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Socio-Economic Status and Apartment Type of Mothers of Under-5 Children in Rivers State: Implications for Nutritional Health of Children

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Abstract

Shelter is an age-long basic necessity for healthy living. Poor quality apartment limits good health outcomes, lowers economic productivity and increases healthcare costs. This study was designed to identify the contributions of maternal Socio-Economic Status (SES) to the type of apartments mothers with under-5 children reside in River's state. A cross-sectional study involving a four-stage stratified random sampling method to select 316 mother/child pairs in six Local Government Areas of Rivers state was adopted. A pretested semi-structured interviewer-administered questionnaire was employed. Maternal age, education level and income were used to measure SES. The Pearson correlation and regression analysis were used to analyse the data. The results showed that maternal age (r=0.245), education (r= 0.308) and income (r= 0.349) significantly correlated with apartment type. About 20.0% of the variations in the apartment type can be accounted for by maternal SES which was also found to be significant. The study therefore concludes that maternal SES is a significant contributor to the apartment of mothers with under-5 children in River's state. Women are therefore encouraged to improve their socio-economic status in order to have improved apartment.

Keywords: *Under-5 children, Maternal, Apartment type*

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Background to the Study

Shelter is an age-long basic necessity for healthy living. It has been observed that families with higher income levels prefer to shelter in neighbourhoods with superior housing amenities than families with lower income levels. The term "housing amenities" in the context of this study refers to the features of a building designed for human habitation, such as its size, number of rooms cooking fuel, type of toilet, availability of electricity and water, ventilation, and so forth. According to Jiboye (2004) and Kemptonet al. (2021), it is improper to use a single variable to evaluate the qualitative characteristics of residential apartments because a single variable cannot paint a complete image. According to Bliznashka et al., (2021), the quality of apartment remained a significant predictor of malnutrition in Ethiopia and in River's state, Nigeria (Asiegbu & Ariyo, 2024). It is imperative for family heads to consider quality apartment as a significant part of their survival and good quality of life. This goes a long way in solving a lot of problems associated with poor housing especially under nutrition in children. Children who are regularly exposed to open defecation have increased risks of recurrent intestinal infections due to non-stop poor hygiene conditions (Howden-Chapman, et al., 2023). According to Katoch (2022), sanitary facilities at home can predispose children to malnutrition. It is expected that individuals choose decent apartments in fine neighbourhoods for their families but a lot of factors inhibit this decision. Factors ranging from available income, available estate styles to proximity to work and so on. To curb the problem of poor housing, a multifaceted approach is recommended (Howden-Chapman, et al., 2023).

Socioeconomic status (SES) is a major determinant of health, nutrition, and living conditions among families with young children. In public health research, socioeconomic status is commonly assessed using indicators such as educational attainment, age, occupation, and income. Among mothers of under-five children, maternal education, age, and income are particularly important because they influence decision-making, resource allocation (Blum et al., 2023), childcare practices, and apartment choices (Debele & Negussie, 2022).

Child health outcomes are strongly correlated with housing conditions, which are important measures of household welfare (Tusting et al., 2020; Blum et al., 2023; Asiegbu & Ariyo, 2024). The type of apartment determines access to ventilation, potable water, sanitary amenities, and protection from environmental risks. It also represents the economic capabilities of households. The kinds of apartments that women in Rivers State, Nigeria, live in frequently reflect differences in their socioeconomic level. Some women live in overcrowded compound homes with shared water and sanitary facilities, while others live in detached homes, apartments, or self-contained apartments with sufficient amenities (Asiegbu & Ariyo, 2024).

Younger mothers may be disproportionately impacted by subpar housing (Islam et al., 2021; Mshida, et al., 2018; WHO, 2022). Poor housing acts as a significant agent for negative physical, mental, and developmental outcomes. Because young and adolescent parents are often navigating early career stages, incomplete education, and single-income dynamics, they frequently encounter severe barriers in the traditional rental and credit markets (Make Mothers Matter, 2020). Living standards are significantly influenced by maternal education.

Mothers with greater levels of education are more likely to find productive employment, make more money, and provide their kids with healthier living conditions. Higher maternal education has been linked to better child health outcomes and better housing quality (NPC & ICF International, 2019). Maternal age also affects socioeconomic stability. Compared to younger mothers who could still be unemployed or financially reliant, older women are typically more likely to have established occupations, steady earnings, and better housing arrangements.

