



Research Paper

Knowledge and enrolment predictors of women in National Health Insurance Scheme (NHIS) in Enugu State, Nigeria

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Abstract

Introduction: Health insurance avails individuals the opportunity to access desired healthcare services while payment is done at a regular interval. National Health Insurance Scheme (NHIS) was implemented in Nigeria to ensure access to excellent healthcare services by Nigerians. However, there has been low coverage and knowledge of the scheme. Health care expenses in Nigeria are however done mainly through out of pocket medical (OOP) expenses. Due to economic recession, occasioned by the Covid-19 pandemic and rising health care costs in Nigeria; women find it hard to pay for health services. This leads them to forego, postpone medical care or in some cases seek alternative healthcare which could lead to severe health consequences. This study is aimed at ascertaining the extent of knowledge of the scheme, and the socio-economic predictors of women's enrolment in National Health Insurance Scheme in Enugu State, Nigeria.

Method: A cross-sectional survey, involving 522 women participants, was carried out in four Local Government Areas (LGAs) namely: Nsukka, Enugu-East, Enugu-South and Udenu local Government Areas of Enugu. Data was collected using pretested semi-structured self and other administered questionnaires. The questionnaire covered information about participants' general demographics, knowledge and enrolment for National Health Insurance Scheme. Data analysis was done using SPSS statistical software version 25.0 with level of significance set at $p < 0.05$. Chi-Square and Regression analysis were used to illustrate the relationship between socio-demographic variables and knowledge, as well as enrolment in NHIS.

Result: The study results show that there is a significant relationship between monthly income and enrolment in NHIS ($p < 0.00$) as well as between place of residence and type of employer ($p < 0.00$). Also there is a significant relationship between awareness of NHIS and place of residence ($p < 0.00$), and the type of employer ($p < 0.05$).

Conclusion: Since women have higher need for medical care than their male counterparts, policy reforms that ensure women's full enrolment in NHIS in Nigeria should be encouraged. This will further reduce the burden of women in assessing health care and achieving health coverage.

Key words: Health Insurance, women's health, healthcare payment, medical bill, Enugu State, Nigeria

Received 03 Apr., 2023; Revised 13 Apr., 2023; Accepted 15 Apr., 2023 © The author(s) 2023.

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I. Introduction

Medical expenditure on drugs, injections, consultation, laboratory tests, medical examinations, surgeries and other medical procedures and hospitalization fees can be paid through the National Health Insurance scheme (NHIS). Health insurance can be an alternative to out-of-pocket expenditure on health. Health insurance therefore is a social security mechanism that ensures the provision of needed health services to persons on the payment of some amount of money at regular intervals and protects them from financial hardships occasioned by large or unexpected medical bills (Adefolaju, 2014). Health insurance avails individuals the opportunity to access desired healthcare services while payment is done at a regular interval. It helps protect the insurer from paying excessive medical bills and equally gives them the opportunity to save in advance for their medical expenses before they fall ill. This scheme therefore ensures that individuals who have the insurance get the necessary treatment without forgoing or postponing medical treatments due to lack of money. Health insurance improves access to health care, thus promoting good health. Reasonable access to health care encourages individuals to seek health maintenance services more regularly than they otherwise would, thereby prevent potentially serious illnesses. Additionally, health insurance protects individuals from financial hardships that may result from paying large or unexpected medical bills.

National Health Insurance scheme which is an offshoot of Nigeria health policies is geared towards the provision of more affordable and efficient healthcare system in the country. National health insurance scheme was introduced in Nigeria in year 2005. The act of parliament that came into force in October 2014 envisages a health care system that will cover all strata of society in both urban and rural communities (National Health Insurance Scheme, 2015). However, the coverage is limited to public and large private organizations. The enrolment into the health insurance scheme in Nigeria is still voluntary however, in Ghana it is mandatory and has more efficient coverage (Odeyemi & Nixon, 2013). It mandates employers of labour of both public and private organizations with up to ten employees to be a part of the scheme.

