**Diseases of Ageing in Ghana**

**Abstract**

Chronic non-communicable diseases have significant health and economic implications for individuals and their caregivers. The objective of the paper is to outline the chronic non-communicable disease burden of older adults and predict the odds of living with a chronic non-communicable disease. The paper utilizes descriptive and analytical statistical methods to assess the level of chronic non-communicable diseases among older adults. Data for the Study comes from the Global Ageing and Adult Health survey (SAGE) conducted in 2005. It comprises of 507 individuals aged 50 years and older. The results show that: 7 percent of the respondents have diabetes, 33 percent are hypertensive and 45 percent have oral health problems. Rural residents were twice as likely to live with a chronic non-communicable condition compared to urban dwellers. The proportion of older adults living with chronic non-communicable diseases in Ghana is likely to increase in the future.

**Keywords:** Ageing population, older adults, chronic non-communicable diseases, rural-urban differences, Ghana.

**Introduction**

Population ageing remains both a success story and a continuous public health challenge. [1-3] The number of older adults at 60 years and over is set to grow more rapidly in developing countries compared to other parts of the world.[4] According to Marcoux, by the year 2020 about 700 million of older people aged 60+ years will be living in developing countries.[5] Ghana's population prospects 2000-2005 shows that the number of older adults will continue to see an increase as the demographic transition advances.

Ageing comes with chronic physical and neurodegenerative diseases, which contribute to the global burden of chronic non-communicable diseases. This is true of Ghana. A recent study conducted among the elderly in Accra showed that major health problems for which older adults sought care in the health centres were hypertension, stroke, diabetes and arthritis.[6] Hypertension, stroke and diabetes constitute a significant proportion of prevalent chronic diseases in Ghana and are major causes of disability and death among the adult population. In 2003, these three conditions constituted top ten causes of death in selected health facilities across the country. [7] Social science research on illness experiences shows that chronic diseases cause severe disruptions to lives and livelihoods. A social psychological study on rural and urban adult diabetes experiences showed that "diabetes caused disruption to: body-self, social identity, family/social relationships, economic circumstance and nutrition" (page 557).[7] This finding is important within the context of older adults who are vulnerable during the later stages of life. [7, 1] It is also important, given the fact that Ghanaian health systems are poorly equipped to address the growing chronic disease burden and therefore place a significant burden of care on chronically ill individuals and their caregivers. [7]

One of the dominant views established in the ageing literature is the fact that ageing is a global challenge which will impact developing countries greatly. Experts assert that investing in health during the life course is key to ensuring that a good number of people reach old age in good health. [11] However, an unresolved question is what proportion or aspects of mobility loss could be attributed to the ageing process and what proportion could be associated with independent diseases? [12]

The objectives of the study were to identify the socio-demographic characteristics of the elderly living with chronic non-communicable disease and also to predict the odds of living with a chronic non-communicable disease in Ghana.

**MATERIAL AND METHODS:**

The data used were drawn from the World Health Organization Study on Global Ageing and Adult Health (SAGE) conducted in 2005. The data were derived from a pilot study conducted in Ghana with a sample size of 507 respondents. This represented a nationally representative sample of cohort of older adults aged 50 years and older. The protocol used consisted of a household roster which obtained information on demographic and socio-economic characteristics of households. Respondents aged 50 and over were interviewed using standard structured survey instruments to obtain information on self-reported general health status. Questions were asked on some common chronic conditions such as; cardiovascular diseases including hypertension, stroke and diabetes; others include arthritis, cancer, and mental health conditions.

Several studies have defined older adults as persons aged 60 years and above. [2, 17-19] However, in this study, persons in the age group 50 to 59 years were included in the study because this age group is thought of as the closest age group to the age group (60+ years) and because they sometimes serve as a control group to those aged 60 years and above.[17] Independent variables used in the study included age, sex, marital status, type place of residence, religion affiliation, ethnicity, education, occupation, wealth quintiles, and risk factors associated with respondents. The dependent variable was conceptualized as whether a respondent was currently living with a chronic non-communicable disease or not.

**DATA ANALYSIS:**

Descriptive and analytical statistical techniques were used to assess the levels of chronic non-communicable diseases. Descriptive statistics were used to highlight differentials according to background characteristics. A binary logistic regression model was used to predict the chances of an

older adult living with chronic non-communicable disease controlling for other contextual factors considered in the study.

**RESULTS**

Table 1 shows background characteristics of the respondents. Individuals in the age group 50-59 years constituted the majority of older adults in Ghana with the oldest (80+ years old) constituting the least. In terms of the sex of respondents, a ratio of 1: 0.82 for female – male distribution was revealed. Two out of five of the elderly reported to have had at least primary education with 36 percent having no formal education. Almost all (99 percent) of the respondents were currently married or had ever been married with more than half (56 percent) currently married or cohabiting. Approximately 41 percent of the respondents were in the poor wealth quintile with almost the same proportion (39 percent) in the rich quintile.

