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# Socio-Economic Disparities and their Impact on Healthy Ageing: A Study of Older Adults in Nigeria

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**Abstract**

Demographic ageing is a key societal and economic challenge in Sub-Saharan Africa countries today. Supporting healthy ageing is crucial in ensuring older adult individual's health and well-being and their continue contributing to society as they grow older. With many older adults in Nigeria, facing poverty, limited access to healthcare and social isolation, socio-economic factors are particularly pronounced in influencing older adult's health outcomes and quality of life. In the light of above, the study investigates the impact of socio-economic disparities on health outcomes and identifies potential interventions to promote healthy ageing among older adults in Nigeria. A cross-sectional study of 500 consenting older adults were successfully interviewed using structured and pre-tested questionnaire. The study adopted a descriptive, ANOVA and multivariate binary logistic regression model and significant associations were found at p- value less than 0.05. Findings revealed that 65.7% were men participants. Highest participants were the age group 65-69 with 36.5%. 46.3% were still living with their spouses. 63.1% were engaged in one work or the other but 26.9% received forty-one thousand naira and above monthly. 66.3% older adults lived several kilometers away from health facilities and 24.0% reported not being healthy at the time of the survey. ANOVA results indicate that all socio-economic factors under investigation have significant impact on healthy ageing outcomes with employment having larger impact followed by marital status and physical activities than any other factors. Logistic regression model indicates higher income, employment status, marital status, regular check-up were all associated with and have were strongest predictors of healthy ageing outcomes. The findings have implications for healthy ageing policies and interactions. The policy should be promoted through education and income support programs and interactions should address the unique needs of the older adults.

**Keywords:** Socio-economic characteristics, Older adults, Healthy ageing, Ageing population, Health outcome

# Introduction

Globally, it is widely acknowledged that the world's ageing population has become a global challenge (WHO, 2019; UNDESA, 2020; Thais et al., 2021). More people above the age of 65 years are increasing than people of any other age (UN, 2019). And over the coming decades, this substantial growth will continue (UNDESA, 2015; WHO, 2019).There is conflicting evidence suggesting that older people today now live in good health better than their parents, so living longer does not guarantee that these extra years will be spent in excellent health (George, 2010; Chatterji et al., 2015;). International interest in how to promote healthier old age has grown as a result of the significant increases in life expectancy over the decades, along with medical and technological advancements, rising health and social care costs, higher expectations for

older age, and better social and environmental conditions (WHO, 2015; UNDESA, 2019). Nowadays, living beyond 60 years is becoming more common in the history of man (UNDESA, 2015). The factors or resources that can extend life are very valuable. They offer the chance to re-evaluate not only what old age might be, but also how our entire life might proceed (Beard and Bloom, 2015). For example, there is evidence that many people in developed nations are revisiting fixed ideas of what becoming the aged, they are beginning to think on how to use these extra years in creative ways, such as starting a new career, extending their education, or following a forgotten passion (UNDESA, 2015). Additionally, as young people begin to anticipate longer lives, they may also arrange their lives in a new way.

Despite the fact that population ageing is a global phenomenon, people in different region of the world have been going through various demographic changes. For instance, despite the significant impact of AIDS and COVID-19, the population of ageing in Sub-Saharan Africa will continue to increase (UNDESA, 2020; WHO, 2020; World Bank, 2020). Although only 3 percent of persons in the region were 65 years or older before 2020 (WHO, 2020; WHO, 2022), projections indicate that figure will nearly double itself in less than 30 years (UNDESA, 2019). Nigeria, the most populous black nation in Africa with 206 million people has a very high potential of rapid growth rate of the older population in the years ahead (Araromi, 2015; NPC and ICF, 2019; African Development Bank, 2019; UNDESA, 2019; Akinyemi and Adedini, 2022).

Nearly one in every four Nigerians is 65 years old and over and faces the day-to-day challenge of ageing (UNDESA, 2019). According to United Nations predictions, the proportion and number of elderly people in Nigeria are increasing dramatically (WHO, 2015), about 9.4 million individuals in 2020 were 65 years or older by 2050, it is anticipated that this number will reach 25.3 million and ensuring their health and well-being becomes a matter of urgent importance that requires immediate attention (NDHS, 2018; Ministry of Health, 2017; UNDESA, 2019). However, socio-economic disparities pose significant challenges to healthy ageing in Nigeria.

