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PERCEPTION, ACCEPTABILITY, AND SATISFACTION WITH THE CONTRIBUTORY HEALTH INSURANCE AMONG ENROLLEES IN YOBE STATE, NIGERIA

Augustine Ajogwu[1*], Fatima Ibrahim Gazali[2], Chidumebi. F. Ajogwu[3]

[1,2]Department of Community Medicine, Nile University of Nigeria, Abuja.

[3]Department of Community Medicine, Godfrey Okoye University, Enugu

Email: austine.ajogwu2@gmail.com[1], ichubaebi@yahoo.com[2] faga8488@gmail.com[3]

[*]**Corresponding Author:** Dr. Augustine Ajogwu, MBBS, MBA, MPH, FMCPH/CM: Consultant Public Health Physician and Senior Lecturer, Department of Community Medicine and Public Health, Nile University of Nigeria, Abuja, Nigeria. Tel: 08035527638, 09033364436

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ABSTRACT

The contributory health insurance scheme is a type of health insurance system where individuals contribute a portion of their income or pay regular premiums to a designated health insurance fund. This pooled fund is then used to provide health insurance coverage and healthcare services to the enrolled members and their dependents. The study examined perception, acceptability, and satisfaction regarding the Contributory Health Insurance Scheme in Yobe State, Nigeria. A descriptive cross-sectional study was conducted among 410 YOSCHMA enrollees, selected through simple random sampling. Data was collected using an interviewer-administered questionnaire and analyzed using SPSS version 25. The study reveals that 37.3% of participants reported good satisfaction with health services, while 62.7% expressed poor satisfaction. 55.1% had a good perception of the scheme and 44.9% expressed a poor perception of the scheme. Most respondents (78.0%) found the scheme affordable and easy to enroll. Age was the only socio-demographic variable significantly associated with satisfaction. Shorter waiting times correlated with higher satisfaction. Respondents were generally satisfied with clinic facilities and doctor-patient interactions but expressed concerns about drug availability and service costs. While the scheme is perceived as beneficial and accessible, improvements are needed in drug availability through drug revolving fund, affordability, and expense coverage. The study highlights the importance of addressing beneficiary's needs and reducing waiting times to enhance overall satisfaction.

Keywords: *Perception, Acceptability, Satisfaction, Contributory, Insurance*

AUTHORS BIOGRAPHIES

Augustine Ajogwu; Consultant Public Health Physician and Senior lecturer, Department of Community Medicine, Nile University of Nigeria, Abuja, Nigeria.

Augustine Ajogwu is specialist public health physician and health care manager, with graduate degrees and fellowship in public health and community medicine. He has worked in the field for some years now and has broad background and knowledge in public health and community medicine, Health Management and medical research. He had specialized training and expertise in public health and Epidemiology, health management/policy and data analysis.

He finished basic medical degree in 2002, Master of Business Management/Health Management degree in 2011 and Master of Public health degree in 2012, from Nigerian Universities. Subsequently, he joined medical specialty residency training in public health/community medicine and bagged membership of West African College of Physicians in 2016 and a Postgraduate Fellowship degree from the National Postgraduate Medical College of Nigeria in 2019. Since graduation, he has been working with faculty members of other Nigerian Universities in addition to his colleagues in the department of public health and students to conduct operational research in health management and policy, health systems, communicable/non-communicable diseases, social determinants of health, maternal and child health and infection prevention and control in health care settings. These research activities and experiences have enabled him to gain experiences in quantitative and qualitative research, epidemiology, manuscript writing, literature reviews and data analysis. It has provided him the opportunity to publish scientific articles in peer-review journals.

Email:austine.ajogwu2@gmail.com ORCID: https//orcid.ord/0000-0001-7546-0835

Fatima Ibrahim Gazali; Nile University of Nigeria, Abuja

Fatima Ibrahim Gazali is a public Health Enthusiasts.

She joined the Nile University of Nigeria and bagged Masters in Public health of the university and currently a public health professional in governmental organization in Yobe State.

