



# Physical Activity and Health: the growing needs of an aging population in India

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## Abstract:

One of the most pressing challenges facing India is the growing burden of a large elderly population. The number of elderly people in India is projected to double in the next two decades, from roughly 120 million in 2020 to 240 million in 2040. This population growth has had a significant impact on the country's health system, which has been struggling to cope with the increased demand for services and resources. Physical activity is an important component of a healthy lifestyle. Regular physical activity plays a crucial role in the prevention of chronic diseases in older adults. Numerous studies have demonstrated a strong association between physical activity and a lower risk of developing chronic diseases such as stroke, diabetes, osteoporosis, and heart disease. Governments and organizations should encourage physical activity through initiatives such as public health campaigns, providing access to physical activity facilities, and offering incentives.

Keywords: Physical activity; population, health, older age

## Introduction:

Today, one of the largest challenges facing healthcare professionals and policymakers is how to encourage older people to adopt a lifestyle that encourages physical activity and regular exercise to improve their health, well-being, and ability to participate in society. Although it is unclear which activities are most advantageous for those who are healthy, frail, or impaired, older people themselves are becoming more aware of how regular physical activity can enhance health outcomes. Healthcare professionals and policymakers must have access to the most recent data on the outcomes of various population-based health promotion strategies, therapeutic exercise programs, and physical activities to help them develop and implement the most successful interventions.

It is now widely accepted that age and inactivity both contribute to an increase in health-related issues (Mathers et al. 1999; US Department of Health and Human Services; World Health Organisation; 1996). The number of elderly

people seeking information, counsel, assistance, or therapy to regain, maintain, or improve their physical abilities will quickly rise due to the rapid population ageing that is already occurring throughout industrialised nations. People over 65 years old have a higher incidence of chronic diseases like osteoarthritis, diabetes, depression, stroke, and Parkinson's disease compared to young ones (WHO 1996). According to Hoffman et al. (1996) and Rice et al. (1996), more than 85% of people between the ages of 65 and 100 years have at least one chronic disease. This percentage rises with advancing age.

The availability of efficient health promotion programs, therapeutic exercises, or physical activities can prevent, minimise, or delay the onset, rate of progression, and severity of many diseases in older people (Australian Institute of Health and Welfare 1996; Harvey 1991; Nutbeam et al 1993).

In addition to having greater rates of disability than the general population, older adults also use healthcare services more frequently (Hoffman et al. 1996; Hopman-Rock et al. 1997). Therefore, it is anticipated that during the next 50 years, healthcare costs in the aged-care industry would rise considerably. Whether programs should be directed toward communities, environments, or individuals is a crucial subject (Baum 1998).

### **India and the aging population**

In the coming years, India will face many challenges as its younger population begins to age into adulthood. This aging population will present a unique set of challenges for India, as it will have to address the needs of an aging population while still catering to the needs of its younger population. Furthermore, the country will have to address the implications of an aging population on its economic growth and social stability. One of the most pressing challenges facing India is the growing burden of a large elderly population. The number of elderly people in India is projected to double in the next two decades, from roughly 120 million in 2020 to 240 million in 2040. This will put a strain on the country's already limited resources, as the elderly population will require more healthcare and social services. Furthermore, the elderly population will also require a greater share of government spending, which could lead to higher taxes and/or reduced spending on other programs and services. Additionally, the elderly population is likely to experience a higher rate of poverty and inequality due to their limited access to economic opportunities and resources.

Another challenge facing India is the potential for an aging workforce. With the growing number of elderly people in India, there is a risk that the country will see a decline in the size and productivity of its working-age population. This could lead to a decrease in economic growth and development, as the workforce will be unable to support the demands of a growing economy. Furthermore, the elderly workforce is also likely to receive lower wages and fewer benefits than their younger counterparts, leading to increased inequality and a widening of the wealth gap between the younger and the older generations.

Furthermore, the aging population in India could also lead to an increase in social instability and conflict. As the elderly population increases, so too will the number of people living in poverty and inequality, which could lead to

a rise in social unrest. Furthermore, the elderly population may also be less likely to vote or participate in politics, which could lead to a decrease in political participation and representation of their interests. Additionally, the elderly population may also be more vulnerable to exploitation and abuse due to their age and status.

### **The impact of the growing population on the health system of India**

This population growth has had a significant impact on the country's health system, which has been struggling to cope with the increased demand for services and resources. The growing population has impacted the health system of India, with a particular focus on the strain on infrastructure, financial resources, and workforce.

#### **Impact on Infrastructure**

The growing population of India has put a tremendous strain on the country's existing healthcare infrastructure. Even though India has made strides in recent years to improve its healthcare infrastructure, it still lags behind many other countries in terms of access to healthcare services. As a result, many rural and urban areas are underserved by the healthcare system, leading to overcrowded hospitals, lack of access to medical equipment, and inadequate staffing. This has led to long wait times for medical procedures, substandard care, and overcrowding in hospitals, all of which are further compounded by the country's growing population.

