

# *Analysis of the Current Situation of Aging Population*

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**Abstract.** As life expectancy continues to increase, aging populations face rising challenges related to chronic diseases. While biological aging is often blamed for these conditions, environmental factors and unhealthy behaviors significantly contribute to their prevalence. The paper, through the method of literature review, explored the causes of chronic disease in the aging population with some useful solutions. This includes the harmful chemicals released by tobacco, possible causes of cardiovascular disease, and unhealthy dietary behaviors that make adults face diabetes issues. The paper also includes the counterargument for the potential issues that might appear in the solution, with evidence to battle against the issues. The paper finds that many government policies have not yet addressed the needs of older adults and focuses on the need for government action. In addition, the paper includes many possible policies that might be helpful in addressing the issues

**Keywords:** Aging Population, Chronic diseases, Policies

## **1. Introduction**

Many believe chronic diseases in older adults are solely due to biological aging. However, environmental factors and unhealthy behaviors significantly contribute to these conditions, making policy interventions essential for improving public health outcomes in aging populations. As the increases in life expectancy trend occur in an aging population, older adults could have an extra few years to seek new opportunities. On the other hand, government policy has not well addressed the needs of an aging population and led to potential problems in health.

The research on Potential Molecular Mechanisms of Tobacco Smoke Exposure in Alzheimer's disease had pointed out that exposure to harmful chemicals could influence the development of alzheimer disease, which impacts the function of transmembrane transporter proteins and affects key genes such as HSP90AB1 and YWHAZ [1]. In addition, an assessment of the economic cost of smoking in Ireland describes the economic cost of smoking [2]. Through data collection, the paper concludes that smoking has a cost in health, hospital treatment, and loss of productivity. Furthermore, today's research on aging concludes the increasing risk of diabetes in the aging population in China through literature reviews.

Through the method of literature review, this paper investigated the chronic disease that exposed older adults and some potential solutions to address the issues. This study emphasizes the critical role of policy interventions in improving elderly health outcomes. Furthermore, by exploring molecular

mechanisms and economic impacts of risk exposures such as tobacco smoke, this paper aims to inform future public health strategies targeting aging populations.

## 2. Impact of environmental pollution on aging populations

Pollution in the environment causes chronic diseases in the aging population, such as cardiovascular and respiratory diseases. According to Potential molecular mechanisms of tobacco smoke exposure in Alzheimer's disease, it suggests that exposure to tobacco smoke can alter the activity of transmembrane transporter proteins and may promote Alzheimer's disease progression by influencing critical genes, including HSP90AB1 and YWHAZ, as well as key signaling pathways such as PI3K-AKT.

According to research conducted by the United States Environmental Protection Agency (EPA), short- to medium-term exposure to elevated levels of PM<sub>2.5</sub> particles can provoke cardiovascular events such as heart attacks and increase mortality risk, as noted by Dr. Ruediger Krech, Director of Health Promotion at the World Health Organization (WHO) [3,4]. Tobacco products contain over 7000 toxic chemicals and many are also found in PM<sub>2.5</sub>, which suggests a strong link between smoking and the causes of environmental pollution. In order to create an environment that accommodates the aging population, it is essential to solve the issue of smoking. One of the potential solutions is setting smoke-free zones in public places such as community centers, shopping malls, and hospitals. It discourages people from smoking since it becomes difficult for them to find places where they can smoke. Setting smoke-free zones reduces diseases that are caused by secondhand smoke, which are the chemical properties that are released by smoke such as carbon monoxide and cyanide. In addition, reducing smoking also reduces the PM<sub>2.5</sub> level. PM<sub>2.5</sub> is particulate matter that is smaller than 2.5 micrometers and could be inhaled into the lungs, which is the cause of cardiovascular disease and respiratory problems. It proved to be a successful solution in Hawaii. The initiative demonstrated positive outcomes in Hawaii. Data from the Centers for Disease Control and Prevention (CDC) show that implementing smoke-free policies led to a 90% decrease in average PM<sub>2.5</sub> concentrations across 15 bars and restaurants located on various islands [1]. Nevertheless, people argue that the smoke-free zone can have a negative impact on the economy as it drives away customers who smoke. Ireland is the first country to implement a national smoking ban in public places in March 2024. An evaluation of smoking-related economic impacts in Ireland estimated that premature deaths result in productivity losses totaling approximately €711 million, which equates to around €155 per person (ICF International, 2016). Smoke-free areas have led to productivity gains as fewer workers are dying prematurely due to smoking. As productivity increases, the economy will also increase because society can create more goods and services with the same effort.