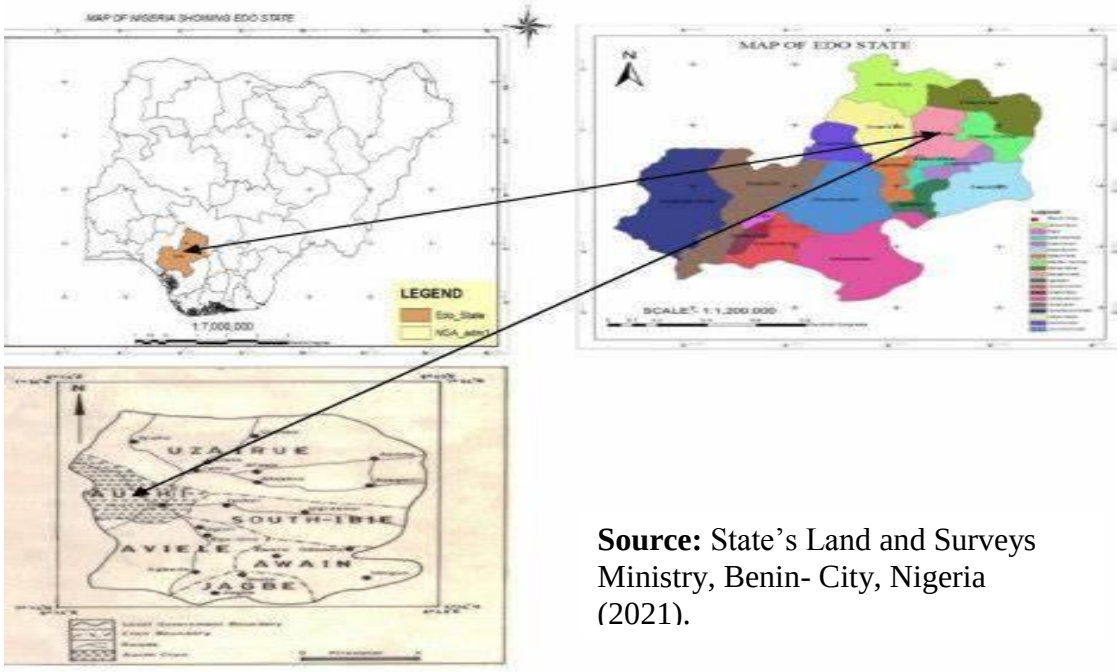
The widespread of poverty, socio-economic hardship, and changes in the traditional extended family structure are all factors contributing against Nigeria's ageing population (Adebowale et al., 2012; Okoye, 2012 and Abayomi, 2013). In addition, the COVID-19 pandemic has disproportionately affected older people of 65 years and over, who had previously been in good health (UNDESA, 2019). These provide a compelling reason for an increased focus on ageing population among scholars on how to strategize and optimize the healthy experience of ageing population. Similarly, the rise in older adult in sub-Saharan Africa and Nigeria in particular has stirred the interest of academics, researchers and NGOs in healthy ageing, which was hitherto unrecognized.

Generally, few studies have examined the impact of socio-economic disparities on healthy ageing (Meyer and Sullivan, 2003; Agunbiade and Ogunleye, 2012;

Akinyemi and Adedini, 2012; Coleman and Ham ion, 2017; Ajayi and Akpan, 2019). This study aims to fill this gap by investigating this heightened interest in socio-economic disparities and their impact on health outcomes among older adults in Nigeria. Therefore, the study seeks to examine the socio-economic characteristics of older adults in Nigeria. Investigate the impact of socio-economic disparities on health outcomes of older adults and identify potential interventions to promote healthy ageing among older adults in Nigeria. This study, which was part of a larger study, was aimed to answer these three questions and highlight the implications of the study.

