IMPACT OF HOUSING QUALITY ON THE HEALTH STATUS OF RESIDENTS OF ONA-ARA LOCAL GOVERNMENT OYO STATE: APPLICATION OF BODY MASS INDEX

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ABSTRACT
This study examined the impact of housing quality on the health status of residents of Ona-Ara Local Government Area of Oyo State, Nigeria. The study was anchored on the concepts of healthy housing while data were sourced primarily and secondarily. A multi stage procedure was adopted in which the two housing schemes in Ona-Ara were purposively selected. Consequently, 150 houses constituting 50% of 300 houses enumerated were picked for the study. Thereafter, questionnaire containing the social structural characteristics, hosing condition and the relationship between housing condition and the health status were administered to the residents in the study area. Data were analysed using correlation, while health status was measured using the Body Mass Index (BMI). The study revealed, residents in Ogbere housing estate exhibited higher rates of overweight BMI. There was a significant association between housing quality and health status (r). There was a health risk associated with substandard housing. Therefore, raising awareness, adherence to sanitation laws, promoting healthy lifestyles are recommended.

Introduction

Cities, epitomized by high population densities, an array of infrastructural facilities and services, thriving industries, and specialized professional services, serve as hubs of innovation, culture, and economic activity. This urban shift herald development and progress, offering unparalleled access to employment opportunities, educational institutions, healthcare facilities, and resources that shape modern societies. However, the allure of urbanization comes with a caveat: the shadow of unintended consequences looms large, particularly in developing nations like Nigeria. These repercussions manifest as challenges such as unhealthy lifestyles, inadequate housing, and heightened exposure to environmental stressors, underscoring the complex tapestry of opportunities and obstacles that define the urban experience in emerging economies.

Housing quality plays a crucial role in influencing the overall health status and well-being of individuals and communities. The links between the quality of housing and the health of its occupants has been a subject of interests for researchers and policy makers worldwide. The quality of housing conditions plays a decisive role in the health status of the residents. Many health problems are directly or indirectly related to the building itself because of the construction materials used and the equipment installed, or the size or design of the individual dwellings. The past decade has brought an increasing number of researches and numerous publications on the influence of living conditions on the health of occupants, the evidence base for the complex effects of housing conditions on health is growing (Lowry, 1991; Ranson, 1991; Ineichen, 1993; Burridge and Ormandy, 1993; Raw and Hamilton, 1995; Fiedler, 1997; Dunn and Hayes, 2000. The need to enhance the living conditions of people in any society cannot be overemphasized. Where people live is at the very core of their daily lives (Pollack et al., 2008). The residential space of a person's home plays a central role in shaping his health and well-being (Murphy, 2006). The health status of the people has serious consequences on the economy of the country where they reside, as a healthy workforce is a requirement for a vibrant economy. The unhealthy individual is not only unproductive but also cannot take care of themselves and their dependents; they may eventually become an economic and security burden to society.

Nigeria, like many developing countries, faces challenges in providing adequate housing that meets health standards and promotes well-being. This research investigates the connection between housing quality and health status This study aimed at contributing valuables insights to the existing literature on housing quality and health, emphasizing the urgency of promoting healthy habits, strengthening governmental oversight and enforcement mechanisms to safeguard the well-being of residents in the Jegede and Sawia housing-related health disparities, also, the research seeks to inform evidence-based policies and intervention that promote healthy living.

Statement of Problems

The housing deficit for Nigeria as of the year 2023 is estimated to be 28 million, indicating that the country needs at least 28 million housing units to provide adequate for the population. Nigeria's population has been growing by 3.2% annually, based on the 2006 population census estimate. This increased the population from 140 million in 2006 to an estimated 242 million in 2023. Consequently, this might compound the present situation of overcrowding and obsolete housing infrastructure. The nature of housing, its environment and its location play crucial roles in determining its occupants' ways of life. It affects the way they spend their income, leisure time, health and attitudes to social relations. Scott (1953) described pure, adequate water and safe removal of waste products as the foundation on which good housing, good nutrition and healthy living can be built.

