

Policy Responses to Aging and Chronic Diseases in China: Control and Insights

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Abstract. China is one of the countries with the most rapid changes in population structure worldwide. Chronic diseases among China's aging population have emerged as a significant public health challenge, given the massive population and high aging rate. The incidence of chronic diseases among the elderly is increasing and often involves multiple coexisting diseases, thereby contributing to an increased social and economic burden. This paper highlights the health dilemma faced by China's aging population and provides an overview of their current state regarding chronic diseases. Three key points for the formulation of chronic disease management and prevention policies in China's aging society are proposed, while also drawing on specific measures from Japan to provide insights for developing effective health policies in China's future aging society.

Keywords: Chronic diseases, aging population, health policy, health management.

1. Introduction

Countries around the world are going through different stages of the Demographic Transition Model (DTM). With a population of over 1.4 billion, China is the second most populous country in the world. Over the past several decades, the country has seen a fast demographic transformation, reaching the fourth stage [1]. This phase of the country's population is characterized by low fertility, low mortality, and high aging. Despite its status as a developing country, Chinese society is already experiencing a rapid aging and is among the fastest-aging countries in the world.

According to the National Bureau of Statistics of the People's Republic of China, at the end of 2023, 296.97 million individuals, or 21.1% of the total population, were 60 years of age or older [2]. Of these, 216.76 million, or 15.4% of the population, were 65 years of age or older. As aging continues at an alarming rate, the WHO predicts that by 2040, 402 million people in China will be over 60, accounting for 28% of the country's overall population [3].

Population aging in China is a multi-possibility society, which has exposed many public health crises and potential problems while promoting the development of the Silver Economy. The incidence of chronic illnesses among the senior population has grown dramatically due to the intensifying aging of the population, which has resulted in a major increase in the need for medical resources and nursing care. At the same time, the aging has also put pressure on China's social and economic development, increasing China's overall medical expenditure and pension burden, forcing the Chinese government and society to take strategic measures to address these long-term challenges. According to the National Health Commission of the People's Republic of China, chronic diseases have become an important factor limiting the increase of healthy life span in China with the development of the economy and society [4].

Based on the above background, this paper will: 1) summarize the current situation of chronic diseases and the core health crisis of the elderly in China; 2) analyze the key points of chronic diseases prevention and control under the current public health and related medical policies in China; and 3) put forward how China can learn from the experience of chronic disease control in Japan and obtain policy enlightenment based on the international experience, and combine all these aspects to clarify future policy directions.

2. Analysis and Comprehensive Prevention of Chronic Diseases in China's Elderly Population

2.1. Chronic Illnesses Among China's Elderly

2.1.1. Overview of current situation

The most important characteristics of the current situation of chronic diseases among the aging population in China are the large base and the phenomenon of coexistence of multiple diseases. WHO figures from 2019 show that around 75% of China's older population had at least one chronic illness, such as cardiovascular disease, diabetes, hypertension [3]. With the population aging in China, this proportion is becoming increasingly remarkable. The chronic diseases of the elderly require not only long-term treatment but also entail high medical and nursing costs. China's aging population is increasing the burden on the health care system. By 2030, the disease burden of chronic noncommunicable diseases in China is expected to increase by at least 40% [5].

Diabetes, hypertension, chronic obstructive pulmonary disease (COPD), coronary heart disease, and bone and joint disease are the most prevalent chronic illnesses in China. Hypertension is the most common among the elderly, with more than 50% of the elderly suffering from the disease [6]. Second, the prevalence rates of diabetes were 19.4% and chronic obstructive pulmonary disease (COPD) were 13.7% [6]. With a prevalence of roughly 8.6%, coronary heart disease is also rather frequent [6]. In addition, osteoporosis is also a matter of concern and is particularly common in older women, with a prevalence of up to 30% [6]. These common chronic diseases not only directly affect the physical function and the ability of daily life of the elderly, but also have a profound impact on their mental health and social participation.

