Family income and access to health care services among residents of Sagamu local Government area of Ogun State, Nigeria

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Abstract:

Access to health care services means having the timely use of personal health services to achieve the best health outcomes. However, accessibility, affordability and quality make up the golden triangle of ideal healthcare. Hence, the goal of this study is to ascertain the relationship between family income and health-care access in Sagamu local government area of Ogun State, Nigeria. The study adopted a descriptive cross-sectional quantitative research design. The target population consisted of family heads (household heads) in Sagamu LGA. A multi-stage sampling procedure was used to select 316 respondents. The instrument for data collection was a self-structured questionnaire which was divided into three sections (sections A-C). The instrument was subjected to face and content validity. The data for this study were collected primarily by the researchers. Descriptive and inferential statistics were used to analyze the data collected. The findings revealed that the geographical accessibility of health care services was poor due to reasons which include poor road network and bad transportation system while financial accessibility was also poor as most respondents could not afford the health care financing. Results for test of hypotheses showed that family income has a significant relationship with proximity to health care services (r= 0.347, p= 0.000), and availability of funds to care for health needs (r= 0.559, p= 0.000). The study concluded that the relationship between family income and geographical and financial accessibility were correlated.

It was recommended among others that the government should ensure the payment of subsidized charges by low income earners, to enable those with low income (the poor) access available health care services.

Keywords: Family Income, Access, Health Care Services,

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Introduction

Family income reflects people's ability to maintain reasonable financial alertness; and having some finances to manage is better to deal with health risks than not having much (Allmark, et al, 2019). In recent time, statistics have shown that low-income households are bedeviling not only with physical accessibility and acceptability of healthcare services but the affordability of healthcare services. According to the World Health Organization (2021), 210 million people globally suffer financial catastrophe from out- of-pocket expenditure on healthcare services every year, while 160 million are below the poverty line. Similarly, Scofield (2020) noted that not less than 12% of the global population spends at least 10% of their family budget on health. Correspondingly, in Nigeria, the poverty line due to out-of-pocket healthcare expenditure rose from 6.61% in 2010 to 8.66% and 9.52% in 2020 and 2021 respectively. While the number of maternal death resulting from the inability to respond or afford health services per 1000 adults continue to rise from 64,000 in 2010 to 69,000 in 2018 (World Bank, 2019).

Universal health care has long been regarded as a basis of long-term growth and international stability (United Nation 2012). As a result, health-related facilities should be widely accessible, acceptable, appropriate, and of good quality (Campbell et al., 2013). The economic development of any country is closely related to the health status of its population. As such, an efficient and equitable health care system that responds to the need of its people is an important instrument that can break the vicious circle of poverty and ill health. Health systems deliver preventive and curative health services which make large impacts on peoples' health. However, access to these services can lead to families spending substantial proportions of their available income. This has pushed some households into poverty. Because of these negative impacts some households forgo healthcare services and suffer ill health. The health sector in any country has been recognized as the primary engine of growth and development. The major factors that affect the overall contribution of the health system to economic growth and development in Nigeria include inter alia; lack of consumer awareness and participation, inadequate laboratory facilities, lack of basic infrastructure and equipment, poor human resource management, poor remuneration and motivation, lack of fair and sustainable health care financing, and high out-of-pocket expenditure on health. All these militate against access to health care services by the population.

Health care financing is the gathering of funds from public and private sources, including donor agencies, to pay for health care providers' services. The way a health system is funded has an impact on how well it performs, functions, and achieves its objectives. Costs of health care services and disposable incomes of households have significant implications for population health. The extent to which public health services are designed to promote health, prevent disease, and provide high-quality treatment, rehabilitation, and palliative care sufficient to be effective while ensuring that the services provided will not put the user in financial hardship is defined as the extent to which public healthcare services are designed to promote health, prevent disease, and provide sufficient high-quality treatment, rehabilitation, and palliative care while ensuring that the services provided will not put the user in financial hardship (Morgan & Churchill, 2018). However, due to widespread poverty, unemployment, inflation, and other macroeconomic difficulties, low-income individuals in Nigeria continue to

have difficulty accessing healthcare services. Health care financing is particularly hard hit, particularly in Nigeria, where out-of-pocket spending accounts for more than 70% of total private health expenditure, sapping the little progress the health system has made. As a result, most poor-stricken households' out-of-pocket spending has increased as a result of the high disease burden, trapping them in a vicious cycle of poverty and illness.