Email: faga8488@gmail.com

Chidumebi.F. Ajogwu. Godfrey Okoye University

Chidumebi Ajogwu is a medical student with the Godfrey Okoye University and public health enthusiast and data analyst.

Email: ajogwudumebi@gmail.com

Introduction

As part of efforts to address healthcare financing amidst increasing poverty and high cost of living, state governments across Nigeria have been tapping into and entrenching the contributory financing scheme. This effort, which is part of a worldwide program to achieve universal healthcare coverage by 2030 to ensure access to affordable and efficient healthcare, is at various stages of implementation in many parts of Nigeria. The contributory health insurance scheme is a type of health insurance system where individuals contribute a portion of their income or pay regular premiums to a designated health insurance fund (Ode Uduu, 2021).

This pooled fund is then used to provide health insurance coverage and healthcare services to the enrolled members and their dependents. The main idea behind this scheme is to spread the financial risk of healthcare costs across a larger population and ensure that healthcare services are accessible and affordable to all members. The scheme typically operates on the principles of solidarity and risk-sharing. It involves a wide range of participants, such as employees, employers, self-employed individuals. Contributions can be made through payroll deductions, self-payments, or other mechanisms, depending on the specific design of the scheme (Ode Uduu, 2021).
Roughly 10% of the world's population is estimated to spend more than 10% of their household income on health care (Yobe state Contributory Healthcare Management Agency, 2023). At least 10% of household budgets are currently spent by 800 million individuals on medical costs for themselves, a sick kid, or other family members (Acharya et al, 2013). These costs are so exorbitant that about 100 million people are forced to live in extreme poverty, making $1.90 or less a day (Acharya et al, 2013). To safeguard people and households from financial hazards, the World Health Organization, the World Bank, and other organizations are supporting LMICs to implement health finance programs that will increase population-wide health coverage by 2030 (Wagstaff et al, 2009).

In Nigeria, Ninety-seven percent of Nigerians lack health insurance of any type. Employee health coverage covers three percent (3%) of the population with health insurance. It should come as no surprise that, of the three percent of Nigerians with health insurance, men are more likely than women to be covered, 56.7% of men and 43.3% of women. Access to affordable healthcare remains out of reach for most Nigerians especially those without formal employment (Ode Uduu, 2021). This means that a significant portion of healthcare costs in Nigeria is borne directly by patients and their families, leading to potential financial burdens and barriers to accessing essential medical services (Adekoya, Ekeoba & Ikpa, 2020). These situations are worsened even further by the increase prevalence of endemics diseases and several other diseases of public health concerns. The majority of people, who reside in low- and middle-income countries (LMICs), where financial security coverage and universal health care (UHC) are not offered by governments, are forced to pay for significant illnesses or medical crises out of pocket. When a health crisis strikes, people might be forced to make unfeasible choices: either forgo care and run the risk of ill health with enormous medical costs that could put entire families in danger of going bankrupt and becoming impoverished (Adekoya, Ekeoba &Ikpa, 2020).

Indeed, access to affordable healthcare continues to be a challenge for most Nigerians, as with other developing countries, as a result of high levels of poverty and high cost of living. The health insurance coverage introduced two decades ago (National Health Insurance Scheme, 2003), and the contributory scheme later adopted by many state governments, throughout the country has still only barely scratched the surface vis-a-vis the country's population. Health insurance and contributory financing schemes is to provide financial protection to citizens, especially the poor, from the overbearing cost of healthcare services. The scheme is seen as a key pillar of universal healthcare (World Health Organization, 2023). The protection it provides is crucial since studies from the World Bank and World Health Organization (WHO) showed that each year, healthcare costs force 100 million people into extreme poverty (PwC, 2023), a treat to universal health coverage.

In 2019, Yobe state established the Yobe State Contributory Healthcare Management Agency (YSCHMA) (Yobe state Contributory Healthcare Management Agency, 2023), National Population Commission, 2006). The plan is to provide an institutional framework for enhancing advanced healthcare funding through contributions, premiums, or taxes paid into a common pool to facilitate healthcare service access for all Yobe citizens.

The study therefore seeks to determine the perception, acceptability, and satisfaction with the contributory health insurance scheme among enrollees in Yobe state, Nigeria.

