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Rural health care access and financing among cooperative members in rural Nigeria

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Abstract:

Rural areas in developing countries have limited access to inclusive healthcare delivery and financing. Membership in cooperatives has been suggested as a pathway to rural health inclusiveness. However, whether cooperative membership supports rural health access and financing remains unclear. This study appraises rural healthcare access and financing, and whether membership in cooperative societies offers healthcare advantages to rural households in Nigeria. Primary data were collected in 45 rural communities consisting of 900 households as respondents. Healthcare access is limited among rural households with only 1.1% of pregnant women having access to maternity healthcare. Traditional healthcare access and self-medication exist (27%), in addition to the use of medicine stores (23.2%) and poorly equipped private medical facilities (13.8%) in rural areas. Cooperative organisations provide limited support to healthcare access (74%) for the members. Similarly, rural health financing support from the cooperative is almost non-existent (73.6%). There is a near absence of health insurance (90.8%) in rural areas. However, rural healthcare financing support for the employed exists (31.7%). Rural households find support for healthcare access from family (1.3%), personal savings, and sales of assets (16.2%) while the majority (82.5%) use herbs at no quantifiable cost to meet healthcare needs. Cooperative societies must be educated on the need to incorporate healthcare packages into their products for members. Rural healthcare policies should pay significant attention to how long it takes rural inhabitants to reach existing healthcare facilities.

Keywords:

rural health, healthcare, healthcare access, healthcare financing, cooperative

ARTICLE

1. Introduction

The burden of rural healthcare access and protection against the associated financial risk is huge in most developing nations. Available statistics show that out of about 2.8 billion people who lack access to the basic necessities of life, including health care, the majority reside in rural areas. Furthermore, close to 50% of births in rural areas are without proper health care support compared with only 13% in urban areas. About 50% of rural populations also lack access to improved health sanitation facilities (United Nations, 2015). In comparison with urban areas, the health status of most rural inhabitants is poorer. Efforts at improving the level of access to rural healthcare delivery have become a formidable task (Cornish et al., 2021; Hsiao & Yip, 2024). Lack of access to health care in rural communities threatens lives and has an attendant effect on livelihoods. It also threatens the attainment of a global objective for overall health for all, at all ages (Weinhold & Gurtner, 2014; Ross et al., 2014; Strasser et al., 2016; Huang et al., 2020).

Access to health care by rural people is essential for maintaining the overall physical and social assets which are needed to sustain the productive capacity of the rural workforce. The concept of 'access' in health care delivery has been viewed in several ways, including having a regular source of health care, and frequent visits of health professionals. It is also considered to encompass an individual's ability to reach and afford needed services, as well as the use of services and not just the availability of facilities (Schoen & Osborn, 2011; Mackinney et al., 2014). The challenges associated with rural healthcare delivery are compounded by a number of factors. These include: distance to the nearest available health care provider, rural transportation problems, rural environmental structure, literacy, communication, and financing (Awofeso, 2010; Bateman, 2013; Odeyemi, 2014; Strasser et al., 2016; Kumar et al., 2020).

The subsisting definition of healthcare financing by WHO (2007) indicates that its primary aim is to ensure the availability of funds, and to enable individuals to have good access to healthcare services on a timely basis and at the required time. More specifically, the concept of health care financing is defined as raising sufficient funds for the use of health services in order to be protected from the negative consequences of an inability to pay for required health needs (WHO, 2007). Studies have found an empirical link between economic development and healthcare expenditure (World Bank, 2015; Onilude, 2016).

Across the globe, healthcare delivery in both rural and urban areas consists of different financing models. Kushner and Forrestal (2014) suggest that it may be inadequate for a country to experience inclusive health delivery with a single model. Consequently, different models that are suitable to the peculiarity of regions are usually suggested. Among the existing models of healthcare financing is the Bismarck model (Reid, 2010; Kulesher & Forrestal, 2014), the Beveridge model (McPake et al., 2002; Kulesher & Forrestal, 2014), the National Health Insurance Model, the Private Insurance Model (Verma et al., 2015), the community-based model (Kenny et al., 2014) and the rural cooperative model (Sarker et al., 2017). Bismarck's model is similar to the social health insurance model and is also referred to as 'the tax-based insurance health model'. The Beveridge model is more of a centrally controlled health delivery for all citizens and exists in advanced nations like Britain, Ireland, and Denmark (Reid, 2010; Kulesher & Forrestal, 2014; Onilude, 2016). The National Health Insurance model is a mix of both the Beveridge and Bismarck models. The cooperative model is suggested for countries with limited capability to provide access to health care in areas with low-income generations (Sarker et al., 2017; Gu et al., 2018). However, the relevance of cooperatives in facilitating access to and financing rural health lies in their specific features.

