

Quality of life (QOL) of the community-dwelling elderly and associated factors: A population-based study in urban areas of China



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ABSTRACT

Objective: China has the most elderly people. Maintaining and improving the QOL of the elderly has emerged as a particularly important issue. This population-based study aimed to examine the QOL of the urban elderly and to clarify the associated factors.

Methods: A cross-sectional study was performed in Liaoning Province. The elderly people without senile dementia composed our study population and were interviewed from March to November, 2012 with questionnaires pertaining to QOL (SF-36), cognitive ability, demographic characteristics, health status, behavioral factors, and social–psychological factors. 4067 effective responses were received (effective response rate: 86.0%). After further cognitive screening, 3714 participants were included as the subjects. **Results:** The mean scores of physical component summary (PCS) and mental component summary (MCS) were 53.7 ± 21.5 (mean \pm SD) and 58.9 ± 18.9 , respectively. With adjustment for age and sex, general linear model analysis showed that, in standardized estimate (β) sequence, PCS was significantly associated with chronic disease, taking a walk, visual ability, sleeping quality, marital status, alcohol consumption, hearing ability, smoking, neighborhood relationships, filial piety, ethnicity, and regular diet, and MCS was associated with chronic disease, sleeping quality, taking a walk, visual ability, marital status, ethnicity, filial piety, regular diet, alcohol consumption, smoking, and hearing ability.

Conclusions: The community-dwelling elderly in urban areas had a low level of QOL. To improve QOL, the maintenance of health conditions was crucial. Efforts to encourage the elderly to perform feasible exercise and develop good lifestyles should be focused on. Also, children's filial duty to their parents should be enhanced.

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1. Introduction

Aging had become a worldwide issue in the 21st century (De Luca d'Alessandro, Bonacci, & Giralardi, 2011; Xing & Yao, 2010). Since 1999, China has become the nation with the largest elderly population (20% of the global elderly) and the most rapid aging speed (over 3% of the annual aging rate). In recent years, the speed of aging in China has begun to accelerate. Unfortunately, its economic development is lagging far behind the aging of the population (China National Committee on Ageing, 2006). Coping with the rapid expansion of the elderly population combined with

the low economic status has formed an urgent challenge. However, physical difficulties are common among the elderly (Arias-Merino et al., 2012). Thus, maintaining and improving the QOL of the elderly has become particularly important to lessen the great burden that results from aging in China.

QOL is the subjective evaluation of an individual's ability affected by physical, mental, and social potential. It is able to convey the overall well-being and includes aspects such as happiness and satisfaction with life as a whole. The QOL of the elderly and its associated factors have been well studied. Research conducted in foreign countries (Aghamolaei, Tavafian, & Zare, 2010; Bekibele & Gureje, 2008; Ciorba, Bianchini, Pelucchi, & Pastore, 2012; Ibrahim et al., 2013; Kvamme, Olsen, Florholmen, & Jacobsen, 2011; Renaud & Bédard, 2013; Tamari, 2011) reported that socioeconomic factors such as age, education, income, and

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living arrangement; physical factors including chronic disease, visual impairment, hearing loss, smoking, malnutrition, and excise; and social–psychological factors including emotional/informational support, and depression are associated factors of QOL. Related studies were also performed among the Chinese elderly (Geng, 2011; Li, Sun, Wang, & Huang, 2009; Li, Xu, & Wang, 2004; Ouyang, Hu, & Zhao, 2009; Tang, Li, Chen, You, & Zhao, 2010; Xu, Rao, & Ma, 2009; Xu et al., 2012; Zhang, Li, Fan, & Huang, 2002) and factors such as medical insurance, sleeping quality, alcohol consumption, family relationships, and social activities were found to be able to affect the QOL of the elderly. However, generalization of the conclusions drawn from these studies in Chinese populations has been limited by small sample sizes or undeveloped socioeconomic status compared to the current situation. According to our knowledge, the study with the largest sample size (1256 elderly people) was conducted in 2002 (Li et al., 2004) when the income was only one-third of the present level and the medical insurance coverage was only 7.3% according to the statistical data of the National Bureau of Statistics of China. Few studies can be generalized under the current socioeconomic situation. Moreover, in addition to studying dementia, few previous studies have screened the cognitive function of the elderly. However, the decline in cognitive ability commonly occurs among older individuals. Cognitive defects will inevitably result in an information bias, which will also weaken the generalization of the conclusions of previous studies.