2.1.2. The challenge of low health awareness

Chinese society has a low level of health awareness, which is mostly manifested in the disregard for the risk factors that contribute to chronic illnesses and lack of understanding of the disease, which results in a delayed diagnosis. Research has indicated that the primary approach to managing chronic illnesses is risk factor control. The four main risk factors for chronic illnesses are alcohol intake, smoking, obesity, and physical inactivity [7]. While the percentage of smokers has decreased and the percentage of physically active people has increased, the National Health Service Survey (NHSS) data from 1993 to 2018 reveal that the rates of drinking and obesity have increased from 18.4% and 5.4% to 27.6% and 9.5%, separately [7].

Especially among the elderly in China, many older people are not aware of their true chronic condition as early patients and may even miss the best treatment due to a lack of professional medical diagnosis. When it comes to diabetes, type 2 symptoms often appear gradually and can go undiagnosed for a long period. Some people with type 2 diabetes do not even have any symptoms until they have other diabetes-related health problems and become aware of their chronic condition. Sometimes older people confuse symptoms of diabetes with symptoms of "Aging" in the body, but these symptoms can be signs of serious health problems [8]. However, the problem will also be exacerbated by the uneven development and disparity of health care available in different parts of the country, with older people in remote or poor areas facing greater chronic disease challenges.

2.1.3. Coexistence of multiple chronic diseases

With age, older persons often suffer from multiple chronic diseases simultaneously, and these diseases may interact with each other, increasing the burden on the health of older persons. Meta-analysis research that was published in the Hainan Medical Journal in 2024 found that 44.9% of senior Chinese people had several chronic conditions, with 95% confidence intervals ranging from 34.1% to 55.7% [9]. The study, which included a sample of 54,982 elderly people, combined data from 14 different studies, reflecting that almost half of China's elderly suffer from two or more chronic diseases.

The combination of hypertension and bone and joint disease is the most common chronic disease in the aging population of China, with the prevalence rate as high as 19.6%. In addition to making everyday nursing care for the elderly more difficult, the co-existence of various disorders adds to the complexity of health care. Based on data spanning from 2010 to 2019, 41% of middle-aged and older individuals in China have chronic disease comorbidity, and this percentage is expected to rise as the population of the nation ages [9]. This suggests that the frequency of chronic illnesses co-morbidities in the elderly is increasing and that more comprehensive health management and health care strategies are required to address this challenge in the future.

2.2. Focus of the Control and Prevention of Chronic Diseases

2.2.1. Enhancing the health awareness and lifestyle of the aging population

Based on the rapid growth of China's elderly population, the burden of chronic diseases in this group is bound to increase. How to effectively control and manage the chronic diseases of the aged population will be the core issue of the National Public Health Policy, solid long-term care is an important direction for the public health of the elderly population.

First of all, from the point of view of the individual health of the elderly, the Chinese government should make efforts to build the high health awareness of the elderly groups, promote the elderly groups to improve their personal life habits and health management. According to the WHO report, non-communicable disease (NCDs) causes 41 million deaths a year, and most of these diseases are able to be prevented by a healthy lifestyle [10]. Taking the Diabetes Prevention Program (DPP) at Harvard Medical School as an example, the researchers used a combination of diet, lifestyle interventions and medication for high-risk individuals. During the 24-week intervention, participants were taught nutritional and behavioral strategies for weight loss and exercise, and provided exercise guidance and personalized clinical support. The results showed that participants aged 60 and older had a particularly strong effect after three years, reducing their risk of diabetes by 71 percent, thus demonstrating that a healthy diet and lifestyle can prevent diabetes [11].

China's national and local governments should give priority to promoting close cooperation with communities and medical institutions and organizing regular health lectures and popular science activities to help the elderly understand the risk factors of chronic diseases, early symptoms and prevention methods. Considering that developing countries with large population bases face greater difficulties and challenges in achieving universal access to health education for the elderly, the National Health Commission of China should consider developing widely accessible publicity materials on chronic diseases and make efforts to expand the channels of social health public welfare activities in all regions, facilitating easier public access to information on treating and preventing chronic diseases, thus significantly enhancing the health awareness of the elderly people of chronic diseases in the long term.