Out-of-pocket health expenses, according to World Health Statistics (2020), can put people in a financial bind by forcing them to choose between health and other requirements. Out-of-pocket health spending has been termed as catastrophic in many studies when it exceeds a specific threshold of a household's consumption or income (Wagstaff, et al., 2020). Out-of-pocket payments put a strain on family income, hence the goal of this study is to see how family income affects access to health care services. The frequency of catastrophic health spending is the most extensively used indicator to quantify financial hardship connected with out-of-pocket payments for households (Gyasi et al, 2019).

There is a direct link between the distance patients travel to get health care services and the reduction of disease and suffering in a country in public health facility (AlHW 2011). Patients are more likely to use health facilities that are close to them rather than those that are farther away (Mizen et al., 2015). One of the most important drivers of health-care utilization is the distance between patients and centers (Stock 1983). Patients travel a longer distance in third-world countries than they do in develop countries (Gyasi et al., 2019). Quality healthcare service has been defined in four aspects of access (Levesque et al., 2013), reflecting the balance between the qualities and expectations of providers and clients: (1) geographic accessibility – the physical distance or travel time to the potential user; (2) availability – having the appropriate type of care for those who require it; and (3) financial accessibility – users' willingness and ability to pay for services. Identifying varying levels of spatial accessibility to healthcare services in a given area allows decision makers to assess the effects of new facilities opening, closing, moving, or adjusting the services provided by current ones (Delamater et al., 2012).

Consequently, spending on health is not only consumption expenditure, but a productive investment both at individual and national levels. A healthy population is potentially a more productive population. This reasoning justifies national resource deployment to health funding and the increased campaign to use organized health system. It is assumed that increased access and use of health services will improve the health status of the population. The correlation between family income and access to health services can be argued through the proper utilization of financial services. Agrigoroaei, et al (2017) and Aguila, et al (2016) opined that ability to maintain reasonable financial competence such as having access to a bank and account ownership, involvement in microfinance credit union, having a mobile money account and access to credit through loans from financial institutions and non-financial systems are significant determinant of healthcare.

The problem is that family income that is inadequate may lead to low access to health care services. Also most families cannot access health care services because it is out reach. The idea is that third party payment through health insurance scheme should be universally made available for all families. This will help determine the effects of family income on access to health care services.

Nigerians, especially the residents of Sagamu local government area of Ogun State maintain a very strong household relationship. This is evident in the culture and attributes of the people of Ogun State. The household family members are a decisive agent in determining the healthcare service financing of the household (Ogunsakin & Fawehinmi, 2017). Family income plays a very important role in household spending on health. Inadequacy in healthcare service financing among households has been documented as a major factor promoting high morbidity and mortality among members of the family. The main objective of this study was to determine the effect of family income on access to health care service among residents of Sagamu local government area of Ogun State, Nigeria. The specific objectives were to:

1. determine the effect of family income on geographic accessibility of health services among residents in Sagamu local Government in Ogun State Nigeria; and
2. determine the effect of family income on financial accessibility of health services among residents in Sagamu local Government in Ogun State Nigeria.

Research Hypotheses

Ho1: There is no significant relationship between family income and geographical accessibility to healthcare services among residents of Sagamu local government of Ogun State

Ho2: There is no significant relationship between family income and financial accessibility to health care services among residents of Sagamu local government area of Ogun state.

Methodology

The study adopted a quantitative design using a descriptive cross-sectional approach. This study was carried out among residents of Sagamu local government area of Ogun state. Approximately, 35,760 households are residents of Sagamu local government area of Ogun State. The target population was family members resident in Sagamu local government of Ogun State. To determine the sample size, the indices used to determine sample size in a study done to investigate Out-of-pocket payment for health care services and implication for household by Adesina (2020) was adopted in this study since both studies have significant similarities. 0.25 was used as proportion of residents positive for health care that will require payment, power of 80% (0.8), confidence interval of 95% and 0.05 as the absolute sampling errors that can be tolerated.

Using the formula $n = \dfrac{z^2 \times pq}{d^2}$

Where

n = the desired sample size,

z = the standard normal deviation at 95% confidence interval =1.95

p = the proportion in the target population estimated to have a particular characteristics = 0.25

q = 1.0 – p = 0 .75

d = degree of accuracy desired, usually set at 0.05

Therefore

n = $\dfrac{1.962 \times 0.25 \times 0.75}{0.0025}$ = 0.7203 = 288.12

n = 288

To make up for non-response/attrition rates, 10% of the sample size was calculated and added. 10% of 288=28, therefore, 28+288=316

A multi-stage sampling procedure was used for this study.

Stage 1: All the fifteen wards in Sagamu local government area were considered at this stage. Ten wards were selected by stratified random sampling so that wards in both rural and urban areas are represented.

