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Health Insurance Uptake and Affordability of Care Among Patients with Hypertension in a Federal Teaching Hospital in Southwestern Nigeria

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Abstract

This study aims to assess health insurance uptake and affordability of care among patients with hypertension in a Federal Teaching Hospital in Southwestern Nigeria. This was a cross sectional study involving 138 hypertensive patient selected through systematic random sampling technique from the cardiology clinic of a Federal Teaching Hospital. A semi-structured, interviewer administered questionnaire was used to collect data. Analysis was done using Statistical Package for Social Sciences (SPSS) version 21. A significance level of 5% was used. The mean age (standard deviation) of the patients was 57.4 (12.8) years with median (interquartile range) monthly income of ₦46,500.00 (₦55,000.00) [US\$129 (US\$152.78)]. The health insurance uptake among them was 26.8%. Out of those who had no health insurance cover, 87.2% of them believed it could make their financial burden less and wish to be registered. Hypertensive patients enrolled under health insurance were significantly less likely to face financial difficulty when paying for drugs ($p<0.001$) and investigations ($p<0.001$). Additionally, these patients were significantly less likely to deny or defer project(s) in order to pay for their illness ($p=0.004$) and to have their source of livelihood being negatively affected by this illness ($p=0.002$). This study found a low health insurance uptake among hypertensive patients, even though most of the patients who had no health insurance cover were ready to enroll. Additionally, health insurance was identified to promote affordability of care among these patients. It is therefore crucial to put in place measures that will increase health insurance coverage among these patients.

Keywords: Health Insurance Uptake, Affordability of Care, Hypertension, Nigeria

Introduction

Hypertension is a chronic medical condition that significantly increases the risk of cardiovascular morbidities and mortalities (WHO, 2019; Parks K, 2015; Jeannette and Court, 2014). It is a modern epidemic affecting an estimated one billion people globally (Parks K, 2015; Akinlua et al, 2015), with most (two-third) living in developing countries (WHO, 2019; JNC-8, 2014), thus termed a silent killer, with an estimated 18 million deaths worldwide in 2015 (WHO, 2017). It was reported that Africa has the highest prevalence of hypertension, with about 46% of the population over 25 years of age living with the disease (Ajayi et al, 2016). Nigeria may contribute significantly to this health burden due to her large population.

The management of hypertension involves lifelong use of antihypertensive medications as well as lifestyle modification. These medications are relatively expensive (Bakare et al, 2016). Although a significant number of them are covered under the National Health Insurance Scheme (NHIS), nevertheless we are not sure of the proportion of hypertensive patients registered under this scheme. NHIS was launched in Nigeria in 2005 as part of the reform in health that was aimed to improve access, equity and quality in healthcare services delivery (Obalum and Fiberesima, 2012; Akande et al, 2012; Adegboyega and Abioye, 2017). Individuals registered under this scheme are expected to have access to adequate and affordable healthcare services (Okpani and Abimbola, 2015; Daramola, Adeniran and Akande, 2018). It is unfortunate that the coverage of NHIS in the country is still alarmingly low, leaving over 90% of the population especially the most vulnerable exposed to catastrophic health expenditures and impoverishment (Okpani and Abimbola, 2015, Garba and Ejembi, 2015; Okoronkwo et al, 2016). There is serious dependence on out of pocket (OOP) spending by the poor and vulnerable group despite its low financial risk protection (Akande et al, 2012; World Bank, 2020).

Health insurance is associated with higher healthcare utilization (Charles and Kioko, 2016), with different uptake rate being reported depending on the population and group that was studied. A study among Muslims in Kenya reported that 22% of them were enrolled under health insurance (Hassan, Mwaura-Tenambergen and Eunice, 2017) while 62% of pregnant women also in Kenya planned to pay for their delivery through insurance (Maina, Kithuka, and Tororei, 2016). Uptake of NHIS among Ghanaians was 67% (Alatinga and Williams, 2015), about 2% was found in Primary Health Centers in Zaria (Adegboyega and Abioye, 2017) while 65% was found among hypertensive patients in University Teaching Hospital, in Zaria (Oyati et al, 2016). A similar study carried out in a private hospital in Lagos showed that majority of their hypertensive patients were enrolled under health insurance (Ganiyu and Suleiman, 2014).