**Table 1: Distribution of Respondents by Background Characteristics**

| Background Characteristics | Number | Percentage |
|---|---|---|
| **Age** | | |
| 50-59 | 240 | 48.1 |
| 60-69 | 139 | 27.9 |
| 70-79 | 86 | 17.2 |
| 80+ | 34 | 6.8 |
| **Sex** | | |
| Male | 226 | 44.6 |
| Female | 281 | 55.4 |
| **Education** | | |
| No formal education | 181 | 35.8 |
| Primary education | 197 | 38.9 |
| Secondary education | 107 | 21.1 |
| Higher education | 21 | 4.2 |
| **Marital Status** | | |
| Never married | 6 | 1.2 |
| Married/Cohabiting | 282 | 55.7 |
| Separated/Divorced/Widowed | 218 | 43.1 |
| **Occupation** | | |
| Professional | 43 | 14.0 |
| Clerical/Technician | 17 | 5.5 |

| | | |
|---|---|---|
| Services/Sales | 104 | 33.8 |
| Agriculture/Fishery | 44 | 14.3 |
| Other | 100 | 32.5 |
| **Wealth Quintile** | | |
| Poor | 199 | 40.9 |
| Middle | 98 | 20.2 |
| Rich | 189 | 38.9 |
| **Type place of residence** | | |
| Urban | 256 | 75.5 |
| Rural | 83 | 24.5 |
| **Religion** | | |
| Muslim | 54 | 10.7 |
| Catholic | 50 | 9.9 |
| Protestant | 277 | 54.7 |
| Other | 125 | 24.7 |
| **Ethnicity** | | |
| Akan | 137 | 27.1 |
| Ga/Dangme | 215 | 42.5 |
| Ewe | 88 | 17.4 |
| Other | 66 | 13.0 |
| **Total** | **507** | **100** |

Source: (SAGE, 2005)

Table 2 shows a distribution of respondents by reported chronic disease conditions. In order of magnitude, forty-five (45) percent had oral health problems, 33 percent had hypertension, 14 percent reported having arthritis, 7 percent had been diagnosed with diabetes, 6 percent had a cardiovascular condition (angina) and 5 percent reported receiving treatment for stroke.

**Table: 2 Percent distribution of respondents by risk factors and diagnosed chronic disease**

| | Responses | | Number |
|---|---|---|---|
| **Disease Diagnosis** | | | |
| Arthritis | 14.4 | 85.6 | 507 |
| Stroke | 4.9 | 95.1 | 507 |
| Angina | 6.1 | 93.9 | 507 |
| Diabetes | 7.3 | 92.7 | 507 |
| Hypertension | 33.2 | 66.8 | 507 |
| Oral health problems | 44.7 | 55.3 | 507 |

**Source: (SAGE, 2005)**

Table 3 shows a binary regression output that predicts whether an older adult was living with a chronic non-communicable disease based on a set of background characteristics and risk factors considered in the model. The model showed that only type place of residence was a significant predictor of whether an elderly person lived with a chronic non-communicable disease or not. The rest of the predictive variables were not statistically significant in the model at alpha level of 0.05. The whole model explained 26.5 percent of the proportion of variation in the outcome variable. The odds ratio of living with a chronic non-communicable condition for individuals in a rural area was twice as likely compared to those residing in an urban area.

**Table 3: shows a binary logistic regression predicting whether an older adult is living with a chronic non-communicable disease or not.**