Method

Study Design and Setting

The study was a descriptive cross-sectional study design to determine health insurance enrollees' overall perceptions, degrees of acceptance, and levels of satisfaction with the contributory health insurance scheme in Yobe state, Nigeria.

Study Population

The study population was government employees who were enrolled in the health insurance scheme in Yobe State. Both old and new enrollees who have commenced the use of health insurance were included in the study.

Inclusion Criteria

The inclusion criteria for this study were;

1. Individuals who are currently enrolled in the contributory health insurance scheme in Damaturu, Yobe State.
2. Individuals who have utilized health services covered by the health insurance scheme in Damaturu, Yobe State.
3. Individuals who have been enrolled in the health insurance scheme for at least six months.
4. Individuals who are residents in Damaturu, Yobe State.

Exclusion Criteria

The exclusion criteria were:

1. Individuals who are unable to provide informed consent or who are under 18 years of age.
2. Individuals with cognitive or physical impairments may affect their ability to participate in the study.
3. Individuals who are not enrolled in the contributory health insurance scheme.
4. Individuals who are not residents of Damaturu, Yobe state.

Sample Size Determination

The sample size was determined by applying cross sectional study formula for study sample size determination:

$$n = \frac{Z^2pq}{d^2}$$

Where n = Minimum sample size**,** Z = Standard normal deviate that corresponds with the level of significance**,** d = Level of precision (maximum error of estimate), p = Estimated proportion of an attribute that is present in the population, and q = 1-p.
At 95% confidence level, with d = 5% (0.05), if p = 60% (proportion of adults that were satisfied with health insurance scheme in previous study) (Akande et al, 2028),

Z = 1.96, p = 0.5, q = 1-0.6 = 0.4

Then, $n = \frac{1.96^2 \times 0.6 \times 0.4}{0.05^2}$

$n = 368.7936 \approx 369$

Giving room for 10% non-response (NR)
Adjusted sample size = $\frac{n}{1 - NR}$ Where n = Calculated sample size, NR = Non response rate

Adjusted sample size = $\frac{369}{1-0.1}$

$= \frac{369}{0.9} = 410.$

Sampling Technique

A simple random sampling technique was used to select study participants to ensure that the sample was a representative of the overall population of government employees in Damaturu, Yobe state.

Data collection instrument

The study instrument was a pretested interviewer-administered questionnaire. The questionnaire included questions on perceptions (to understand there awareness and understanding of the scheme), acceptance of the contributory health insurance and level of satisfaction (fulfillment of their needs) with the contributory health insurance among the enrollees in Damaturu, Yobe state.

Data analysis

The data was analyzed using a Statistical Package for Social Sciences (SPSS), version 25.0. The discrete variables were expressed as percentages and frequency tables. The data was then presented on tables and charts after analysis. Continuous variables were summarized using mean and standard deviation. Chi-square test was used to determine associations between dependent and the independent variables at the level of significance set at <0.05

Ethical Consideration

An ethical Clearance was obtained at Nile University, Nigeria and ethical Committee of Yobe state. The participants were fully informed about the purpose and potential risks of the research before deciding to participate. They were also given the option to withdraw at any time without any negative consequences. The participants' personal information and responses were kept confidential and protected from unauthorized access or disclosure and also, participants' privacy was respected throughout the research process, and any sensitive information was handled with care. They were given the freedom to make their own choices about participating in the study and were not coerced or manipulated into participating. The research was conducted in a culturally sensitive manner, taking into consideration the cultural backgrounds and beliefs of the participants.

Result

Socio-demographic characteristics

A sample size of 410 respondents was involved in the study, from a total population of 18,475 enrollees in Damaturu, Yobe state, representing 100% of the respondents consented to participate in the study. The mean age of the respondents was 35.4 ± 9.8 years, and the age range was 18 – 70 years. About one-third (29.7%) of them were between 18 and 30 years old, while 61.2% were between the ages of 30 and 50, and only 9% of the population were above 50years. Over half of the population (66.3%) were females and (33.7%) of the population were males. One-third of the populations (31.0%) were unmarried and (69.0%) were married. Hausa constitute the majority of the population (45.9%) with Fulani (15.6%), Karekare (8.8%), Bade (8.3%), Kanuri (8.0%), Bolewa (7.1%), and others (6.3%). The majority of the populations (93.7%) were Muslims and only (6.3%) were Christians. A little above half of the population (52.4%) are dependents and (47.6%) were the primary enrollees.

