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By Benjamin O Osaro, Ishmael D Jaja & Tondor C Uzosike

*Rivers State University*

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**GJMR-K Classification:** NLMC Code: W 160



*Strictly as per the compliance and regulations of:*



# Awareness and Willingness to Participate in Community Health Insurance Scheme among Household Heads in Rivers State Nigeria

Benjamin O Osaro <sup>α</sup>, Ishmael D Jaja <sup>ο</sup> & Tondor C Uzosike <sup>ρ</sup>

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**Results:** Only 126 (38.0%) participants had the awareness of CBHI. Those willing to participate or enroll other family members were 272 (82.5%) and 174 (63.5%) respectively with 157 (57.3%) willing to pay a premium of ₦2, 000.00 or less either once or twice a year or monthly. Associated with the willingness to participate in CBHI were awareness ( $P = 0.037$ ), the number of living children ( $P = 0.025$ ), partner's level of education ( $P = 0.041$ ) and experience of catastrophic health expenditure ( $P < 0.0001$ ). Financial constraints and lack of trust were the most common reasons for unwillingness to participate in CBHI.

**Conclusion:** The awareness of CBHI in Rivers State is low but the willingness to participate is high. Community engagement to increase awareness of CBHI should be strengthened.

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## I. INTRODUCTION

Although life expectancy at birth has improved globally, disparity still exists between the high-income countries on one side and the low- and medium-income countries (LMIC) on the other side. These improvements in life expectancy at birth has been attributed inter alia to improvements in standard of living, health care services delivery and its access.<sup>1</sup> In sub-Saharan Africa, life expectancy at birth is currently at 59.5years.<sup>1</sup> This however, is below that in parts of the

developed and high-income countries of the world where life expectancy is over 70.5years.<sup>1</sup> Recent discourse to improve inequalities in health among nations and within countries has centered on increasing universal health coverage in order to improve access to and utilization of high quality and efficacious healthcare services.<sup>2,3</sup> Health care cost for majority of people in developing countries like Nigeria has relied on out-of-pocket (OOP) expenditures.<sup>4</sup> This is occasionally catastrophic and accounts for over 70% of the total family's income, an expenditure far above the recommended 30%.<sup>5-7</sup> Most countries of the world have introduced social health insurance programs aimed at ensuring access to healthcare when needed without unduly exposing individuals and families to financial hardship or impoverishment. These forms of insurance hinge on the pooling of funds and resources from enrollees and sharing of financial risk in the event of illnesses especially of catastrophic nature.<sup>8-10</sup> In Nigeria the National Social Health Insurance scheme was implemented in 2005 six years after the enactment of its enabling law (NHIS Act 35 of 1999).<sup>11-13</sup> This scheme made provision for the enrolment of the different subpopulations in the country through organized formal sector insurance schemes like the Public Sector and Organized Private Sector Employees and Tertiary Institutions Health Insurance Scheme (TSHIP) as well as the informal sector health insurance schemes like the Urban Self-Employed Individuals and Rural Community dwellers insurance schemes amongst others.

In Nigeria and other countries in Africa, the informal sector constitutes the majority population.<sup>14</sup> These reside in rural settings where healthcare service is of low quality and access also poor with attendant adverse consequences on their health, dignity and ability to earn income.<sup>6,15</sup> Health insurance systems that provides financial protection from catastrophic healthcare needs of this sector is community-based health insurance: a system of pooling of funds from individuals and families in the community on the basis of solidarity to provides healthcare services to members of the community.<sup>8,16</sup> Enrolment in Community Health Insurance is voluntary however, to prevent adverse selection and decapitation of the insurance scheme, enrolment is in groups of at least 500 persons who are residents in the community and who may/or not share a

