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## RESEARCH ARTICLE

### SOCIOECONOMIC STATUS AND ACCESS TO HEALTH CARE IN OBIO/AKPOR LGA, RIVERS STATE, NIGERIA

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#### ABSTRACT

**Background:** Good health is one of the requirements and expectation of every nation that care for the welfare of her citizens and hence an indicator of productive life, socially and economically balanced society. Access to healthcare facilities could be determined in terms of, availability of medical industry in an area, location of healthcare facilities, quality of services offered by health workers and affordability of medical bills. Socio-economic status (SES) can be looked upon as class standing of an individual or group. This study examined the relationship that exists between SES and access to healthcare. **Methods:** The study was done at five (5) Model Primary Health Centers (MPHC), drawn by ballot from the pool of 14 MPHC, using a cross sectional quasi experimental design. The sample size of 212 respondents was proportionally and statistically distributed among the five selected MPHC. The data were generated with an interviewer administered semi-structured questionnaire. Analysis was done with SPSS (17.0) package. **Results:** Female gender (60%) are the majority, with most of the respondent within aged 31-40 years. Majority of the respondent were educated. The socio-economic characteristics that were significantly associated with access to healthcare were education ( $\rho = 0.493$ ;  $p$ -value = 0.000), income level ( $\rho = 0.249$ ;  $p$ -value = 0.000); gender ( $\rho = 0.940$ ;  $p$ -value = 0.000). **Conclusions:** The study revealed that SES is significantly related to access to healthcare; and healthcare facilities should be located nearer to the people with minimal class and political considerations that may disadvantage the poor masses.

## INTRODUCTION

Access to healthcare services constitutes adequacy, equity and timely reach of health facilities when needed in order to maintain a healthy nation. By implication, it is the proximity of health services to the population irrespective of personal circumstances in order to improve their physical and mental capacity. However, the extent an individual can exercise such a right is limited, especially in developing countries that have no universal health insurance. It has been argued that access to healthcare facility could be determined in terms of, availability of medical industry in an area, quality of services, ability to afford medical bills, location of hospitals and unsafe care in the part of health workers.<sup>1</sup> Although numerous studies document its frequency, the development of conceptual models identifying consequences of socio-economic status has proceeded at a slower pace.<sup>2</sup> Researchers have shown that access to health care is affected by a number of factors, including accommodation;<sup>1</sup> acceptability-related factors such as client's perception of quality, social status, faith and other attributes of the health service like adequacy of resources and facilities;<sup>3</sup> geographic accessibility and financial accessibility<sup>4</sup> among others. In contrary, Whitehead, Evandrou, Haglund and Diderichsen believed that social status, financial ability and proximity to healthcare alone are insufficient in the concept of accessibility.<sup>5</sup>

They argued that the amount of information the individual has affects the level of access to the healthcare services. Rogers, Flowers and Pencheon<sup>6</sup> in support of Whitehead et al<sup>5</sup>, argued that the study of access to any service requires a framework of systems approach which enables decision makers to make timely services available in the right locations. In the systems approach, access is a part of a system (urban or rural) that depends on other components to succeed. For instance, the health service may be available within reach, but not at the quantity or quality demanded. Thus, access involves availability, utilization, relevance, effectiveness and equity.<sup>7</sup> However, in addition to the aforementioned factors, socio-economic factors such as income level, education, occupation, location and gender may influence access to health care facilities. Socio-economic status can be looked upon as class standing of an individual or group. It is measured by a number of factors, including income, occupation, and education, and it can have either a positive or negative impact on a person's life. Socioeconomic status (SES) has been defined as a measure of one's combined economic and social status and tends to be positively associated with better health.<sup>8</sup> This is calculated in a variety of ways, based on income, education and occupation, and takes into account a person's working and economic and social position relative to others. Socio-economic status is a strong health factor, and typically the wealthy appeared to be in better health than the poor.<sup>9</sup>

A large number of illnesses, including: cardiovascular,<sup>10</sup> respiratory illness,<sup>11</sup> mental health disorders,<sup>12</sup> seem to have significant impact on socioeconomic status. The challenges in Nigeria's health care system have made the country to be ranked at the bottom of the league of countries with the poorest healthcare systems in the world. This is evident in massive patronage of medical facilities or medical trip away from Nigeria. Though some past researchers have attributed the negative situation to lack of awareness, unemployment, family size and gross negligence by government. However, the question that arises then is; what is the relationship between socioeconomic status and access to healthcare? The researchers' quest to answer this question informed the conduct of this study. Hence it is important to investigate the influence of socio-economic status on access to health care in Nigeria, Obio/Akpor LGA, Rivers state in particular.

