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Comparative Assessment of Health Status and Health-Seeking Behaviour of Household Heads in Rural and Urban Areas of Abia State, Nigeria

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Abstract

Health status of a nation is closely linked to the health seeking behavior and its economic growth. Therefore, this study aims to examine the health status and health-seeking behaviour of household heads in urban and rural areas of Abia State, Nigeria using a mixed model approach. An analytical cross-sectional study design was employed where the quantitative data was collected using a structured questionnaire to compare the health status and health-seeking behaviour of urban (n=450) and rural household heads (n=447). For the qualitative arm of the study, data was collected through focus group discussions using an interview guide. The results show that a significantly higher percentage of rural household heads (10.3%) perceive their health status as 'very good' compared to their urban counterparts (4.2%), p-value <0.05. Additionally, urban household heads reported a higher incidence of illness (85.2% vs. 36.2%), where malaria (70.9% vs. 9.9%) and typhoid (34.3% vs. 4.3%)ranked highest. Regarding their health seeking behavior, urban household heads were first sought care from to private hospitals (n=102, 26.6%) followed by chemist shops (n=212, 55.2%), while their rural counterpart first sought treatment from primary health centres. To conclude, these findings suggest that although urban household heads have seemingly better health-seeking behaviour than the rural, the effect of urbanization has negatively affected their health status. Therefore, more concerted efforts should be geared at designing health promotion campaigns to improve the health status of the population whilst addressing barriers to seeking health care such as financial constraint and cost of transportation.

Keywords: *Abia State, Health status, Health-seeking behaviour, Household heads, Nigeria.*

Introduction

"Health status" and "health-seeking behaviour" are commonly used terms in the field of public health. While "health status" refers to an individual's perception of their health, "health-seeking behaviour" refers to the actions or lack thereof taken by individuals who believe they have a health issue or illness to find appropriate treatment [1, 2, 3]. These concepts are crucial in understanding how healthcare facilities are utilized and identifying the reasons for poor utilization of available healthcare resources [4]. Healthcare facilities are located within communities, and the household is considered the basic social and economic unit of a community. A household is defined as one or more individuals living in the same room(s) in a house or building, who share the same source of food. It can also refer to one or more extended families. Within a household, there is typically a head who is responsible for providing for the economic needs of the household, managing income and expenses,

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and is recognized as the leader by other members of the household. This head can either be male or female [5]. The assessment of health status and health-seeking behavior is influenced by the decision-making process of the household head [6] and the influence of household heads in rural and urban areas could differ.

The characteristics of urban and rural areas can contribute to differences in self-reported health status and health-seeking behavior, as urbanization can have an impact on health [7]. Several studies have identified factors that contribute to these differences between urban and rural populations. These factors include socio-demographic and socioeconomic characteristics such as gender, age, income, education level, marital status, health literacy, and the type and severity of illness. Others include community-related and health-system-related factors, such as the presence of family members, access and cost of healthcare services, availability of resources and services, attitudes of healthcare staff, convenience, payment methods, satisfaction with services, community perceptions of diseases, and the health belief model (HBM) [8]. The HBM suggests that an individual's behaviour towards a particular health issue is influenced by two main factors:their perception of the severity of the issue and their belief in the effectiveness of the recommended health behaviour in reducing the risk of negative outcomes [6].

While there is paucity of published report specifically on the health-seeking behaviour of household heads in Nigeria, there were no rural urban comparisons. [9] There is a scarcity of studies comparing urban-rural differences in health-seeking behaviour in Abia State. The only published study focused on non-communicable diseases and found that both urban and rural populations tend to seek healthcare from patent medicine vendors rather than formal healthcare sources [8]. Furthermore, there are no published reports comparing the health status of urban and rural populations in Abia State, Nigeria. Given the challenges faced by rural populations in accessing healthcare, it is important to evaluate the health status and health-seeking behaviour of household heads in both urban and rural areas of Abia State, Nigeria.