The scheme demands a complimentary payment of ten percent (10.0%) of the employee's monthly salary and five percent (5.0%) from the employer. This scheme does not provide coverage for all Nigerians especially the self employed, the unemployed and other employees of small companies who have less than ten employees. In Nigeria, health insurance can be obtained from private organizations or from government agencies. However, as reported by NPC & ICF (2018) only three percent (3.0%) of women and men age 15-49 have health insurance in Nigeria. The implication therefore is that more people engage in out-of-pocket health expenses to pay for their medical bills.

The plight of women are worsened by economic recessions which are accompanied by loss of jobs and increased prices of goods and services which affected all sectors of the economy including the health sector. As payment for health costs are mainly done through out of pocket expenses, this have placed women in a disadvantageous position because they need more medical care services than the men folks especially within their reproductive ages. Studies have shown that women have higher rates of healthcare utilization, as shown by significantly higher rates of hospitalization and outpatient encounters (Saeed & Xicang et al, 2015).

Women, unlike men, are subjected to triple burden of disease, namely, non communicable and communicable diseases and reproductive health related diseases (Ladusingh, Kumar & Thangjam, 2018). Women within the reproductive age, that is, years between puberty and menopause, which is acknowledged as a time of health risks specifically associated with sex and reproduction are exposed to health issues which may result in a significant burden of mortality and disability. This period is equally associated with high mortality and disability associated with HIV/AIDS and maternal conditions. Women are equally exposed to health problems related to pregnancy, childbearing, contraception, cancer, maternal conditions and sexually transmitted infection (WHO, 2009). Therefore the burden of these health costs is high and poses a challenge to women and may affect their healthcare utilization.

Equally, women fall under the poor category in the society especially in developing countries like Nigeria. Poverty is very common and more prevalent in women with great implications without some fundamental rights to getting better job, medical services, clean environment and access to good drinking water (UNIFEM, 2013 cited in Kaka 2013). Abiola and Olaopa (2008) cited by Kaka, (2013) opined that the poverty scourge in sub-Saharan Africa gives way to lack of knowledge, hunger and malnutrition, sicknesses and inability to access credit facilities, short life span and hopelessness. Women in underdeveloped countries face the challenges of poverty whereby they are unable to afford basic necessities of life, health services, good drinking water, food and nutrition, as well as good and affordable housing. According to United Nations (2015) single mothers and older women who live alone have higher risks of poverty than men in similar types of households. Also single mothers with children are more likely to be poor than single fathers with children.

Women are shortened by ownership, economic independence and social integration than men. This is also worsened by a high likelihood of widowhood and dependent living arrangements. More so, lower proportions of women than men have their own cash income from labour as a result of the unequal division of paid and unpaid work. All these factors negatively influence health status and healthcare utilization among older women including lower rates of hospitalization and outpatient encounters.

Several factors have been identified to influence women's enrolment in NHIS. Nigeria Demographic and Health Survey of 2018 reported that 51.6% women aged 15-49 indicated that they have serious problems in accessing health care for themselves when they were sick and attributed it to their inability to get money for medical payment (NPC & ICF, 2019). Furthermore, the Demographic Health Survey reported that the percentage of women with more than a secondary education who have employer-based insurance increased from zero percent in 2008 to eleven percent (11.0%) in 2018 while urban women are four percent (4.0%) more likely than rural women to have employer-based insurance coverage. In the same vein, eleven percent (11.0%) of women with more than a secondary school education has employer based insurance. Women (7%) and men (8%) in the highest wealth quartile are most likely to have employer-based insurance (NPC & ICF, 2019). The statistics above shows that more urban women are more likely to enroll for health insurance scheme.