Cooperatives function as an association of persons rather than capital, with characteristics that focus on the existence of common interests and goals among the participants or members (Sofoluwe, 2019). The International Cooperative Alliance – ICA (1995) – defines a cooperative as "an autonomous association of people united voluntarily to meet their common economic, social and cultural needs as well as aspirations through a jointly-owned and democratically controlled enterprise". The basic principles upon which a cooperative society exist make it a viable option to drive the financing strategy for health care access. These principles, among others, include concern for the community, which encourages a cooperative to be more responsible towards the well-being of its members. With increasing efforts at both the local and global levels to reduce rural mortality rates, evidence of models with a cooperative-based structure merit urgent attention. Organizing rural health financing through cooperatives could provide the basis for improved living conditions for the rural poor, especially where their access to funds has continued to be a major limiting factor to health care access.

Rural health challenges are part of the reason for the developmental gap between rural and urban centers (Huang et al., 2020). Despite efforts by both international and local authorities

aimed at providing access to healthcare services and reducing inequalities, the challenges of healthcare access for rural people in most developing nations remain unresolved. Available evidence suggests that the most effective and inclusive way to deliver rural health services is to provide regular access and financial support through cooperative and community-based financing (Gu et al., 2018). However, effective community-based financing also depends on cooperation and cooperative activities among the rural populace.

Most studies on rural health financing have largely focused on achieving universal health coverage without actually addressing the rural poor specifically or guaranteeing uninterrupted access to good quality health care (Cornish et al., 2021). The results have shown the relative ineffectiveness of current rural health programmes, their financing mode, and their ability to provide inclusive access in rural areas. Other studies (e.g., Bhuta, Das & Rizvi, 2013; Lu et al., 2016) suggest that there is a chance to achieve inclusive access to health and effective rural care financing through a community-based cooperative model. Several attempts have been made in a number of developing countries such as Ethiopia, Rwanda, Burkina-Faso, and Mexico, and even more advanced nations like China, to replicate the cooperative-based model as a strategy to finance the rural health gap. Yet, in Nigeria, there is limited research on the role of cooperatives in rural communities for achieving inclusive rural health care access and financing. This study aims to fill this gap by examining strategies for the integration of cooperative societies into the health care financing schemes in rural areas.

In Nigeria, as in other developing countries, access to health care and its sustainable financing is generally worse in rural areas relative to urban centres. The findings of this study can benefit governments at the local, state, and national levels by offering insight into an effective strategy for managing rural healthcare access and overcoming financing challenges through the implementation of cooperative societies. It is hoped that the results will help drive rural healthcare policy in a way that can improve the overall development of rural areas. The study can also benefit donors and development agencies by providing alternative strategies for improving financing, rural health access, and quality of life in rural areas by increasing the focus on cooperative societies.

This study appraises rural healthcare access and financing and determines whether cooperatives can facilitate this access and financing in rural areas. The study outlined the available rural

healthcare facilities in several Nigerian village communities and their close surroundings. The following questions constitute the focus of the study: What role do cooperatives play in rural healthcare access? What is the ease of access to rural healthcare services? What type of healthcare facility is accessible to the rural populace? Do cooperatives provide rural healthcare financing support to members?

1. Literature review

The need to finance and provide sustainable healthcare access for over 1 billion rural poor and workers in the informal sector have attracted wide research interest. Some of the major issues identified as challenges to rural health inclusiveness are the access and financing of rural health services (Weinhold & Gurtner, 2014; Lu et al., 2016; Onilude, 2016; Kumar et al., 2021), and the absence of a clear and effective mechanism to resolve rural health care challenges (Hsiao & Yip, 2024). Consequently, Lu et al. (2016), and Odeyemi (2014) suggest community-based healthcare financing to support the rural poor. Their studies found that the application of a community-based model, in the form of a local group integration, had an increasing effect on local enrolment in healthcare programs in rural Rwanda. The study of Wu et al., (2023) was more emphatic on the importance of group integration in promoting rural health. Specifically, they established that cooperatives help to improve the health of rural farmers and contribute to reducing income deprivation, which has an indirect effect on the health-financing capabilities of rural people.

Onilude et al. (2016) emphasize the need for a working healthcare model to finance access to health services by the most vulnerable people. Strasser et al., (2016) also suggest an alternative for rural healthcare delivery. Specifically, they recommend strategies that focus on community groups and cooperation among the rural people to improve inclusiveness in healthcare access. Kenny et al. (2014), in their support for a rural model towards improving healthcare delivery in rural areas, highlight the nature and the complexities of rural areas as one of the bases for different healthcare financing and access for the rural poor.