Materials and Methods

Study Area

This study was conducted in Abia State, which was created in August 1991 from the old Imo State, with its capital located in Umuahia. Abia State is situated in the southeastern region of Nigeria and covers an area of approximately 5,834 sq. km, which is about 5.8% of the total land area of Nigeria. The population of Abia State is estimated to be 4.1 million, with the majority of the inhabitants belonging to the Igbo ethnic group (95%) and practicing Christianity. There are two tertiary hospitals, 15 general hospitals located across the 17 LGAs, and a total of 687 public primary health care centres distributed across political wards. Collaborations exist between the government, private sector, and healthcare partners to ensure effective service delivery. The State Ministry of Health and its line agencies regulate and coordinate health activities in the State.

Study Design

The study utilized a cross-sectional analytical design, incorporating both quantitative and qualitative data collection methods. This approach was deemed most suitable for the project, as it allowed for the collection of information from the subjects at a single point in time. The quantitative arm of the study utilized a semi-structured interviewer-administered questionnaire, while the qualitative arm utilized an interview guide.

Study Population and Duration of Study

The study population comprised household heads in the urban and rural Local Government Areas of Abia State. For the qualitative arm, four (4) Focused group discussions (2 per study

location amongst household heads were conducted. The study was carried out for a period of 6 months (April to October).

Inclusion and Exclusion Criteria

All household heads of representative residents in the area for at least one year while household heads or representatives do not present at the time of interview or households who refused to give consent to participate in the study were excluded.

Sample Size Determination

The sample size is determined using the formula for comparing two independent groups.

$$n = \frac{(\mathbf{Z_\alpha} + \mathbf{Z_\beta})^2\{\mathbf{P_1}(\mathbf{1} - \mathbf{P_1}) + \mathbf{P_2}(\mathbf{1} - \mathbf{P_2})\}}{(\mathbf{P_1} - \mathbf{P_2})^2}$$

Where **n** = sample size of each comparative arm.

$\mathbf{Z_\alpha}$ = Percentage point of the normal distribution corresponding to the (two sided) significance level of 5% = 1.96.

$\mathbf{Z_\beta}$ = One sided percentage point of the normal distribution corresponding to β (100% - power): at power 80% (β =20%), $Z_\beta = 0.84$.

$\mathbf{P_1}$ = Using the social health insurance scheme of 38% from the study of [10], the proportion of respondents in an urban area in south-east Nigeria was drawn.

$\mathbf{P_2}$ = Using the social health insurance scheme of 52% from the study of [11], the proportion of respondents in a rural area in south-east Nigeria was drawn

$\mathbf{P_1 - P_2 = -0.14}$

$$n = \frac{(1.96 + 0.84)^2\{0.38(1 - 0.38) + 0.52(1 - 0.52)\}}{(0.38 - 0.52)^2}$$

$$= \frac{7.84\{0.38(0.62) + 0.52(0.48)}{(-0.14)^2}$$

$$= \frac{7.84\{0.2356 + 0.2496\}}{0.0196}$$

$$= \frac{7.84 \times 0.4852}{0.0196}$$

$$= \frac{3.8039}{0.0196}$$

$$= 194 \text{ per study area.}$$

Assuming a design/clustering effect of 2 the sample size = 194 x 2.0 =388 per study area.

Also accounting for a possible maximum non-response rate of 10% from each study area.

q=100/100-F

Where q is the adjustment factor and F is the estimate of the non-response rate.

q=100/100-10

=1.11

=388 * 1.11

=427 households per study area.

The total required sample size N for the study is 854, approximately 860 households' i.e. 430 per study site.

A schematic diagram showing the multistage sampling technique for the study in urban and rural Local Government Areas is shown in Fig. 1.

