

Individual nursing care for the elderly among China's aging population

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Summary By the end of 2014, China had an elderly population age 60 or over totaling 212 million; this group accounted for 15.5% of the country's total population of 1.37 billion, which means that China has passed the threshold for an aging population. As China's population ages and the disease spectrum changes, nursing services for the elderly must be expanded. Given differences in the health status, financial situation, and family composition of each elderly person, modern society is tending towards individual nursing care for the elderly. Adapting to the changing composition of society by age will present new challenges.

Keywords: Aging of the population, nursing care, healthcare, long-term care

Aging of the population means that a population consists of more individuals of an older age, which is typically defined using the age 65 as a cutoff. A country is considered to have an aging population when the proportion of the population age 60 or over exceeds 10% of the total population or age 65 or over exceeds 7% (1). Population aging has many important socio-economic and health consequences, including an increase in the old-age dependency ratio, which presents challenges for the fields of nursing, public health, and economic development (2).

1. Aging of the Chinese population

By the end of 2014, China had an elderly population age 60 or over numbering 212 million; this population accounted for 15.5% of the country's total population of 1.37 billion, which means that China has passed the threshold for an aging population (3). According to data from the United Nations, the world's elderly population grew at an average rate of 2.5% from 1990-2010, while

China's elderly population grew at an average rate of 3.3% (4). According to the World Health Organization, 35% of China's total population will be over the age of 60, making China the world's most elderly society in 2050 (5).

2. Nursing needs of the elderly

The elderly have greater nursing needs because they are primarily a population with common chronic conditions and geriatric diseases, such as diabetes, dementia, cardiopathy, cerebrovascular disease, and respiratory disease (Figure 1) (1,6,7). The prevalence of chronic conditions in the elderly is 4.2 times that in the population as a whole, and each elderly person usually has 2-3 different conditions (8).

According to data from the China Health and Family Planning Statistical Yearbook 2016, the prevalence of hypertension among the elderly age 60 or over was six times that of citizens ages 18-44 and twice that of citizens ages 45-59 (Figure 2). In addition, the elderly had a high mortality from different tumors, and lung cancer in particular (Figure 3).

An increasing number of elderly patients have common chronic conditions and geriatric diseases. In contrast, patients with intractable and rare diseases such as HIV, fragile X syndrome, and Allan-Herndon-Dudley syndrome are gradually aging (9,10).

As China's population ages and the disease

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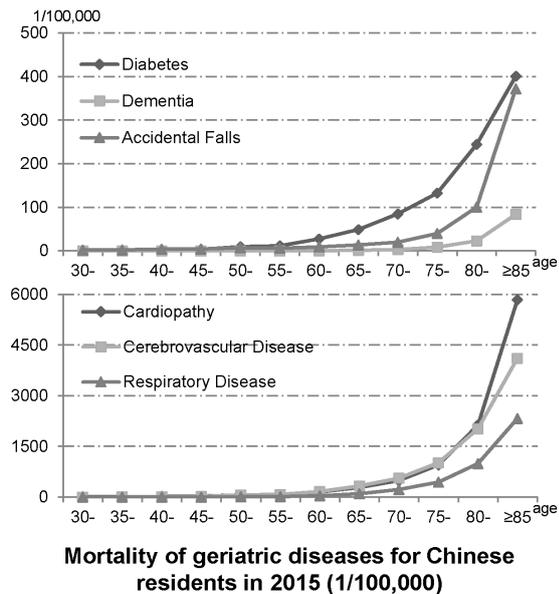


Figure 1. Mortality from geriatric diseases for Chinese citizens in 2015. The elderly had a high mortality from geriatric diseases, and particularly from cardiopathy, cerebrovascular disease, and respiratory disease.

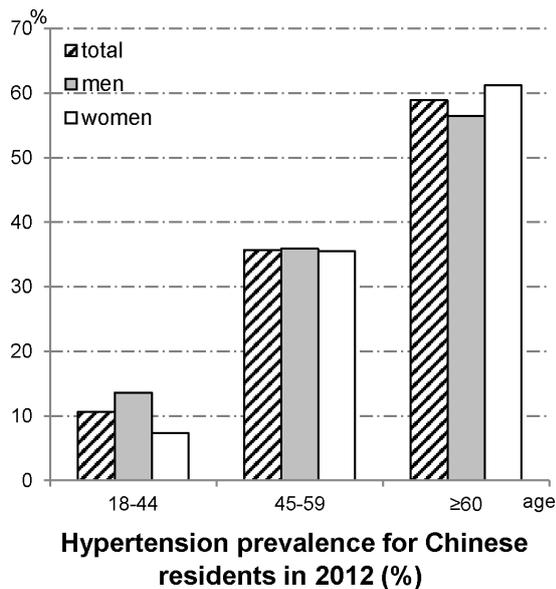


Figure 2. Prevalence of hypertension among Chinese citizens in 2012. The prevalence of hypertension among the elderly age 60 or over was 6 times that of citizens ages 18-44 and twice that of citizens ages 45-59.

spectrum changes, nursing services for the elderly must be expanded. How should geriatric nursing adeptly respond to these challenges is a significant concern.