In a study by Aregbeshola and Khan (2018) which was carried out using secondary data collected from 38,948 women during the 2013 Nigeria Demographic and Health Survey, it was found out that 97.9% of the women sampled were not covered by health insurance while factors such as age, education, geo-political zone, socio-economic status and employment status affected women's enrolment in the NHIS during their

reproductive age. In a related study carried out in Ghana by Kusi, Fennt et al. (2018), wealth status, age, health status, locality, perception about the quality of care at health facilities and perception of the NHIS were identified as factors that determine enrolment into health insurance scheme. Also in another study carried out in Kenya, it was found that being married is a major determinant as well as level of education, higher incomes and affiliation to social welfare groups. This study therefore assesses the social demographic determinants of women enrolment in National Health Insurance Scheme in Enugu State, Nigeria.

II. Materials and Methods

Study area: The study area is Enugu State in southeast Nigeria with an estimated population of 3,267,837 out of which the female population was 1,671,795 (NPC, 2006). Enugu state was created in 1991 from part of the old Anambra State. The capital is Enugu which also is the largest city in the state. The principal towns in Enugu State include; Enugu, Nsukka, Agbani and Awgu. Enugu State shares borders with Imo, Anambra, Abia, Ebonyi, Benue and Kogi States. Nsukka on the other hand is one of the major towns in Enugu State, South East Nigeria. It lies in Udi Hills at an elevation of 1,300feet (396m).

Study population: The target population for this study consisted of all women aged 18 - 60 years in Enugu State. The focus on this segment of the population was justified with the fact that women have higher rates of healthcare utilization due to their higher rates of hospitalization and outpatient encounters (Saeed & Xicang et al, 2015). The target population was estimated at 1,372,989 (NPC, 2020). A multi-stage cluster sampling procedure, which entails successive selection of local government areas, community clusters and respondents were employed. At first, four Local Government Areas were picked using simple random sampling by balloting. They include: Nsukka, Enugu-East, Enugu-South and Udenu local Government Areas. Secondly, from each of the LGA, three communities were purposively selected also through simple random sampling by balloting. Thirdly, women aged 18 – 60years were purposively selected for the study. The towns were grouped into two clusters based on their proximity to the capital of the state. Cluster A (Enugu-East and Enugu-South) are largely urban while cluster B (Nsukka and Udenu) are largely rural. The essence of this clustering is to ensure that women from both urban and rural areas were adequately captured in the study. In each selected twelve communities, 44 female respondents were administered questionnaires giving a total of 528 respondents. Data was collected through both other-administered and self-administered methods. Enugu state was chosen for this study because according to 2018 National Demographic Survey in Nigeria, only 3.2% of women were indicated to have any type of health insurance while 96.8% have no health insurance coverage in the South-East region which encompasses five states including Enugu, Abia, Anambra, Ebonyi and Imo States (NPC & ICF, 2019).

Data collection: An interviewer-based questionnaire, designed to provide information on the socio-demographic characteristics of the respondents as well as their knowledge and enrolment of National Health Insurance Scheme. Five hundred and twenty eight questionnaires were distributed using both other and self administered method depending on the respondent’s level of education and to ensure that the questionnaires were properly filled and returned.

Data analysis: The data were processed and analyzed with SPSS version 25. Descriptive statistics such as percentages, frequency tables was employed in characterizing the respondents. Chi-square (χ^2) and Regression analysis were used to illustrate the relationship between socio-demographic variables and knowledge as well as enrolment in NHIS with $p < 0.05$.

III. Results

Table 1: Socio-demographics characteristics of respondents

Variables		Frequency(Percentage)
Age group	18-35years (young women)	301(57.7)
	36-60years (older women)	221(42.3)
	Total	522(100)
Marital status	Single	164(31.4)
	Married	290(55.6)
	Widowed	45(8.6)
	Separated/Divorced	23(4.4)
	Total	522(100)
Employment status	Employed	332(63.6)
	Unemployed	190(36.4)
	Total	522(100)
Monthly income	₦10,000 - N49,000(low income)	263(50.4)
	N50,000 & above(high income)	259(49.6)
	Total	522(100)
Place of residence	Rural	261(50.0)
	Urban	261(50.0)

	Total	522(100)
Level of education	Lower education(SSCE/OND)	188(36.0)
	Higher education(HND/BSc/PG)	334(64.0)
	522(100)	
Number of children	No child	163(31.2)
	1-2 children	256(49.0)
	3-5children	71(13.6)
	6children and above	32(6.1)
	Total	522(100)
Employer	Unemployed	212(40.6)
	Self employed	124(23.8)
	Government	98(18.8)
	Public ltd company	42(8.0)
	Private owned co	46(8.8)
	Total	522(100%)

The return rate of the questionnaire was 98.9% which means that 522 questionnaires were properly filled and returned.