A major deficiency of these studies is a lack of clarity on the mode, structure, and form that the recommended models of rural healthcare access and financing would take.

To find a model for inclusive access to health care services that is affordable for rural people, an understanding of some underlying factors is required. To this end, Sarker et al., (2017) identify some of those factors, including: the characteristics of rural household composition, gender, size, and occupational status. In spite of the relevance of this contribution, the study did not provide a plausible explanation for the relevance of the findings to inclusive healthcare access and financing for rural people.

The study by Huang et al. (2020) attributes the increasing rural-urban drift to inequality in access to rural health services. The study emphasizes the need for effective strategies to bridge the gap. Consequently, Cornish et al. (2021) suggest financing intervention for effective and inclusive rural health service delivery. Recently, Wu et al. (2023) consider the role of income deprivation and cooperative action in shaping access to rural health. Although the focus on income deprivation is useful for understanding rural people and health dynamics, it does not provide a direct and relevant insight into health financing issues amidst cooperative contributions.

The existing literature affirms that access to better health care by rural people plays a vital role in community development (HRSA, 2019). However, the findings of Liu et al. (2021), based on the experience from China, indicate that access to rural health is challenging due to insufficient health institutions and limited financing options for the rural populace. Similar findings were reported by Siraj et al. (2023) in a rural health care study in Canada. However, the development of partnership model similar to cooperatives was suggested as a possible solution to addressing challenges facing access to rural health.

Focus on rural health is necessary for inclusive growth and development of an economy. Poor health conditions in rural areas can cause the rural populace to lose income and lead to an overall increase in healthcare costs (WHO, 2016). Improvement in rural health conditions can result in higher labour productivity and the ability to attain higher levels of education, which raises the level of rural human capital. Available evidence suggests notable differences in healthcare access in rural and urban areas (*MedlinePlus*, n.d.). Hence the need for clear insight into healthcare access and financing situations in rural areas. It is also not clear whether or not cooperatives also have healthcare packages or products for their members – if they do, the extent of such still remains largely unknown in Nigeria.

2. Methodology

The study area was comprised of rural communities in the southwest geographical area of Nigeria. The official population figure of the area is 27,722,432. The geographical description lies between 4^0N and 9^0N latitude and 3^0E and $6^0$2 E longitude.

The rural communities in the three Senatorial Districts of Ogun State, Southwest Nigeria are the target population. The study focused on rural households in the selected rural communities. A total of six local government areas distributed across the three Senatorial Districts (Ogun Central, Ogun East, and Ogun West) state were selected. The local government areas were selected based on the distribution of large rural communities. These are Ijebu North and Ijebu North East, Ogun East, Abeokuta North, Abeokuta South, Yewa North, and Yewa South Local Government Areas. A multi-stage sampling technique was used. This approach includes purposive sampling, stratification, and random sampling procedures to identify the respondents.

A total of 150 respondents were sampled in each of the six local government areas in the three senatorial districts. Thus, a total of 900 respondents were sampled from 45 rural communities. The sample selection was based on a confidence level of 95%, a standard error of 0.5, and a +/- 5% margin of error. Household-level data collection was targeted through the use of pre-tested and validated rural health research instruments. The instrument was validated by experts in health sciences and health professionals working in rural communities.

Informed consent from the respondents was obtained prior to the commencement of data collection. We used a participatory rural appraisal technique through a semi-structured questionnaire to collect data from the sampled rural households. The research instrument was structured to include information on household characteristics, health status, health financing structure, access to rural healthcare, participation in cooperative groups, and related information. The details of the measurement of variables used in the study are presented in Table 1.

Table 1

Measurement of Variables

Variable	Description	Measurement	*A priori*

Access to a rural healthcare facility	Access to a rural health facility	Dummy (1 = access; 0 = no access)	
Access to rural healthcare financing	Access to health financing support	Dummy (1 = access; 0 = no access)	
Gender	Gender of household head	Dichotomous (female =1; male =1)	-
Marital status	Status of the household head	Nominal	-
HHS	Household size	Number of individuals living under the same roof in the rural area	+/-
Education	Level of education	Years	+
Distance	Distance to the nearest health facility	Scale (drive time in minutes)	-
Membership	Membership in a cooperative society	Dichotomous (Member =1; non-member = 0)	+
Income	Monthly income of the household head	Continuous	+