| | | | | | 95.0% C.I. for EXP(B) | |
|---|---|---|---|---|---|---|
| **Independent Variables** | **B** | **S.E.** | **Sig.** | **Exp(B)** | **Lower** | **Upper** |
| **Age** | | | | | | |
| 50-59 (RC) | 0 | | | 1.000 | | |
| 60-69 | -1.361 | 1.431 | 0.342 | 0.256 | 0.016 | 4.236 |
| 70-79 | -0.818 | 1.458 | 0.575 | 0.441 | 0.025 | 7.683 |
| 80+ | 1.272 | 1.760 | 0.470 | 3.569 | 0.113 | 112.359 |
| **Sex** | | | | | | |
| Male (RC) | 0 | | | 1.000 | | |
| Female | -0.625 | 0.423 | 0.139 | 0.535 | 0.234 | 1.226 |
| **Education** | | | | | | |
| No formal education (RC) | 0 | | | 1.000 | | |
| Primary education | -1.288 | 0.930 | 0.166 | 0.276 | 0.045 | 1.705 |
| Secondary education | -1.048 | 0.798 | 0.189 | 0.351 | 0.073 | 1.675 |
| Higher education | -0.264 | 0.764 | 0.730 | 0.768 | 0.172 | 3.435 |
| **Marital Status** | | | | | | |
| Never married (RC) | 0 | | | 1.000 | | |
| Married/Cohabiting | -0.079 | 1.784 | 0.965 | 0.924 | 0.028 | 30.506 |
| Separated/Divorced/Widowed | 0.083 | 0.450 | 0.854 | 1.087 | 0.449 | 2.627 |
| **Type place of residence** | | | | | | |
| Urban (RC) | 0 | | | 1.000 | | |
| Rural | 0.885 | 0.445 | 0.047* | 2.423 | 1.013 | 5.795 |
| **Wealth quintile** | | | | | | |
| Poor (RC) | 0 | | | 1.000 | | |
| Middle | 0.859 | 0.522 | 0.100 | 2.360 | 0.848 | 6.567 |
| Rich | 0.151 | 0.520 | 0.771 | 1.164 | 0.420 | 3.226 |
| **Occupation** | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Professional (RC) | 0 | | | 1.000 | | |
| Clerical/Technician | 0.489 | 0.577 | 0.397 | 1.630 | 0.526 | 5.053 |
| Services/Sales | -0.465 | 0.691 | 0.501 | 0.628 | 0.162 | 2.432 |
| Agriculture/Technician | 0.127 | 0.478 | 0.790 | 1.136 | 0.445 | 2.896 |
| Other | -1.166 | 0.696 | 0.094 | 0.312 | 0.080 | 1.218 |
| **Ethnicity** | | | | | | |
| Akan (RC) | 0 | | | 1.000 | | |
| Ga/Dangme | 0.725 | 0.689 | 0.293 | 2.065 | 0.535 | 7.965 |
| Ewe | 0.448 | 0.734 | 0.542 | 1.566 | 0.371 | 6.604 |
| Other | 0.830 | 0.706 | 0.240 | 2.292 | 0.575 | 9.143 |
| **Religion** | | | | | | |
| Muslim (RC) | 0 | | | 1.000 | | |
| Catholic | 2.125 | 1.001 | 0.034* | 8.370 | 1.178 | 59.492 |
| Protestant | 0.227 | 0.648 | 0.726 | 1.255 | 0.352 | 4.471 |
| Other | -0.420 | 0.489 | 0.391 | 0.657 | 0.252 | 1.714 |
| **Constant** | **1.158** | **1.942** | **0.551** | **3.184** | | |

**Source: (SAGE, 2005) *P<.05 $R^2$ =26.5**

**DISCUSSION**

This study profiled the diseases of the aged 50 years and over in Ghana. In general the analysis+ showed that majority of the respondents (48 percent) were in the age group 50¬59 years and many had either no education or only primary education. Additionally, the majority of the respondents (56 percent) were either currently married or cohabiting.

A key limitation of this study is the small sample size used for analysis which does not allow for generalizations about the ageing population of Ghana. However, the analysis has revealed a number of insights.

Six key health problems were experienced by older adults. Fourteen (14) percent had Arthritis, five (5) percent had stroke, six (6) percent had Angina, and seven (7) percent had diabetes. Hypertension and oral health problems were the highest reported chronic conditions, at 33 and 45 percent respectively. These findings were aligned with the chronic non-communicable disease literature which identifies hypertension and osteoarthritis as the most frequent chronic diseases among older adults.[25-27]

The results from the regression model showed that type place of residence controlling for other factors was a significant predictor of an older adult living with a chronic non-communicable disease. The odds ratio of living with a chronic non-communicable condition for individuals living in a rural area was twice as likely compared to those residing in urban setting. This result may be partly explained by the census data of Ghana, which has consistently shown that the majority of the population resides in rural areas. Also migration to urban centers is age selective: young people are more likely to migrate from rural to urban areas in search of jobs. Therefore the rural areas may have a higher concentration of older adults compared to the urban areas.

Mba argues that the increase in the number of older Ghanaian adults has not led to a corresponding increase in social care.[7] This study has shown that the prevalence levels of chronic diseases will be elevated among the elderly population. Chronic conditions affect the quality of life of older adults and contribute to disability and reduce their ability to live independently. [20, 23] Health systems and health policy responses to the growing burden of chronic diseases have been weak; these have implications for the care of elderly individuals living with chronic diseases. For example, although hypertension and diabetes are mentioned in the National Health Insurance policy, the remaining chronic conditions which affect the elderly are not mentioned explicitly. Inclusion of these conditions in the national health insurance policy may constitute one important strategy to address the disease burden among older adults. A second strategy may be to expedite action on the ageing bill which is currently at the drafting stage. This bill serves as a framework to provide long term care for the elderly who are likely to be living with a number of disabilities. Further research is needed to understand the interactions between, morbidity and health seeking behaviours among the older adult population.

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