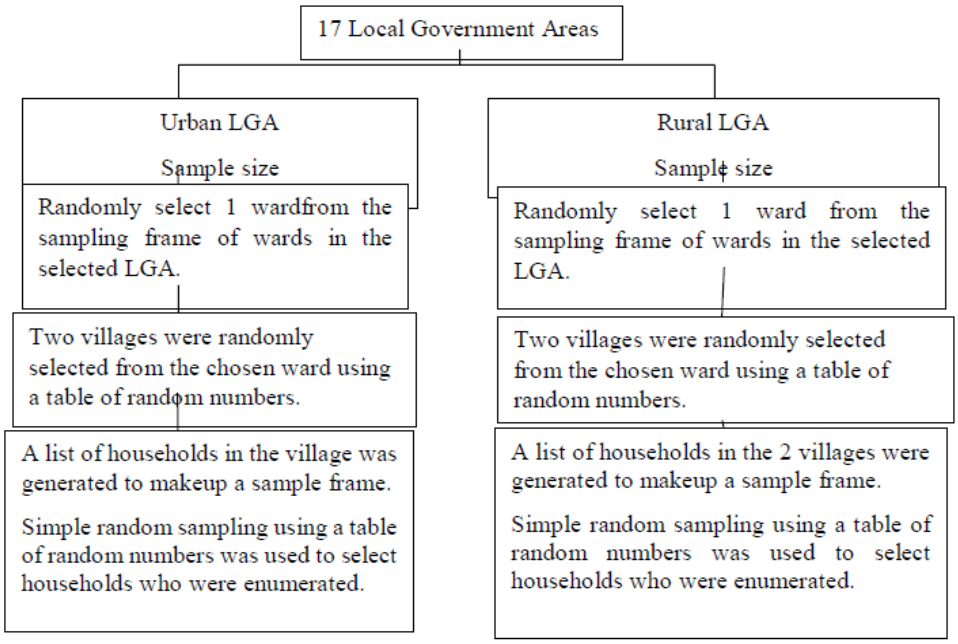

Figure 1. A Multistage Sampling Technique for Selecting the Households in the Urban and Rural Study Areas.

Data Collection

Four research assistants who are at least graduates with experience in administering survey instruments; good communication skills and proficiency in English and Pidgin English languages were recruited. The research assistants were trained. During the training, the research assistants rehearsed the use of the tools to improve their expertise in the administration of the instruments and good enough speed in its delivery. Training of the assistants was followed by a pre-test using Kobo toolbox software for data collection. The pre-test helped to further validate the survey instrument – addressing areas of ambiguities and errors as well as estimation of time requirement for administering the tools.

Focus group discussions for household members and in-depth interviews with key stakeholders using an interview guide were used to collect qualitative data in this study. A total of four FGDs were carried out in the health facilities in the study areas - two per study area. The focus group comprised 8-10 consenting participants and was selected purposively based on the inclusion criteria. The principal investigator moderated the sessions which took 45 minutes to an hour, assisted by an experienced note-taker who took notes on paper in addition to recording the discussion with a digital voice recorder after obtaining permission from the participants. An observer noted the non-verbal expressions of participants. The sessions were conducted on a round table for proper eye contact and engagement of all participants. The criteria for selecting the participant were the ability to communicate in Pidgin English and the local language Igbo. Mapping was done to purposively select key stakeholders for interviews.

Data Analysis

Data was collected using the Kobo toolbox, which is an open-source mobile data collection platform. There was provision for multiple mobile data connectivity options to ensure all data collected are transmitted to the central server at the end of each day's work to ensure they are quality assured in a timely fashion. The team supervisors provided on-the-spot monitoring and quality control of data will be employed at various stages, during data

collection, data cleaning and data assessment. This was emphasized during the training of the research assistants and their supervisors; Analysis was done using SPSS version 25.0. Descriptive statistics were used to summarize the survey data. Categorical variables were summarized using frequencies and proportions.

