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Willingness to Participate in the National Health Insurance Scheme among Staff of a Higher Academic Institution in South-West Nigeria

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ABSTRACT

Background: The National Health Insurance Scheme (NHIS), a healthcare financing policy to ensure universal health coverage and reduce out-of-pocket health expenditures is presently under-utilized by the Nigerian population. This study assessed the willingness to participate in NHIS among staff of University of Medical Sciences Ondo (UNIMED), Ondo, Nigeria.

Methods: This was a cross-sectional study. A structured pre-tested, self-administered questionnaire was used to elicit information from 280 respondents selected by multistage sampling technique. Data was analysed using IBM Statistical Package for Social Science (SPSS) Version 25. Chi-square test was used to assess association between willingness to participate in NHIS and other variables, with the significant level set at <0.05.

Results: Two hundred and sixty-six respondents completed the questionnaire, giving a response rate of 95%. Slightly more than half of the respondents were males (52.6%) and within the age range of 31-40 years (53.0%). The largest proportion were administrative staff (43.2%). Majority (88%) of the respondents were aware of NHIS but only a few (19.5%) were covered by the scheme. Two hundred and three (76.3%) of the staff were willing to participate in NHIS and among these 92% were willing to contribute to the scheme. No statistically significant relationship was found between income, educational status, participant's awareness of NHIS and their willingness to participate in NHIS.

Conclusions: In order to improve participation in the NHIS by staff of UNIMED, Ondo, advocacy and mass sensitization campaign across the institution on the roles and benefits of participating in the NHIS is recommended.

Keywords: Health care financing, Health Insurance, NHIS, Nigeria, Willingness to Participate

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INTRODUCTION

The National Health Insurance Scheme (NHIS), now National Health Insurance Authority (NHIA), is a financial risk protection scheme established by the Nigerian Government in 2005 as a policy response to the rapid escalating cost of health services, inequity in health care delivery and the lack of accessibility to health services by majority of Nigerians[1,2]. The health insurance scheme which is a prepayment and risk-pooling scheme, was designed to ensure universal health coverage (UHC)[3]. However, bench-marked against the target indicators prescribed by the World Health Organization[4], Nigeria has a long way to go in her quest toward achieving UHC.

Low health insurance coverage has remained a persistent challenge in Nigeria, restricting equitable access to healthcare. Presently, only about 5–7% of the total population is currently covered by the NHIS[5], and this is accounted for by employees in the public sector, some subscriptions in the organized private sector, and some community-based social health insurance schemes. Even within the formal sector, not all government and corporate organization employees are enrolled within the scheme[6,7].

The implication is that almost 20 years after establishing the NHIS, a great majority of Nigerian individuals and households still pay out-of-pocket (OOP) to access health services leading to financial hardship for most people and impoverished health standards due to healthcare costs[8,9]. WHO reported that, OOP payment as a percentage of current health expenditure was 75% for Nigeria and this is one of the highest globally[10].

Several factors can account for the low adoption of the NHIS as a healthcare financing option in Nigeria. Low level of health insurance awareness has been identified as one of the factors imposing limitation on the NHIS to realize its goal of health care delivery[11]. Failure to engage the end users, or take them into consideration when designing health insurance programs is another barrier. Policy and decision makers must understand the potential factors influencing enrollee's willingness to participate in order to efficiently design and viably implement health insurance schemes.

In view of the above, this study was designed to assess willingness to participate (WTP) in NHIS and factors that determine the WTP in NHIS among staff of University of Medical Sciences (UNIMED), Ondo, Nigeria so as to generate evidence-based information for possible modifications of insurance packages to suit the communities' specific needs, thus making the scheme more attractive to the workforce. This study will also help the government and managers of the scheme in policy formulation and administration for better service delivery and improvements in the scheme.

METHODS

Study design, setting and population: This descriptive cross-sectional study was conducted at the University of Medical Sciences, Ondo City, Nigeria. The school has a population of 600 academic and non-academic staff[12]. All staff of the University aged 18-70 years whose salary grade level was between 2 and 17, and who had been working in the University for a minimum of 6 months were included in the study. On the other hand, adjunct staff or critically ill staff were excluded.