## 3. Dietary habits and chronic diseases

Poor dietary patterns also play a significant role in the rise of chronic diseases among older adults. Studies have shown a notable surge in the number of overweight adults in China, with nearly one-quarter of the adult population classified as overweight by 2004 [5]. Unhealthy food behavior could cause obesity in older adults. Food containing high concentrations of saturated fatty acids will raise the level of cholesterol and increase the risk of heart disease. One solution to promoting better dietary habits among the aging population is through the implementation of lectures in community centers. The lectures can provide basic information about diet, informing them of the required amount of nutrients such as vitamins, fiber intake, and calcium. It brings accessible information to

older adults, many of whom do not have access to the internet and may have information gaps. In addition, it draws more attention to the rising obesity rate and unhealthy food behavior, as many people may not focus on food behavior as a factor that affects their health. In addition, children facing economic hardship, frequent illness, and inadequate nutrition during early development are more prone to elevated mortality rates in later life [5]. Changing the food behavior of children is also important to adapt to the trend of increasing life expectancy in society.

Through public-private partnerships, promo codes for nutritious foods in grocery stores are sent to each household based on the number of people in the household. This ensures people have access to healthy foods. Likewise, giving the promo code based on the population ensures equal access to each family. While some people argue that improving healthcare access is the best way to support the aging population, this approach is a short-term solution rather than a long-term one. Investing in policies that promote healthy lifestyles prevents chronic conditions, ultimately reducing hospitalization and healthcare costs in the long run. This contrasts with the move to improve healthcare access by providing necessary treatment, because it can only cure people of their illnesses without fully addressing the underlying problems caused by unhealthy diets.

## 4. Discussion

### 4.1. Recommendations for individuals

In addition to the need for government policies, individuals should also take proactive steps to improve their health. Older adults are encouraged to actively participate in social activities and engage in regular walking exercises, which can enhance their physical condition and build greater resistance against diseases. Maintaining a balanced diet is equally important; they should pay close attention to their daily food intake and include protein-rich foods such as beef and fish to strengthen their immune systems and obtain essential nutrients. Furthermore, maintaining a consistent sleep schedule helps support the body's natural repair processes and boosts overall immunity. Psychological well-being is also crucial—staying socially connected, engaging in hobbies, or practicing mindfulness can reduce feelings of loneliness and anxiety. Lastly, avoiding harmful substances such as tobacco, excessive alcohol, and high-sugar or high-salt foods is essential for preventing chronic conditions and promoting long-term health.

### 4.2. Recommendations for governments

Governments should take an active role in improving public health by implementing targeted policies that address both environmental and behavioral risk factors. This includes restricting designated smoking areas and establishing more smoke-free zones in public spaces such as restaurants and shopping malls. To raise public awareness, a national memorial day focused on pollution could be introduced, reminding citizens of the dangers of poor air quality. Furthermore, legal enforcement of smoking bans can be more effective than relying solely on voluntary compliance. In addition, governments should strengthen nutrition education within communities by funding local events, inviting guest speakers, and promoting awareness about healthy food choices. Providing coupons for nutritious food can also help reduce economic barriers, making healthy diets more accessible to low-income older adults.

Beyond these efforts, governments should invest in community-based preventive healthcare services. Local clinics offering free or affordable screenings for chronic diseases—such as hypertension and diabetes—can greatly improve early detection and intervention among older

populations. Building age-friendly urban infrastructure, including safe sidewalks, accessible parks, and reliable public transportation, encourages physical activity and reduces the risk of injury. Public health campaigns using digital platforms and mass media can also raise awareness about chronic disease prevention, offering practical advice on quitting smoking, staying active, and maintaining a balanced diet.

Lastly, addressing social and emotional well-being is equally essential. Intergenerational programs that foster connections between older adults and younger people—through mentorship, shared activities, or community service—can help reduce isolation and promote mental health. The government can also incentivize businesses that support elderly wellness, such as offering tax benefits to employers who implement senior-friendly workplace programs or to stores that provide discounts on healthy food. Together, these measures foster a healthier, more inclusive environment that enhances the quality of life for the aging population and builds a stronger foundation for future generations.

## 5. Conclusion

This paper explores a range of policy and individual-level solutions aimed at improving the quality of life for older adults, particularly in the context of chronic disease prevention and environmental health. It highlights the importance of addressing ageism in society and draws attention to the often-overlooked needs of the elderly, who may lack political representation and public visibility. By promoting age-friendly policies and encouraging proactive health behaviors, the paper advocates for a more inclusive and supportive environment for aging populations. However, the study is limited by its reliance on secondary sources and literature reviews, without empirical data or field-based validation. Future research could incorporate case studies, interviews, or longitudinal data to provide more robust evidence and practical insights. Expanding the geographic and cultural scope of research would also help evaluate the effectiveness of proposed strategies in diverse settings, contributing to the global conversation on healthy and dignified aging.

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