The WHO notes unequivocally in the preface of the first World Report on Ageing and Health that "healthy ageing is more than merely the absence of disease" (WHO, 2015).The first WHO Global Strategy and Action Plan on Ageing and Health which was unanimously endorsed by all WHO Member States during the World Health Assembly in May 2016, proposes a new definition of healthy ageing as "the process of developing and maintaining functional ability that enables well-being in older age" (WHO, 2020; WHO, 2021, WHO, 2022).

**Materials and Methods**




**Source:** State's Land and Surveys Ministry, Benin- City, Nigeria (2021).

Map of Auchi Community in Edo State, Nigeria

The study population comprises of all older adults of 65 years and above in the four Wards of Auchi community. It was a cross-sectional study of 500 consenting older adults who have resided in Auchi community for at least one year prior to study. Auchi is an urban centre and the administrative headquarter of the Etsako-West Local Government Council of Edo state, Nigeria. It is situated approximately on Latitude $70^0$ 4N' and Longitude $60^0$ 4E' of the Equator. The 193,585 people (2012 estimate from 2006 National Census, NPC, 2011) settled in a valley with rich alluvium deposit. The

sample size of 500 for the study was determined using Cochran sample size formula (Cochran, 1963).

Sampling was done using a simple random design. Lottery method was used in selecting older adult from 2300 houses picked as the sampling frame. All the houses were listed and numbered. Each individual older adults selected was contacted and information was sort from them. With a larger sample of 500 sizes, the simple random sampling design ensured high external validity that represents the characteristics of the larger older adult population.

The instrument for the study was a survey questionnaire developed on a nominal scale with a specific focus on indices of healthy ageing in Nigeria and socio-economic characteristics of the older adults under study. The research instrument was translated to Etsako Language, the predominant local dialect (in the community) for ease of communication. It was re-translated to English Language to ensure the original meaning was retained. The research instrument was pre-tested in Afuze (a semi-urban community in Owan-West Local Government Council) which is similar to the study location in terms of geographical location, culture, beliefs and lifestyle of the people. Twenty-five questionnaires were pretested and appropriate amendments were then made after the pre-test.

The data collected were coded and analyzed using statistical package for social science (SPSS version 23) while the research questions guiding the study were answered and tested with descriptive statistics to examine the proportion of socio-economic characteristics of the respondents, using percentage distribution. Analysis of variance was used to assess the impact of socio-economic characteristics on healthy ageing outcomes while multivariate analysis with binary logistic regression is used to identify the significant predictors of healthy ageing outcomes. In the end, the results were presented in texts and tables with adjusted odd ratio and the corresponding 95% confidence interval.

Informed oral consents were obtained from the participants before their participation in the study while written permission was sort and approved by the chairman Etsako-West Local Government Council. The permission was given before the commencement of the field survey.

**Results**

The table 1 presented the description of healthy ageing outcomes among older adults in Auchi, Nigeria according to design of this study. From the table, older adults' mean age and standard deviation were 2.31 and ±1.20 years. Highest among them were the age 65-69 years age group with 36.5%. Over half 65.7% were men participants. In all, 46.3% were still living with their spouses. From the survey, only 11.2% of the participants indicated no formal education. Over half of the participants were still engaged in one work or the other and few of them 26.9% were receiving forty-one thousand naira and above monthly. Currently, over half 66.3% of the participants were living several kilometers away from health facilities. Out of the 500 participants

surveyed, only 24.0 percent of the participants reported not being healthy at the time of the study. Likewise, the proportion of the participants that were not having regular check-up was 35.8%.