Qualitative Data

Data from the interviews was transcribed and re-read to get used to the process and gain an understanding of the data obtained by two data coders who undertook the interviews. Each coder separately coded the transcripts and Interpretations were compared and appraised by the research team to ensure coherence. The results of the initial coding which entails the identification of emerging themes and subthemes in addition to the pre-determined themes based on study objectives. A thematic framework was applied to all transcripts by assigning codes to relevant phrases, sentences and paragraphs from the interviews which allows patterns to be observed in the data as well as the context in which they were occurring. The segment of the coded data was combined, and final mapping and interpretation were done. The final results were triangulated to identify corroborating or contradicting information and comparisons made with the quantitative arm of the study. Ethical approval was obtained from the Cross River State Health Research and Ethics committee with the number CRS/MH/HREC/023/Vol.V1/274 and informed consent was obtained from participants before inclusion into the study.

Results

Quantitative

Socio-Demographic Characteristics of Household Heads by Location

The socio-demographic characteristics of the respondents are based on their location. Out of the 950 questionnaires distributed, 897 were completed and returned, resulting in a response rate of 99.6%. Interestingly, there were more female household heads sampled in the urban area compared to male household heads as seen in figure I. The average age of the study participants was 41.88±12.22, with a significant difference between those living in rural and urban areas ($p=0.002$). The majority of participants in both locations fell within the age range of 30-39 and 40-49 years. Among the sampled household heads, a significant portion were married, while 25.9% were single ($p=0.011$). Additionally, the average household size was significantly larger among household heads from rural Abia State compared to those in urban areas.

The majority of the respondents, have completed secondary school 162(36.0%) vs 310(69.4%) and are self-employed 176(39.1%)vs.115(25.7%), based on their level of education and occupation, respectively ($p<0.05$). The overall mean income was 43396.66±32246.82 with a statistically significant difference between urban and rural household heads where a high proportion of urban household heads earned between N50,000-100,000, 280(62.2%) compared to the rural, with the majority earning <N50,000 382(85.5%), p-value<0.05.

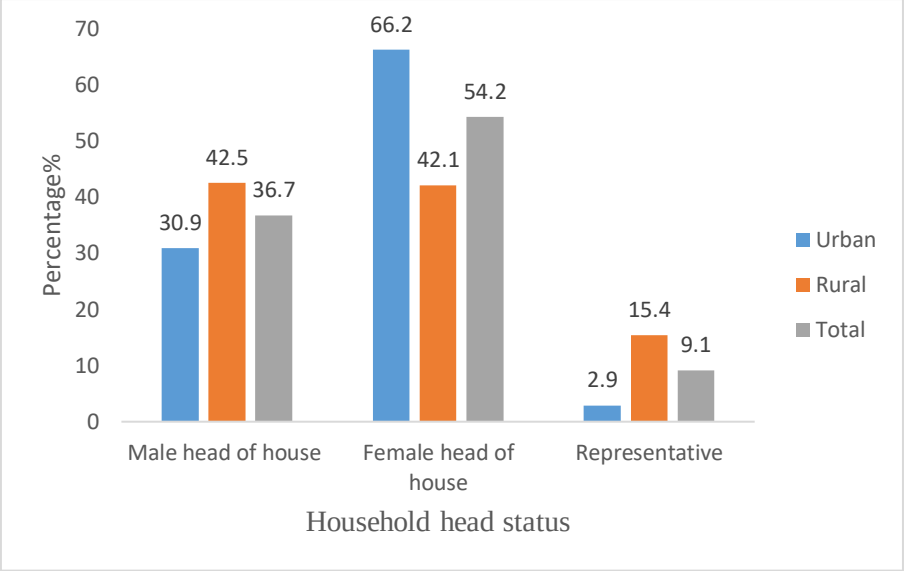

Figure 2: A Bar Chart Showing the Household Head Status in Rural and Urban Study Locations

Health Status and Health-Seeking Behaviour of Household Heads

Table 1 shows the health-seeking behaviour of the households. Overall, the study participants reported good health status (n=707, 78.9%). However, household heads in rural areas perceived their health status to be "very good" (n=46, 10.3%) than those in the urban area (n=19, 4.2%). The presence of chronic illness was significantly higher among household heads in rural areas (6.5%) compared to those in urban areas (3.1%). The percentage of reported illness in the last 3 months was significantly higher ($p<0.05$) among household heads in urban areas of the State than those living in rural areas. The prevalence of malaria and typhoid was higher among urban household heads than those in rural areas. Additionally, the reported prevalence of diarrhoea was higher among urban household heads, while the incidence of waist pain, high blood pressure, eye pain, and diabetes mellitus was reported more frequently by household heads in rural Abia State than in the urban area.