Sample size and sampling technique: The sample size was calculated using the Leslie-Kish formula for population over 10,000, (that is $N= Z\alpha^2pq/d^2$)[13], where Z is the standard normal deviate at 95% confidence interval, p (77.5%) is the proportion of respondents willing to enroll in NHIS in a study on "Awareness, willingness, and challenges of the informal sector toward state National Health Insurance Services in Benin City, Nigeria,"[14] and d is the absolute error or precision, = 0.05. To accommodate for non-response, a 10% non-response adjustment was factored in to give a calculated sample size of 297. A Multistage sampling technique was used to select respondents for the study. Stage one entailed selection of four faculties and four units within the University using simple random sampling, while stage two entailed the selection of the respondents from the faculties and units using simple random sampling by balloting.

Data collection tool and technique: Data was collected using a pre-tested, structured, self-administered questionnaire developed after extensive review of relevant literature. The questionnaire was used to collect information about the demographic and socio-economic characteristics of the respondents. Information on health-seeking behaviour, awareness about NHIS and willingness to participate in NHIS were also collected using the questionnaire. The questionnaire was designed based on a careful review of the literature. The test-retest reliability method was used to calculate the reliability of the research instrument. The correlation co-efficient calculated was 0.93, which implies good reliability. Face and content validity of *the* research instrument was ensured by a thorough review of the instrument by Public Health Specialist in the

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Department of Community Medicine, UNIMED, Ondo. The questionnaire was pretested on 28 respondents in a nearby tertiary institution, the Adeyemi College of Education, Ondo. Findings from the pretest was utilized for modification and adjustment of the research instrument.

Data Management and Analysis: The outcome variable for this study was willingness to participate in NHIS. Willingness to participate in health insurance was operationally defined as the respondent's readiness to enroll in a health insurance scheme if offered, irrespective of the premium amount, expressed as a "Yes" (willing to participate) or a "No" (not willing to participate)[15]. The independent variables included the demographic and socio-economic characteristics, health seeking behavior, and awareness about NHIS. Completeness of each questionnaire was checked by the interviewer daily, before electronic data entry was done. Data was analyzed using IBM Statistical Package for Social Sciences (SPSS) Version 25. Descriptive statistics were done using proportions, means and standard deviation. The association between willingness to participate in NHIS and each of the independent variables was determined using Chi-square test with the confidence interval set at 95% and significant level at less than 0.05.

Ethical considerations: Ethical approval was sought and received from the Health Research Ethics Committee (HREC) of UNIMED, Ondo, Nigeria. A written informed consent was obtained from all participants before administration of the questionnaires. Participation in the study was entirely voluntary. Confidentiality and anonymity were ensured at all stages of the study.

RESULTS

Two hundred and sixty-six respondents completed the questionnaire, giving a response rate of 90%. About half (53.0% and 52.6% respectively) of the respondents were within the age range of 31 to 40 years and males. Most (81.6%) of the respondents were from the Yoruba tribe. One hundred and eighty-four (69.2%) respondents were married, and seventy-nine (29.7%) has a family size of 5 and above. (Table 1)

The largest proportion (43.2%) of the respondents were administrative staff, while eighty-three (31.2%) were lecturers. Most had tertiary education 230 (86.5%), and forty-three (16.2%) earn a monthly income in the range of N181,000 and above. (Table 1)

Table 1: Demographic and socio-demographic characteristics of the participants

Variables	Frequency (N= 266)	Percent %
Age (in years)		
21-30	48	18.0
31-40	141	53.0
41-50	62	23.3
51-60	14	5.3
≥61	1	0.4
Sex		
Male	140	52.6
Female	126	47.4
Ethnicity		
Yoruba	217	81.6
Igbo	31	11.7
Hausa	11	4.1
Others	7	2.6
Marital status		
Single	75	28.2
Married	184	69.2
Divorced	6	2.2
Widow/widower	1	0.4
Family size		
1	28	10.5
2	33	12.4
3	41	15.4
4	85	32.0
≥5	79	29.7
Educational qualification		
Primary	4	1.5
Secondary	32	12.0
Tertiary	230	86.5
Monthly Income		
31,000-80,000	63	23.7
81,000-130,000	102	38.3
131,000-180,000	58	21.8
181,000-above	43	16.2
Job description		
Administrative staff	115	43.2
Lecturers	83	31.2
Security	21	7.9
Office attendants	16	6.0
Technicians	7	2.7
Drivers	3	1.1
Others	21	7.9

One hundred and forty-four (54.1%) respondents utilized health care service within the past 6 months. Of this, 34.0% had difficulty paying for health care service. Majority (88%), of the respondents were aware of NHIS but only a few (19.5%) were covered by NHIS. Forty-nine (94.2%) respondents who were covered by NHIS were covered by the formal sector health insurance

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schemes, and three (5.8%) were covered by community-based health insurance schemes (Table 2).