One-third of the population (30.2%) had tertiary qualifications, while (63.2%) had Diploma education. A little above half of the population (58.8%) were public servants, (12.4%) were students, housewives constituted (10.0%) of the population, and (18.8%) were traders and others. The respondent's income levels (<30,000, 30,000-200,000, and >200,000) constitute (61.0%, 36.3%, and 2.7%) respectively.

Table 1: Socio-demographic characteristics

Variable	Frequency (n = 410)	Percent
Age (year)		
<20	26	6.3
20-29	96	23.4
30-39	141	34.4
40-49	110	26.8
≥50	37	9.0
Mean	35.4 ± 9.8	
Sex		
Male	138	33.7
Female	272	66.3
Marital status		

Married	283	69.0
Not married	127	31.0
Ethnicity		
Hausa	188	45.9
Fulani	64	15.6
Karekare	36	8.8
Bade	34	8.3
Kanuri	33	8.0
Bolewa	29	7.1
Others	26	6.3
Religion		
Islam	384	93.7
Christianity	26	6.3
Enrolment type		
Primary	195	47.6
Dependent	215	52.4
Duration of enrolment		
1-12	72	17.6
13-24	117	28.5
25-36	127	31.0
37-48	64	15.6
≥49	30	7.3
Education		
MSc/BSc	124	30.2
HND/NCE/ND	259	63.2
Other	27	6.6
Occupation		
Public servants	241	58.8
Students	51	12.4
Housewives	41	10.0
Traders	39	9.5
Others	38	9.3
Income (₦)		
<30,000	250	61.0
30,000 - 200,000	149	36.3
>200,000	11	2.7

Perceptions and Satisfaction of health services after enrolling in Contributory Health insurance

Perceptions of Changes in Health Services after Enrolling in Yobe State Contributory health insurance scheme, covers aspects such as awareness of benefits, perceived benefits, treatment by staff, waiting times, consultation quality, communication, laboratory services, drug availability, and cost reduction. Slightly more than half of the participants (55.1%) had good perception and

44.9% of the participants had poor perception of changes in health services after enrolling in the contributory health scheme in Yobe State, Nigeria. The overall perception among the respondents were poor with 62.7% of respondent's poor perception of the health services provided for health insurance contributors while slightly more than a quarter of respondents, 37.3% had good perception of the contributory scheme. The mean waiting time with the record officer, Nurse, Doctor, Pharmacist, and Laboratory scientist were (13.4 ± 8.6), (8.4 ± 5.5), (18.0 ± 10.9), (17.6 ± 13.7), and (18.8 ± 15.3) respectively while the mean average waiting time was (15.2 ± 8.3 minutes). **Figure 1**



Fig 1. Perception and Satisfaction

There was an association between average waiting time and satisfaction with healthcare services. The waiting time was categorized into three groups: 1-10 minutes, 11-20 minutes, and more than 21 minutes. The satisfaction with health services was reported as either "Good" or "Poor." The data show that shorter waiting times (1-10 minutes) are associated with higher satisfaction, with 49.3% of respondents reporting good satisfaction compared to 50.7% reporting poor satisfaction. As waiting time increase, satisfaction decreases: for the 11-20-minute group, 33.5% report good satisfaction and 66.5% report poor satisfaction, while for waiting times greater than 21 minutes, only 25.3% report good satisfaction, and 74.7% report poor satisfaction. The chi-square test (χ^2 = 15.334) with 2 degrees of freedom indicating a statistically significant association between waiting time and satisfaction with healthcare services ($p < 0.001$).