A comparison of the health-seeking behaviour of household heads in urban and rural areas of Abia State revealed a significant difference in their initial choice of treatment for illness. Specifically, a higher percentage of urban household heads (n=212, 55.2%) first sought treatment from a chemist shop when sick, compared to their rural counterparts. While rural household heads were more likely to access primary health care (PHC) and public hospitals, urban household heads tended to seek treatment from private hospitals (n=102, 26.6%). Furthermore, there was a significant difference ($p<0.05$) in the mode of transportation used by urban and rural household heads to reach health facilities. The majority of urban household heads (225, 58.0%) reported walking to the facility, followed by the use of tricycles (88, 22.7%). In contrast, the majority of rural household heads used tricycles to reach the health facility. Additionally, most respondents reported spending less than 15 minutes travelling to the facility and an average of 5379.5±2541.7 for health service delivery. Interestingly, urban household heads spent minimal time travelling to the health facility but spent more money on health care delivery as seen in table 2.

Table 1. Health Status of Household Heads in Urban and Rural Abia State

Variables	**Urban n=450 Freq. (%)**	**Rural n=447 Freq. (%)**	**Total N=897 Freq. (%)**	χ^2	**p value**
Health status					
Poor	4(0.9)	7(1.6)	11(1.2)	18.02	**0.001***
Neutral	70(15.6)	44 (9.8)	114(12.7)		
Good	357(79.3)	350(78.3)	707(78.8)		
Very Good	19 (4.2)	46 (10.3)	65 (7.2)		
Presence of chronic illness					
Yes	14 (3.1)	29 (6.5)	43 (4.8)	5.602	**0.018**
No	436 (96.9)	418 (93.5)	854 (95.2)		
Reported illness in last 3 months					
Yes	388(86.2)	162 (36.2)	550 (61.3)	236.17	**0.001***
No	62(13.8)	285 (63.8)	347(38.7)		
Types of illness (multiple response)	**n=388**	**n=162**	**N=550**		
Malaria	275 (70.9)	16(9.9)	291 (41.8)		
Typhoid	133 (34.3)	7 (4.3)	140(20.1)		
Diarrhoea	1 (0.3)	0(0.0)	1(0.1)		
RTI	7 (1.8)	0 (0.0)	7(1.3)		
Others	112 (28.9)	145 (89.5)	257 (36.9)		

*p<0.05 = statistically significant **Fisher's exact test, Others waist pain, high blood pressure, eye pains, diabetes mellitus

Table 2. Health Seeking Behaviour of Household Heads by Location

Variables	**Urban n=388 Freq (%)**	**Rural n=162 Freq (%)**	**Total N=550 Freq (%)**	χ^2	**p value**
Where treatment was first sought for illness					
Chemist	212 (55.2)	94 (40.0)	306 (49.4)	22.947	**0.001***
Traditional healer	2 (0.5)	5 (2.1)	7 (1.1)		
PHC	44 (10.7)	41 (18.7)	85 (13.7)		
Private hospital	102(26.6)	61(26.0)	163 (26.3)		

Public hospital	27(7.0)	31 (13.2)	58 (9.4)		
Form of transportation to facility					
Walked	225 (58.0)	53 (32.7)	278 (50.5)	42.41	**0.001***
Okada/tricycle	88 (22.7)	64(39.5)	152(27.6)		
Bus/taxi	37(9.5)	36 (22.2)	73(13.3)		
Personal vehicle	38(9.8)	9(5.6)	47(8.5)		
Travel time to facility					
<15 mins	352(90.7)	110(67.9)	462(84.0)	47.66	**0.001***
15-30 mins	36(9.3)	48(29.6)	84(15.3)		
>30mins	0(0.0)	4(2.5)	4(0.9)		
Mean total amount spent	6840.34±3023.97	1967.99±2091.97	5379.52±2541.7	t=2.060	**0.001***