The rapid rate of urbanization and its attendant socioeconomic consequences have been a tremendous concern, especially to all professionals in human settlement and policymakers and analysts. In Nigeria, the cities continue to grow beyond control, management capacity and resources. Standard living is out of the reach of the average individual, and the basic services and infrastructure are becoming luxuries in many neighborhoods. Rapid urban growth is creating largely unmet demands for urban facilities, roads, public transport and solid waste management.

Physical, mental and social health is affected by the living conditions, and housing quality plays a decisive role in the health status of any resident. Many health problems are either directly or indirectly related to the buildings because of the construction materials used and

the type of individual dwellings (Jackson, 2003). Housing has a very important influence on health and well-being. It provides shelter, security, safety and privacy. Housing is essential and comprises vital services and facilities, constituting the physical environment that connects individuals with the community in which they evolve. Therefore, environmental amenities like waste disposal, water supply, electricity, access road, location of services and social infrastructure like health and recreation are all part of the packages designated as housing. Inadequate maintenance and upkeep due to a lack of funds, resources and knowledge of housing structure and infrastructure within the housing scheme can result in the deterioration of infrastructure, unsafe living conditions, and reduced housing quality, which can further impact the health status of the residents. Housing quality and health of residents in informal settlements are characterized by inadequate housing, lack of basic services, overcrowding, high levels of violence, insecurity, disaster conflict, forced eviction and corporate land grabbing Ogunbiyi (2011). Also, the housing quality assessment conducted by Oloyede (2013) evaluated housing quality based on housing standards and building regulations coupled with the nature of facilities and conditions of the dwellings, the findings revealed that the housing quality in the study area is satisfactory with the provision and good condition of the essential facilities. In most of the previous studies on housing quality and health, series of health status indicators had been used to assess relationship between housing quality and health. Other related studies on health includes, Jimoh and Wahab 2016, Jimoh 2022, Jimoh and Famewo 2022, Jimoh and Abdullahi 2022, Jimoh and Balogun 2022, Jimoh 2018, Jimoh 2021. Body Mass Index (BMI) and as an indicator of health status to examine the effects of housing quality on health remains a major gab, hence the need for the study.