Table 2: Association between waiting time and satisfaction with healthcare services

Average waiting time (minute)	**Satisfaction with health services**		
	Good	**Poor**	**Total**
	n = 153	**n = 257**	**n = 410**
1-10	71 (49.3)	73 (50.7)	144
11-20	60 (33.5)	119 (66.5)	179
>21	22 (25.3)	65 (74.7)	87
*χ^2 = 15.334; df =2; p-value <0.001**			

* Statistically significant

Although good number of the respondents had poor perception of the contributory scheme in general, majority of the respondents (97.7%) had a good perception as regards the waiting time in the health facilities for services. However, only (2.3%) had a poor perception which implies that there is a significant association between waiting time and perception of the changes in health services after enrolling in the contributory scheme.

Table 3: Multiple logistic regression of good satisfaction with health services on associated factors

Predictor variable	β	SE	Wald	p-value	Adj. OR	95% CI	
						Lower	Upper
Constant	*-2.174*	*0.567*	*14.686*	*<0.001**			
Age (≥20years/<20years)	1.136	0.577	3.869	0.049*	3.11	1.00	9.66
Marital status (Married/Not married)	0.307	0.241	1.622	0.203	1.36	0.85	2.18
Kanuri ethnicity (Yes/No)	0.846	0.379	4.979	0.026*	2.33	1.11	4.90
Average waiting time (≤10minutes/>10minutes)	0.779	0.217	12.871	<0.001*	2.18	1.42	3.34

* Statistically significant β = Regression coefficient; SE = Standard error; Adj. = Adjusted; OR = Odds ratio

The respondents aged ≥20 years were 3 times more likely to have good satisfaction with healthcare services than those aged <20 years. It could be as high as 10 times (OR = 3.11; 95%CI = 1.00-9.66). The respondents who experienced ≤10 minutes average waiting time were 2 times more likely to have good satisfaction with healthcare services than those who experienced>10 minutes average waiting time. It could be as high as 3 times (OR = 2.18; 95%CI = 1.42-3.34).

As the satisfaction increases, the respondents find the health services from the contributory scheme more acceptable. The study has shown that perception about the CHIS is the most influential factor affecting satisfaction levels. Specifically, respondents who perceived positive changes in health services after enrolling in YOSCHMA had significantly higher odds of reporting good satisfaction (Adj. OR = 5.18, $p < 0.001$, 95% CI [3.16, 8.49]). This underscores the critical role of perceived improvements in service delivery and overall healthcare experience in shaping satisfaction with the insurance scheme.

Discussion

The effectiveness of health insurance scheme in ensuring universal healthcare coverage has garnered global attention, particularly in low- and middle-income countries (LMICs). Drawing on the findings of this study, on the perception, satisfaction and acceptability of the Contributory Health Insurance Scheme in Damaturu, Yobe State, the distribution of respondents across different age groups reveals a higher representation of younger individuals, particularly those between 18-40 years. This aligns with existing research highlighting the importance of catering to the healthcare needs and preferences of younger populations (Keane, Islam, & Parson, 2023). Furthermore, the predominance of female respondents underscores the significance of gender-specific considerations in healthcare services. Studies have shown variations in healthcare-seeking behavior and utilization patterns between genders, emphasizing the need for gender-sensitive policies within health insurance schemes (Graf et al, 2023).

Waiting time in healthcare services settings is a critical factor that determines the ease to receiving care and influences patient satisfaction and perceived service quality. The record officers and pharmacists reported shorter waiting intervals, with most respondents experiencing

waiting time of 0-20 minutes. This can be attributed to several factors. Firstly, these professionals typically handle administrative tasks and dispense medications to clients, which may require less time compared to clinical consultations and laboratory tests. Additionally, efficient workflow management, adequate staffing levels, and streamlined processes contribute to faster service delivery in these areas (Oche & Adamu, 2013). Furthermore, the nature of services provided by record/registration officers and pharmacists often involves standardized procedures with minimal variability, allowing for quicker turnaround times. As a result, patients encounter shorter waiting times; leading to higher satisfaction levels and positive perceptions of service quality at those points in health care services (Sim et al, 2020).