Table 1 above shows that a greater proportion of the respondents were between the ages of 18 -35 years (57.7%) and are referred to as young women while those aged 36 – 60 years and referred to as older women are 42.3%. Most of the respondents were married (55.6%) followed by those who were single (32.4%), widowed (8.6%) and separated/divorced (4.4%). A greater percentage was employed (63.6%) while the rest were unemployed (36.4%). Slightly above half of the respondents fall into the low income earners and earn between ₦10,000 - N49,000 (50.4%) while the rest classified as high income earns ₦50,000 and above (49.6%). There is an equal representation of rural and urban areas (50.0%) respectively. Level of education was grouped into higher education and lower education. Lower education represents those with senior secondary certificate up to ordinary national diploma (36.0%) while those with higher education include respondents with Higher National diploma, Bachelor of Science degree and postgraduate certificates(64.0%).Some of the respondents have no child (31.2%) while others have 1-2 children (49.0%), 3-5children (13.6%) and 6 children and above (6.1%). The mean age of the respondents is ±23.5 years. Although 40.6% of the respondents were unemployed, 23.8% were self employed while the rest were employed by the government (18.8%), public limited companies (8.0%) and private owned companies (8.8%).

Awareness of Health Insurance Scheme

Table 2 Awareness of National Health Insurance Scheme (NHIS)

Variables		NHIS Awareness		χ ²	p-value
		Yes Freq (%)	No Freq (%)		
Age	Young	141(46.8)	160(53.2)	1.625 ^a	0.20
	Older	116(52.5)	105(47.5)		
Employment status	Employed	173(52.1)	159(47.9)	1.657 ^a	0.3
	Unemployed	120(56.6)	92(43.4)		
Monthly income	Low	129(49.0)	134(51.0)	0.007 ^a	1.0
	High	128(49.4)	131(50.6)		
Place of residence	Rural	72(35.8)	129(64.2)	23.527 ^a	0.00
	Urban	185(57.6)	136(42.4)		
Educational level	Lower education	99(52.7)	89(47.3)	2.537 ^a	0.27
	Higher education	154(64.0)	176(36.0)		
Marital status	Single	76(14.6)	88(16.9)	5.029 ^a	0.1
	Married	139(26.6)	151(28.9)		
	Widowed	28(5.4)	17(3.3)		
	Separated	14(2.7)	9(1.7)		
NO of children	No child	78(14.9)	85(16.3)	2.593 ^a	0.4

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	1-2 children	126(24.1)	130(24.9)		
	3-5children	33(6.3)	38(7.3)		
	6children & above	20(3.8)	12(2.3)		
Employer	Unemployed	105(20.1)	107(20.5)	9.290 ^a	0.05
	Self employed	49(9.4)	75(14.4)		
	Government	51(9.8)	47(9.0)		
	Public ltd company	27(5.2)	15(2.9)		
	Private owned co	25(4.8)	21(4.0)		

As seen on table 2, awareness of National Health Insurance Scheme is more among the young women (141; 46.8%); the employed (173; 52.1%); low income earners (129; 49.0%); urban dwellers (185; 57.6%); married women (139; 26.6%); respondents with 1- 2 children (126; 24.1%) and government workers (51; 9.8%). Furthermore, there is a significant relationship between awareness of NHIS and place and residence ($p < 0.00$) and the type of employer ($p < 0.05$).

