

## **Chronic Diseases in Ghana and their contribution to Disabilities among the Elderly**

### **Background**

Chronic non-communicable diseases (NCDs) are fast becoming significant causes of mortality and morbidity in sub-Saharan Africa (SSA) (Kengne and Anderson, 2006). These diseases used to be seen as the diseases of the affluent but now contribute significantly to the burden of disease in SSA which still has a large proportion of the population living in absolute poverty. In Ghana, there has been increase in the incidence of chronic diseases and they have effect on the different domains of life functions. Ageing, as it is known comes with different forms of disabilities, hence, living with chronic diseases may intensify the disabilities among the elderly. However, the effect of chronic diseases on different domains of disabilities among the elderly is not known in Ghana. Therefore, the study seeks to find out which of the chronic diseases has more effect on physical, cognitive, psychological and social functions of the elderly in Ghana. It is hoped that this study will give policy directives as far as chronic disease is concerned in Ghana.

### **Data and Methods**

The study retrieved data from the Wave 1 of the World Health Organization (WHO) survey on global Ageing and Adult Health (SAGE) conducted between 2005 and 2010. Although a total of 5573 respondents were interviewed, the sample size was limited to 4724 respondents aged 50 years and above. The physical, cognitive, psychological and social disabilities were measured on a 5-point scale ranging from none (1), mild (2), moderate (3), severe (4), to extreme/cannot do (5). Twenty-two questions were used to assess the functional ability of the respondents in the last 30 days prior to the survey. A higher score indicates a higher functional disability. The cognitive disability questions focus on how much difficulty respondents have with concentrating or remembering things and in learning a new task in the last 30 days prior to the survey. Two

questions were used to measure the psychological disability and they focus on how much difficulty respondents have with feeling sad, low or depressed and with worry or anxiety. In measuring social disability, respondents were asked how much difficulty they have with personal relationships or participation in the community; how much difficulty they have in dealing with conflicts and tensions with others; how much difficulty they have with making new friends or maintaining current friendships, and; how much difficulty they have with dealing with strangers in the last 30 days. The lists of chronic disease examined include: stroke, hypertension, diabetes, asthma, arthritis, and chronic lung diseases.

A simple frequency table was used to show the background characteristics of the elderly and the distribution of each of the chronic condition. The background characteristics examined are: sex, age, marital status, place of residence, level of education, religion, and employment status. Stepwise linear regression was used to show the effect of each of the chronic condition on disabilities. The background characteristics of the respondents were entered first to see their relationship with disabilities. After this, each of the chronic condition was entered one after the other and the change in the adjusted R-square was observed. The chronic condition that produce more increase in the adjusted R-square was seen as the one that has the highest effect on disabilities.

## **Results**

The mean age is 64.3 years (SD=10.7). More than half are females and close to 60% (59.2%) live in the rural areas. More than one out of two (56.8%) are currently married while the least proportion are never married (1.2%). The mean years of schooling is 4 years and more than two-third (69.0%) are currently working. More than six out of ten (68.7%) are Christians while 5.0% does not belong to any religious affiliations.

The results further show that in the functional domain of disability, the background characteristics explained 30.7% of the variation in functional disability. When stroke was added to the model, the R-squared increased by 2.6% ( $F=0.000$ ) and the functional disability for those living with stroke is about 15 times higher than those without stroke ( $\beta= 15.60$ ,  $P=0.000$ ). When hypertension was added to the model, the R-Squared increased by 0.2% ( $F=0.001$ ,  $\beta=2.3$ , and  $P=0.000$ ); diabetes increased the R-squared by 0.02% ( $F=0.000$ ,  $\beta=1.19$ , and  $P=0.244$ ); Arthritis ( $R^2$  increase=0.2%;  $F=0.000$ ,  $\beta=2.11$ , and  $P=0.000$ ), and Chronic lung disease ( $R^2$  increase=0.06%;  $F=0.0588$ ,  $\beta=4.63$ , and  $P=0.059$ ). However, angina does not have any effect on the explained variance.

In the cognitive domain of disability, the background characteristics explained 14.5% of the variation in cognitive disability. The addition of stroke to the model increases the R-squared by 0.4% ( $F=0.000$ ,  $\beta=0.73$ , and  $P=0.00$ ); hypertension ( $R^2$  increase=0.1%;  $F=0.000$ ,  $\beta=0.16$ , and  $P=0.041$ ); diabetes ( $R^2$  increase=0.001%;  $F=0.000$ ,  $\beta=0.12$ , and  $P=0.400$ ); angina ( $R^2$  increase=0.002%;  $F=0.000$ ,  $\beta=0.51$ , and  $P=0.000$ ), arthritis ( $R^2$  increase=0.1%;  $F=0.000$ ,  $\beta= -0.19$ , and  $P=0.015$ ), and chronic lung cancer ( $R^2$  increase=0.1%;  $F=0.000$ ,  $\beta=0.58$ , and  $P=0.077$ ).

Further, the psychological domain of disability shows that the background characteristics explained 14.5% of the variation in psychological disability of the elderly. Stroke added 0.4% to the R-squared ( $F=0.000$ ,  $\beta=0.73$ , and  $P=0.00$ ); hypertension ( $R^2$  increase=0.1%;  $F=0.000$ ,  $\beta=0.16$ , and  $P=0.041$ ); diabetes ( $R^2$  increase=0.001%;  $F=0.000$ ,  $\beta=0.12$ , and  $P=0.400$ ); angina ( $R^2$  increase=0.2%;  $F=0.000$ ,  $\beta=0.51$ , and  $P=0.000$ ), arthritis (0.1%;  $F=0.0153$ ), and chronic lung cancer ( $R^2$  increase=0.1%;  $F=0.000$ ,  $\beta= -0.19$ , and  $P=0.015$ ).

The social function disability domain shows that 13.1% of the variation in social function disability is explained by the background characteristics of the elderly. When each of the chronic

diseases was added, stroke added 0.2% to the R-squared ( $F=0.000$ ,  $\beta=1.16$ , and  $P=0.001$ ); hypertension ( $R^2$  increase=0.01%;  $F=0.000$ ,  $\beta=0.10$ , and  $P=0.536$ ); diabetes ( $R^2$  increase=0.1%;  $F=0.000$ ,  $\beta=0.464$ , and  $P=0.101$ ); angina ( $R^2$  increase=0.2%;  $F=0.000$ ,  $\beta=0.92$ , and  $P=0.002$ ), arthritis ( $R^2$  increase=0.04%;  $F=0.000$ ,  $\beta= -0.24$ , and  $P=0.140$ ). Chronic lung cancer did not have any effect on social function ( $R^2$  increase=0.0%;  $F=0.000$ ,  $\beta=991$ , and  $P=0.000$ ).

## **Conclusion**

The results basically show that stroke had the highest effect on all the domains of disability and the effect was strongest on the functional domain. This confirms what has been shown that compared with other diseases, stroke is a major health problem that can cause multiple or concurrent disabilities in an individual (Lai et al., 2003). Also, the disabilities associated with stroke can influence all dimensions of life, including the simplest self-care tasks (Adamson et al, 2004). Therefore, there is need for studies in Ghana to focus on understanding the experiences of living with stroke with a view to ensuring stroke rehabilitation in Ghana. Also, there is need for appropriate policies to be put in place for prevention and management of stroke in the country.