

Income, residence location, and depression diagnosis among older adults in six middle income countries: Findings from the Study on global AGEing and adult health (SAGE)

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Extended Abstract

INTRODUCTION

Depression is increasingly recognized as a critical global health issue as it is now the third leading cause of disease worldwide based on disability adjusted life years (DALYs), affecting approximately 350 million people (Üstün et al., 2004; WHO, 2008). Research suggests that depression is a major health concern globally as a result of its relatively high lifetime prevalence, the substantial disability it causes, and its associations with a variety of health complications (Moussavi et al., 2007; Lépine and Briley, 2011). In the United States alone, the economic cost of depression in terms of decreased productivity in the workplace is estimated at \$36.6 billion per year (Lepine and Briley, 2011).

Among older adults, depression has emerged as a major health problem due to its increasing prevalence and damaging health consequences (Alexopoulos, 2005; Peltzer and Phaswana-Mafuya, 2013). For example, recent studies have indicated that depression affects more than 18% of Americans aged 65 years and older (National Alliance on Mental Illness, 2009). Moreover, late-life depression has been associated with an increased risk for type 2 diabetes, hypertension, and frailty as well as decreased physical, cognitive, and social functioning (Blazer, 2003). The health care costs of older adults with depression is estimated to be 50% higher than non-depressed individuals.

While efforts have been made to promote the recognition of depression among older adults, depression among older adults is often underdiagnosed and untreated because its symptoms are commonly mistaken for normal aspects of aging or misattributed to other diseases, such as dementia, stroke, and arthritis (Crystal et al., 2003). Furthermore, depression is commonly untreated in part because barriers to health care access contribute to underdiagnosis. Unfortunately, few studies have considered the extent of depression underreporting among older adults or considered the specific factors associated with underreporting. Moreover, even fewer studies have considered depression underdiagnosis among older adults in low and middle income nations.

The present study examines older adults from China, Ghana, India, Mexico, Russia, and South Africa with three goals: 1) to compare depression diagnosis using self-report (SR) clinical diagnosis with identification of depression through a symptom-based algorithm; 2) to consider the effect of income on depression diagnosis; and, 3) to examine whether residence location (urban or rural) influences depression diagnosis.

METHODS

Study on global AGEing and adult health (SAGE). Data were obtained from Wave 1 of SAGE, a longitudinal, multi-country project designed to collect comprehensive information on the health and well-being of adult populations and the aging process (Kowal et al., 2012). SAGE focuses on older adults (50+ years old) from nationally representative samples in six middle income countries (China, Ghana, India, Mexico, Russian Federation, and South Africa). Face-to-face interviews were conducted in the six countries to collect household and individual-level data, including: demographic and socioeconomic information, health state and chronic

conditions, disability, life satisfaction, depression, and health care utilization. Data for the present study were available for 33,424 individuals.

Depression Measures. In accordance with SAGE protocol, depression was assessed with two methods. First, participants were asked if they had been diagnosed with depression during their lifetime. Second, a set of questions based on the World Mental Health Survey version of the Composite International Diagnostic Interview (CIDI; Kessler and Üstün, 2004) were included to assess the presence of depressive symptoms and length of duration over the past 12 months. The responses to the individual items were then used in a diagnostic algorithm to generate the diagnosis of depression based on the International Classification of Diseases (10th revision) Diagnostic Criteria for Research (ICD-10-DCR; WHO, 1993).

Statistical Analyses. Chi-square tests by country and sex were used to examine self-report diagnosis of depression compared to those obtained using the symptom-based algorithm. Logistic regression was used to examine the effects of residence location and income quintile on depression diagnosis, with separate analyses conducted for self-report clinical diagnosis and symptom-based algorithm.

KEY RESULTS & DISCUSSION POINTS

Results indicate that more individuals were classified as depressed according to the symptom-based algorithm compared to self-report diagnosis ($p < 0.001$) in all groups except Mexican females. Among men in all countries combined, 2.1% reported depression based on self-report clinical diagnosis, while the symptom-based algorithm identified 6.1% as depressed. Among women, 3.5% reported depression by clinical diagnosis, while 8.6% were identified as depressed based on the symptom-based algorithm

Among men, self-report clinical diagnosis demonstrated a significant effect of country ($p < 0.001$), a non-significant effect of urban versus rural residence ($p = 0.09$; OR = 1.245), and a significant effect of income quintile ($p = 0.012$); odds of being classified as depressed based on self-report clinical diagnosis increases as income increases. This pattern with income is pronounced among Indian males ($p = 0.017$). For women, there is a significant effect of country ($p < 0.001$), a significant effect of urban versus rural residence ($p = 0.003$; OR = 1.342), in which odds of being classified as depressed increase in urban versus rural environments. Furthermore, there is a significant effect of income quintile ($p = 0.003$), with the odds of being classified as depressed based on self-report clinical diagnosis increased as income increases. This pattern with income is pronounced among Mexican and South African females ($p < 0.05$)

Based on the symptom-based algorithm among men, there was a significant effect of country ($p < 0.001$), non-significant effect of urban versus rural residence location ($p = 0.246$; OR = 0.913), and a significant effect of income quintile ($p = 0.006$). The odds of being classified as depressed based on the symptom-based algorithm decrease as income increases (e.g., lowest quintile vs. highest; $p = 0.003$; OR = 0.699). This pattern with income is pronounced among Indian males ($p < 0.001$) and Chinese males ($p = 0.039$). Among women, there is a significant effect of country ($p < 0.001$), no significant effects of residence location ($p = 0.812$; OR = 0.986), and a significant effect of income quintile ($p < 0.001$). The odds of being classified as depressed based on the symptom-based algorithm decrease as income increases (e.g., lowest quintile vs. highest; $p < 0.001$; OR = 0.664). This pattern with income is pronounced among Indian females ($p < 0.001$) and Chinese females ($p < 0.001$)

A key finding is that the odds of being classified as depressed based on SR diagnosis increased as income increased ($p = 0.012$ in males; $p = 0.003$ in females) while the odds of being classified as depressed based on the symptom-based algorithm decreased as income increased ($p = 0.006$ in males; $p < 0.001$ in females).

This study highlights the importance of socioeconomic factors and residence location in the diagnosis of depression among older adults.

SUPPORT

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