**Corresponding Author α:** Department of Community Medicine, Rivers State University, Port Harcourt, Nigeria.

e-mails: benjamin.osaro@ust.edu.ng, boosaro@hotmail.com

**Author ο ρ:** Department of Community Medicine, Rivers State University, Port Harcourt, Nigeria.

similar occupation. Premium is usually a flat sum, not risk-related and payment is also flexible on a monthly or seasonal basis to encourage en masse enrolment.<sup>7,13</sup> Payment of premium guarantees enrollees and/or their dependents access to a minimum benefit package which covers their basic health needs for treatment of malaria, typhoid fever, tuberculosis, diarrhea, etc.<sup>10,17</sup>

Although the formal sector insurance scheme has made significant improvement in its enrolment since inception, the informal sector rural community health insurance scheme targeting individuals and families in rural settings, trails far behind with an enrolment rate of 2% as of 2014.<sup>3</sup> Studies have reported an abysmally low level of awareness of CBHIS of 3.9% and enrolment of 2.9% among artisans in Abakiliki Nigeriadespite their effectiveness in ensuring financial risk protection from catastrophic health expenditures to individuals and families in rural communities.<sup>11-18</sup> Furthermore, the willingness to participate in CBHIS ranged from 69.3% - 97.0% among different populations in Nigeria<sup>6,8,9,11,19</sup> while the willingness to a pay premium of between ₦400 – ₦5000 per annum per person for any form of voluntary health insurance also varies among communities, ranging from 28% in Kwara State to 82.0% in Kaduna State, Nigeria.<sup>2,5-7,9,11, 17</sup> Participation is largely determined by such factors like age and sex of household head, size of household, previous experience of borrowing to fund healthcare, level of education and income.<sup>5,8,9</sup> Very few CBHI schemes are in operation in Nigeria despite the legal framework provided by the NHIS Act 99.<sup>17</sup> The willingness to participate in CBHI schemes in communities in Rivers State Nigeria is yet to be assessed therefore this study seeks to determine knowledge, willingness and barriers to participation in community health insurance schemes by individuals and families in communities in Rivers State.

## II. METHODS

### a) Study setting

This study was carried out in Rivers State, Nigeria located in the Niger Delta region of Nigeria. Rivers State is comprised of 23 Local Government Areas (LGAs) grouped into three Senatorial Districts. Each of the LGA is delineated into ten or more political wards. Twenty of them are rural. Healthcare services in each LGA are provided at the various Health posts, Chemist/Patent Medicine Vendors, Primary Healthcare Centres, privately owned health clinics and a General Hospital which doubles as a referral centre. There are two tertiary level healthcare centres in Rivers State which receive referrals from the peripheral hospitals.

### b) Study design and sampling

This study was a cross sectional descriptive study using head of households aged 18 years and above, and resident in Rivers State, Nigeria. The minimum sample size was determined as 327 using the

Leslie Fischer's formula<sup>11</sup>  $n = Z^2pq/d^2$ ; where  $n$  = minimum sample size;  $Z$  = Level of statistical significance = 95% (1.96);  $P$  = the estimated proportion of those willing to participate in CBHIS = 69.3%<sup>9</sup> = 0.693;  $q = 1 - p = 0.307$ ;  $d$  = Precision/error tolerated (5%) = 0.05. However, this was increased to 360 to accommodate for non-response of 10%.

A multistage sampling method was adopted in recruiting participants for this study. One LGA was selected in each of the three Senatorial Districts in the State. In each selected LGA, ten political wards were selected and finally 12 heads of households who are 18 years and above from each political ward.

### c) Data collection

Data were collected from participants who gave consent using a pretested interviewer-administer questionnaire. Participants provided information on socio-demography, family's illness experiences and health expenditure, awareness and knowledge on CBHIS, willingness to participate in CBHIS, the amount they are willing to pay as premium and reasons for unwillingness to participate in CBHIS.