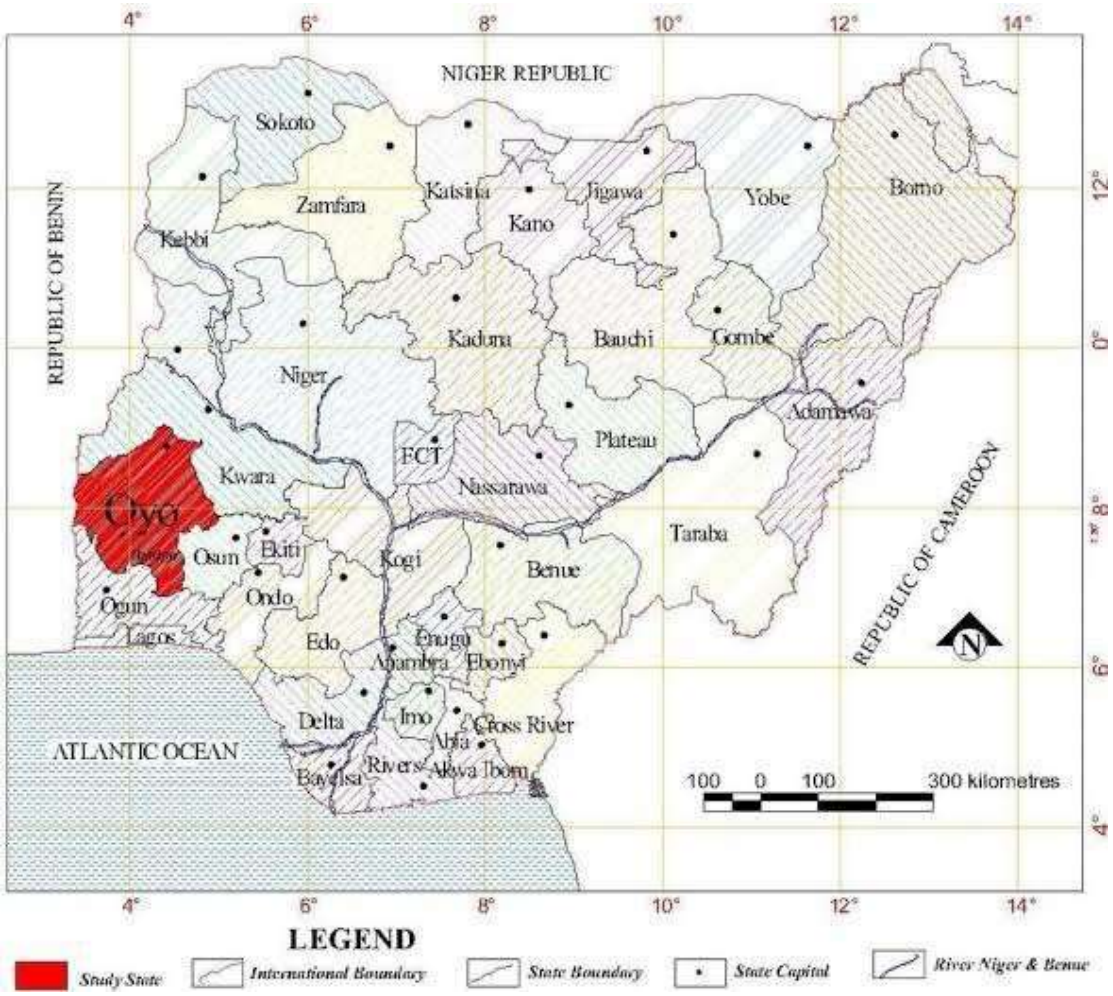
This study, therefore, examines the impact of housing quality on the health status of residents in Jegede and Sawia housing schemes of Ona-Ara Local Government. This is done with the view to propose strategies to mitigate the negative consequences of housing quality on health.

Study Area

The research was carried out in Ona-Ara Local Government, Oyo state of Nigeria. The local government has a population of about 265,059, according to the 2006 population census, and a land mass of about 3,570. Ona-Ara LG comprises eleven wards, and its headquarters is in Akanran village. Major towns and cities are Olorunsogo, Gbedun, Olunloyo, Araromi, Amuloko, Akanran etc. Jegede and Sawia housing Schemes were located in one of the major areas of the local government, i.e., the Olorunsogo district.

FIG. 3.1 OYO STATE WITHIN THE NATIONAL CONTEX

Plate 1: Oyo State within the National Context



Sources: Oyo State Ministry of Land, Housing and Urban Development.

