficulty paying for care. Most reported borrowing money or securing a loan, closely followed by those who reported installment payment, deferred payment, or

TABLE 3
Perception of and expressed concerns about the NHIS ($N = 345$)

Perception	Agree *n* (%)	Disagree *n* (%)	Don't know *n* (%)
It is better than OOP	310 (89.9)	27 (7.2)	8 (2.3)
Minimize financial hardship	328 (95.1)	6 (1.7)	11 (3.2)
Will encourage others	330 (95.7)	7 (2.0)	8 (2.3)
Enhance access to health care	332 (96.2)	3 (0.9)	10 (2.9)
A good idea	334 (96.8)	4 (1.2)	7 (2.0)
	Concerns about the scheme	Frequency (no.)	%
	Little or no trust	215	62.3
	Transparency with funds	305	88.4
	Conflict with belief	89	25.8
	Poor financial status	115	33.5

NHIS = National Health Insurance Scheme; OOP = out-of-pocket.

received help from relatives and friends. This is in consistency with previous study findings.[7,33] The reported strategies are indicators of financial insufficiency and difficulties. In this type of setting, individuals and households are likely to experience these challenges often in the course of a lifetime. Thus, a scheme that will lessen the tendency to financial hardship among the people as a result of seeking health-care services when needed is necessary.

Previous studies as well as official documents from international organizations such as the United Nations have documented prepayment methods especially where it is mandatory as one of the ways to achieve universal health coverage in low-income countries of the world.[34,35] Because of the immense benefits inherent in prepayment health-care financing methods, quite a number of African countries have embraced it, and this have been proven as an effective means of achieving universal health coverage.[34,36]

As part of the efforts to achieve universal coverage, the NHIS in Nigeria was established, which commenced operations some years ago. However, this study showed that a negligible few of the respondents were aware about and also reported paying for health care through the scheme. This scenario is quite different from the situation in neighboring Ghana that launched its health insurance scheme almost at the same time as Nigeria. Unlike Nigeria, Ghana has made substantial progress toward achieving universal coverage.[36] The situation of the low performance of the scheme in Nigeria could be attributed to many factors among which is that at present, health insurance is voluntary, whereas it is mandatory in Ghana.[35,37]

Sensitization and therefore awareness and knowledge about an issue or activity usually precede arousal of interest and possible active participation in such an activity.[23,30] In this study, awareness about the NHIS or any prepayment scheme was very low as only 6.4% of them reported having heard about it for the first time through the radio or the TV. This finding is similar to some earlier studies.[13] Nyagero and others[15] have shown that those who were aware about health insurance were more likely to participate, moreover, when the awareness was through multiple strategies such as the radio and life drama.

It has been shown that awareness and adequate knowledge about health insurance has positive correlation with membership of a health insurance scheme[14] Previous studies have shown that membership of a form of health insurance is more likely among men, those with higher education as well as those with chronic illnesses.[38,39] For various reasons, awareness about health insurance is likely to be high among these three categories of individuals. In this study, the higher

TABLE 4
Respondents awareness about NHIS and sociodemographic characteristics ($N = 345$)

Variable	Awareness about the NHIS: Aware *n* (%)	Not aware *n* (%)	Test statistics	*P* value
Age (years)				
< 40	16 (7.2)	206 (92.8)	$\chi^2 = 14.286$	0.396
≥ 40	6 (4.9)	117 (95.1)		
Sex				
Male	18 (10.3)	156 (89.7)	$\chi^2 = 9.258$	0.002
Female	4 (2.3)	167 (97.7)		
Marital status				
Married	16 (5.9)	253 (94.1)	Yates continuity correction = 0.121	0.728
Others*	6 (7.9)	70 (92.1)		
Educational status				
No formal education	3 (3.2)	91 (96.8)	$\chi^2 = 35.536$	< 0.001
Primary	2 (2.2)	87 (97.8)		
Secondary	7 (5.4)	122 (94.6)		
Postsecondary	10 (30.3)	23 (69.7)		
Estimated monthly income (Naira)				
< 2,000	9 (4.3)	202 (95.7)	$\chi^2 = 4.260$	0.039
≥ 2,000	11 (10.2)	97 (89.8)		

NHIS = National Health Insurance Scheme.
*Separated, divorced, widow, and widower.

TABLE 5
Logistics regression analysis predicting awareness about NHIS

Variable	OR	95% CI	*P* value
Sex			
Male	7.35	1.63–33.11	0.009
Female			
Educational status			
No formal education	0.15	0.04–0.64	0.011
Primary	0.09	0.02–0.52	0.006
Secondary education	0.19	0.06–0.59	0.0005
Postsecondary	–	–	–
Estimated monthly expenditure on health care (Naira)			
< 2,000	0.43	0.16–1.14	0.089
≥ 2,000	–	–	–

CI = confidence interval; NHIS = National Health Insurance Scheme; OR = odds ratio. Hosmer–Lemeshow goodness of fit test: $\chi^2 = 14.641$, df = 8, $P = 0.067$.

the formal education, male respondents and health expenditure of less than ₦2,000 in a month were predictors of awareness about the NHIS. Better educated individuals are usually more able to access diverse sources of information, correctly process and take advantage of inherent benefits therein than those who are less educated and those without formal education. This tendency to be more aware and take advantage of useful social policies could be more among men, because of their more adventurous nature. Those who spent less on health-care needs on monthly basis were more likely to be in the lowest socioeconomic status, who could not afford to spend more on health-care needs. They may adopt other coping mechanisms such as alternative care, presenting late at health facilities, or not receiving care at all.[32] These group of individuals might develop chronic illnesses among other complications.