### d) Data analysis

The collected data was analyzed using IBM SPSS Statistics 22 and results presented in frequency tables. The primary outcome variable: Willingness to participate in CBHIS, was assessed as the proportion of participants who were willing to enroll for CBHIS. However how much participants were willing to pay as premium was determined using the contingency valuation method where the amount was bided from the highest amount of ₦5,000.00 to the lowest amount respondent is willing to pay.<sup>5</sup> Secondary outcome variable: awareness of CBHIS' was determined as the proportion of respondents who have heard about CBHIS, knowledge of CBHIS, was determined with a 10-point knowledge score. The knowledge of CBHIS by participants was categorized as poor (score 1 – 4), good (score 5 – 6) or very good (score 7 – 10). The financial burden of respondents was assessed as catastrophic if a household expenditure on health involves spending all their monthly income, savings, donations, borrowings and/or sales of assets.<sup>20</sup>

Chi-square ( $X^2$ ) test was done to determine the association of willingness to participate in CBHIS on one hand and socioeconomic variables and knowledge of CBHIS on the other hand. The level of statistical significance was set at  $P < 0.05$ .

## III. ETHICAL APPROVAL

The Rivers State Health Research Ethics Committee approved this study. Participants were fully informed of the objectives of the study, assured of the confidentiality of their responses and that participation is voluntary. Written informed consent were obtained from participants before data collection.

#### IV. RESULT

A total of 332 head of households participated in this study out of 360 selected. Majority of the participants were 35 – 44 years of age (n = 112; 33.7%)

and employed by Government (n = 79; 23.8%). Nearly three-quarter of them are married (n = 242; 72.9%) with more than half attaining tertiary education (n = 171; 51.5%) Table 1.

*Table 1:* Socio-demographic characteristics of respondents

Variables	Frequency (n = 332)	Percent
<i>Age (years)</i>		
<25	19	5.7
25 – 34	76	22.9
35 – 44	112	33.7
45 – 54	66	19.9
55 – 64	26	7.9
>64	33	9.9
Mean (SD)	40.45 (11.08)	
<i>Sex</i>		
Male	178	53.6
Female	154	46.4
<i>Marital status</i>		
Married	242	72.9
Separated/divorced	9	2.7
Widow	11	3.3
Single	70	21.1
<i>Level of education</i>		
Primary	23	6.9
Secondary	132	39.8
Tertiary	171	51.5
None	6	1.8
<i>Partner's level of education*</i>		
Primary	29	11.2
Secondary	108	41.7
Tertiary	115	44.4
None	7	2.7
<i>Occupation</i>		
Farming	30	9.0
Fishing	22	6.6
Trading	67	20.2
Government employee	79	23.8
Private sector employee	70	21.1
Unemployed	64	19.3
<i>Partner's occupation</i>		
Farming	40	12.0
Fishing	10	3.0
Trading	68	20.5
Government employee	47	14.2
Private sector employee	53	16.0
Unemployed	114	34.3

\*missing values (n = 259)

Nearly two-thirds of the participants earn less than the minimum wage of ₦30,000 monthly (n = 199; 59.9%) with 128 of them (38.6%) having 3 – 4 children. (Table 2)

*Table 2: Income and family size distribution of respondents*

Variables	Frequency (n = 332)	Percent
<i>Average monthly Income (N) *</i>		
<30,000	199	59.9
30,000 – 50,000	60	18.2
50,001 – 70,000	19	5.7
70,001 – 90,000	18	5.4
90,001 – 110,000	13	3.9
110,001 – 130,000	11	3.3
130,001 – 150,000	6	1.8
>150,000	6	1.8
<i>No of living children</i>		
0	2	0.6
1-2	93	28.0
3-4	128	38.6
≥5	109	32.8
Mean (SD)	3.14 (1.53)	
<i>No of male children</i>		
0	25	7.5
1-2	209	63.0
3-4	35	10.5
≥5	63	19.0
Mean (SD)	1.57 (0.93)	
<i>No of female children</i>		
0	40	12.0
1-2	182	54.8
3-4	42	12.7
≥5	68	20.5
Mean (SD)	1.59 (1.158)	

\*skewed data (modal income = N20,000)

Two hundred (60.2%) of the participants had 1 – 2 members of the family experiencing illness episodes within the last 12 months. Among these, majority (n = 121; 42.0%) attend Government hospitals/dispensaries for treatment. Only 32 (9.6%) participants are enrolled on any health insurance scheme. (Table 3)