Additionally, it has been found that health insurance reduces the cost of care (Akande et al, 2012), nonetheless there are still challenges with cost of the insurance premium (Alatinga and Williams, 2015) as well as the ten percent being paid at the point of access (co-insurance). This study therefore aims to assess health insurance uptake and affordability of care among patients with hypertension in a Federal Teaching Hospital in Southwestern Nigeria. Few studies were found on health insurance uptake among hypertensive patient; however no study was found on the affordability of care of hypertension in Nigeria. Findings from this study would consequently enrich the literature and also provide vital information to policy makers for decision making.

Methods and Materials

This was a cross sectional study carried out in a Federal Teaching Hospital in Ekiti State, South West, Nigeria. This hospital is located in a semi-urban area and serves as referral center for all other health facility in the area. The cardiology clinic of the hospital was used for the study. Those eligible to participate in the study were hypertensive patients age 18 years and above who have been on treatment for at least 3 months. Those who were too ill to respond and who declined to give consent were excluded.

A minimum sample size of 138 hypertensive patients was calculated using the Fisher's formula, assuming a health insurance coverage of 10% (Bamgboye, 2014). Eligible hypertensive patients were selected through systematic sampling from the clinic. The monthly attendance from available records was used as the sampling frame. Patients biodata, clinical information, information on healthcare financing and affordability was collected

through a semi-structured, interviewer administered questionnaire. The study instrument was translated into the local language (Yoruba) for patients who may not be fluent in English language.

Data collected were analyzed using Statistical Package for Social Sciences (SPSS) version 21. Descriptive statistics such as mean (standard deviation), frequencies and percentages were used in summarizing study variables. Pearson Chi-square test was performed to determine statistical significance of observed differences between health insurance group and non-health insurance group. A significance level of 5% was used. Ethical clearance was sought and obtained from the Human Research and Ethics Review Committee of Federal Teaching Hospital, Ido-Ekiti, Ekiti State, Nigeria.

Results

The mean age (standard deviation) of the respondents was 57.4 (12.8) years with median (interquartile range) monthly income of ₦46,500.00 (₦55,000.00) [US\$129 (US\$152.78)]. More than half (54.3%) were females and 84.8% practice Christianity. The most frequently used antihypertensive drugs among the respondents were the calcium channel blockers (72.5%), followed by the diuretic (60.1%). The commonest complication of hypertension was hypertensive heart disease/heart failure (22.5%). Arthritis (29.7) was the most common comorbidity followed by diabetes mellitus (24.6%). Most (76.8%) of the participants visit the clinic for follow up once in a month. {Table 1}

Table 1: Socio-demographic and Other Characteristics of the Respondents

Variable	Frequency (n=138)	Percentage (%)
Age Group (Years)		
Mean ± Standard deviation	57.4 ± 12.8	
Sex		
Male	63	45.7
Female	75	54.3
Religion		
Christianity	117	84.8
Islam	21	15.2
Monthly Income (₦)		
Median ± Interquartile range	46,500.00 ± 55,000.00	
Frequency of Clinics Follow up		
More than a month	7	5.1
Monthly	106	76.8
Fortnightly	20	14.5
Weekly	5	3.6
Class of Drugs*		
Diuretic	83	60.1
Calcium Channel Blocker	100	72.5
Angiotensin Receptor Blocker	11	8.0
ACE Inhibitor	65	47.1
Beta Blocker	14	10.1
Alpha Blocker	6	4.3
Fixed Drug Combination	18	13.0
Others	37	26.8
Complications of hypertension*		
HHD/ Heart Failure	31	22.5
Stroke	16	11.6
Renal Failure	3	2.2
Visual Impairment	13	9.4

Co-Morbidities*		
Arthritis	41	29.7
Diabetes Mellitus	34	24.6
Chronic Respiratory Disease	6	4.3
Peptic Ulcer Disease	8	5.8
Others	6	4.3

*-Multiple response; HHD- Hypertensive heart disease

Thirty seven (26.8%) of the hypertensive patients were registered under a health insurance scheme. Out of the 101 respondents who had no health insurance cover, 88 (87.2%) of them believed it could make their financial burden less and wish to be registered. {Table 2}

Table 2: Health Insurance Uptake among Respondents

Variable	Frequency (n=138)	Percentage (%)
Are you registered with any health insurance?		
Yes	37	26.8
No	101	73.2
(n=101)		
If no, do you think it could make your health financial burden less?		
Yes	88	87.2
No	13	12.8
Will you now wish to be registered?		
Yes	88	87.2
No	13	12.8

About one-fifth (20.3%) and 6.5% of the respondents agreed that it was financially difficult and very difficult to buy needed drugs respectively while a similar proportion of 21.0% and 7.2% stated that it was financially difficult and very difficult to also pay for investigations respectively. About one-third (32.6%) of the respondent had denied or deferred project(s), 16.7% had sold properties and 7.2% have had to stop their children school in order to pay for their health. More than a third (37.7%) agreed that their health challenges had affected their businesses and jobs negatively. {Table 3}