The present population-based study was designed to assess QOL in the elderly after screening for cognitive impairment and to clarify its associated factors. The mini-mental state examination (MMSE) was used to screen cognitive function of the elderly (Li, Zhang, He, & Zhang, 2001; Zhang & Yang, 2009). The Short Form-36 (SF-36) was employed to indicate QOL due to its high reliability and validity among Chinese elderly populations (Liu, Jiang, & Liu, 2001). As for the associated factors, we examined demographic characteristics, health status, behavioral factors, and social–psychological factors. In this study, we focused on elderly living in urban areas.

2. Materials and methods

2.1. Study area and study population

Liaoning Province is a commercial hub in northeast China with income levels similar to the national average according to the China Yearbook. Shenyang city and Anshan city are the core cities in Liaoning Province and are able to represent its urban area according to the Liaoning Provincial Yearbook. Two communities in each city were randomly selected and all people aged 65 years and over who were never diagnosed as senile dementia composed our study population. The sample included a total of 4730 elderly people. The interview was conducted from March to November, 2012. We received effective responses from 4067 elderly people and the effective response rate was 86.0%. Cognitive impairment was further identified on the basis of the MMSE score (Li et al., 2001). In this study, there were 3714 participants who had no cognitive impairment and who became our study subjects. The study protocol and informed consent form received ethics approval from the Committee on Human Experimentation at the China Medical University. Written informed consent concerning conduct of the survey was obtained from each participant (Fig. 1).

2.2. Measurement of QOL

The SF-36 has been shown to be a reliable assessment tool of QOL in the community-dwelling elderly (Liu et al., 2001). It contained 36 items and measured eight different dimensions of

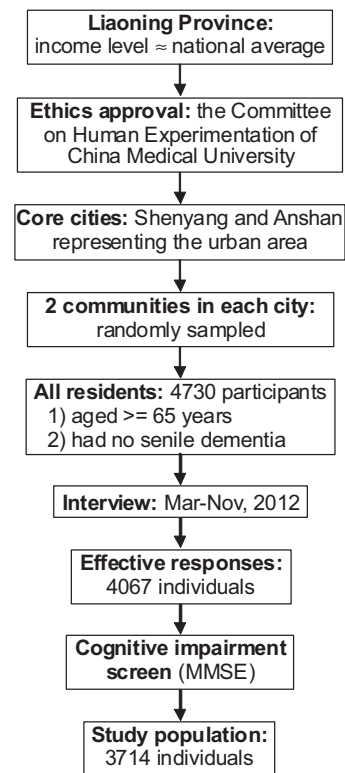


Fig. 1. The diagram flow.

health: physical functioning (PF), role limitation due to physical problems (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitation due to emotional problems (RE), and mental health (MH). These dimensions were further categorized into the PCS and MCS. PCS was drawn from PF, RP, BP and GH, whereas MCS was drawn from VT, SF, RE, and MH. The Cronbach's alpha values for PCS and MCS in this study were 0.9346 and 0.8188, respectively.

2.3. Measurements of demographic characteristics, health status, behavioral factors, and social–psychological factors

Demographic characteristics included age, sex, ethnicity, marital status, living arrangement, education, health insurance, and pension. The ethnicity was categorized as “Han” and “minority”. For marital status, the responses “single,” “divorced,” and “widow” accounted for 0.65%, 0.92%, and 19.31%, respectively. These responses were combined into the “other” group in comparison to “married/cohabitation” group (79.12%). Living arrangement was dichotomized as “living alone” and “living with spouse/children.” Education was categorized as “illiteracy,” “primary school,” “junior middle school,” “senior middle school,” and “junior college/university.” Health insurance and pension were divided into “have” group and “haven’t” group.

Health status comprised 4 items: (1) chronic disease, (2) visual ability, (3) hearing ability, and (4) sleeping quality. Chronic diseases were dichotomized as “present” or “not present” if any diseases such as hypertension, cardiovascular disease, diabetes, stroke, emphysema, liver cirrhosis, rheumatoid arthritis, and chronic renal insufficiency had been diagnosed (Sun et al., 2007). Visual ability was assessed by asking whether the participants can read a newspaper clearly with or without reading glasses. Hearing ability was assessed by asking whether the participants need voices to be raised in conversation or whether they need the volume to be raised while watching television.

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