Globally, women hold the primary responsibility for the nutrition and care of families (Mkandawire, et al. 2022). Thus, plans to avert malnutrition as well as promote the health of the family hinge distinctly on the activities of women and their empowerment (Daraz, et al. 2023). Evidence show that children of mothers with low Socio-Economic Status (SES) such as poor education are exposed to nutrition inadequacies. Maternal empowerment through education has been identified to account for the wellbeing and productivity of the entire families and societies and to enhanced prospects of future generation (Stamenkovic, et al., 2016). Maternal education level as the highest education level completed by mothers, may have a positive effect on their home management knowledge. Over the years it has been observed that formal education has assisted in improved women involvement in leadership positions and other official or white-collar jobs (The World Bank Group, 2017). Children of lowly educated mothers are exposed to myriads of challenges (Jemide et al., 2016). UNESCO (2026) informed that a nation's developmental level is reflected by the health and nutrition of her populace during early childhood. And the type of residential apartment contributes to the quality of productive lives people live (Mbazor, Aigbavboa, & Thwala, 2024). This is so because it contributes to good mental health and appreciable physical comfort.

For a long time now, maternal education has been linked to child's feeding practice (Adnan and Muniandi, 2012 and Ayine, 2021). According to Lawal et at., (2023) it is important for mothers to have improved levels of education, better health status and create healthful environment in order to reduce malnutrition. Another significant factor influencing the type of apartment is income. Higher-income households are able to purchase better home that offers sufficient living space and better sanitary facilities (Jiburum et al., 2021). On the other hand, low-income households are more likely to live in cramped apartments with shared amenities. Research from Rivers State shows that a significant percentage of households, particularly in riverine settlements, live in apartments with shared amenities, which reflects the state's socioeconomic disparities (Asiegbu & Ariyo, 2024).

Childcare expenses come with a lot of financial demand on parents. This could plunge a middle-income earner into poverty and Hartley, et al. (2018) posited that childcare costs inhibit many working families in the US from achieving middle-class status, while many other families continue do so by depending on free child care, unofficial arrangements with family or friends, or below-market-rate services, possibly from unlicensed care providers. If they had to pay for normal child care expenses, a larger percentage of middle-class families would be driven out of this status. Children's poor health outcomes in Nigeria have been linked to mothers' low amounts of economic activity (Salman et al., 2020). Household income may be

contributed by both parents. It is expected that the more income a mother has the better the child's nutritional status and health (Pierre-Louis et al., 2007). Therefore, attempts to avert malnutrition as well as improve well-being depend considerably on women's activities and women's enablement (Nwaru et al., 2011 and Smith, 2016). This is because women globally possess the main responsibility for their families' nutrition (Pierre-Louis et al., 2007). Children from higher household wealth quintiles according to Amare et al., (2019), had less chances of experiencing stunting compared with children from the lower quintiles. Household monthly income according to Amare (2017), was a factor that associated with wasting in under -5 children in Ethiopia. Wimer and Wolf (2020) reviewed an array of descriptive data that suggested income can improve early outcomes for children and later outcomes for adults although Berger et al., (2009) argued that the effects of large-scale income transfer programs on children's cognitive and behavioural results would be negligible. This means that achieving a wholistic improvement in child outcome requires more than just increasing the household income.

The nutritional status of children under five is significantly influenced by the type of apartment (as an indicator of housing quality and living environment). Undernutrition, which includes stunting, wasting, and underweight, is more common in children who live in substandard housing, such as cramped, poorly ventilated, or informal homes. This is mostly due to the fact that housing circumstances have an impact on food safety, sanitation standards, infection risk, and overall household socioeconomic stability. Inadequate water supply, poor sanitation, and increased exposure to pathogens that raise the risk of diarrheal illnesses are frequently linked to poor housing environments. These factors directly contribute to children's poor nutrient absorption and stunted growth (Iyanda et al., 2021; Gaffan et al., 2023). Children who live in homes with superior housing infrastructure and basic amenities, for instance, typically have better anthropometric results than those who live in impoverished housing conditions, according to data from several low- and middle-income countries (Iyanda et al., 2021).

Additionally, research has demonstrated that housing circumstances are a component of a larger socioeconomic system that affects the nutrition of children. Stunting and underweight are consistently associated with maternal socioeconomic position and housing quality in Nigeria and similar settings, with children living in lower residential surroundings being disproportionately affected (Akombi et al., 2019). Additionally, studies show that the risk of chronic undernutrition can be considerably decreased by better housing, including better building materials, less congestion, and access to clean water (Gaffan et al., 2023). Apartment type and nutritional condition are related through both direct and indirect mechanisms. Poor housing directly raises the risk of contracting infectious diseases such respiratory infections and diarrhea, which lower appetite and nutrient absorption. Poor housing indirectly reflects low household socioeconomic status, which restricts access to healthcare, child feeding practices, and sufficient and varied foods (Iyanda et al., 2021; Gebreegziabher & Sidibe, 2024). Together with parental education, income, and other socioeconomic characteristics, apartment type is a significant environmental determinant of child nutritional outcomes. Therefore, one pertinent intervention point in reducing child malnutrition in low-income settings is improving housing quality.