Table 2: Respondents' Health Seeking Behavior, Awareness of and Coverage by NHIS

Items/observation	Frequency (n=266)	Percent (%)
Utilization of health service in the last 6 month		
Yes	144	54.1
No	122	45.9
Experienced difficulties in payment for healthcare services in the last 6 months.	**(n=144)**	
Yes	49	34.0
No	95	66.0
Aware of NHIS		
Yes	234	88.0
No	32	12.0
Covered by any health insurance		
Yes	52	19.5
No	214	80.5
Type of health insurance covered with	**(n=52)**	
Formal sector health insurance scheme	49	94.2
Community base health insurance scheme	3	5.8

Table 3 shows the willingness of the respondents to participate in NHIS. Two hundred and three (76.3%) staffs were willing to participate in NHIS. Among these, 92.1% were willing to contribute to the scheme. Among those who are willing to contribute to the scheme, 69.5% were willing to contribute equal or less than 5% of their salary, 70.0% were willing to contribute monthly, and 77.5% want their contribution to be by deduction from the source (i.e. their salary).

Table 3: Willingness of the respondents to participate in NHIS

Items/observations	Frequency (n = 266)	Percent %
Willingness to participate		
Yes	203	76.3
No	63	23.7
Willingness to contribute	**(n = 203)**	
Yes	187	92.1
No	16	7.9
Percentage of your income you are willing to contribute	**(n = 187)**	
≤ 5.0%	130	69.5
> 5.0%	26	14.0
To be decided by employer/NHIS	31	16.5
Contributions time frame	**(n = 187)**	
Weekly	20	10.7
Monthly	131	70.0
Annually	36	19.3
Means of payment	**(n = 187)**	
Deduction from source	145	77.5
Cash payments	42	22.5

Table 4 shows the association between the respondents' willingness to participate in NHIS and some independent variables. No statistically significant relationship was found between income and respondents' willingness to participate in NHIS. There is no statistically significant relationship between educational status and respondents' willingness to participate in NHIS, and between participant's awareness of NHIS and willingness to participate in NHIS.

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Table 4: Association between the respondents' willingness to participate in NHIS and independent variables

Variables		Willingness to Participate in NHIS			Chi-Square	P-value
		Yes (%)	No (%)	Total (%)		
Monthly Income	31,000-80,000	45 (71.4)	18 (28.6)	63 (100)	3.464[a]	0.326
	81,000-130,000	84 (82.4)	18(17.6)	102(100)		
	131,000-180,000	42(72.4)	16(27.6)	58 (100)		
	181,000-Above	32 (74.4)	11 (25.6)	43(100)		
	Total	203(76.3)	63 (23.7	266(100)		
Educational qualification	Primary	3 (75)	1 (25)	4(100)	1.164[a]	0.559
	Secondary	22 (68.8)	10 (31.2)	32(100)		
	Tertiary	178 (77.4)	52 (22.6)	230(100)		
	Total	203(76.3)	63(23.7)	266(100)		
Awareness	Yes	181 (77.4)	53(22.6)	234(100)	1.152[a]	0.283
	No	22 (68.8)	10(31.2)	32(100)		
	Total	203(76.3)	63(23.7)	266(100)		

DISCUSSION

Awareness of NHIS was found to be high among the respondents, as more than two-third were aware of NHIS. The role of health insurance in the realization of universal health coverage cannot be overemphasized worldwide. In a developing country like Nigeria, for NHIS to accomplish its maximum potential and accomplish this goal, high awareness and willingness of the masses to participate and make it work is of utmost importance. This study findings on awareness is comparable to the study carried out in Ibadan where most of the respondents were aware of NHIS[16], but differs from the finding in Abuja, Nigeria's capital city where awareness was found to be very low[17]. The general high level of awareness in this study could be due to high level of public campaign and social mobilization on NHIS over the years, though as at the time of the study, health insurance has not been formally introduced in the institution.

Moreover, most of the respondents are academic and administrative staff, with high educational status. Previous study has shown that education is a strong predictors of health insurance enrolment in Nigeria, as educated individuals are more likely to understand the benefits of prepayment and risk pooling, navigate enrolment processes, and overcome information barriers than their counterparts in other sectors[18,19]. This implies that with more constantly sensitization of staff in UNIMED concerning the benefits of NHIS, they can be effectively mobilized towards participating in NHIS.