## METHODS

The study was a cross sectional survey design which was carried out at five (5) randomly selected Model Primary Health Centers (MPHC) in Obio/Akpor LGA, Rivers State. This is one of the quasi experimental design considering that the respondents were not in any way under the control of the researcher. The study population consisted of patients drawn from the five selected Model Primary Health Centre in Obio/Akpor LGA, Rivers state. A list of all Model Primary Health Centers (MPHC) in Obio/Akpor LGA obtained from the Rivers State Primary Healthcare Management Board (RSPHCMB) served as the sampling frame. The five study sites were drawn by ballot from the pool of 14 MPHC in Obio/Akpor LGA.

### Sample Size Determination/Sampling Technique of the Study:

The sampling procedure adopted included a homogeneous characteristic of patient's respondents, drawn from the accessible population. The sample was drawn proportionally from the possible accessible population of 450 respondents identified from the field as shown in table 1 above. Specifically, the sample size was determined mathematically using the Taro Yamane formula<sup>13</sup>

$$n = \frac{N}{1 + N(e)^2}$$

Where n = sample size sought  
e = Level of significance = 0.05  
N = Population size

Applying the above formula, with our known population of 450 respondents, level of significance of 95% (i.e., error margin = 0.05), the sample size.

$$n = \frac{450}{1 + 450(0.05)^2} = 211.7 \text{ respondents to 3 significant figures} = 212$$

Again, this sample size of 212 respondents was proportionally and statistically distributed among the five selected Model Primary Health Centres (MPHC) using Bowley proportionally allocation formula,<sup>14</sup> given as:

$$N_h = \frac{n(n_h)}{N}$$

Where  $N_h$  = Number of units to be distributed to each MPHC

$n_h$  = Population of each MPHC

$n$  = Total sample size

$N$  = Total population

**Study instrument:** Research questionnaire was the instrument used for the collection of data which was titled "Socio-economic Status and Access to Healthcare Scale" (SESAHS). The instrument (SESAHS) was divided into two sections - A and B. Section A collected data on demographic variables of the respondents while section B which consisted of 14 items measured access to healthcare.

Items on the instrument SESAHS were presented as statements to which the respondents were instructed to indicate their levels of agreement or disagreement on a four-point modified Likert type scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD); weighted 4 points, 3 points, 2 points and 1 point respectively.

**Validity of the Instrument:** The instrument was validated by two experts in measurement and evaluation who vetted the items to ensure the face and content validity of the instrument. The researchers ensured that all the corrections pointed out were incorporated before making the final draft.

**Reliability of the Instrument:** The reliability of the instrument was determined by the researchers through the test-retest method. Copies of the instrument were administered on 20 indigenes of Rivers State who were not part of the study, to avoid bias. After an interval of two weeks, the same instrument was re-administered on the same sample. The initial and the (second) re-test scores were correlated using Pearson product moment correlation. The correlation coefficient obtained was 0.74 which showed that the instrument was reliable for the study. The r coefficient was subjected to critical probability alpha level of significance of 0.05 to test the corresponding hypotheses. All data were subjected to analysis using Statistical Package for Social Science (SPSS) 17.0.

**Method of Data Collection:** Selected patients who gave consent were enrolled into the study and a study number assigned to each of them. The respondents were randomly recruited into this study from each Model Primary Health Centre until the quota for the center was completed.

### Data Analysis:

**Data was analyzed using:** IBM Statistical Package of Social Sciences (SPSS) version 17. The Sociodemographic variables were presented in tabular forms. Categorical variables were expressed as frequencies and proportions. The Spearman's rank order correlation coefficient (rho) was used to assess the correlation between educational level, gender, geographical location and income level with access to health care. A pvalue of  $p \leq 0.05$  was considered statistically significant.

$$\text{Rho} = \frac{1 - \frac{6 \sum d^2}{n(n^2 - 1)}}{n(n^2 - 1)}$$

Where  $\sum d^2$  = sum of the squared differences in the ranking of the subject on the two variables.

$n$  = number of subjects being ranked.

## RESULTS

Table 1 showed the sociodemographic of the respondents considered in this study. The female gender was the majority, 66%. A good number of the respondents were revealed to have employment relationships with their respective organization lasting between 5-10 years, while the least category is that containing respondents with work experience lasting less than 5 years. The age distribution of the respondents showed highest percentage within the 31-41 years age bracket and the least percentage within the 41 years and above. In terms of qualifications of the respondents, 36.8% of them had first degree certificates comprising HND, BSc, BA and B. Tech; while the least frequency falls within the post graduate degree certification comprising WAEC/SSCE certificates. The distribution based on the marital status of the respondents showed that most of them were from the marriage category and the least number within the widowed category. Table 2 Showed the estimated accessible population and calculated quota of the Five (5) MPHC. In a bid to test this research relationship, specific questions were asked as stated in Table 3. Out of 212 respondents, 69 (32.5%) indicated that there is very strong relationship between educational level and access to healthcare, while 54 out of 212 respondents representing 25.5% indicated that there is