Conversely, in the laboratory, respondents reported longer waiting intervals, with a significant proportion of respondents waiting for 41 minutes and above. Several factors contributed to these longer waiting times. Firstly, laboratory tests often require specialized equipment and procedures, leading to longer processing time. Additionally, the variability in test complexity and sample volume can affect turnaround times, resulting in unpredictable waiting intervals (Bhatt, Shrestha & Risal, 2019). Investing in infrastructure and technology upgrades can improve laboratory capacity and streamline testing processes, reducing turnaround times and enhancing patient satisfaction. Additionally, optimizing staffing levels, implementing workflow improvements, and enhancing communication and coordination between departments can minimize bottlenecks and shorten waiting times across healthcare settings (Zhang et al, 2023).
Respondents reported positive interactions with staffs, highlighting the importance of friendly and empathetic treatment. Additionally, satisfaction with reasonable waiting times before being attended to by healthcare workers indicates efficient service delivery processes. These findings underscore the significance of interpersonal communication and efficient workflow management in enhancing patient satisfaction (Karaca & Durna, 2019).

High levels of satisfaction with consultation, doctor-patient interactions, and information provision reflect positively on the quality of clinical care. In addition, patients value clean and comfortable consultation environments that provide privacy and allow for adequate time with healthcare providers contribute significantly to patient satisfaction. Furthermore, positive perceptions of doctors' communication skills, including careful listening, clear explanations of medical issues, and provision of self-care information, contribute to overall satisfaction and patient empowerment (Gu et al, 2022). The study showed that some of the respondents expressed trust in the scheme, indicating a high level of confidence in its ability to provide accessible and quality healthcare services. Additionally, a good number of the respondents reported satisfied with the waiting time, indicating efficient service delivery and minimal delays in accessing care. These findings reflect positively on contributory insurance scheme's ability to breach health care accessibility and performance in meeting patient health needs. Although, a proportion of respondents are not satisfied with the scheme benefit coverage, majority expressed satisfaction with service accessibility and availability. Despite perceived limitations, patients value the scheme's ability to provide essential healthcare services when needed, contributing to overall satisfaction with the scheme's performance. The findings suggested that, longer waiting time is significantly associated with poor satisfaction of respondents. This finding highlights the importance of ensuring that patients are attended to on time to reduce waiting time and considering the young population who most of time might not be patient enough.

The strength of the study is that it aimed to determine the perception, acceptability and satisfaction with the contributory health scheme among enrollees who are beneficiary and the limitation is bias as a result of self-reporting and the design is cross- sectional in nature. Hence Casual inference cannot be made.

Conclusion

The study underscores the significance of understanding the diverse perspectives and experiences of beneficiaries within the Contributory Health Insurance Scheme in Damaturu, Yobe State. While there are areas of strength, such as positive perceptions of service quality and accessibility, there are also notable challenges that need to be addressed, including waiting times in healthcare settings and quality of care. Nevertheless, the overall positive perception and satisfaction among respondents indicate the scheme's potential to improve healthcare access and financial protection for the populace in Yobe State. Further, the scheme need to expand its enrollees to be able achieve universal health coverage in the state using the lessons learnt to close gaps in services.

Contribution to Knowledge

This study contributes to the existing literature by providing insights into the perception, acceptability, and satisfaction levels with the Contributory Health Insurance Scheme in Yobe State, particularly from the perspective of beneficiaries. The study offers valuable information enhances the effectiveness and efficiency of the scheme.

Competing interest

The author declares no competing interests

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Authors Contribution

Conceptualization: Augustine Ajogwu, Fatima Ibrahim Gazali, Chidumebi.F. Ajogwu,
Study design: Augustine Ajogwu, Fatima Ibrahim Gazali, Chidumebi.F. Ajogwu,
Data collection: Fatima Ibrahim Gazali,
Data analysis: Augustine Ajogwu, Fatima Ibrahim Gazali,
Interpretation of data: Augustine Ajogwu, Fatima Ibrahim Gazali,
Review of Literature: Augustine Ajogwu, Fatima Ibrahim Gazali
Writing and critical review of the manuscript: Augustine Ajogwu

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