*p<0.05 = statistically significant

Qualitative Results

Views of Household Heads on the Common Disease in the Community

Household heads in the different locations gave similar opinions on the most common diseases in their communities. These included malaria, typhoid, hypertension, diabetes mellitus, arthritis and heat rash. These diseases were prevalent among the adult population. Among the children, diseases such as malaria and diarrhoea were common. However, in the urban location thought that hernia was also common.

Extracts from FGD Urban Site

> "*Malaria and typhoid are common and hmm even diarrhoea (Urban)*

Extracts from FGD in Rural Site

> *"Children commonly have diarrhea in this community." (Rural)*

Household Head Opinion on First Contact Care

Most of the household heads, especially those in the urban areas, go to the health centre first when they fall ill. This they do because they receive quality health care services and free medications for malaria. On the other hand, a majority of the household heads do not patronize the health facilities because of the lackadaisical attitude of the health care workers, lack of drugs and non-availability of health workers especially at night during emergencies. Hence, resort to chemists or patent medicine vendors (PMVs) or even health workers who live within their vicinity with the acceptance of treatment on credit for care, as shown in Table 6.

Extracts from FGD Urban Site

> *"I go to the hospital because they do test and treat me well. (Urban)*

Extracts from FGD in Rural Site

> *"I refuse to go to the health centre because money might be too big …buy card, do this, do that" (Rural)*
> *"I go to the health centre because I receive quality treatment" (Rural)*

Household Heads' Opinion on Mode of Payment for Healthcare Services

When household heads were asked how they paid for health care services, most of them chorused it was from their pocket. However, some household heads borrow money from friends to pay for health care. A few had to sell their belongings to pay for health care. This was attributed mainly to the high cost of health care services.

Extracts from FGD Urban Site

> "*When I came for my child's immunization, I paid from my pocket." (Urban)*
> *"When I fell sick, I paid N20,000 for the doctor to see me (Urban)*

Extracts from FGD Rural Site

> *"When I was sick, I went to the chemist, he said bring so-so amount of money, I did not have, so I paid in parts, and he started treating me. If it is health centre I will die because I have no money" (Rural non-enrolee)*
> *I sell anything to get money to pay……..... I sell even palm oil (Chuckles) (Rural)*

Household Heads' Means of Accessing the Health Facility

When asked how they access the health facility, most of the household heads from the two locations said the distance to the facility is far. Some household heads reported that they spend more than 20-25 minutes getting to the health facility. While some in the urban study site reported that they trekked to the facility.

Extracts from FGD Urban Site

> *"For me since I live close, the place is accessible, I just trek down. It takes 5 minutes." (Urban)*
> *"My house is far ooooooooo……..20-30 minutes to get to the health centre" (Urban)*

Extracts from FGD Rural Site

> *"It is far, I pay N150 to and fro the health centre." (Rural)*

Household Head Views on Barriers to Health Seeking Behaviour

Several factors were highlighted by the discussants during the focus group discussion and the KII as perceived barriers to accessing health care in the community. Most of the discussants indicated financial constraints as the major barrier to accessing care due to their inability to pay for health care services. A few of the respondents stated that they believe that the high cost of transportation has limited access to the health facility.