**Table 1. Sociodemographic Characteristics (n = 212)**

Sociodemographic Characteristics	Frequency (%)
Gender	
Male	72 (34%)
Female	140 (66%)
Age (yrs)	
≤ 20	45 (21.2%)
21 - 30	34 (16.0%)
31 - 40	95 (44.8%)
≥ 41	38 (17.9%)
Marital status	
Single	45 (21.2%)
Married	78 (36.8%)
Widowed	65 (30.7%)
Divorced	24 (11.3%)
Educational qualification	
WAEC/SSCE	32 (15.1%)
OND/NCE	68 (32.1%)
HND/B.SC/B.TECH	78 (36.8%)
M.SC/Ph.D	34 (16.0%)
Length of employment(yrs)	
< 5	50 (23.5%)
5 - 10	95 (44.8%)
11 - 15	67 (31.6%)

**Table 2. Showing the calculated Quota of Five (5) MPHIC**

Name of the selected MPHIC	Accessible Population	No. of unit Apportion	Percentage (%)
MPHC Rumuigbo	95	44.7 (45)	21
MPHC Rumuokwurushi	110	51.8 (52)	24
MPHC Rumuolumeni	85	40.4 (40)	19
MPHC Eneka	90	42.4 (42)	20
MPHC Ozuoba	70	32.9 (33)	16
Total	450	212	100

**Table 3. Showing responses to research Questions**

Define the extent of relationship	Strongly agree (%)	Agree (%)	Strongly disagree (%)	Disagree (%)
Is there a relationship between educational level and access to healthcare?	69 (32.5%)	54 (25.5%)	46 (21.7%)	43 (20.2%)
Is there a relationship between income level and access to healthcare?	75 (35.4%)	62 (29.2%)	54 (25.5%)	21 (9.9%)
Is there a relationship between geographical location and access to healthcare?	69 (32.5%)	61 (28.8%)	45 (21.5%)	37 (17.5%)
Is there a relationship between gender and access to healthcare?	70 (33.0%)	61 (28.8%)	49 (23.1%)	32 (15.1%)

**Table 4. Showing relationship between socioeconomic status and access to health care**

			Educational Level	Access to Healthcare
Spearman's rho	Educational Level	Correlation Coefficient	1.000	-0.493**
		Sig. (2-tailed)	.	0.000
		N	212	212
	Access to Healthcare	Correlation Coefficient	-0.493**	1.000
		Sig. (2-tailed)	0.000	.
		N	212	212
			Income Level	Access to Healthcare
Spearman's rho	Income Level	Correlation Coefficient	1.000	0.249**
		Sig. (2-tailed)	.	0.000
		N	212	212
	Access to Healthcare	Correlation Coefficient	0.249**	1.000
		Sig. (2-tailed)	0.000	.
		N	212	212
			Geographical Location	Access to Healthcare
Spearman's rho	Geographical Location	Correlation Coefficient	1.000	-0.079
		Sig. (2-tailed)	.	0.254
		N	212	212
	Access to Healthcare	Correlation Coefficient	-0.079	1.000
		Sig. (2-tailed)	0.254	.
		N	212	212
			Gender	Access to Healthcare
Spearman's rho	Gender	Correlation Coefficient	1.000	0.940**
		Sig. (2-tailed)	.	0.000
		N	212	212
	Access to Healthcare	Correlation Coefficient	0.940**	1.000
		Sig. (2-tailed)	0.000	.
		N	212	212

a strong relationship between gender and access to healthcare, 46 out of 212 respondents representing 21.7% indicated that they strongly disagree to the assertion that there is a relationship between educational level and access to healthcare, and 43 out of 212 respondents representing 20.2% also indicated that they disagree with the assertion that there is a relationship between educational level and access to healthcare.

Table 3 shows that 69 out of 212 respondents representing 32.5% indicated there is very strong relationship between gender and access to healthcare, while 61 out of 212 respondents representing 28.8% indicated that there is a strong relationship between geographical location and access to healthcare, 45 out of 212 respondents representing 21.2% indicated that they strongly disagree to the assertion that there is a relationship between geographical location and access to healthcare, and 37 out of 212 respondents representing 17.5% also indicated that they disagree with the assertion that there is a relationship between educational gender and access to healthcare.