Statement of the Problem

Despite the economic significance of Rivers State as a major oil-producing region in Nigeria, many families with under-five children continue to experience poor housing conditions. Noticeably, socioeconomic inequalities characterized by differences in maternal education, age, and income contribute significantly to variations in their apartment type and housing quality. Mothers with lower educational attainment often have limited employment opportunities and lower incomes ((Adnan and Muniandi, 2012; Ayine, 2021), reducing their ability to secure adequate housing. Many households with small children live in apartments with shared water and sanitation facilities, especially in riverine settlements, according to Asiegbu & Ariyo, (2024). Children under five who live in such settings may be more susceptible to infectious infections, poor hygiene, and poor nutritional outcomes. Furthermore, because they have fewer financial strengths and less access to high-quality housing, younger mothers and those with lower incomes may be disproportionately impacted by subpar housing (Islam et al., 2021; Mshida, et al., 2018; WHO, 2022). The associations between maternal education, age, and income on apartment type among mothers of children under five in Rivers State are not well studied. Developing strategies that enhance housing conditions and child welfare requires an understanding of these linkages. Therefore, this study was designed to identify the contributions of maternal Socio-Economic Status (SES) on the type of apartments mothers with under-5 children reside in Rivers state.

Methodology

A cross-sectional study involving a four-stage stratified random sampling method to select 316 mother/child pairs in six Local Government Areas of Rivers state was adopted. A pretested semi-structured interviewer-administered questionnaire was employed. Age, education level and income were used to measure socio-economic status of the mothers. Apartment type was measured as a mono-construct variable. Ethical approval was gotten from UI/UCH Ethical review board with approval number; UI/EC/19/0102 and River's state primary healthcare to conduct this study. The descriptive statistics, the Pearson correlation and regression analysis were used to analyse the data.

Results

The result of the descriptive analysis is presented in Table 1. It shows that most of the mothers were in their late twenties (33.9%), majority of them had secondary school education (70.1%) as the highest education level. A good proportion of the mothers earned below twenty thousand naira (40.2%) monthly and lived in public yards (66.8%). Table 2 presents the correlation analysis for maternal SES and type of apartment. It was observed that maternal education level ($r = 0.308$), age (0.245) and monthly income (0.349) were positively correlated with Apartment type. According to the standardized coefficients (Beta values), displayed in Table 3, the predictors ranking is as follows as they influenced apartment type: maternal monthly income ($\beta = 0.265$) – strongest predictor, Education level ($\beta = 0.214$) – moderate predictor, maternal age ($\beta = 0.179$) – weakest predictor. Table 4 illustrates the model summary analysis. The coefficient of determination ($R^2 = .202$) indicates that about 20.2% of the variation in apartment type can be explained by maternal age, education level, and monthly income.

Table 1: Socioeconomic Characteristics of Mothers in Rivers State

Variables	Frequency	Percentage
Maternal age		
< 20years	9	2.8
20-24years	61	19.3
25-29years	107	33.9
30-34years	85	26.9
35-39years	43	13.6
≥ 40	11	3.5
Education level		
No formal education	5	1.6
Primary education	47	14.9
Secondary education	224	70.9
Tertiary education	40	12.7
Income		
below #20,000	127	40.2
#21,000-#40,000	68	21.5
#41,000-60,000	35	11.1
#61,000-#80,000	38	12.0
#81,000_#100,000	25	7.9
#101,000-#120,000	5	1.6
#121,000-#140,000	9	2.8
#141,000-#160,000	3	.9
#161,000-#180,000	3	.9
above #200,000	3	.9
Apartment type		
One room in public yard	140	44.3
Two rooms in public yard	71	22.5
Self-contained	36	11.4
One-bedroom flat	29	9.2
Two-bedroom flat	25	7.9
Three-bedroom flat	15	4.7

Table 2: Correlation Analysis for Maternal SES and Type of Apartment

Variables	Pearson Correlation (r)	Education Level	Maternal Age	Monthly income	Apartment type
Education Level	**Pearson Correlation**	1	.124*	.269**	.308**
	Sig. (2-tailed)		.027	.000	.000
Maternal Age	**Pearson Correlation**	.124*	1	.148**	.245**
	Sig. (2-tailed)	.027		.009	.000
Monthly Income	**Pearson Correlation**	.269**	.148**	1	.349**
	Sig. (2-tailed)	.000	.009		.000
Apartment Type	**Pearson Correlation**	.308**	.245**	.349**	1
	Sig. (2-tailed)	.000	.000	.000	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3: Regression Analysis for Maternal SES and Type of Apartment