Extracts from FGD Urban Site

> *"There is no money to go to the health centre." (Urban)*
> *"Transport is too expensive ooooo. I am coming from Agbama Olokoro and you spend up to 30 minutes" (Urban)*

Extracts from FGD Rural Site

> *"No money to go to health centre……the chemist man will collect small money"(Rural)*
> *"Health centre is too far, and I no get money" (Rural)*

Discussion

The study observed a higher perception of health status as "very good" among household heads in rural Abia State compared to those in urban areas. This suggests that contrary to many published works, household heads in rural areas do not necessarily have poor health status. This is further supported by the fact that urban

household heads reported a significantly higher number of illnesses in the last 3 months compared to their rural counterparts. Additionally, urban household heads reported a higher prevalence of malaria and typhoid, which is evidence that rural household heads in this study do not have poor health status. Previous studies have shown that factors such as overcrowding, poor drainage systems, and inadequate sanitation, as well as social chaos and constant outdoor activities, contribute to the high prevalence of malaria and typhoid in urban areas [12-14]. The "very good" health status reported by rural household heads in this study contradicts the findings of Mainous and Kohrs [15], where the health status of rural and urban adults was compared, and it was found that rural adults had poor health status.

In this study, it was observed that household heads in urban areas of Abia State have a preference for private hospitals. This could be attributed to the proliferation of private hospitals in urban areas and the higher ability of urban residents to pay for healthcare services [16]. However, it is worth noting that in both urban and rural areas of the state, household heads first seek treatment from chemist shops, also known as patent medicine dealers. This is in line with previous studies which have shown that people often consult chemists as their first line of treatment when they are sick [17,18]. Interestingly, while the majority of household heads in both urban and rural areas seek treatment from chemist shops, there is a higher proportion of urban household heads who do so. This contradicts the findings of Uzochukwu*et al.* [19], who reported that households in rural areas of south-eastern Nigeria tend to seek first-line healthcare from patent medicine dealers. On the other hand, the fact that household heads in rural areas access public hospitals and primary healthcare centres (PHCs) aligns with Uzochukwu *et al.* [19], which found that households in rural areas prefer these facilities as their first line of treatment due to their perceived better quality of care compared to chemist shops. However, it is important to note that a majority of rural household heads who cannot afford the perceived better treatment services of health centres and public hospitals still choose to access chemist shops.

The short time it takes for household heads in urban areas of the State to travel to a health facility, as well as the higher proportion of household heads who walk to these facilities, suggests that urban areas have a higher concentration of health facilities close to the homes. This is due to the direct correlation between the population, representing the demand for healthcare, and the healthcare providers [20]. In this study, the most common means of transportation to health facilities for rural household heads were walking and the use of motorcycles or tricycles. This is consistent with the findings of a study conducted in rural northwestern Burkina Faso where the most commonly used means of transportation to health facilities were motorcycles, bicycles, and walking [21].

The significant amount of money spent on healthcare by household heads in urban Abia State in this study can be attributed to the effects of urbanization. Urbanization has been shown to hurt people's health due to stressful lifestyles, nutritionally imbalanced diets, and increased risks of metabolic and cancer-related diseases. These factors ultimately lead to poor health and result in higher healthcare expenditures for household heads in urban areas [22]. This finding aligns with the results of a study conducted to evaluate the equity of healthcare services utilization and expenditures between urban and rural residents of Shandong Province in China. The study discovered that rural residents had lower healthcare expenses in comparison to their urban counterparts [23].

The focus group discussion in this study revealed that financial constraint is a major barrier to accessing healthcare in both rural and urban areas of Abia State. Studies have shown that households in sub-Saharan Africa face significant challenges in paying for healthcare,

as they do not have access to the same level of government support, health insurance, and out-of-pocket payment options as those in developed countries. This is particularly true for household heads in Africa, including those in Abia State, who must pay for healthcare services out-of-pocket. Similar findings have been reported comparing rural and urban households in Ekiti State, Nigeria, where it was observed that study participants in rural areas face similar difficulties in paying for healthcare as those in urban areas [23]

Conclusion

In Abia State, Nigeria, this study has shown that household heads in rural areas have a "very good" perception of their health status. However, there is a higher incidence of disease and a greater need to report illness among urban household heads. This is likely because household heads in urban areas have access to healthcare, but also spend more on health due to the effects of urbanization. Therefore, concerted efforts should be geared at designing health promotion campaigns to improve the health status of the population whilst addressing barriers to seeking health care.

Conflict of Interest

Authors disclose no potential conflicts of interest.

Acknowledgement

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