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Journal of Affective Disorders 111 (2008) 221–226

Journal of Affective Disorders

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Research report

Major depression in Kunming: Prevalence, correlates and co-morbidity in a south-western city of China

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Received 8 November 2007; received in revised form 19 February 2008; accepted 19 February 2008
Available online 2 April 2008

Abstract

Background: Kunming is a major city in south-western China. However, until recently, no epidemiological studies have been conducted to provide a profile of major depression in south-western China.
Method: A representative sample of the Kunming general population composed of 5033 individuals aged 15 years or older was interviewed from November 2005 to January 2006 using the World Health Organization Composite International Diagnostic Interview Version 2.1 (CIDI, version 2.1) for assessment.
Results: The weighted prevalence of major depression were 1.96% (lifetime), 1.09% (12-month) and 0.93% (30-day). The correlates for reported lifetime MDD include having higher educational level, living in urban districts, being unemployed, and being divorced/widowed/separated. Major depression was significantly comorbided with DSM-IV anxiety disorders and somatization.
Conclusions: The findings show a low prevalence rate of major depression in Kunming city. Close attention to public health approaches are required to address the relationships between social isolation, urban population, unemployed and high educational people. Resolving methodological problems may lead to more accurate prevalence estimates in future epidemiological studies.

Keywords: Major depression; Prevalence; Correlates; Comorbidity; CIDI

1. Introduction

The prevalence of mood disorders in China is lower than that in North America and Western Europe, and it is close to that of Asian countries. Community-based epidemiologic studies of Diagnostic and Statistical Manual of Mental Disorders III (DSM-III) defined lifetime prevalence of major depressive disorder (MDD) was between 0.9% and 3.4% in Hong Kong (China), Seoul (South Korea) and Taiwan (Hwu and Yeh, 1989; Lee et al., 1990; Chen et al., 1993). More recently, the results of an international mental health epidemiologic surveys in general population (WHO World Mental Health Survey consortium, 2004) showed that the DSM-IV (American Psychiatric Associationcolour, 1994) 12-month prevalence of mood disorders were 1.7%–3.1% in Asian countries (China, Japan) and 3.6%–9.6% in North America and Western Europe.

Available Chinese community epidemiological studies have not conducted to provide a profile of MDD

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doi:10.1016/j.jad.2008.02.018

in south-western China. This study examines the prevalence and correlates of MDD in Kunming – the capital city of Yunnan Province in south-western China.

2. Method

2.1. Instrument

The diagnostic instrument was the WHO Composite International Diagnostic Interview version 2.1 (CIDI 2.1) (WHO, 1996), a fully-structured lay-administered interview that generated both ICD-10 (International Classification of Diseases) and DSM-IV diagnoses. DSM-IV criteria were used here. The CIDI-2.1 was translated into Chinese and back-translated using a standard WHO protocol. An expert panel evaluated its content validity. Clinical reappraisal found generally good concordance with the CIDI diagnoses of mood disorder (Huang et. al., 2005).

2.2. Study site and sample

Kunming is a city inhabited by a multi-ethnic population with a relatively low socio-economic status in China. It has a population of 5,084,722 according to the 2004 municipal census data (China Statistic Bureau, 2005; Kunming Statistic Bureau, 2005). The sampling frame was based on the 2004 municipal Census Registry. It was considered representative of the adult population aged 15 years or older. Respondents were selected from a stratified three-stage systematic selection sample of the non-institutionalized civilian household population.

'Neighborhood committee' (NC, in urban area) and 'Village committee' (VC, in rural area) are local Community organizations in China. Since all households belong to such committees, the committees were used as the primary sampling units (PSUs). In the first stage of sampling, 50 PSUs were selected with probabilities proportional to size (PPS). Stratification was made on urban and rural areas; 20 were from urban and 30 were from rural areas. The second stage selected a probability sample of households in each PSU. The third stage selected one random respondent in each sample household.

2.3. Procedures

The survey was done through August, 2005 to January, 2006. Face-to-face interviews were conducted by 90 lay interviewers. The average interview time was 1 h. Before respondents were interviewed, written informed consent was obtained and declarations of anonymity and confidentiality had been made. Institutional Reviewed Board of Peking University Health Science Centre approved this protocol.

Interviewers were trained by a 9-day training session. The training covered general interviewing techniques, review of the questionnaire, post-interview editing and in- and out-of-classroom exercises for interviewers. Ninety trainees passed the final test and were selected to be interviewers.

2.4. Statistical analysis

Weights were applied to the sample data to adjust for demographic variables, and the differential probabilities of selection within the household. Simple cross-tabulations were used to calculate prevalence. Standard errors of prevalence estimates were computed using the design-based Jackknife Repeated Replications (JRR) method (Wolter, 1985) implemented in the STATA software system to adjust for the design effects. Associations with socio-demographics and comorbid disorders were examined using logistic regression analysis. The significance of the set of coefficients was assessed with design-corrected Wald x^2 tests. Statistical significance was based on two-tailed tests evaluated at the 0.05 level of significance.

3. Results

3.1. Sample characteristics

The final sample was composed of 5033 subjects. The mean age was 39.0 years. Forty nine percent were male, with 51.7% living in rural area. The respondent rate was 82.6%. Comparison with population data showed the sample under-represents young rural males (48.0% in the sample vs 51.6% in the population). The demographic distribution of the sample was similar to the general population on post-stratification variables after being weighted.

3.2. Demographic information of respondents with MDD

Female composed 64.4% of the respondents with MDD. The mean age was 39.1 years. The mean educational year of the respondents was 10.1 years. Urban sample composed 67.0% of the respondents with MDD. Han-ethnic composed 90.1% of the respondents with MDD.