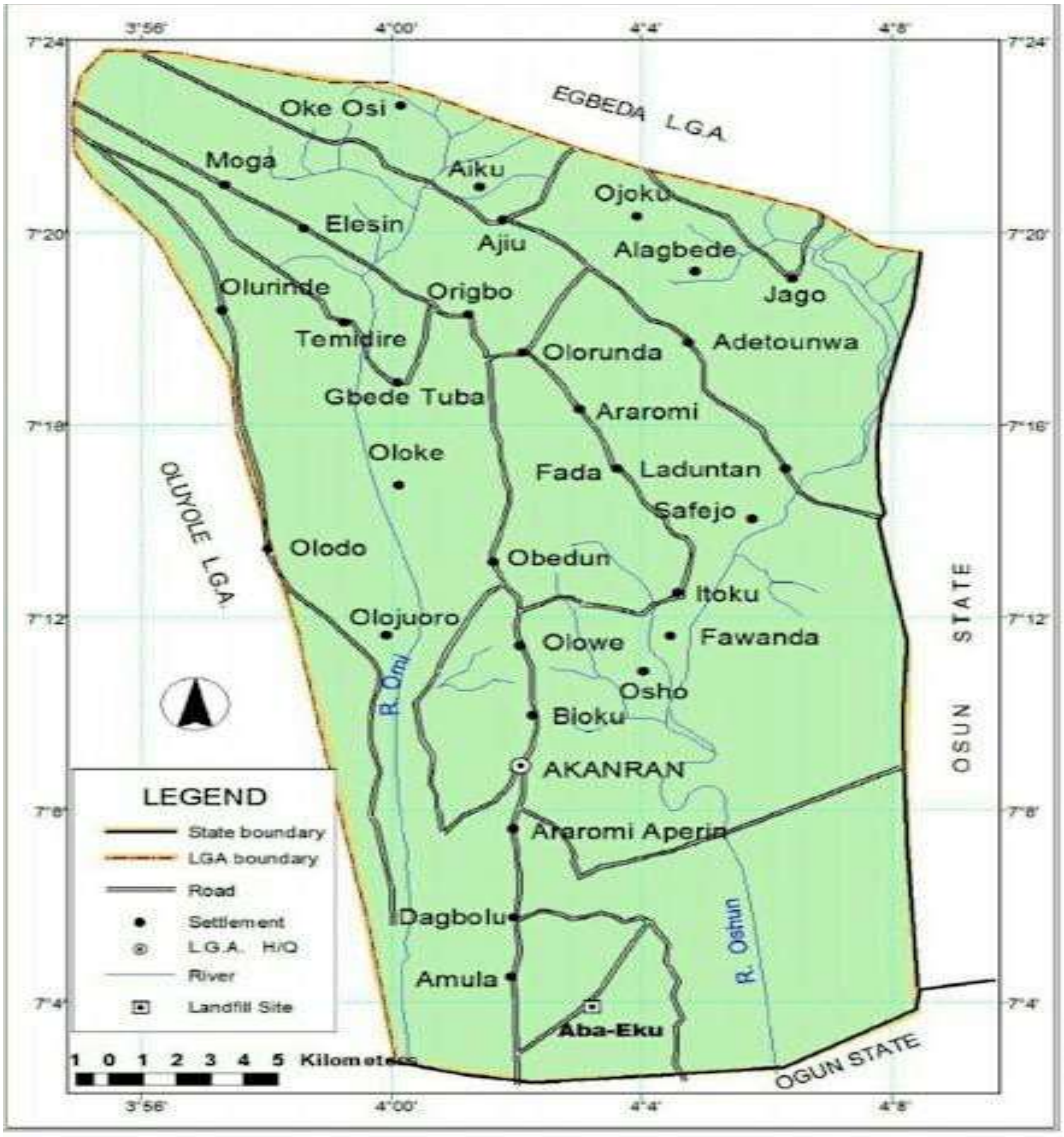
Plate 2



Ona- Ara Local Govt. Map within the Context of Oyo State.

Source; Ministry of Land Housing and Urban Development.