**Table 1: Summary of the Descriptive Analysis on Socio-Economic Characteristics**

| Univariate Variable Category | Frequency (%) |
|---|---|
| **Age Group** | |
| 65 – 69 years | 183 (36.2) |
| 70 – 74 years | 100 (20.2) |
| 75 – 79 years | 97 (19.4) |
| $80^{+}$ years | 119 (24.0) |
| Mean $\pm$ SD | 2.31 $\pm$ 1.20 |
| **Gender** | |
| Men | 328 (65.7) |
| Women | 172 (34.3) |
| **Educational Level** | |
| No formal education | 56 (11.2) |
| Quranic education | 26 (5.2) |
| Primary education | 132 (26.2) |
| Secondary education | 217 (43.4) |
| Tertiary education | 69 (13.8) |
| **Marital Status** | |
| Married | 232 (46.3) |
| Divorced/Divorcee | 79 (15.8) |
| Widow/Widower | 127 (25.3) |
| Others | 162 (12.6) |
| **Monthly Income** | |
| Less than ₦20,000 | 197 (39.3) |
| ₦20,000 – ₦30,000 | 104 (20.8) |
| ₦31,000 - ₦40,000 | 65 (13.0) |
| ₦41,000 and above | 134 (26.9) |
| **Employment Status** | |
| Yes | 315 (63.1) |
| No | 185 (36.9) |
| **House Distance to Health Facility** | |
| Within walking distance | 169 (33.7) |
| Several kilometres | 331 (66.3) |
| **Performance of Physical Activity** | |
| Yes | 380 (76.0) |
| No | 120 (24.0) |
| **Participants' Regular Check-up** | |
| Yes | 321 (64.2) |
| No | 179 (35.8) |

Table 2 presented the analysis of variance (ANOVA) on healthy ageing outcomes and socio-economic characteristics. From the analysis, among the variables of interest gender ($F_{(1,498)}$= 8.281, P = 0.004). The between-group sum of square (SSB) is 1.840, indicating that 2% of the total variation in healthy ageing outcomes is attributed to differences between men and women. Educational status ($F_{(1,498)}$= 9.723,

P = 0.002). The between-group sum of square (SSB) is 12.425, indicating that 2% of the total variation in healthy ageing outcomes is attributed to differences between educational group. Marital status ($F_{(1,498)}$= 20.863, P = 0.000). The between-group sum of square (SSB) is 24.496, indicating that 4% of the total variation in healthy ageing outcomes is attributed to differences between marital group. Income ($F_{(1,498)}$= 14.612, P = 0.000).

The between-group sum of square (SSB) is 21.762, indicating that 3% of the total variation in healthy ageing outcomes is attributed to differences between lower and higher income group. Employment status ($F_{(1,498)}$= 26.701, P = 0.000). The between-group sum of square (SSB) is 6.503, indicating that 5% of the total variation in healthy ageing outcomes is attributed to differences between working and non-working participants. Physical activities ($F_{(1,498)}$= 51.046, P = 0.000). The between-group sum of square (SSB) is 8.479, indicating that 9% of the total variation in healthy ageing outcomes is attributed to differences between the group of performance and non performance of physical activities and regular check-up ($F_{(1,498)}$= 15.650, P = 0.000). The between-group sum of square (SSB) is 3.501, indicating that 3% of the total variation in healthy ageing outcomes is attributed to differences between group of regular check-up and non regular check-up.

The result indicate that gender, marital status, education, employment, income, physical activities and regular check-up have significant impact on healthy ageing outcomes. However, the impact size is larger in employment, marital status and physical activities than other socio-economic characteristics/indicators.

**Table2. ANOVA table on the Impact of Socio-Economic Characteristics on Healthy Ageing.**

| Variable Category | SS | DF | MS | F | Sign |
|---|---|---|---|---|---|
| **Gender** | | | | | |
| Between Groups | 1.840 | 1 | 1.840 | 8.281 | 0.004 |
| Within Groups | 10.678 | 498 | 0.222 | | |
| **Total** | **112.518** | 499 | | | |
| **Educational Level** | | | | | |
| Between Groups | 12.425 | 1 | 12.425 | 9.723 | 0.002 |
| Within Groups | 636.397 | 498 | 1.278 | | |
| **Total** | **648.822** | 499 | | | |
| **Marital Status** | | | | | |
| Between Groups | 24.496 | 1 | 24.496 | 20.863 | 0.000 |
| Within Groups | 584.704 | 498 | 1.174 | | |
| **Total** | **609.200** | 499 | | | |
| **Monthly Income** | | | | | |
| Between Groups | 21.762 | 1 | 21.762 | 14.612 | 0.000 |
| Within Groups | 741.700 | 498 | 1.489 | | |
| | **763.462** | 499 | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Total** | | | | | |
| **Employment Status** | | | | | |
| Between Groups | 6.503 | 1 | 6.503 | 26.701 | 0.000 |
| Within Groups | 121.297 | 498 | 0.244 | | |
| **Total** | **127.860** | 499 | | | |
| **Performance of Physical Activities** | | | | | |
| Between Groups | 8.479 | 1 | 8.479 | 51.046 | 0.000 |
| Within Groups | 82.721 | 498 | 0.166 | | |
| **Total** | **91.200** | 499 | | | |
| **Participants' Regular Check-up** | | | | | |
| Between Groups | 3.501 | 1 | 3.501 | 15.650 | 0.000 |
| Within Groups | 111.417 | 498 | 0.224 | | |
| **Total** | **114.918** | 499 | | | |