Table 3: Affordability of care among Respondents

Variable	Frequency (N=138)	Percentage (%)
How convenient is it for you financial wise to buy needed drugs?		
Very difficult	9	6.5
Difficult	28	20.3
Just okay	64	46.4
Convenient	22	15.9
Very Convenient	15	10.9
How convenient is it for you financial wise to pay for investigations?		
Very difficult	10	7.2
Difficult	29	21.0
Just okay	56	40.6
Convenient	26	18.9
Very Convenient	17	12.3
How often do you fail to do the above due to lack of money?		
Never	52	37.7
Rarely	51	37.0
Sometimes	26	18.8
Often	9	6.5

Have you ever sold personal properties in order to pay for your health?		
Yes	23	16.7
No	115	83.3
Have you stopped children school in order to pay for your health?		
Yes	10	7.2
No	128	92.8
Have you denied or deferred project(s) in order to pay for your health?		
Yes	45	32.6
No	93	67.4
Have your health challenges affected your business or job negatively?		
Yes	52	37.7
No	86	62.3

Table 4 explored the possible association between health insurance uptake and affordability of care. Hypertensive patients enrolled under health insurance were significantly less likely to face financial difficulty when buying needed drugs ($p < 0.001$) and paying for investigations ($p < 0.001$). Respondents registered under a health insurance were significantly less likely to deny or defer project(s) in order to pay for their health ($p = 0.004$). Additionally, their health challenges were significantly less likely to affect their source of livelihood negatively ($p = 0.002$).

Table 4: Association between Health Insurance Uptake and Affordability of care

Variables	Health Insurance		Total N (%)	X^2	P-value
	Yes n (%)	No n (%)			
How convenient is it for you financial wise to buy needed drugs?					
Very difficult	1(11.1)	8(88.9)	9	24.914 ^F	<0.001
Difficult	4(14.3)	24(85.7)	28		
Just okay	10(15.6)	54(84.4)	64		
Convenient	13(59.1)	9(40.9)	22		
Very Convenient	9(60.0)	6(40.0)	15		
How convenient is it for you financial wise to pay for investigations?					
Very difficult	1(10.0)	9(90.0)	10	34.458 ^F	<0.001
Difficult	3(10.3)	26(89.7)	29		
Just okay	7(12.5)	49(87.5)	56		
Convenient	14(53.8)	12(46.2)	26		
Very Convenient	12(70.6)	5(29.4)	17		
How often do you fail to do the above due to lack of money?					
Never	23(44.2)	29(55.8)	52	16.136 ^F	0.001
Rarely	12(23.5)	39(76.5)	51		
Sometimes	2(7.7)	24(92.3)	26		
Often	0(0.0)	9(100.0)	9		
Have you ever sold personal properties in order to pay for your health?					
Yes	3(13.0)	20(87.0)	23	1.891 ^Y	0.169
No	34(29.6)	81(70.4)	115		

Have you stopped children school in order to pay for your health?					
Yes	2(20.0)	8(80.0)	10	0.018 ^Y	0.893
No	35(27.3)	93(72.7)	128		
Have you denied or deferred project(s) in order to pay for your health?					
Yes	5(11.1)	40(88.9)	45	8.388	0.004
No	32(34.4)	61(65.6)	93		
Has your health challenges affected your business or job negatively?					
Yes	6(11.5)	46(88.5)	52	9.919	0.002
No	31(36.0)	55(64.0)	86		

X²: Pearson Chi Square; Y: Continuity Correction; F: Fisher's Exact Test

Discussion

The aim of this study was to assess health insurance uptake and affordability of care among patients with hypertension in a Federal Teaching Hospital. The mean age of the respondents was 57.4 years. This age is below the civil service retirement age in Nigeria, which shows that most of the respondents are still actively working. This is reflected in the median monthly income of ₦46,000 (US\$129) which is above the civil minimum wage (₦30,000; US\$83) in Nigeria (Trading Economics, 2020). It further translates into an income of US\$4.3 per day which is above the World Bank international poverty line of \$1.90 per day (World Bank, 2019). The average and middle socioeconomic class of patients seen in this health facility may be due to the fact that this group of people believed that tertiary health facility is for the affluent and enlightened, with specialist doctors to care for them and who are equipped enough to meet their needs (Whitehead, 1992). It has been reported that the poor and those in the lower socioeconomic class in Nigeria usually seek medical care from the primary health facilities which are usually not well structured and adequately equipped (Adegboyega and Abioye, 2017).