Stage 2: All the streets in the selected wards were listed out and numbered. There was an average of 14 streets per ward. Each street had an average of 16 houses on it. Two (2) streets were selected by simple random sampling through balloting from the list of streets in each of the ward for this study.

Stage 3: The streets were considered one after another, starting from the first selected street, to the last. All the houses on the selected streets were considered, starting from the first to the last. In houses with more than one household, and therefore more than one household/family member, only one of the household/family member was recruited. A household/family member was picked by simple random sampling method per house, until the required number of household members was attained.

For the purpose of this study, data collection was done using a structured self-administered questionnaire which contained 3 sections. Section A sought for Socio demographic characteristics of the respondents. Section B consisted of items on Proximity of Health care Services. This was measured with Yes or No while Section C consisted of items on Availability of fund to Access Health care Services. This was measured by Yes or No. The instrument was subjected to face and content validity. The items in the questionnaire were presented to experts in tests and measurement, and nursing science for reviewing, correction and appraisal after which necessary corrections were made. Reliability of instrument was carried out using 10% of the respondent (10% of 316 = 31), these copies of the questionnaire were shared amongst 31 participants in Odogbolu Town. The data collected were analysed using the Cronbach's alpha statistics and the reliability index gotten was 0.747

A letter of introduction was presented to the Chairman, Sagamu Local Government Area. After acceptance, copies of the questionnaire were distributed among the residents of Sagamu LGA. The copies of the questionnaire were shared for a period of two weeks. After which each questionnaire was numbered and taken for analysis. Data obtained were processed and analyzed using the latest version of statistical package for social sciences (version 27). Frequency tables were made and data were presented on it. Research questions were answered using descriptive statistics of mean standard deviation and percentages while hypotheses were tested using inferential statistics of Pearson's Product Moment Correlation test at 0.05 level of significance.

Results

Table 1: Distribution of respondents by socio-demographic characteristics N= 316

Socio-demographic characteristics	Frequency	Percentage
Age		
26-33yrs	31	9.8
34-40yrs	80	25.3
41-48yrs	119	37.7

48yrs and above	86	27.2
Total	**316**	**100.0**
Sex		
Male	207	65.5
Female	109	34.5
Total	**316**	**100.0**
Main Occupation		
Civil Servant	67	21.2
Artisan	78	24.7
Trader	94	29.7
Unemployed	4	1.3
Others	73	23.1
Total	**316**	**100.0**
Marital Status		
Never Married	13	4.1
Married	228	72.2
Non-married Partner	27	8.5
Divorced	12	3.8
Separated	23	7.3
Widowed	13	4.1
Total	**316**	**100.0**
Family type		
Monogamous	233	73.7
Polygamous	43	13.6
Cohabiting	40	12.7
Total	**316**	**100.0**
Family size		
Less than 4	134	42.4
Greater than 4	182	57.6
Total	**316**	**100.0**
Educational Background		
No formal education	2	0.6
Primary	36	11.4
Secondary	140	44.3
Tertiary	-	-
Graduate	138	43.7
Total	**316**	**100.0**
Household monthly income		
Less than N30,000	6	1.9
N31,000 - N50,000	57	18.0
N51,000 - N100,000	193	61.1
Greater than N100,000	60	19.0
Total	**316**	**100.0**

Source: Field Survey, 2022

Table 1 presents the socio-demographic characteristics of respondents in Sagamu Local Government Area of Ogun State. With respect to age, 31(9.8%) were between the age 26-33 years, 80(25.3%) were within 34-40 years, 119(37.7%) were within 41-48 years while 86(27.2%) respondents were above 48 years. Furthermore, a total of 207(65.5%) respondents were male, while the remaining, which accounts for 48(15.8%), were female.

The occupation of respondents was also analyzed. A total of 67(21.2%) were civil servants, 78(24.7%) were artisans, 94(29.7%) were traders, 4(1.3%) were unemployed while others were 73(23.1%). On marital status, 13(4.1%) respondents were never married, 228(72.2%) were married, 27(8.5%) were non-married partner, 12(3.8%) were divorced, 23(7.3%) were separated while 13(4.1%) were widowed. Upon analyzing family type, 233(73.7%) were monogamous, 43(13.6%) were polygamous while 40(12.7%) were cohabiting. Results on family size showed that 134(42.4%) respondents have were less than 4 members in the family while 182(57.6%) were have a family size greater than 4. On educational background, 2(0.6%) respondents had no formal education, 36(11.4%) respondents had primary education, 140(44.3%) respondents had secondary education, while others, 118(38.8%) were graduates. Results on monthly income showed that 6(1.9%) respondents earn below N30,000 monthly, 57(18.0%) respondents earn between N20,000 to N50,000 monthly, 193(61.1%) of them earn between N51,000 to N100,000 per month while 60(19.0%) respondents earn above N100,000 every month.