*Table 3: Family illness experience and enrolment on Insurance schemes*

Variables	Frequency (n = 332)	Percent
<i>Family members sick in the last 12 months</i>		
0	44	13.3
1-2	200	60.2
3-4	67	20.2
≥5	21	6.3
Mean (SD)	2.09 (1.44)	
<i>Where do you go for Rx when someone is sick (n = 288) *</i>		
Prayer house	5	1.8
Chemist	118	41.0
Home remedies	7	2.4
Private clinics	30	10.4
Government hospitals/Dispensaries	121	42.0
Others	7	2.4
<i>Enrolment in Insurance schemes</i>		
Yes	32	9.6
No	300	90.4
<i>Type of Insurance schemes enrolled on (n = 32) **</i>		
Public sector and organized private sector employee Social insurance scheme	11	34.3

Tertiary Institutions Social Health Insurance Scheme	2	6.3
Voluntary contribution Social Insurance Scheme	1	3.1
Rural Community Social Health Insurance Scheme	14	43.8
Children Under-five Social Health Insurance Scheme	4	12.5

\* Participants who had illness experience \*\* Participants enrolled on an Insurance scheme

Most (n = 164; 56.9%) of the participants spent up to ₦10,000 on the treatment of illnesses in the family. In 16 participants (5.6%), payment for treatment was defrayed by insurance scheme whereas in 178(61.8%), it was done with some of the family savings. Less than 20% had catastrophic expenditures (Table 4).

**Table 4:** Health expenditure and source of funding among participants who had illness experience

Variables	Frequency (n = 288)	Percent
<i>Amount spent in last 12 months (₦)</i>		
1 – 10,000	164	56.9
10,001 – 20,000	46	16.0
20,001 – 30,000	20	6.9
30,001 – 40,000	9	3.1
40,001 – 50,000	15	5.2
50,001 – 100,000	18	6.3
>100,000	16	5.6
<i>Mode of payment for treatment*</i>		
paid for Rx with my Insurance Scheme	17	5.9
Paid for Rx with some of the family's savings	181	62.8
Paid with all the family savings**	24	8.3
Borrowed money to pay for treatment**	49	17.0
Sold family's property to pay for treatment**	53	18.4
Paid from donations from friends and other family support**	27	9.4

Modal expenditure = ₦10,000.00; \* multiple options; \*\* Catastrophic expenditure

Only 126 (38.0%) of the respondents had the awareness of CBHI. Among these about half (n = 68; 54.0%) had very good knowledge of CBHIS and 38 (30.2%) had good knowledge. The commonest source of information on CBHIS were churches (n = 31; 24.6%) Table 5.

**Table 5:** Awareness and sources of information on CBHIS

Variables	Frequency (n = 332)	Percent
<i>Awareness of CBHI</i>		
Yes	126	38.0
No	206	62.0
<i>Knowledge of CBHIS*</i>		
Very good	68	54.0
Good	38	30.2
Poor	20	15.8
<i>Sources of information on CBHI**</i>		
Church	31	24.6
Friends	23	18.3
Hospitals/Clinics	19	15.1
Community leaders	17	13.5
Radio/TV	10	7.9
Club meetings	4	3.2
NGOs	2	1.6

\*Participants who have awareness of CBHI \*\* multiple options

Participants who were willing to enroll for CBHIS were 274 (82.5%). Among these 174 (63.5%) participants were willing to enroll other members of the family. Treatment of mild medical illnesses that do not require hospital admission was the most common

service desired (n = 198; 72.3%). A total of 157 (57.3%) participants were willing to pay a premium of ₦2000 or less while 87(31.8%) participants were willing to pay premium once a year (Table 6).