Source: own elaboration

3. Results

3.1 Descriptive characteristics of the study

The results in Tables 2 and 3 present the data on the study respondents. There are a total of 900 household respondents for the study. The mean size of the households was 5. There are more (64.9%) rural people below 30 years of age. The percentage of females (55%) in the sample was higher than males (45%). Approximately, 69% of the sample were married. About 25% had no formal education while only 13% had post-secondary education. The majority (43%) had either primary or secondary education. A high percentage of the sample (58.94%) reported a monthly income above N30,000.00 ($61.86) ($1 = N485). The statistics on the education of the respondents suggest that most rural households head did not complete secondary education, which takes up to 12 years in the study area. The average distance to the nearest health facility is approximately 34.47 minutes with a deviation of 27.09 minutes. Cooperative membership appears to be of little interest to the rural populace as only 22.5% belong to a cooperative and the majority (77.5%) do not belong to any cooperative society. The respondents with membership in a cooperative have spent an average of 5 years as members ($\bar{x}$ =5.35, SD = 4.94) (Table 3).

Table 2

Characteristics of Rural Respondents

Variables	Description	Frequency	Percentage
Age Categories[a]	Below 5	205	9.8
	6-10	300	14.3
	11-15	315	15
	16-20	248	11.8
	21-30	294	14.0
	31-40	284	13.5
	41-50	265	12.6
	51-60	138	6.6
	Above 60	51	2.4
		2100	100
Gender	Male	40	44.94
	Female	495	55.06
		899	100.0
Marital Status	Single	160	17.78
	Married	619	68.78
	Divorce	58	6.44
	Widow	63	7.00
		900	100
Level of Education			
	No formal education	220	24.7
	Primary education	170	19.1
	Secondary education	297	33.3
	Post Secondary Education NCE/OND	114	12.8
	HND/Bsc	91	12.0
		892	
Monthly Household Income	Less than 20,000	147	22.27
	21,000-30,000	124	18.79
	31,000-40,000	161	24.39
	410,000- 50,000	96	14.55
	More than 50,000	132	20.00
Cooperative membership	Yes	185	22.5
	No	638	77.5

*Frequencies may be less than 900 due to missing values.

a. Multiple response analysis

Source: own elaboration

Table 3

Descriptive statistics of continuous variables

Variables	Mean	SD
Household size	5.19	2.18
Walking distance to the nearest health facility (minutes)	34.47	27.09
Cooperative membership (years)	5.35	4.94

Source: *own elaboration*

3.2 Rural healthcare access in the study area

In response to the questions posed to rural household heads on rural health access, 31.6% of the sample indicated difficulties in access, 21.1% expressed ease of access and 47.3% remained indifferent to rural health access in their communities (Table 4). Further questions elicited additional information on the available rural healthcare facilities in the rural communities. These accessible healthcare facilities (Table 5) include traditional healthcare services (9.3%), self-medication (home treatment) based on 'experience' (17.7%), private healthcare centers (13.8%), primary healthcare clinics (Government) (24.7%), maternity center for pregnant rural women (1.1%), a medicine store (23.2%) and a secondary healthcare center (Government) (10.1%). The findings show that women, especially those who are pregnant, have more limited access to rural health facilities. This is based on the very low percentage response (1.1%) on the accessibility to maternity health services in rural areas.

Also, the results indicate a push and inclination of the rural people toward traditional medicine or alternative medicine as well as home treatment and self-medication. Moreover, 23.2% of respondents indicated that a medicine store is more accessible than alternative medical clinics for treatment in rural areas. The existence of private-owned medical centers at a percentage level (13.8%) higher than the public general hospital owned by the government (10.1%) underlies unfavourable healthcare access in rural areas. Moreso, rural households who show a preference for public (Government) health facilities often experienced a delay in access to healthcare delivery – a high percentage (58.8%) of rural households have to book appointments to receive healthcare needs. By implication, about half (50.2%) have resorted to some form of

unorthodox medical services (traditional healthcare, home treatment/self-medication and medicine store) to meet healthcare needs. Less than half (49.85%) of the respondents patronize registered/orthodox medical facilities for their health care needs.