Table 4 shows a significant relationship between socioeconomic status of the respondents and access to healthcare. As regards educational level, there was a correlation coefficient of -0.493 and a p-value of 0.000 which is less than alpha of 0.05. Therefore, we reject the null hypothesis and this shows that there is a significant relationship between educational level and access to healthcare. There was also a significant relationship between income level and access to healthcare with a correlation coefficient of 0.249 and a p-value of 0.000 which is less than out alpha of 0.05. Therefore, we reject the null hypothesis indicating that there is a relationship existing between income level and access to healthcare. Table 4 also shows no significant relationship between geographical location and access to healthcare with a correlation coefficient of -0.079 and a p-value of 0.254 which is greater than our alpha of 0.05. Therefore, we accept the null hypothesis indicating that there is no significant relationship between geographical location and access to healthcare. A significant relationship was found between gender and access to healthcare with a correlation coefficient of 0.940 and a p-value of 0.000 which is less than out alpha of 0.05. Therefore, null hypothesis was rejected and this implies that, there is a significant relationship between gender and access to healthcare.

## DISCUSSION

The result showed a significant relationship between social-demographics and access to healthcare in this study. The tests of the bi-variate relations showed that both dimensions of social demographics were significantly associated with the measures of access to healthcare in Obio/Akpor LGA, Rivers State, Nigeria. This result implies that changes as regards activities concerned with educational level and income level within the organization would possibly have a correspondence effect on access to healthcare as report in this study. This assertion corroborated that of Robert and Benedict<sup>15</sup> and provides evidence that the effect of higher levels of education on access to health care is mediated principally by its contents, including values and skills imparted, and far less by means of status markers such as the diploma or the prestige of the degree-granting institution. It was also revealed in another study by Phillipa and Isaac<sup>16</sup> that respondents with higher level of education are more likely to use the internet and television in accessing health information ( $p = 0.001$  and  $0.000$  respectively). In addition to where to go to access healthcare, education also has a tremendous effect on decision making in terms of avoiding the first stage of delay in accessing care (that is the decision of “when to go to healthcare facility”) in time of ill-health. On the other hand, the second finding in the study showed that there is significant relationship between income level and access to healthcare. This finding supports the observation of Prateek,<sup>17</sup> in a similar study. Prateek revealed that high-income families are also likely to raise their child with higher nutrition and better healthcare, which does lead to better education than lower-income groups who find it harder to complete schooling. With the lack of good healthcare financing in the developing countries (which Nigeria is not exempted), out of pocket payment is

the main stay of healthcare financing, thus income level will determine the bargaining power of the individual seeking healthcare. Also, Mossialos and Thomson<sup>18</sup> in their study, revealed a significant impact of high-income level on access to healthcare. In this study, there is no significant relationship between geographical location and access to healthcare; this is in contrast with the position of Phillipa and Isaac<sup>16</sup> who investigated the relationship between location and access to healthcare among rural dwellers in Ghana using Shai Osudoku District as a case study and the study done by Sun et al<sup>20</sup> in the South-Western India. While the current study was conducted in an urban area, the study of Phillipa and Isaac<sup>16</sup> was conducted among rural dweller. The different environment of each study may have influenced the outcome. Those in the urban area will have access to public transport which will aid their access to healthcare facilities, while those in the rural setting may not have this but through determination, they access the healthcare facilities. Despite the finding of this study on location, it is important that more healthcare facilities are set up close to the community so as to improve access.

Finally, there is significant relationship between gender and access to healthcare which is in agreement with the study of Iyer, et al.<sup>20</sup> They examined the relationship between gender and basic access to health care for self-reported long-term ailments. There were economic class differences in continued, discontinued, and no treatment, but class was a gendered phenomenon operating through women, not men. This study revealed that more men had access to health than women, so, this is an indication that gender gap still exist in accessing healthcare. This may not be unconnected to the fact that the male gender is the head of most households and are responsible for decision making as deposited by Mossialos and Thomson<sup>18</sup> that Male headed households have more access to healthcare services than female headed households which in turn makes them utilize healthcare services more.

## CONCLUSION

Health is a basic human need. The extent of development of society could be rightly judged by the quality of her population's health and how fairly health facilities are distributed across social spectrum. The findings of this study revealed that socioeconomic status is significantly related to access to healthcare in Obio/Akpor LGA, Rivers State; and healthcare facilities should be located nearer to the people, especially in the rural areas with minimal class and political considerations that may disadvantage the poor masses. The influence of socio-economic and cultural factors on use of health facilities is not only a threat to health status of individuals but also a threat to national development. Accordingly, advances in both public and private health and breakthroughs in medical sciences will amount to nothingness if obstacles to use of health facilities as identified in this study are not dismantled.

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**Conflict of interest:** None

### Key-points

- This study adds empirical review to the assertion that indicators of socioeconomic status are positively associated with access to health care.
- This study also highlighted components of socioeconomic status that policy makers in the health sector should consider in order to improve access to healthcare services.

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