*Table 6:* Willingness of participants to enroll for CBHI schemes

Variables	Frequency (n = 332)	Percent
<i>Willingness to enroll in a CBHI</i>		
Yes	274	82.5
No	58	17.5
<i>Willingness to enroll every member of the family*</i>		
Yes	174	63.5
No	100	36.5
<i>Desired services when enrolled*\$</i>		
Treatment of mild medical illnesses that do not require hospital admission	198	72.3
Treatment of serious medical conditions that require hospital admission	184	67.2
Surgeries	130	47.4
Delivery services	101	36.9
Immunization	106	38.7
Family planning	99	36.1
Antenatal care	97	35.4
<i>Amount participants are willing to pay (₦)*</i>		
≤ 1000	78	28.5
1001 – 2000	79	28.8
2001 – 3000	49	17.9
3001 – 4000	30	10.9
4001 – 5000	35	12.8
>5000	3	1.1
Range	₦ 100 – ₦ 20,000	
Mode**	₦ 2000	
<i>Preferred method of payment*</i>		
Weekly	8	2.9
Monthly	62	22.6
Quarterly	38	13.9
Twice a year	63	23.0
Once a year	87	31.8
Missing	16	5.8

\* Participants willing to enroll for CBHIS; \*\*Skewed data; \$ multiple options

Table 7 shows that there is a statistically significant association between willingness to enroll for CBHI scheme and awareness of CBHI ( $P = 0.037$ ), the number of living children ( $P = 0.025$ ), partner's level of

education ( $P = 0.04$ ), as well as the experience of catastrophic expenditures ( $P < 0.0001$ ) but not with average monthly income ( $P = 0.375$ ).

*Table 7:* Test of Association between willingness to enroll for CBHI scheme and outcome variables

Variables	Willingness to enroll for CBHI scheme		$\chi^2$ ( $P$ value)
	Yes	No	
<i>Awareness of CBHI</i>			
Yes	111	15	4.349 (0.037)*
No	163	43	
<i>Knowledge of CBHI</i>			
Very good	62	6	1.922 (0.382)
Good	33	5	
Poor	16	4	
<i>No of living children</i>			
0	2	0	9.712
1 - 2	80	13	
3 - 4	112	16	

≥5	80	29	(0.025)*
<i>Average monthly income (₦)</i>			
<30000	162	37	
30000 - 50000	48	12	
50001 - 70000	16	3	
70001 - 90000	13	5	
90001 - 110000	12	1	7.535
110001 - 130000	11	0	(0.375)
130001 - 150000	6	0	
>150000	6	0	
<i>Level of education</i>			
Primary	19	4	
Secondary	110	22	
Tertiary	141	30	1.107
None	4	2	(0.695)
<i>Partner's level of education</i>			
Primary	25	4	
Secondary	90	18	
Tertiary	105	10	8.362
None	4	3	(0.041)*
<i>Occupation</i>			
Farming	24	6	
Fishing	19	3	
Trading	59	8	5.291
Government employee	62	17	(0.381)
Private sector employee	61	9	
Unemployed	49	15	
<i>Occupation of partner</i>			
Farming	30	10	
Fishing	8	2	
Trading	59	9	
Government employee	39	8	
Private sector employee	49	4	7.662
Unemployed	89	25	(0.176)
<i>Age (years)</i>			
<25	16	3	
25 – 34	64	12	4.639
35 – 44	93	19	(0.461)
45 – 54	49	17	
55 – 64	23	3	
>64	29	4	
<i>Experience of catastrophic expenditure</i>			
Paid with all the family savings	19	5	74.971
Borrowed money to pay for Rx	43	6	(< 0.00001)*
Sold family's property to pay for Rx	7	46	
Paid from donations from friends and other family support	23	4	

\*P < 0.05 (statistically significant)

The commoner reasons participants were not willing to participate in a CBHI scheme were 'lack of regular income to pay or renew premium' (n = 17; 29.3%) and 'I don't believe that I will be treated when I

am sick without payment' (n = 16; 27.6%). 'Hospital is far away' was the least common reason for not willing to participate CBHI scheme (n = 1; 1.7%) Table 8.