Awareness creation to sensitize the rural populace about the NHIS and its benefits could lead to a high demand for the scheme. This could also draw the attention of the government and other stakeholders to the issue. Awareness and adequate knowledge about health insurance among the potential beneficiaries could empower them to embark on lobbying efforts, channeled through their political representatives, thus, the potential beneficiaries could serve as political entrepreneurs themselves, facilitating the issue getting onto the political agenda for deliberation.[40]

Participants in this study expressed interest in the NHIS. This could imply that they were willing to participate in a prepayment system as is found in a health insurance scheme. This attitude is similar to findings in preceding studies, which have shown that potential beneficiaries and health policy makers were interested in health insurance and expressed their willingness to participate.[6,34] Despite this favorable attitude to health insurance scheme, majority of African countries are yet to adopt it, among those who have adopted it, some are still struggling with expanding it. This is the current situation in Nigeria. Some of the attributive factors to this difficulty in expansion are the large informal sector of the population and also at present, health insurance has not been made mandatory by law in Nigeria.[3,34] Another factor that needs to be looked into is the political institution and structure in the country. Presidential systems operate with different States as federating units and are to a large extent autonomous from the central government. Different political parties also exist, which could be different from the party in control at the center (executive arm). This political structure played a major role in the long process of establishing a nation-wide health insurance in the United States, which spanned over decades without success despite policy makers and potential beneficiaries interest, until lately when a major progress was achieved with ObamaCare.[41,42] It has taken the United States that long to implement a country-wide health insurance scheme because of the presidential system that allows politicians, as well as sectional, market-related interests groups in the health industry to lobby. Politicians do so mainly for political interests, while health-related interest groups do for economic/fiduciary interests. Conflicting economic and political interests often tend to have negative impact on issues of public interests as depicted in the process of nation-wide health insurance scheme in the United States. In Nigeria, at present, the difficulty making health insurance mandatory and poor progress achieved in its expansion could be attributed to similar factors that militated against the implementation of a nation-wide scheme in the United States prior to the recent development.[42]

Expressing interest in an issue may not necessarily translate to active participation. In the context of this study, the respondents though showed interest to participate in a prepayment scheme such as the health insurance but they also made known their concerns. The main areas of concerns were about trust in government programs, transparency with funds, conflict with religious and cultural beliefs, and their (respondents) poor financial status. These themes were not explored in this study because it is quantitative in design. Previous studies have reported similar findings that low level of trust in government public policies was responsible restraining people from participating in a prepayment scheme in Cambodia and was also shown in a Nigeria study as a likely factor that might dissuade people from participating.[12,30] However, this is in contrast to a study by Mathaeurs and others[6] where people did not express any element of distrust in government managing insurance funds. The low level of trust in government programs could result from peoples experiences in previous programs that either failed or whose financial resources were mismanaged. However, the favorable predisposition of people to government-driven health insurance scheme in Cambodia could have been as a result of an acceptable performance by the responsible authority in other public policies and programs in that country.

Understanding people in Africa requires some understanding of prevailing religious and cultural believes.[43] In this study, some of the participants raised an issue about paying premium in health insurance as synonymous to inviting sickness. Jütting,[8] in a study, identified cultural belief about buying a health insurance scheme as equivalent to wishing oneself ill-health. Cultural and religious beliefs could be an obstacle to buying health insurance especially in the rural areas.[34] Selling the idea of health insurance successfully to the people who hold these cultural and religious views about paying premium will require a lot of effort and understanding in changing a long-held belief. It is likely to be more prevalent among uneducated people of which a majority is found in the rural areas.

Poverty level is high in Nigeria with the rural population worst hit.[28] Many people in the course of interaction expressed concern about their inability to afford a set premium in a health insurance scheme because of their poor financial status and inconsistent income. This is in agreement

with findings in some previous studies.[1,24] Earlier works,[34,44] have made useful suggestions about technical design of health insurance such as frequency and amount of contribution that will suit different socioeconomic groups of people. Also innovative ways of fund-raising at the domestic level especially on goods purchased and services sought by the better -off in the society as a source of revenue collection to help the poor and the needy for a sustainable health-care financing scheme have been suggested.[34] Country-wide cross-subsidization to strengthen smaller and weaker fund pools was done successfully in Rwanda. This example has been suggested to ensure that the poor and other vulnerable groups of the populace are covered.[45,46]

Limitations. Expressed concerns of participants about prepayment schemes could not be discussed deeply because of the quantitative nature of this study. Extending the study to other parts of the country with different cultural and religious beliefs and using more robust sampling technique will ensure that likely differences in contextual factors are addressed while designing a scheme for the general populace.

In conclusion, this study has shown that in Nigeria, awareness about health insurance is low, coverage is also low but willingness to participate among potential beneficiaries is good. However, little or no trust in government policies, religious belief, and poverty are some of the factors that could be challenges in the implementation and sustainability of the scheme. It is recommended that awareness creation about health insurance and its benefits are promoted. Also the government and other stakeholders need to address the areas of concern expressed by the people.

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