3. Individual nursing care for the elderly

When birthrate and mortality trends have been fairly regular over time, population growth is positively correlated with age, which implies that if the population

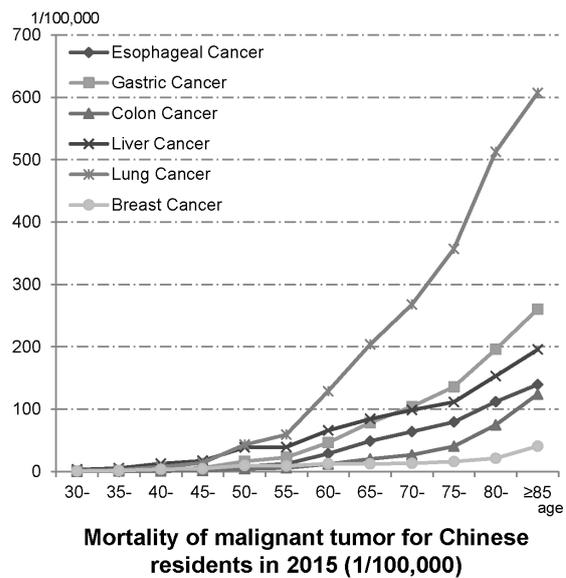


Figure 3. Mortality from different malignancies for Chinese citizens in 2015. The elderly have a high mortality from tumors, and lung cancer in particular.

age 65 or over is increasing, then the proportion age 80 or over is also increasing (11). The health status, financial situation, and family composition of 65-year-olds and 80-year-olds vary greatly, so healthcare and nursing care should also vary from person to person. Modern society is tending towards individual nursing care for the elderly. Adapting to the changing composition of society by age will present new challenges.

Health status. The first challenge concerns expanded nursing services for individual elderly with a different health status; tailored services are not easily provided by social support systems (12). Elderly individuals with a different health status need a corresponding level of nursing. Elderly who are relatively healthy may need little help, elderly with some health problems may need some care, and elderly with severe health problems may be unable to care for themselves. However, individual nursing care for the elderly has not been implemented in China because of faults in disease prevention among healthy elderly and a lack of nursing care for elderly who are unable to care for themselves. At present, care is still focused on individuals who are ill.

Financial situation. As the prevalence of disability, frailty, and chronic diseases increases dramatically, the burden of disease will become a key issue for the elderly and their families (13). Given the need for regular insurance when healthy and medical insurance in the event of illness, China needs to have long-term care insurance for individuals who are unable of caring for themselves.

Family composition. The families of elderly individuals in China differ and vary in terms of their composition; this is mainly evident from where the elderly live (14). Compared to the elderly who live with

their children, the elderly who live alone have more complicated and more difficult issues of healthcare and nursing care. As the population ages, nursing care for the elderly who live alone will pose an enormous social burden in the future.

On the positive side, the health status of older people of a given age is improving over time thanks to societal and medical advances. Over time, better health will significantly reduce the effort needed to provide individual nursing care for the elderly as China's population ages.

References

1. Deeg DJ. Handbook of Aging and the Social Sciences. *Int J Epidemiol.* 2016; 45:1302-1303.
2. Song P, Chen Y. Public policy response, aging in place, and big data platforms: Creating an effective collaborative system to cope with aging of the population. *Biosci Trends.* 2015; 9:1-6.
3. National Health and Family Planning Commission of PRC. *China Health and Family Planning Statistical Yearbook.* 2016.
4. United Nations. 2015 Revision of World Population Prospects. 2015. https://esa.un.org/unpd/wpp/Publications/Files/WPP2015_Methodology.pdf (accessed October 24, 2017).
5. World Health Organization. *Global Health and Aging.* 2011. https://www.nia.nih.gov/sites/default/files/global_health_and_aging.pdf (accessed October 19, 2017).
6. Tang Q, Song P, Xu L. The Government's role in regulating, coordinating, and standardizing the response to Alzheimer's disease: Anticipated international cooperation in the area of intractable and rare diseases. *Intractable Rare Dis Res.* 2016; 5:238-243.
7. Ipek E, Demirelli S, Ermis E, Inci S. Sarcoidosis and the heart: A review of the literature. *Intractable Rare Dis Res.* 2015; 4:170-180.
8. Liu JF, Chen Z, Yang FK, He XP, Chen W, Deng S. The current situation and coping strategies of chronic diseases for the elderly in China. *China & Foreign Medical Treatment.* 2014; 23:194-198. (in Chinese)
9. Jin X, Chen L. Fragile X syndrome as a rare disease in China – Therapeutic challenges and opportunities. *Intractable Rare Dis Res.* 2015; 4:39-48.
10. Shimojima K, Maruyama K2, Kikuchi M, Imai A, Inoue K, Yamamoto T. Novel SLC16A2 mutations in patients with Allan-Herndon-Dudley syndrome. *Intractable Rare Dis Res.* 2016; 5:214-217.
11. Gavrilov LA, Heuveline P. Aging of population. In *The Encyclopedia of Population* ed. by Paul Demeny and Geoffrey McNicoll. 2003; 1:32-37.
12. Zeng Y, Feng Q, Hesketh T, Christensen K, Vaupel JW. Survival, disabilities in activities of daily living, and physical and cognitive functioning among the oldest-old in China: A cohort study. *Lancet.* 2017; 389:1619-1629.
13. Kim J, Lee E, Kim S, Lee TJ. Economic burden of osteoporotic fracture of the elderly in South Korea: A national survey. *Value Health Reg Issues.* 2016; 9:36-41.
14. Zeng Y, Hesketh T. The effects of China's universal two-child policy. *Lancet.* 2016; 388:1930-1938.

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