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Maternal Age	.246	.071	.179	3.491	.001	.107	.385
Education Level	.574	.141	.214	4.065	.000	.296	.852
Monthly income	.209	.042	.265	5.008	.000	.127	.291

a. Dependent Variable: Apartment type

Table 4: Model Summary for the Regression Analysis between Maternal SES and Type of Apartment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.450[a]	.202	.195	1.396

a. Predictors: Mmonthly income, Maternal Age, Education Level

Discussion

Mothers in this study were relatively young, earned lower income and lived in public yards. This aligns with some previous studies that suggested that younger mothers and those with lower incomes may be disproportionately impacted by subpar housing (Islam et al., 2021; Mshida, et al., 2018; WHO, 2022). Maternal education level, age and monthly income were positively correlated with Apartment type. This means that as maternal education level, age and monthly income increase, the apartment type improved. Thus, higher levels of maternal education, older maternal age, and greater monthly income are linked with better apartment types. These findings imply that socioeconomic status, especially income and education, significantly influence the apartment type of mothers of under-five children. Better socioeconomic circumstances seem to be associated with improved residential environments, which may have consequences for the health and well-being of children. These findings underscore the relevance of socioeconomic factors in defining the living conditions of mothers and their children and suggest that interventions aimed at enhancing education and income levels may contribute to improved housing quality and overall family welfare.

The findings of this study also revealed that economic capacity (income) played the most significant role in determining housing conditions, followed by educational attainment, while age has the least but still significant influence. This finding emphasises that higher earnings directly increase the ability to afford better accommodation. It further explains that mothers with higher levels of education are more likely to secure better-paying jobs and make informed socioeconomic decisions, which can translate into improved living standards. Age was the weakest predictor of the three variables, according to the standardized coefficient, although it still had a significant impact. This could be due to the fact that older moms typically have more life experience, stable finances, and perhaps stronger work histories, all of which can improve their access to better housing conditions.

The findings reported above further aligns with the position of (NPC & ICF International, 2019) who stated that higher maternal education has been linked to better child health outcomes and better housing quality. And also corroborate those of Akindele et al. (2025) who informed that socio-economic variables such as income, educational level, and tenure status arose as influential in mediating satisfaction, often amplifying inequalities in housing outcomes. Pérez et al., (2026) who observed that improved housing results in better health outcomes. The confidence interval further reveals that all predictors have statistically significant positive effects on apartment type and that the results are reliable within the sampled population.

Maternal age, education level, and monthly income accounted for about 20.2% of the variation in apartment type. This suggests that while SES is an important determinant of housing quality, a substantial proportion (79.8%) of the variation is explained by other unmeasured factors such as household size, marital status, employment sector, access to housing finance, cultural preferences, and urban housing availability. This aligns with existing literature which emphasizes that socioeconomic factors are key determinants of living conditions, but not the sole predictors. For instance, housing studies consistently show that income and education significantly influence housing quality, but market conditions, urbanization, and policy environments also play critical roles (UN-Habitat, 2008; UN-Habitat, 2020; Odoanyanwu, et al., 2025; Akindele et al., 2025).

Conclusion

In Rivers State, maternal education, age, and income were significant socioeconomic status variables that affected type of apartment for mothers of children under five. In general, mothers are more likely to obtain better apartments if they have more education, more financial resources, and more stable living conditions. On the other hand, mothers who earn less income and had lower levels of education were more likely to live in poorer apartments. Improving apartment types and health outcomes for children under five in Rivers State could be greatly aided by addressing educational and economic inequities among women. The measured SES variables jointly played a statistically meaningful role in determining apartment type, but their explanatory power is moderate. Income, education, and age together accounted for only one-fifth of the variation in housing conditions, highlighting that housing outcomes are multidimensional and influenced by broader structural and environmental factors. The study therefore concludes that SES is a significant contributor to the apartment of mothers with under-5 children in River's state.

Recommendations

1. Efforts aimed at improving maternal income levels and educational opportunities are likely to have the greatest impact on improving living standards, particularly apartment quality among households with under-five children. Such efforts should be encouraged.
2. Women are therefore encouraged to improve their socio-economic status in order to have improved apartment because it has been found that improved apartment quality has implications to the nutritional and overall health of children.

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