Enrolment for National Health Insurance Scheme

Table 3: Enrolment in National Health Insurance Scheme (NHIS)

Variables		Enrolment for NHIS		χ^2	p-value
		Yes (%)	No (%)		
Age	Young	105(34.9)	196(65.1)	0.014	0.9
	Older	76(34.4)	145(65.6)		
Marital status	Single	61(37.2)	103(62.8)	5.279	0.1
	Married	102(35.2)	188(64.8)		
	Widowed	15(33.3)	30(66.7)		
	Separated	3(13.0)	20(87.0)		
Number of children	No child	51(31.3)	112(68.7)	2.710	0.4
	1-2 children	88(34.4)	168(65.6)		
	3-5children	28(39.4)	43(60.6)		
	6children & above	14(43.8)	18(56.2)		
Employment status	Employed	125(37.7)	207(62.3)	3.567	0.06
	Unemployed	56(29.5)	134(70.5)		
Employer	Unemployed	61(28.8)	151(71.2)	14.078	0.00
	Self employed	44(35.5)	80(64.5%)		
	Government	49(50.0)	49(50.0)		
	Public ltd company	27(31.0)	29(69.0)		
	Private owned co	14(30.4)	32(69.6)		
Place of residence	Rural	62(30.8)	139(69.2)	2.115	0.1
	Urban	119(37.1)	202(62.9)		
Educational level	Lower education	51(27.1)	137(47.3)	2.051	0.46
	Higher education	80(24.0%)	254(76.0)		
Monthly income	Low income	62(23.6)	201(76.4)	28.833	0.00
	High income	119(45.9)	140(54.1)		

The study found out that 181(34.7%) respondents were enrolled for NHIS. As shown on table 3, enrolment for national health insurance scheme is higher among the younger women (105; 34.9%); married respondents (102; 35.2%); respondents with 1 – 2 children (88; 35.2%); employed (125; 37.7%); government employed (49; 50.0%); urban dweller (119; 37.1%); high education (80; 24.0%) and high income earners (119; 45.9%). There is a significant relationship between monthly income and enrolment in NHIS ($p < 0.00$) as well as between place of residence and type of employer ($p < 0.00$).

Key factors associated with enrolment of NHIS using Logistic Regression

Key factors	B	S.E	WALD	DF	SIG	EXP(B)	LOWER	UPPER
Monthly income	1.014	0.191	28.035	1	0.00	2.756	1.894	4.010
Age group	-.018	.187	.010	1	.922	.982	.680	1.417
Number of children	-.934	.418	4.994	1	0.25	.393	.173	.892
Place of residence	.250	.193	1.681	1	0.19	1.284	.880	1.873
Employer	-.222	.113	3.873	1	.049	.801	.641	.999
Employment status	-.346	.196	3.114	1	0.05	.692	.472	1.015
Educational level	.775	.206	14.194	1	0.00	2.171	.828	1.936

Note: Key: B=Beta coefficient; S.E.=Standard Error; Wald=Abraham Wald test of true association between dependent and independent variables; df=degree of freedom; Sig=level of significance; Exp (B)=Exponentiation of the B coefficient

Further analysis was done combining the demographic and some other relevant factors from the questionnaire in a logistic regression to ascertain the independent contribution of each factor to NHIS enrolment. The resulting analysis found some demographic factors that were associated with the enrolment of NHIS. Monthly income ($p < 0.00$) showed a statistically significant association with NHIS enrolment. This indicates that as income increases women are more likely to enroll for health insurance. Other demographic factors which showed statistically significant association with NHIS enrolment include: employer type ($p < 0.04$) and this is because mostly civil servants enroll for NHIS; employment status ($p < 0.05$) and this indicates that mostly the employed who can pay their health premiums can enroll for NHIS; and educational level ($p < 0.00$) which indicates that only the educated can enroll for NHIS.