Objective 1: PROXIMITY TO HEALTH CARE SERVICES

Table 2: Proximity to Health Care Services   N= 316

S/N	Statements	Yes	No	Mean	SD
1	Health care facility is quite a distance from where we live.	285(90.2%)	31(9.8%)	0.90	0.298
2	Health care facility is quite a distance from where we work.	197(62.3%)	119(37.7%)	0.62	0.485
3	Road network to access health facility we use is not good.	214(67.7%)	102(32.3%)	0.68	0.468
4	There is no good transportation system to access our health facility	273(86.4%)	43(13.6%)	0.86	0.343
5	It takes a long time to reach the closest health facility from our home	198(62.7%)	118(37.3%)	0.63	0.484
6	There is no government primary health centres in our community	214(67.7%)	102(32.3%)	0.68	0.468
Average				**0.73**	**0.424**

Source: Field Survey, 2022

Table 2 presents descriptive statistics respondents' responses to questions related to effect of family income on proximity to health care services. This result shows that a total of 285(90.2%) respondents answered that the health care facilities are located far away from their residents while just 31(9.8%) respondents said health care facilities are located nearer

to where they live. This indicates that almost all respondents have health care facilities situated away from the various residences (mean= 0.90, standard deviation= 0.298).

Also, 197(62.3%) respondents noted that health care facilities are located far from their places of work while the rest, 119(37.7%) answered otherwise. This shows that over half of the respondents have health care facility situated away from their place of work (Mean= 0.62, standard deviation= 0.485). 214(67.7%) respondents said there is bad road network to access health care facility while 102(32.3%) said there is a good road network linking their various residences to the health care facility (mean= 0.68, standard deviation= 0.468). From the fourth question, 273(86.4%) people said there is no good transportation system to access the health care facilities in Sagamu while 43(13.6%) people said otherwise (mean= 0.86, standard deviation= 0.343).

From the next question, 198(62.7%) people said it takes longer time to reach the closest health facility while 118(37.3%) people answered it takes shorter period for them to access the closest health care facility (mean=0.63, standard deviation=0.484). From the last question asked concerning the presence of a government primary health centre in their community, a total of 214(67.7%) respondents answered there are no government primary health centre in their community while the remaining people answered otherwise. This means that only about 32% of the respondents have a government primary health facility in their community (mean= 0.68, standard deviation= 0.468).

The average mean score of responses of respondents for this section is 0.73 while the average standard deviation is 0.424. This indicates that most of the respondents answered in affirmation to each of the questions, meaning there are challenges in the proximity to health care facility in Sagamu Local Government Area.

Objective 2: AVAILABILITY OF FUNDS TO ACCESS HEALTH CARE SERVICES

Table 3: Availability of Fund to Access Health Care Services   N=316

S/N	Statements	Yes	No	Mean	SD
1	My income is sufficient to take care of myself and my family members health needs	40(12.7%)	276(87.3%)	0.13	0.333
2	We take loan to visit the hospital for health care	1(0.3%)	315(99.7)	0.00	0.056
3	We pay out of pocket for health care services expenses	286(90.5%)	30(9.5%)	0.91	0.294
4	I have health insurance policy to take care of my family members health care needs	30(9.5%)	286(90.5%)	0.09	0.294
5	My family get some free health care services from government and NGOs/	1(0.3%)	315(99.7%)	0.00	0.056
Average				**0.23**	**0.207**

Source: Field Survey, 2022

Table 3 indicates the descriptive statistics of respondents' responses to questions relating to the availability of funds to access health care facilities in Sagamu. This result of this survey indicates that only 40(12.7%) respondents have sufficient income to take care of the health needs of themselves and their family members. 276(87.3%) respondents answered their income isn't. This is evident as shown by the mean score of 0.13 and standard deviation of 0.333. Almost all respondents are unable to access loan in other to visit the hospital for health care has only just 1(0.3%) of them can take loan while the remaining 315(99.7%) people cannot take loan (mean= 0.00, standard deviation= 0.056). Only 30(9.5%) respondents have health insurance policy to take care of family members health care needs while 286(90.5%) respondents do not have an insurance policy (mean= 0.09, standard deviation= 0.294). As shown by the results from the analysis, 286(90.5%) respondents pay out of pocket for health care services expenses while just 30(9.5%) respondents do not (mean=0.91, standard deviation= 0.294). Lastly, 315(99.7%) respondents said they do not get free health care services from the government and NGOs as only just one respondent receives free health care services (mean=0.00, standard deviation= 0.056).