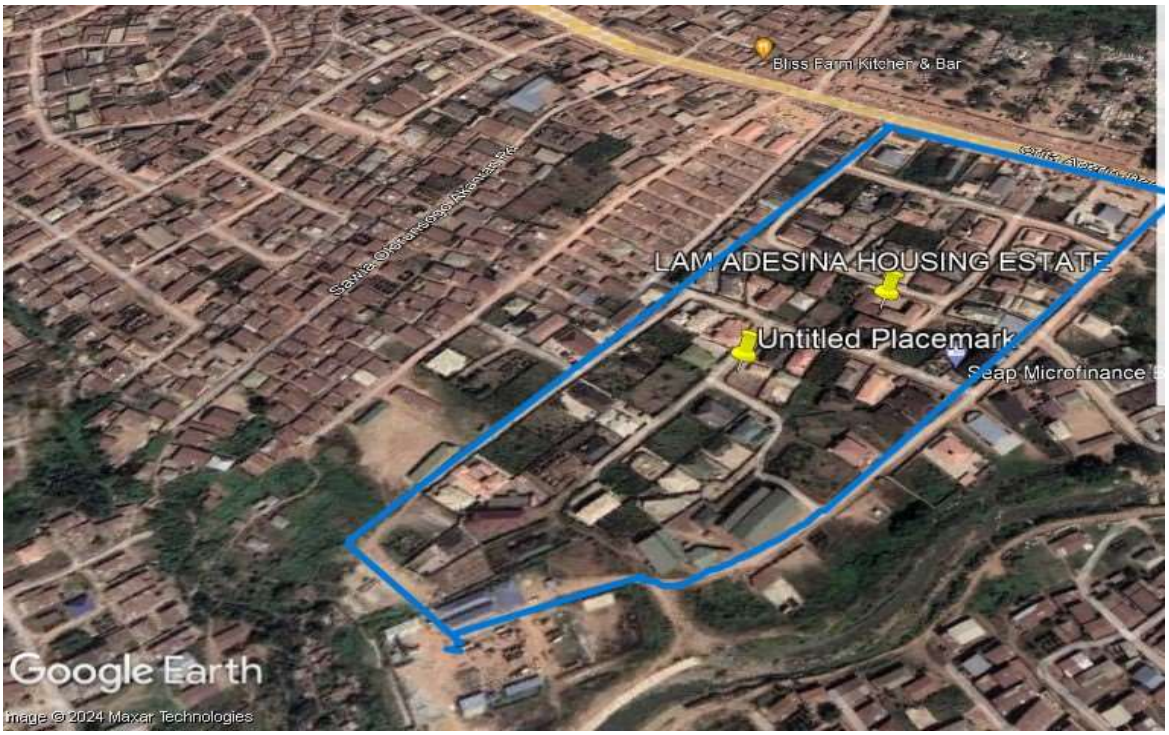
Plate; 3



ONA-ARA LOCAL GOVERNMENT.

Sources; Ministry of Land Housing and Urban Development.

Plate; 4



Source; Google Earth, 2024.

Plate; 5



Source; Google Earth, 2024

Methodology

A cross-sectional survey design was adopted while both primary and secondary data were sourced. A multi stage procedure was adopted in which the two housing schemes in Ona-Ara were purposively selected. Consequently, 150 houses constituting 50% of 300 houses enumerated were picked for the study. Thereafter, questionnaire containing the social structural characteristics, hosing condition and the relationship between housing condition and the health status were administered to the residents in the study area. Data were analysed using descriptive and inferential (correlation and simple linear regression analysis) statistics, while health status was measured using Body Mass Index (BMI).

Table 1: Sample Size

Housing schemes	Sample Frames	Sample size 50%	No of questionnaire

Lam Adesina housing	108 occupied houses	54 houses	54
Ogbere housing	192 occupied houses	96 houses	96
Total	300 occupied houses	150 houses	150

Source; Author's Survey, 2023

Findings and Discussions

Investigation on socio structural characteristics of the respondents in the study area revealed that, there were more occupied houses in Ogbere housing scheme than in the Lam Adesina housing scheme. Also, the study revealed that retiree or the aged constituted the higher (36.0 %) number of respondents, suggesting reliability of information provided by the respondents to generate adequate inferences for the study. As illustrated by the survey, the retiree/ aged had spent more than ten years in the neighbourhood (54.0) and the household size is minimal (3-4), which allows for privacy and good air space (see table 2) Also, most housing types were bungalows which constituted (65.3%), this implying an accident and stress free while climbing staircases.

