



Review

A meta-analysis of the prevalence of depressive symptoms in Chinese older adults



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ABSTRACT

This study aims to explore the prevalence and influence factors of depressive symptoms in Chinese older adults from 1987 to 2012. The study investigated 81 published papers on depressive symptoms in Chinese older adults using the 30-item Geriatric Depression Scale (GDS-30) or the Center for Epidemiologic Studies Depression Scale (CES-D) as a measuring tool through meta-analysis. A total of 88,417 Chinese older adults were included in this review. The pooled prevalence of depressive symptoms in Chinese older adults was 23.6% (95% CI: 20.3–27.2%). The pooled prevalence of depressive symptoms was greater in women. In addition, the prevalence of depressive symptoms in married older adults was lower than in single adults (i.e., divorced, unmarried or widowed). Depressive morbidity with GDS-30 was significantly higher than with CES-D. The prevalence of depressive symptoms in Chinese older adults presented a downward tendency with increasing educational level. Moreover, the prevalence of depressive symptoms gradually increased with the year of data collection. Significant differences were found in the measurement tools, gender, degree of education and marital status, but none in age.

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1. Introduction

The rapid development of the economy and the transition of the population structure have significantly accelerated the aging of the population in China. The number of older adults 60 years and above has reached nearly 174 million in the country, with an average annual increase rate of 3.28%. In 2051, the older adult population in China is expected to reach a peak of 437 million (Fan, 2008). With the tendency toward aging of its population, China faces practical challenges such as an incomplete social security system, increasing “empty nest” families and imperfect implementation of rural pension, which barely meets the multiple needs of older adults, including economic support, physical care and spiritual comfort. Geriatric depression has been the focus of researchers because depression is the most frequent cause of emotional suffering in later life. Geriatric depression significantly reduces quality of life (Blazer, 2003; Geerlings, Beekman, Deeg, Twisk, & Van Tilburg, 2001) and is associated with a high risk for suicide (Kaneko, Motohashi, Sasaki, & Yamaji, 2007).

In China, depressive symptoms in older adults first captured the attention of researchers in the 1980s. Since the 1990s, a large number of studies concerning depression in older adults emerged (Zhang, Xu, & Nie, 2011). However, the prevalence of depressive symptoms in Chinese older adults differed greatly from 6.35% (Chen, Zhang, & Gao, 2007) to 60.30% (Jia et al., 2011). This variation may be attributed to the following reasons. (1) The criteria of the measuring tools used in these studies were not consistent. For example, GDS and CES-D are two commonly used filtering tools for geriatric depression in China (Niu & Li, 2010). GDS is specifically developed for older adults, and the survey excludes somatisation, which possibly occurs with aging. However, CES-D includes this item. In addition, the items and scoring criteria are also different between GDS and CES-D. For example, the GDS includes 30-items, and maximum overall score is 30. The participant with a score of 11 points or higher will be considered as significant depressive symptoms. While, the CES-D includes 20-items and four subscales: Depressed Affect, Somatic Symptoms, Lack of Well-Being, and Interpersonal Problems (Nguyen & Zonderman, 2006). The respondents with scores equal or above 16 were defined as depressed (Radloff & Locke, 1986). All of these may lead to the varying sensitivity of the two tools. (2) The surveys involved were based on biased samples. Different samples of gender, age, degree of education and marital status may have affected the conclusions (Chen, Hicks, & While, 2012; Yu, Li, Cuijpers, Wu, & Wu, 2012; Zhang, Zhang, & Tang, 2012; Zhang, Xu, Nie, Zhang, & Wu, 2012). (3) Rapid economic development and advanced industrialisation and urbanisation have caused the Chinese society to go through a dramatic transition. Numerous protective factors, such as lower urbanisation level, strong social support and a filial culture of depressive symptoms in older adults, have changed or disappeared during the last two decades. Thus, the prevalence of depressive symptoms in Chinese older adults increased (Chen, Copeland, & Wei, 1999; Yu et al., 2012). However, longitudinal data results of the changes in depression symptoms in older adults in China are still lacking.

Thus, to understand the prevalence of depressive symptoms in Chinese older adults more accurately and comprehensively, a meta-analysis can be adopted to avoid differences in individual research from biased samples and demographic factors. This analysis is conducive to achieving more accurate and general conclusions from several aspects of multiple studies. For example, in the meta-analysis of the prevalence of depressive symptoms in Chinese older adults between the late 1980s and early 1990s, Chen et al. found that the depression occurrence rate in older adults in Mainland China was 3.86%, which was far less than the 12.00% in Western countries (Chen et al., 1999; Copeland et al., 1999).

However, in a recent meta-analysis on the prevalence of depressive symptoms in Chinese older adults from 2000 to 2010, Zhang and Xu et al. (2012) found that the pooled prevalence of geriatric depressive symptoms has been up to 22.7%. These two studies have several limitations. (1) The amount of literature for the final conclusion and the studies used to examine influence factors were insufficient (Zhang, Xu, & Nie, 2011). (2) The time span was relatively limited (Chen et al., 1999; Zhang, Xu, & Nie, 2011). (3) The potential changes in the prevalence of depressive symptoms in Chinese older adults along with the time were not examined.

Therefore, this study aims to comprehensively analyse related studies on the prevalence of depressive symptoms in Chinese older adults under an extensive time span, as well as to examine birth cohort changes in the prevalence of depressive symptoms. At the same time, the moderate effect of variables such as measurement tool, gender, age, degree of education and marital status on the prevalence of depressive symptoms can also be examined.

2. Method

2.1. Literature search

Literature search was performed on the Chinese National Knowledge Infrastructure (CNKI), Chinese Biomedical Database, Wanfang, PubMed and PsycINFO. All databases were searched from 1979 (the earliest year available on the CNKI database) to 2012. The search terms were ‘older adults’, ‘elderly’, ‘depression’, ‘depressive symptoms’, ‘GDS’ and ‘CES-D’. Other eligible articles were also identified by searching the references cited in the obtained published articles. Abstracts or unpublished articles were not considered. The screening procedure was as follows: (a) the titles were reviewed to determine potential articles related to the topic; (b) the abstracts were reviewed to narrow down the list of articles; (c) the full text of the articles was read to identify related articles; (d) the citations of potential articles were reviewed to further identify potential articles.

2.2. Inclusion and exclusion criteria

Studies were included if they met the following criteria: (a) the literature was published between 1979 and 2012. The research method was questionnaire survey and the measuring tool was GDS-30 or CES-D; (b) the research report involved the prevalence of depressive symptoms in Chinese older adults with accurate and clear data; (c) in case of repeatedly published and studied literature based on the same batch of data or the same sample population, the earliest published articles were included; (d) the objects investigated were all older adult groups from Mainland China, aged 55 years and above, excluding subjects from Hong Kong, Macao and Taiwan.

By contrast, studies were excluded if they met the following criteria: (a) the literature was based on a sample population involving chronic patients, inpatients and other special groups with disaster-stricken experiences; (b) the literature is about elderly patients suffering from severe depression and undergoing treatment.

2.3. Data extraction

All studies were reviewed and coded by two of the authors to determine whether the inclusion and exclusion criteria were consistent. Moreover, each study included in the meta-analysis was coded by two of the authors to extract major outcomes. The discrepancies were addressed through discussions.

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