**Table 8:** Reason for not willing to participate in CBHI scheme

Reason for not willing to participate in CBHI scheme	Frequency (n = 58)	Percent
Lack of regular income to pay or renew premium	17	29.3
I don't believe that I will be treated when I am sick without payment	16	27.6
Not interested in Insurance	9	15.5



I may not meet up the requirements for enrolment like enrolling everybody in my family.	6	10.3
Services rendered are of poor quality	5	8.6
I will lose my premium if I don't fall sick	5	8.6
No support from wealthy people in the community	5	8.6
Timing of payment of premium may not be conducive	4	6.9
My family is too large to pay a premium for everybody	3	5.2
Not aware of the scheme	3	5.2
My culture forbids saving money for illness	1	1.7
Hospital is far away	1	1.7

## V. DISCUSSION

One mechanism for financing of healthcare services in low- and medium-income countries of the world, where funding of healthcare services is poor, is Community-based health insurance. In Nigeria this model has been integrated into the National Social Health Insurance Schemes in order to improve access to healthcare services for the informal sector and the poor.<sup>6,15</sup> This study is aimed at determining awareness of CBHI and the willingness of head of households in Rivers State Nigeria to participate in it. The awareness of CBHI is low in Rivers State Nigeria. In this study about one-third (38%) of respondents have heard about CBHI. Studies previously conducted in some parts of Nigeria also show that awareness of CBHI is still low. For instance, among artisans in Abakiliki, Nigeria only 3.9% of them are aware of CBHI.<sup>11</sup> Residents in a capital city of Nigerian who have the awareness of CBHI were only 13%<sup>6</sup> while in a suburb in Lagos, 19.8% of residents were aware of CBHI.<sup>21</sup> Furthermore, a similar finding was reported in a health District in Douala Cameroun, where 25.6% of informal workers were aware of the existence of CBHI schemes.<sup>22</sup> The level of awareness of CBHI scheme has also being reportedly high in other populations. For instance 52.2% and 91% of participants, in studies done in North-western Nigeria and in Tanzania respectively, have the awareness of CBHI.<sup>9, 18</sup> Awareness of CBHI in most developing countries is low probably because of poor mass media and community sensitization campaigns promoting health insurance schemes particularly in rural areas.<sup>21,22</sup> The commonest sources of information on health insurance in this study were churches (24.6%) and friends (18.3%). Other studies reported common sources of information on CBHI as radio, friends, community leaders and television among household heads in FCT Nigeria,<sup>6,18</sup> whereas among residents in a Lagos suburb it was community sensitization and community members.<sup>21</sup> This study found that among respondents who have awareness of CBHI, more than four-fifth (84.2%) have at least a fair knowledge of CBHI. Good knowledge of CBHI was similarly high (71%)

among respondents in the North Central Zone of Nigeria but low (37%) among residents in a suburb of Lagos.<sup>21,23</sup> Enrolment for CBHI is low among households in Nigeria and elsewhere. Only 9.6% of households in this study were currently enrolled in a health insurance program. The majority of them (43.0%) enrolled in rural CBHI schemes like the Obio Cottage health insurance in Port Harcourt and Community Health Insurance Scheme in Bonny. Other studies reported lower enrolment into CBHI schemes. For instance, CBHI enrollees were 6.7% in FCT Nigeria, 4.5% in a suburb in Lagos Nigeria, 2.9% among artisans in Abakiliki and 1.2% among informal sector workers in Douala, Cameroun.<sup>6,11,21,22</sup>

Although enrolment for CBHI scheme is low in this study, over four-fifths (82.5%) of household heads have the willingness to enroll themselves in CBHI scheme while approximately two-thirds (63.5%) were willing to enroll members of their households. Related studies have similarly reported a very high willingness of household heads to enroll in a CBHI scheme. In these studies more than three - quarters of the respondents were willing to enroll for CBHI schemes in Nigeria<sup>6,23</sup> and elsewhere<sup>2,8,22</sup> whereas in others, approximately two-thirds of heads of households were willing to enroll in CBHI schemes.<sup>7,21</sup> When out of pocket expenditure on health is catastrophic, individuals and families become impoverished. This further increases the risk of poor health as well as denial of access to quality healthcare services.<sup>5</sup> Income and educational level of enrollees have been reported to influence their willingness to enroll for an insurance scheme.<sup>2,9</sup> The poor who have experienced catastrophic health expenditure because of their low ability to pay for health services at points of care, better appreciate the benefits of a community health insurance scheme and are more willing to enroll in CBHI schemes.<sup>8</sup> This study found no statistically significant association between willingness to participate in CBHI and income levels of respondents ( $P = 0.375$ ) or the level of education of respondents ( $P = 0.7$ ) as reported in another study.<sup>9</sup> However the association between respondents' willingness to participate in CBHI and having a catastrophic health expenditure ( $P < 0.00001$ ), number of living children ( $P = 0.025$ ),