Furthermore, this study revealed that the health insurance uptake among the respondents was 26.8%. This result is lower than what was found among hypertensive patients in a private hospital in southwest Nigeria (Ganiyu and Suleiman, 2014) and in a Teaching Hospital in Northern Nigeria (Oyati et al, 2016). It is higher than what was found among patients in primary healthcare facilities in Northern Nigeria and among formal sector workers in Northern Nigeria (Adegboyega and Abioye, 2017; Adewole, Dairo, and Bolarinwa, 2016). Also, the uptake in this study is higher than the NHIS coverage among the general population of Nigerians (NHIS, 2015). This may be due to the setting and the characteristic of the population that was studied (Adegboyega and Abioye, 2017; Alatinga and Williams, 2015). In spite of the fact that the health insurance uptake among these patients is higher than that of the general population, it is still optimally low considering that about three-quarter of them had to pay directly for their care using post payment methods which make them vulnerable to high healthcare expenditure in case of serious illness, leaving them without financial risk protection. They are also at higher risk of catastrophic health expenditure, as it has been documented that out of pocket spending must be lower than 20% in a population in order to significantly reduce catastrophic health expenditure among them (WHO, 2014).

The study found that majority (87.2%) of those without health insurance cover believed that it could make their financial burden less and were willing to be enrolled. This is similar to the findings in the willing to join health insurance studies done among Namibians and teachers in Ethiopia (Tefamichael, Mirkuzie, and Shimeles, 2014; Asfaw, Gustafsson-Wright, and Van der Gaag, 2008). It is higher than the willingness to join of 67.7% found in a Teaching Hospital in Southwest Nigeria (Esan O et al, 2020). This finding suggested that the respondents had good disposition toward enrollment into a health insurance scheme. This disposal toward health insurance may be due to their present healthcare need, as it was revealed that majority of them visit the clinic for follow up at least once in a month. Adverse selection in which sick people purchase health insurance is one of the challenges of the health insurance scheme (World Bank, 2020). Notwithstanding adverse selection has been taken care of through checks and balances in the design of social health insurance and should not stop the enrollment of those willing and ready to participate (World Bank, 2020). Therefore, stakeholders charged with executing and

expanding health insurance in Nigeria could leverage on the good disposition toward enrollment found in this study to improve uptake among these group of people (Adewole, Dairo, and Bolarinwa, 2016).

Another important finding in this study was that more than one-quarter of the patients faced varied degree of financial difficulty in paying for drugs and laboratory investigations. Over one third of them mentioned that their source of livelihood have been negatively affected by their illness; About a third (32.6%), 16.7% and 7.2% had denied or deferred project(s), sold properties and stopped children school respectively in order to pay for their health bills. It was also revealed that hypertensive patients under health insurance cover were significantly less likely to face financial difficulty when paying for drugs and investigations. Additionally, these patients were significantly less likely to deny or defer project(s) in order to pay for their illness and to have their source of livelihood being negatively affected by this illness. These findings imply that health insurance reduces the financial burden imposed by hypertension and promotes affordability of care of patients with this illness. Health insurance have been reported to reduces the financial burden of diseases (Akande et al, 2012), enhance resource mobilization and risk pooling (World Bank, 2020). It is a social security system that provides needed healthcare services to individual who are registered with it (NHIS, 2020), improves the health and well-being with the aim of achieving universal health coverage (Alatinga and Williams, 2015). It is therefore imperative to scale up health insurance among patients with hypertension in Federal Teaching Hospitals in Nigeria.

This study relied on quantitative data only. A qualitative method such as focus group discussion and in-depth interview in addition to the quantitative data would have made the study more robust and also identify some other factors that may affect affordability of care. Furthermore, this study was carried out in only one Federal Teaching Hospital; caution must be taken in generalizing the findings. A multi-center study that would make use of both quantitative and qualitative techniques is therefore suggested in further research.

Conclusion

This study revealed that health insurance uptake among hypertensive patients was low (26.8%), with resultant financial difficulty in payment for drugs and investigations, despite the fact that majority of the patients without insurance cover had good disposition and were ready to enroll. Health insurance was identified to promote affordability of care of hypertension among these individuals. It is therefore recommended that health insurance should be stepped up as the major form of healthcare financing for these group of people. The current uptake of health insurance among these patients needs to be scaled up to in order to achieve the universal health coverage.

Conflict of Interest

The authors have no conflict of interest to declare.

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