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Original Research

Health-related quality of life and related factors among elderly people in Jinzhou, China: a cross-sectional study

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ABSTRACT

Objectives: With rapid reductions in fertility and mortality, China has to face the dramatic ageing of its population. Although an ageing population is associated with greater life expectancy, and reflects a huge improvement in people's living standards and health care services, it also means that more elderly people suffer from non-communicable diseases (NCDs). The prolonged course of illness and disability associated with chronic diseases may significantly reduce health-related quality of life (HRQoL) among elderly people. The aims of this study were to evaluate HRQoL of elderly people living in Jinzhou, and to identify the predictors of HRQoL.

Study design: Cross-sectional study with stratified sampling.

Methods: A cross-sectional survey was conducted among 1015 elderly people (≥60 years) living in the three administrative regions (Linghe, Guta and Taihe) of Jinzhou. A demographic questionnaire and Short Form-36 were employed to collect demographic variables and evaluate HRQoL, respectively. Multiple stepwise linear regression analysis was performed to estimate factors related to HRQoL of the subjects.

Results: Lowest HRQoL scores were obtained in the following dimensions: general health (65.44), role-emotional (69.74) and role-physical (70.20). Multiple stepwise regression showed that factors associated with HRQoL of elderly people were medical health checks, age, socio-economic status, NCDs, and various unhealthy lifestyle behaviours such as smoking, excessive drinking and insufficient exercise.

Conclusions: This study described overall HRQoL of elderly people in Jinzhou, and found that medical health checks, age, socio-economic status, NCDs, smoking, excessive drinking and insufficient exercise affected HRQoL. These findings will provide a basis for recommendations regarding health management of elderly people, and will also help local government to devise appropriate health intervention strategies for promoting the health status of elderly people in this region.

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Introduction

The term 'health-related quality of life' (HRQoL) is closely related to another term 'quality of life', which the World Health Organization (WHO) defined as the 'living conditions associated with the corresponding goals, expectations, standards, and concerns of each individual living in different cultural systems'.[1] 'Quality of life' refers to overall well-being of individuals and societies. Since 1960, when the US Dwight D. Eisenhower National Goal Committee first developed the US national measurement report to measure quality of life,[2] the assessment of quality of life has expanded to a wide range of contexts including the fields of international development, health care and politics. Within the field of medicine and health care, quality-of-life measurement has been used to assess how an individual's well-being is affected negatively over time by a disease, a disability or a disorder; as such, WHO proposed the concept of HRQoL.[3] Unlike life expectancy, HRQoL is focused on the quality of a patient's life, rather than the length of survival.

There are multiple measures to assess HRQoL, mainly based on rating scales. Of these measures, Short Form-36 (SF-36), a well-recognized health status questionnaire, has been widely used to assess physical, social and mental HRQoL as it has demonstrated reliability and validity in assessing the health of the general population.[4–8]

With rapid reductions in fertility and mortality, China has to face the dramatic ageing of its population. According to figures from the sixth national census, the proportion of citizens aged >60 years accounted for 13.26% in 2010, representing an increase of 2.93% compared with 2000. Meanwhile, Chinese life expectancy at birth increased from 71.40 years in 2000 to 74.83 years in 2010.[9] Although an ageing population is associated with greater life expectancy, and reflects a huge improvement in people's living standards and health care services, it also means that more ageing people suffer from non-communicable diseases (NCDs).[10] Indeed, older people are more vulnerable to NCDs than younger people, and the prevalence of NCDs among older people has been reported to be up to 64.96% among community-dwelling people aged ≥60 years.[11] At present, the top five NCDs among elderly Chinese people are hypertension, diabetes, coronary artery disease, osteoarthropathy and stroke.[11] The prolonged course of illness and disability from chronic diseases can significantly decrease HRQoL of elderly people. Meanwhile, the ageing population also poses a challenge to China's comparatively weak pension and welfare systems.

Jinzhou, a medium-sized Chinese city, is confronted by the same problem as the whole country, as its residents aged ≥60 years account for 16.29% of the population;[12] this is higher than the national average. However, little information is available about HRQoL of elderly people living in Jinzhou.

HRQoL can be affected by multiple factors. Although a recent study in Nanjing, a provincial capital of South-east China, indicated that HRQoL of elderly people was affected by multiple factors including age, education level, lifestyle, marital status, etc.,[13] several other factors should also be taken into account. These factors include medical health checks, socio-economic status and NCDs.[1,14,15] In addition, due to different economic, cultural and geographical backgrounds, the conclusions obtained in the Nanjing population are not transferrable to the Jinzhou population.

As such, this study aimed to analyse HRQoL and identify predictors of quality of life among elderly people in Jinzhou. These predictors will provide a basis for local health care policy makers and researchers to design appropriate public health intervention strategies for elderly people in Jinzhou.

Methods

Study population and data collection

A cross-sectional survey on residents aged ≥60 years in Jinzhou was conducted. Jinzhou is a medium-sized city in Liaoning Province, North-east China. As shown in Fig. 1, Jinzhou is located south-west of Liaoning. Jinzhou is divided into three districts: Linghe, Guta and Taihe. These three districts are of approximately the same developmental level.

A stratified sampling method was used. First, sample size was determined based on the criterion proposed by Kendall in 1975 (i.e. 20-fold the number of items). This criterion is commonly used to determine the sample size of multiple-item measures. SF-36 contains eight dimensions and 36 items, so a sample of 720 elderly people was required. Given the greater sampling error of cluster sampling (see below), the sample size was increased by 50%. Second, using proportionate allocation sampling, the three administrative districts in Jinzhou were selected, and a sampling fraction for each district was identified in terms of the number of adults aged ≥60 years. Finally, using random cluster sampling, one community in each district was selected at random, and the target number of participants was sampled at random based on the local residential registration record. All participants were aged ≥60 years.

During this survey, eligible participants were organized by local resident committees, and informed about the items and the aim of the survey by a trained research assistant. The research assistant assigned the anonymous questionnaires to all participants after ensuring that they were able to complete them independently. In total, 1080 subjects participated in this survey, and 1055 completed questionnaires were returned. After exclusion of 40 invalid questionnaires, 1015 questionnaires were identified as valid.

Measures

A questionnaire survey was conducted. The questionnaire used in this study contained two parts: a demographic questionnaire and an HRQoL measurement scale (SF-36). The content validity index and Cronbach's alpha were 0.929 and 0.972, respectively. Demographic data collected included sex, age, living district, education level, marital status, occupation, medical insurance, number of children, socio-economic status, and unhealthy lifestyle behaviours including smoking (≥1 cigarette/day for consecutive or accumulative six months), excessive drinking (consuming ≥4 and ≥5 alcoholic drinks/