IV. Discussion

Using the Sustainable Development Goal Universal Health Coverage index of 3.8.1, shows that UHC increased to 67 in 2019 from 45 in 2000. This indicates that 30% of the world's populations are unable to access needed medical care. This was exacerbated by COVID-19 pandemic and almost 2 billion people are facing major challenges economically due to health expenditure worldwide as paying for health services out of their pockets which further impoverish them especially during unexpected illness.

NHIS improves access to health care which in turn promotes good health. Reasonable access to health care encourages individuals to seek health maintenance services more regularly thereby prevent potentially serious illnesses. Health insurance schemes also protect individuals from financial hardships that may result from paying large or unexpected medical bills at the point of sickness (Akinyemi, Owopetu & Agbejule, 2021). Women by virtue of their low economic power and dependency and higher need for medical care are to be considered in the drafting of NHIS and their needs taken into consideration.

Since women have more medical needs than their male counterparts and are faced with health problems which relates to pregnancy, childbearing, contraception, cancer, maternal conditions and sexually transmitted infection (WHO, 2009). Therefore the burden of these health costs is high and poses a challenge to women and may affect their healthcare utilization. Poverty is more prevalent in women because of their inability in getting better jobs, medical services, clean environment and access to good drinking water (UNIFEM, 2013 cited in kaka 2013). Kusi, Fenny, Arhinful, Asante and Parmar (2018) also identified women who are generally facing difficulty accessing adequate healthcare

Through this study it was revealed that awareness of National Health Insurance Scheme is more among the young women, the employed, low income earners, urban dwellers, married women, women with 1- 2 children and government workers. Furthermore, Chi-Square test result shows that there is a significant relationship between awareness of NHIS and place and residence ($p = 0.00$) and the type of employer ($p = 0.05$). The awareness of NHIS is however low as a less than half of the respondents (49.2) were aware of the scheme. Studies have shown that the level of awareness of National Health Insurance Scheme is low (Olugbenga-Bello & Adebimpe, 2010).

This study also found out that NHIS enrolment was low among the women (34.7%). Also enrolment for national health insurance scheme is higher among the younger women, married and respondents with 1–2 children; were married, employed and of the Christian religion; employed and government employed; urban dwellers and high income earners and those with high education. Chi-square test analysis showed that there is a significant relationship between monthly income and enrolment in NHIS ($p < 0.00$) as well as between place of residence and type of employer ($p = 0.00$). Further analysis using logistic regression to ascertain the independent contribution of each factor to NHIS enrolment found out that monthly income, employer type, employment status and educational level determine enrolment of NHIS among women.

This was similar to the findings by Kofinti, Asmah and Ameyaw (2022) which found out that in Ghana more rural dwellers (54.1%) were married, employed and of the Christian religion. Furthermore, a similar study by Aregbeshola and Khan (2019) using secondary data from 2014 Nigeria Demographic Health Survey also found out that 97.9% of the women are not covered by health insurance. Also factors such as age, education,

geopolitical zone, socio-economic status and employment status were significant predictors of enrolment of enrolment in the NHIS among women of reproductive age. Another study by Kusi, Fenny, Arhinful, Asante and Parmar (2018) also found out that wealth status, age, health status, locality determine enrolment into the scheme in Ghana.

A study by Bintabara, Nakamura and Seino (2018) in Tanzania found out that women's problem can be alleviated by improving uptake of health insurance scheme. Also Rezayatmand, Pavloma and Groot (2012) agreed that payment for medical expenses could decrease the use of preventive services and the taking up of preventive medication among the poor because such payments are made through out-of-pocket method.

V. Conclusion

In conclusion, awareness and enrolment of women in the NHIS in Enugu State was found to be low. Furthermore, demographic and socio-economic factors were associated with women enrolment in NHIS in the state. Findings from this study will help policy makers to have a rethink about making National Health insurance available for all Nigerians and especially for women because they have higher need for medical care than their male counterparts. This study advocates for a reform of the health sector to protect women from the burden of medical expenditure also enrolment into this scheme should be for all Nigerian women irrespective of their areas of residence, employment status, income and age.

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