awareness of CBHI by respondents ( $P = 0.037$ ) and level of education of their partners ( $P = 0.041$ ) were statistically significant. Kibret et al similarly reported that households who borrowed to pay for healthcare services were 2-7 times more willing to enroll for CBHI.<sup>8</sup> Sixty percent of heads of households in this study earn less than ₦30, 000.00 monthly, the minimum wage in Nigeria; more than half (57.0%) had spent on the average ₦10,000.00 on healthcare expenses in the last 12 months and only 6.0% paid for healthcare services through an insurance scheme. Furthermore, the knowledge of the benefits of health insurance programs by individuals in the community is key to their decisions to enroll in CBHI schemes. Approximately half (52.0%) of the respondents and 44.0% of their partners have tertiary level education. Individuals who have had catastrophic health expenditure as well as those with more education can appraise the risk-benefit packages of a health insurance scheme better than the less educated and thus more willing to participate.<sup>5,11</sup> Such catastrophic experiences coupled with the high level awareness of CBHI of respondents and of education of their partners who possibly play roles in decisions on enrolment may likely account for the high level of willingness to enroll for CBHI schemes by respondents in this study irrespective of their incomes.<sup>2</sup>

Most of the respondents were willing to pay a premium of ₦2, 000.00 per head per annum (range ₦100 - ₦20,000.00) for treatment of mild medical conditions on an outpatient basis as well as serious conditions requiring hospitalization. This finding is comparable to the annual premium reported in other studies as prepayment for healthcare services which may or not include surgery and other treatments requiring hospitalization.<sup>4,11,17</sup> In terms of flexibility of payment of premium, majority of the respondents in this study preferred once a year payment followed by twice a year or monthly. In another study however, the monthly payment pattern was the most preferred method among informal sector workers.<sup>22</sup> Although this study did not assess the factors that determine how much enrollees are willing to pay, other studies found age and level of education of household head, monthly income, farm size or wealth status of the family, household size as determinants of amount enrollees were willing to pay. These factors may be due to the awareness of and actual experience of catastrophic expenditures following illness events within the family.<sup>2,17,23</sup>

Among the reasons respondents in this study gave for their unwillingness to enroll for CBHI, financial constraints (lack of regular income to pay and renew premium) and distrust for the insurance scheme (I don't believe that I will be treated when I am sick without payment) were the commonest. In similar studies, lack of awareness, trust, interest, altruism (an attitude of viewing premium as a contribution to the success of

CBHI) and the solidarity principle (an attitude of 'somebody else will use up my premium if I don't use it'), etc have also been reported as 'demand side' barriers to enrolment for insurance schemes.<sup>6,11,21</sup>

## VI. CONCLUSION

Although the awareness of Community-Based Health Insurance is low in Rivers State, knowledge of CBHI is high among those with awareness. Enrolment is also low however, majority of the people have the willingness to enroll themselves and members of their family.

A statistically significant association was found between willingness to enroll for CBHI and awareness of CBHI, number of living children, level of education of partner and the experience of catastrophic health expenditure. Community engagement programs to increase the awareness of CBHI should be implemented to increase enrolment and improve access to high-quality healthcare services.

## VII. LIMITATION OF THE STUDY

Information analyzed were obtained from the responses of participants. These responses are dependent on their memory recall which may introduce information bias.

*Conflict of Interest*

Nil

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