The predictors of healthy ageing outcomes are shown in table 3. Binary logistic regression analysis shows that women participants (OR = 2.689, P = 0.021). Secondary education (OR = 2.655, P = 0.013). Married older adults (OR = 1.307, P = 0.030). Income of older adults above 41,000 naira (OR = 2.750, P = 0.001) and regular physical activity (OR = 2.897, P = 0.036) were all significant predictors while several kilometers of participants' residence to health facilities reduced the odds by 35.3% (OR = 0.647, P = 0.026). In other words, women participants increases the odds of healthy ageing outcomes by 2.69 times (P = 0.021), secondary education increases the odd by 2.66 times (P = 0.013), Married older adults increases the odds by 1.307 times (P = 0.030), income of and above 41,000 naira increases the odds by 2.75 times (P = 0.001), older adults with regular physical activity increases the odds by 2.90 times (P = 0.036) and older adults whose residence were several kilometers to health facilities reduces the odds by 35.3% (OR = 0.647, P = 0.026).

**Table 3: Logistic Regression Predicting Healthy Ageing on Socio-Economic Characteristics.**

| Multivariate Variable | Odd Ratio [β] | P-Value Sign | 95% CI for Exp [β] | |
|---|---|---|---|---|
| | | | Lower | Upper |
| Gender | 2.689 | 0.021 | 0.379 | 1.252 |
| Education | 2.655 | 0.013 | 0.948 | 7.436 |
| Marital Status | 1.307 | 0.030 | 0.105 | 0.894 |
| Income | 2.750 | 0.001 | 1.965 | 16.822 |
| Regular Physical Activity | 2.897 | 0.036 | 0.184 | 0.539 |
| Distance of House to Health Facility | 0.647 | 0.026 | 0.311 | 1.130 |

**Statistically Significant at P 0.05 level; β – odd ratio, P-Value– Sign**

This study analyzed the socio-economic disparities and their impact on healthy aging among 500 older adults participants. Logistic regression revealed that women (OR = 2.689, P = 0.021), Secondary education (OR = 2.655, P = 0.013), Married participants (OR = 1.307, P = 0.030), Monthly income of participants (OR = 2.750, P = 0.001), and Regular physical activity (OR = 2.897, P = 0.036) significantly predicted healthy ageing outcomes. In contrast, older adults whose residence were several kilometers to health facilities reduced the likelihood of healthy ageing outcomes by 35.3% (OR = 0.647, P = 0.026).

## Discussion and Conclusion

In Sub-Saharan African, ageing and its challenges appeared to be an emerging phenomenon which requires a pragmatic approach from the government and stakeholders. This current study presented the socio-economic characteristics of older adults in part of Nigeria. This study revealed that socio-economic disparities pose significant challenges to healthy ageing. The findings highlight the impact of socio-economic characteristics in shaping healthy ageing outcomes. Higher income, working class, married older adults, men regular check-up are all associated with better healthy ageing outcomes while men report lower healthy ageing outcomes than women.

The results have implications for healthy ageing policies and interactions. The interaction should address the unique needs of older adults. Healthy ageing should be promoted through education and income support programs.

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**Note:** The spelling and definition of 'ageing' in this study is according to the style of the World Health Organization (WHO).

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