Table; 2 Social-Structural Characteristic of the Respondents in the Study Area.

Age	**%**	**Year Spent**	**%**	**House hold Size**	**%**	**Building Structure**	**%**
Below 20	6.0	Below 2	17.3	Below 2	14.0	Tenements	4.7
20-29	12.0	3-4	22.7	3-4	**51.3**	Block of flats	4.7
30-39	16.7	5-6	2.0	5-6	5.3	Bungalow	**65.3**
40-49	15.3	7-8	2.0	7-8	11.3	Detached house	8.7
50-59	11.3	9-10	0.0	9-10	1.3	Semi detached	2.7
60 & above	**36.0**	Above 10	**54.0**	Above 10	14.7	No response	4.0
No response	2.7	no response	2.0	No response	2.0		
Total	100		100		100		100

Source; Author's Survey, 2023

Condition of the Housing Schemes

The survey conducted on the condition of housing on the two housing schemes in Ona-Ara LG revealed that essential facilities that could make housing habitable were provided (electricity, water, toilets, kitchen, fence, refuse disposal, burglary-proof access road) and the majority of the facilities were in very good condition to improve the quality of life. The proportion of houses that had efficient electricity supply in the study area accounted for 94.8% implying that respondents will enjoy power-dependent amenities like pumping water machines, that could ensure the availability of water at all times. Those houses that had toilet facilities accounted for 96.7% of the respondents but few houses lack

the facility and this could negatively affect the health of people living in such area. About 84.7% of the respondents had access to Well water being the major source of water supply in the study area. However, due to lack and of good sanitation and adequate water treatment thereby making it undrinkable. The information obtained during the interview revealed that the people lack awareness about water treatment; hence, they depend on a sachet of pure water for drinking. Unfortunately, some of the water sources were located very close to the septic tanks, which is against public health and environmental sanitation laws.

Furthermore, the study revealed that, 98.0% availability of effective drainage system in the study area. This will enable the residents to mitigate any potential hazards associated with flooding and ground water contamination which as some direct health relationship relationship with the residents. More than half (97%) of the houses surveyed had access to road accessibility, providing smooth transportation within the area, while burglary proof and fences which provided safety and security to keep the mind of the inhabitant at rest accounted for 93.3% in the study area.

Table 3: Housing Quality in the Study Area

location	Electricity				Refuse				Access road				Burglary				Drainage				Water				Toilet				Fence				Kitchen			
	Avail		N/A		Avail		N/A		Avail		N/A		Avail		N/A		Avail		N/A		Avail		N/A		Avail		N/A		Avail		N/A		Avail		N/A	
	Y	%	N	%	Y	%	N	%	Y	%	N	%	Y	%	N	%	Y	%	N	%	Y	%	N	%	Y	%	N	%	Y	%	N	%	Y	%	N	%
Lam	51	94.4	3	5.6	32	59.3	22	40.8	53	98.2	1	1.9	52	96.3	2	3.9	53	98.2	1	1.9	53	98.2	1	1.9	53	98.2	1	1.9	52	96.3	2	3.8	51	94.4	3	5.6
Ogbere	91	94.8	5	4,2	79	82.3	17	18	94	97.9	2	2.0	94	97.9	2	2.0	94	97.9	2	2.0	88	91.7	8	8.4	92	95.8	4	4.2	88	94.7	8	8.4	88	91.7	8	8.3
Total	142	94.2	8	5.3	111	74.0	39	26	147	98.0	3	2.0	146	97.3	4	2.7	147	98.0	3	2.0	141	94.0	9	6.0	145	96.7	5	3.3	140	93.3	10	6.7	139	92.6	11	7.4

Source; Author's Survey, 2023.

Respondents on Housing quality and health status using Body Mass index in the study area

Investigating the relationship between Housing quality and health status, survey was conducted on the relationship between housing quality and health status of the residents using partial correlation. The following variables were weighted for housing quality; availability of electricity, mode of refuse disposal, accessible road, provision of burglary proof house, availability and condition of drainage system, provision of fence, availability and condition of toilet facility, sources and condition of water supply and availability of kitchen. These are the determinants of housing quality.