2.2.2. Bolstering the early detection and intervention of chronic illnesses

Another key to chronic disease management and prevention is early screening and intervention. Data from the China Health and Aging Follow-up Survey (CHARLS) show that older adults with comorbid cardiovascular and metabolic diseases are more likely to be diagnosed with diabetes through regular screenings. This early diagnosis is crucial for timely intervention, which can help prevent further deterioration of their condition [12]. China's "Healthy China 2030" strategy, which began in 2016, already emphasizes universal health management and regular check-ups for the elderly, encourage community health services to provide free or low-cost regular screening services for the elderly [13].

Since China's medical insurance system has grown, it has mostly provided coverage for urban residents, workers, and new rural cooperative medical care, among other different groups. The continuous improvement and promotion of the medical insurance system can effectively reduce the financial burden of the elderly to see a doctor, it subtly changes the resistance and avoidance mentality of the Chinese elderly toward "high medical cost and complicated medical treatment". The

development of more free chronic disease screening programs for the aging population will be an opportunity for change, with significant improvements in early detection and prevention of chronic diseases in the aging population.

2.2.3. Improving the long-term nursing system and service

As a result of the twin effects of previous fertility policies and the current downward trend in China's fertility rate, the size of traditional Chinese families has gradually shrunk and even moved towards the "4 + 2 + 1 model" (i.e., four elderly people, a middle-aged couple and a child). As a result, the role and effectiveness of the family in caring for the elderly is diminishing. With an aging population, ordinary families lacking specialized nursing knowledge and experience will only face increasing pressure to care for the sick. Building institutional and community care infrastructure is what China is known for doing to replace and enhance family-only care for the elderly [14]. China is trying to fill the nursing gap by fully developing the concept of combining medical care with nursing care and by creating medical care services such as elderly care facilities.

However, the ineffective integration of the healthcare system, the absence of national assessment and qualification standards, the uneven regulation and quality of care, the rapidly expanding private sector, and the notable disparities between long-term care needs and service provision between urban and rural areas are just a few of the many complex and limited aspects of China's long-term care insurance system [15]. China's elderly care development is still at an early stage. For long-term and stable development, the Chinese government may need to consider formulating more stringent and specific policies to regulate the care services and systems for the elderly, to create medical benefits for the elderly across the country.

2.3. Learning and Policy Implications from Japan's Chronic Disease Control Experiences

2.3.1. Overview of Japan's situation

Although China has made many efforts in formulating health policies related to chronic diseases, there are still many aspects that can be inspired by the existing experiences of other countries. Japan is one of the earliest developed countries in Asia. In 2017, the population aged 65 and above accounted for 27.7% of the total population. Currently, this proportion is the highest in the world and is expected to rise to 38.4% by 2065 [16]. There is still a gap in the development of the control of aging chronic diseases between China and Japan. Japan's valuable experience will be a key bridge for the construction of aging health in China. Based on China's 14th Five-Year Plan for Healthy Aging [17], as well as the existing policy and planning for the management of chronic diseases in Japan, China can draw inspiration from various aspects in the future to consider the concrete implementation.

2.3.2. Learn from Japan's legislative experience in health system construction

First and foremost, Japan's legislative base is important to the country's efforts to control chronic diseases. The concept of "health care starts at age 40, medical treatment starts at age 70" was put out in Japan's Elderly Health Care Law, which was implemented in 1983. This law promoted early detection and prevention for the general public [18]. Japanese legislation places a strong emphasis on the need to start treating and preventing age-related illnesses in middle age. In the meantime, it states that all residents over 40 are entitled to free health care services, including medical treatment, functional training, health education, health records, and health examinations [18]. China should think about tightening laws and building transparent systems, just as Japan, to catch up with the rest of the world in terms of chronic illness prevention and control regulations. China also said in the 14th Five-year Plan that it would quicken the process of strengthening the legislative framework pertaining toward the control and avoidance of chronic illnesses as well as the aging process in order to guarantee that health management, monitoring, and prevention take place in a legal and orderly manner [17].