It was found that more than three-quarters of the respondents were willing to participate in NHIS, as well as to contribute towards the scheme. This finding agrees with a study in Saudi Arabia where over two thirds of the respondents were willing to participate in and pay for a contributory national health insurance scheme[20], the study on community health insurance scheme among households in Abuja[17] and likewise a survey of rural residents in Akwa Ibom, where majority of the respondents are willing to participate and pay for social health insurance scheme[21]. The high willingness to participate reported may be due to a perception of the benefits of having health insurance and not necessary because they have good understanding of the insurance process, though this was not assessed in the study. The equally high willingness to participate in NHIS in this study could be due to the respondents' recognition of the scheme as a means of affordable health care due to the high cost of health care service and the prevailing challenging economic situation of the country.

Though almost all the respondents who are willing to participate in NHIS are also willing to have contributions made to the scheme, about two-thirds of these are willing to contribute less or equal to 5% of their salary. This may not be unconnected to their awareness of the 5% contribution statutorily expected from employees to the NHIS[1]. Majority of the staffs of UNIMED, Ondo who were willing to pay for NHIS preferred to have their insurance premium deducted on a regular monthly basis from salary. This compares with a study in Malawi where 97% of the respondents preferred to pay on a monthly basis[22]. Deductions from the salary or income monthly may be seen by many of

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our respondents to be more convenient, and less prone to difficulty in payments and abuse.

This study found out that income, educational status, and awareness of NHIS were not statistically significantly associated with willingness to participate in NHIS, unlike what is reported in the Literature[3,16,23-25]. This finding may be explained by the relative homogeneity of the study population, which could have limited the variability necessary to detect significant associations. Thus, limited variability may have masked any true influence of income or education on willingness to participate.

Furthermore, the uniformly high awareness of NHIS among respondents, may have resulted in a ceiling effect whereby awareness no longer a determining factor for participation decisions. Subsequently, other factors such as perceived benefits, trust in the scheme, quality of healthcare services, or detailed knowledge of enrollment procedures may be more important determinants of willingness to participate. These are in keeping with the health belief model constructs[26]. Moreover, a larger sample size should have sufficient statistically power to detect modest associations between variables, a recommendation for further studies.

Our finding contrasts with the literature, as reported in findings of research work in St. Vincent and Grenadines as well as the Gambia[23,24], where these factors were significantly associated with the willingness to participate in the National health insurance scheme. These differences may be due to better exposure to insurance schemes in St. Vincent, Grenadines, and The Gambia, compared to our study settings. If socioeconomic status does not determine willingness, it implies that NHIS could potentially achieve more equitable participation among our study participants. Further study, especially with qualitative methods, may be required to explore personal and cultural factors affecting willingness to participate in health insurance schemes in our study setting.

LIMITATIONS

The findings of this study should be interpreted in the light of the limitations conferred by it being a cross-sectional study carried out in a single location, which thus limits the generalizability of the findings. Moreover, key variables were self-reported and therefore susceptible to social desirability bias. Also, the study relied primarily on bivariate analyses, which do not account for potential confounding variables or interaction effects that may influence willingness to participate. The use of multivariable models such as logistic regression may have revealed independent predictors that were not evident in the present analysis.

CONCLUSION

The study revealed a high level of awareness of NHIS among UNIMED, Ondo staff, and also a remarkably high willingness to participate in the scheme, though awareness was not significantly associated with the willingness to participate. Other factors including educational status and income level were found not to be statistically significantly associated with willingness to participate in NHIS. In other to improve awareness and participation in NHIS by UNIMED, Ondo staff, the following recommendations are made: Given that awareness was not significantly associated with willingness to participate, policy efforts should focus not only on awareness creation but also on improving staff confidence in the scheme through enhanced service quality, transparent administration, and expanded benefit packages. Also, the scheme and employers should engage in expanding health insurance coverage through workplace-based enrollment initiatives, payroll deduction mechanisms, and employee health insurance education programs. With the high level of willingness to participate, there should be prompt and efficient enrollment of the staffs of UNIMED, Ondo in the scheme and mechanisms should be put in place to ensure sustainable participation, once the scheme is introduced in the institution.

Declarations

Authors' contribution: DOI, JOA, TEA, JTA, and OAA, conceptualized the study, designed the research instrument, and collected data. Data obtained were analyzed by JOA, TEA, JTA, and OAA with the guidance of DOI and VOO. Manuscript was prepared for publication, and reviewed for academic content by DOI, GOO, and ACA. The proofreading and editing were done by DOI, VOO and WOA. All authors read and approved the final manuscript draft.

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