The average mean score of responses of respondents for this section is 0.23 while the average standard deviation is 0.207. This indicates that most of the respondents answered negative on average to the question in this section.

Test of Hypotheses

Research Hypothesis 1 (Ho$_1$): There is no significant relationship between family income and geographical accessibility to healthcare services among residents of Sagamu local government of Ogun State.

Table 4: Pearson Correlation between family income and geographical accessibility to healthcare services

		HOUSEHOLD MONTHLY INCOME	Geographical Accessibility
HOUSEHOLD MONTHLY INCOME	Pearson Correlation	1	.347**
	Sig. (2-tailed)		.000
	N	316	316
Geographical Accessibility	Pearson Correlation	.347**	1
	Sig. (2-tailed)	.000	
	N	316	316

Source: Field Survey, 2022

The results in Table 4 revealed that there was significant relationship between family income and geographical accessibility to healthcare services among residents of Sagamu local government of Ogun State (r = 0.347, $p<0.05$). This implies that family income and geographical accessibility to healthcare services are related. Therefore, the hypothesis stating no significant relationship between family income and geographical accessibility to healthcare services among residents of Sagamu LGA is hereby rejected.

Research Hypothesis 2 (Ho$_2$): There is no significant relationship between family income and financial accessibility to health care services among residents of Sagamu local government area of Ogun state.

Table 5: Pearson Correlation between family income and financial accessibility to health care services

		HOUSEHOLD MONTHLY INCOME	Financial Accessibility
HOUSEHOLD MONTHLY INCOME	Pearson Correlation	1	.559**
	Sig. (2-tailed)		.000
	N	316	316
Financial Accessibility	Pearson Correlation	.559**	1
	Sig. (2-tailed)	.000	
	N	316	316

Source: Field Survey, 2022

The results in Table 5 revealed that there was significant relationship between family income and financial accessibility to health care services among residents of Sagamu local government of Ogun State (r = 0.559, *p*<0.05). This implies that family income and financial accessibility to health care services are related. Therefore, the hypothesis stating no significant relationship between family income and financial accessibility to health care services among residents of Sagamu LGA is hereby rejected.

Discussion of Findings

Various findings have been highlighted in this result. First, the finding revealed that the geographical accessibility of health care services in Sagamu Local Government Area is poor due to reasons which include poor road network (mean= 0.68) and bad transportation system (mean= 0.82) . Responses on availability of funds to finance health care services were mostly negative. Lack of health care insurance and access to free health care services as shown by low mean score of 0.09 and 0.00 respectively are amongst other factors leading to poor financial access to healthcare services.

The result on test of hypotheses revealed that there was significant relationship between family income and proximity to health care services among residents of Sagamu LGA (r = 0.347, *p*<0.05). According to the research done by **Ossi kotavaara et al. (2021)** on the geographical accessibility to primary health care in Finland, the result shows that the Finnish population reaches primary health services well, also by public transport, which is most beneficial in urban fringes, where health services are not immediately available. However, accessibility of services may be limited for some segments of the population, such as carless households located in remote areas, and teenagers who access health services independently. Distinct regional differences exist in accessibility, particularly in rural areas. There are relationships between these two entities as rural areas are mostly linked with lowly earning families.

The result also revealed that there was significant relationship between family income and availability of funds for healthcare needs among residents of Sagamu LGA (r = 0.559, $p<0.05$). The finding of **Akawu and Charles (2018)** is in consonant with the present finding as they found relationship between family income and access to health care services. They discovered that the increase in poverty rate in the state and by extension across Nigeria has been coupled with a corresponding increase in the incidence of diminishing health status.

Conclusion

Sequel to the findings of this study, it is concluded that the geographical accessibility of health care services in Sagamu Local Government Area is poor due to reasons which include poor road network and bad transportation system. Availability of funds to care for health needs was also poor as most respondents couldn't afford the health care financing. No loan options and lack of free health care services for residents to explore. Responses on availability of funds to finance health care services were mostly negative. Lack of health care insurance and access to free health care services are amongst other factors. Conclusively, the relationship between family income and geographical and financial accessibility are correlated.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. The government should formulate and implement policies that will subsidize health care services and also provide a good road network linking the community to health care centres.
2. The government should ensure the payment of subsidized charges by low income earners, to enable those with low income (the poor) access available health care services.
3. There is need for health workers to create awareness among residents on health insurance and the need to enroll in the scheme.
4. National Health Insurance Scheme should be made available and accessible for all especially the low income earners.

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