2.3.3. Learning enhances awareness of chronic disease prevention and promotes health education

Secondly, Japan has actively taken a number of successful steps to raise public awareness of chronic illness prevention after discovering that everyday living practices are directly linked to chronic diseases in adults. The idea of primary prevention of chronic diseases has been ingrained in people's minds via years of policy advocacy and health education. Japan has used a multi-level, multi-departmental collaboration framework to include health examinations and education into all facets of life. For instance, Japan has instituted a system of routine health examinations for all citizens, which encourages people to engage in thorough health screenings starting at age 40, identifies early risk factors for disease, and offers recommendations for interventions for individual health conditions [18]. The Chinese government should consider learning from Japan's comprehensive promotion of health education, entering communities and every family. It will take a long time for people to truly believe that chronic diseases can be alleviated or even reversed through prevention, and to successfully eliminate the public's fear of chronic diseases caused by the unknown. Local governments and medical institutions should give priority to cooperation and carry out large-scale organized long-term health lectures and consulting services. Health education will not only be limited to the elderly population, but will also deeply root the concept of health in the hearts of the people and even have a long-term impact on the development of China's public health.

2.3.4. Learn about talent cultivation and improve the level of elderly health care

Thirdly, for chronic disease management and control, personnel training is an important pillar supporting the health management and career development of the elderly. Japan's booming pension industry has produced a large number of people with professional experience, who receive training and professional recognition under the national certification system [18]. This professional certification system not only improves the ability of caregivers to cope with the complex health needs of the aging population, but also improves the overall level of elderly care. In contrast, from the grass-roots level to the management level, China is facing the problem of a shortage of labor force and a lack of professionalism in the growing aging population. China can consider introducing international talents with extensive experience in aging health management, while promoting the development of local professional talents to activate the existing primary care and management systems through new knowledge and experience.

2.3.5. Learn how to combine technology with health and advance the creation of intelligent senior care

Fourth, in line with current global trends, there will be a lot of promise when science and technology are combined with aging health management. A few decades ago, Japan proposed "developing the nation via science and technology" and later clearly define the goal of building a healthy and long-lived society and a super-smart society in plan of Comprehensive Strategy for Science and Technology Innovation [16]. Japan hopes to actively promote scientific and technological innovation, in particular, using robots to provide healthcare for the elderly, so as to respond flexibly to population aging [16]. Learning and accumulating real-time health data of the country's aging population is also becoming increasingly important, especially for a country like China with a vast territory and a large population. By collecting comprehensive health data, China can better track and monitor the effectiveness of existing policies and make adjustments based on measurable results in long-term. Fully exploring the combination of technology and medicine will be crucial for China to achieve efficient aging health management and bring new possibilities to the aging society.

3. Conclusion

China's admission into the population-aging society is like pushing the accelerator button, given the country's phenomenal advancements in the last few decades in both the economy and medical

care. At present, China has already stepped into the deeply aging society. The high incidence of chronic diseases associated with aging has brought unprecedented challenges and crises to China's public health system, and the coexistence of chronic diseases in the aging population deserves significant attention. Through the existing research and policy analysis, it shows that although China has made some progress in health construction for the aging population, there are inadequacies in aging population health education, aging population chronic disease screening, and ensuring long-term care services. Focusing on the international perspective, Japan, as a country with more successful management of chronic diseases in an aging society, has a lot of experience for China to learn from. China should consider drawing on the successful experience of Japan to make every effort to promote universal health planning and education through relevant laws, make great efforts to train professional nursing talents for the aged and chronic diseases, and develop new technologies and facilities for integrating medical treatment with science and technology. The limitation of this paper is that it mainly relies on macro-statistics and lacks detailed analysis of the urban-rural differentiation and different kinds of chronic diseases in China. Future research could combine empirical studies and assessments from different regions to provide stronger support for policy formulation. Driven by continued multi-sectoral collaboration in China, taking the 14th Five-Year Plan for Population Aging as the policy blueprint, China is expected to take Japan's and other international experience in managing chronic diseases as the cornerstone, reform the health policies of the existing population aging groups, comprehensively improve the medical level of the aging society, and build a healthier silver future.

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