Table 4

Ease of Access to rural healthcare

Ease of access to rural health care	**Percentage (%)**
Very easy	9.3
Easy	11.8
Indifferent	47.3
Difficult	22.2
Very Difficult	9.4
Total	100.0

Source: *own elaboration*

Table 5

Accessible rural healthcare facility

Rural Health Facility	**Percentage**
Primary health care	24.7
Private clinic	13.8
Maternity centre	1.1
Traditional health care	9.3
Public general hospital	10.1
Home treatment (Self-medication)	17.7
Medicine store	23.2
Total	100.0
Do you have to get appointment to access public health facilities?	
Yes	41.0
No	58.8

Total	100.0

Source: *own elaboration*

3.3 Cooperative and rural healthcare access

The contribution from cooperative organisations to improving healthcare access was found to be limited. The findings show that cooperative organisations do not have rural health support programmes (78.9%) for their members and do not facilitate access (74.5%) to healthcare needs of members. The finding suggests that their scope of activities in rural areas does not extend to providing social support services that affect healthcare inclusiveness for members.

Table 6

Cooperative and rural healthcare access

	Percentage (%)
Does your cooperative have any health support programme for the members?	
Yes	21.1
No	78.9
Has your cooperative ever supported your healthcare needs?	
Yes	24.9
No	74.5

Source: *own elaboration*

3.4 Cooperative and rural healthcare financing

Rural healthcare financing through cooperatives is almost nonexistent in rural areas. The findings show that cooperatives in the rural areas do not provide any special loans to help members meet their health financing needs. The majority of respondents (73.6%) provided answers in the negative to a question on whether cooperatives have any specific financing options for rural healthcare needs of members. Traditionally, cooperatives exist in African communities as social welfare organisations with economic packages that help smooth various consumption needs of members.

In the absence of cooperative organisational support for rural healthcare financing, information on other possible options of healthcare financing was obtained. Available rural health financing options include health insurance, financial support from employers, family members, and self-financing from savings and sales of personal assets. The majority (90.8%) of rural households do not have health insurance or health coverage from any source whatsoever, and only 31.7% have received healthcare financing support from work organisations. Healthcare financing through family is low (1.3%) and is likely due to the prevalence of poverty among many rural households. While 16.2% reported financing healthcare through personal savings and asset sales, the majority (82.5%) of the rural households claimed to have resorted to herbs at no cost (Table 7). This further confirms the reliance of most respondents on alternative healthcare access rather than public/private medical centres.

Given the near absence of special healthcare packages (loans or any other support) (26.4%), lack of healthcare insurance coverage (9.27%), limited support (31.7%) from employers with the majority (82.5%) having to resort to herbs (zero cost), the attainment of universal health coverage may remain a mirage in developing nations with statistics like Nigeria unless urgent workable interventions are taken to reverse the trend.

Table 7

Cooperative and Rural Healthcare financing

	Percentage (%)
Cooperative financing of rural healthcare	
Yes	26.4
No	73.6
Availability of health insurance or health cover from any source	
Yes	9.2
No	90.8
Financing support from work organisations	
Yes	31.7
No	68.3

Other sources of rural healthcare financing	
Family	1.3
Personal savings and sales of assets	16.2
Herbs (Zero cost)	82.5

Source: *own elaboration*

4. Conclusions

Rural healthcare constitutes one of the most critical human capital needs in most developing countries. The need for healthcare access in rural areas generally takes two-sided dimensions: access to health facilities, and financing for resource-poor rural households. The study suggests a strong need to deliver rural healthcare infrastructure close to rural communities. Furthermore, it appears that a policy which seeks to focus on rural healthcare financing through a selective approach in the form of rural groups might not yield a positive outcome. The findings clearly indicate an inverse outcome between rural health financing gains and involvement in groups. It is therefore important that rural people be educated on the benefits of cooperative membership, and for cooperative societies to also be educated on the need to incorporate/integrate healthcare packages into their products for members, apart from conventional loans, businesses, and social events. This will significantly improve rural healthcare access and financing.

One of the major challenges in rural health care provision is the ease of access. The findings of the study clearly indicate great difficulty in accessing the limited health care facilities that are available. Constraints of distance are a major factor in this regard. Consequently, policies on rural health care provision should pay significant attention to how long it takes rural inhabitants to reach existing healthcare facilities. Furthermore, the study provides an insight into the importance of social capital in the form of cooperation towards rural health care access. Unfortunately, enhancement of this platform is almost non-existent. This complicates the desired financing capacity of cooperatives to support health care needs of members. Therefore, support to groups, organisations and agencies is crucial to meeting the health needs in rural areas.

In addition, the findings of the study show that most rural communities in Nigeria, the largest population in sub-Saharan Africa, depend on herbs (the traditional medical system) to address

their health challenges. This complicates attainment of the Sustainable Development Goals (SDG) of quality health care access for all. The current research did not emphasize causal analysis of rural healthcare challenges and its financing. Hence, a future research direction may focus on the underlying causation of rural health problems. This is with a view to identifying the premise for rural health investments in rural communities of developing nations.

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