From the table 4, Body Mass Index was used as a determinants of health status, according to the computed result, 46% of the respondents overweight BMI were discovered. The result indicated that the inhabitant of the study area who were mostly aged were overweight, and overweight body mass index enable such individual vulnerable to cardiovascular diseases such as heart failure, hypertension, heart attack etc.

However, result of multinomial regression was computed to show whether health quality is a function of health status. The outcome of the multinomial logistic regression analysis as summarized in table 7 shows that 30% (r2 = 0.304)of housing quality contributed to health status and 70% are other factors in human environments like proper dietary habits, individual life style, regular exercise among others influence good health status.

It could be inferred from the analysis that although housing quality is not a function of health status but there is a relative relationship between them and therefore, most of the respondents who were aged (above 60 years) and had been residing in the neighbourhood for more than 10 years in such a conducive environment with good housing quality not considering other health factors were likely to face BMI related diseases (hypertention, heath attack, daibetis etc) The result corroborated the work of Akinbamijo (2012) where a significant relationship was found between the health status of residence and housing quality measure in terms of available facilities. Thus, there is a strong relationship between housing quality and the health of the residents.

Table 4; Body Mass Index

Health Status (BMI)	No of Respondents	Percent total
Underweight	13	8.7
Overweight	69	46.0
Healthy Weight	52	34.7
Obesity	13	8.6
No Response	3	2
Total	150	100

Source; Author's Survey, 2023.

Table 5: Relationship between Housing Quality and Body Mass Index

Table5	Likelihood Ratio Tests	
	Model Fitting Criteria	Likelihood Ratio Tests

Effect	-2 Log Likelihood of Reduced Model	Chi-Square	Df	Sig.
Intercept	21.349[a]	.000	0	.
Electricity	23.945[b]	2.596	8	**.957**
Refuse Disposal	29.613[b]	8.264	8	**.408**
Access Road	21.564[b]	.215	4	**.995**
Burglary proof	21.349[b]	.000	4	**1.000**
Drainage system	28.423[b]	7.074	4	**.132**
Fence	22.805[b]	1.456	4	**.834**
Toilet	21.349[b]	.000	4	**1.000**
Water	21.349[b]	.000	4	**1.000**
Kitchen	27.597[b]	6.247	4	**.181**

Source; Author's Survey, 2023.

Results

P= 0.000,

r of BMI and electricity =**1.000**

r of BMI and Refuse Disposal= 0.415 r of BMI and Access Road=0.402

r of BMI and Burglary proof=0**.449**

r of BMI and Drainage System= 0**.459** r of BMI and Fence=0.379

r of BMI and Toilet=**0.578.**

Table 6 Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	63.425			
Final	21.349	42.076	52	.836

Source; Author's Survey, 2023

Overall significance of the model is: p= 0.836: its greater than 0.05.

Table 7 Pseudo R-Square

Cox and Snell	.245
Nagelkerke	**.304**
McFadden	.172

Source; Author's Survey, 2023

R^2 = 0.304 that is; 30%

Only, 30% of the influence of housing conditions on the health status is explained by the model.

That means, there are 70% other factors that contributed to the resultant health status of the people.

Conclusion

The result of the study recorded many inhabitants of the study area with overweight Body Mass Index and a minimal report of healthy weight despite availability and functional facilities. This is an indication that other factors contributed to the resultant health status of people. Landlord associations should help enlighten their members on many useful ways to improve the quality of their life through provision of recreational facilities in the neighbourhood, good life style etc. Stakeholders in the Ministry of Environment / Urban Planning must carry out rigorous sensitization and enlightenment campaigns on the health implications of improper sitting of sanitation facilities in residential areas.

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