#### **Impact on Financial Resources**

The growing population of India has also had a significant impact on the financial resources available for healthcare. The country spends only 4.2% of its GDP on health care, which is significantly lower than the global average of 6.5%. This has resulted in a lack of adequate funding for medical services and resources, leading to inadequate access to quality healthcare. Additionally, India's healthcare system is heavily reliant on out-of-pocket payments made by patients, which has resulted in financial strain for many households.

#### **Impact on Workforce**

The growing population of India has also put a strain on the country's healthcare workforce. Although India has made strides in recent years to increase the number of healthcare workers, there are still significant shortages in both rural and urban areas. This has resulted in a lack of access to essential medical services, as well as a lack of qualified medical personnel in many areas. Additionally, the large number of healthcare workers in India are often overworked and underpaid, leading to burnout and decreased quality of care.

### **Contribution of physical activity to the Prevention of chronic diseases in older adults**

Physical activity is an important component of a healthy lifestyle. It helps to reduce the risk of many health problems and improves overall well-being. It is also essential in reducing healthcare costs. Regular physical activity plays a crucial role in the prevention of chronic diseases in older adults. Numerous studies have demonstrated a strong association between physical activity and a lower risk of developing chronic diseases such as stroke, diabetes, osteoporosis, and heart disease (MC Ashe et al 2009). The World Health Organization has highlighted the significant health problem of physical inactivity, attributing 2 million deaths annually to a sedentary lifestyle (MC Ashe et al 2009). Older adults with chronic diseases are particularly vulnerable as over 85% of them report having at least one chronic disease, putting them at a higher risk for inactivity (MC Ashe et al 2009). However, regular

physical activity can prevent or slow the progression of these chronic diseases, reducing morbidity and mortality (U.S. Department of Health 2002). It has been shown to reduce the risk of cardiovascular diseases, hypertension, hypercholesterolemia, and Type 2 diabetes (Zhou P et al 2018). Furthermore, physical activity can also prevent injuries from falls and mobility disabilities in the older population (Zhou P et al 2018). Maintaining a healthy body weight through regular physical activity is important for preventing chronic diseases in older adults (WHO). Therefore, promoting and encouraging regular physical activity among older adults, especially those with chronic diseases, is crucial for preventing and managing noncommunicable diseases and improving overall well-being and quality of life (U.S. Department of Health 2002 & WHO).

### ***Health Benefits of physical activity for older adults***

Engaging in regular physical activity offers numerous health benefits for older adults, specifically in terms of cardiovascular health and reducing the risk of falls. Exercise training has been found to have positive effects on various cardiovascular parameters in older individuals. For example, exercise training decreases total peripheral resistance, systolic and diastolic blood pressure during peak effort, and increases stroke volume (Langhammer B et al 2018). This leads to improved cardiovascular function and decreased cardiovascular mortality (Langhammer B et al 2018). Endurance exercise training also results in reductions in resting and submaximal exercise heart rate, as well as systolic and diastolic blood pressure (Langhammer B et al 2018). Older adults need to engage in high-intensity training to achieve these cardiovascular benefits (Langhammer B et al 2018). Additionally, exercise training can help improve left ventricular systolic and diastolic function, and increase cardiac output, contractility, and oxygen uptake during peak effort. In addition to cardiovascular health, physical activity plays a crucial role in reducing the risk of falls in older adults. Regular exercise, including balance training, can significantly decrease the likelihood of falls in this population. Exercise programs that include challenging balance activities for more than three hours per week have been found to have a greater effect in reducing falls. Exercise has been shown to reduce falls by 21% in older adults. Furthermore, engaging in moderate physical activity levels that combine multitasking exercise components has a positive effect on activities in daily living for older adults (Langhammer B et al 2018). By improving strength, flexibility, balance, and coordination, physical activity helps older adults maintain their physical function and independence, ultimately contributing to an enhanced quality of life. In conclusion, regular physical activity offers specific health benefits for older adults, including improved cardiovascular health and a reduced risk of falls. Exercise training has been shown to improve various cardiovascular parameters and decrease cardiovascular mortality in older individuals. Additionally, engaging in physical activity, including balance training, can significantly decrease the likelihood of falls, promoting physical function and independence in older adults. By incorporating regular exercise into their lives, older adults can enhance their overall well-being and maintain a higher quality of life.

### *Physical activity improves physical function and mobility in older adults*

Regular physical activity is crucial for older adults to improve their physical function and mobility. Studies have shown that engaging in physical activity can reduce the risk of impaired physical function in middle-aged and older adults by 30% to 50% (Tian Y et al 2022). Higher levels of physical activity compared to physical inactivity can help prevent or delay the decline in physical function associated with aging. Resistance exercise, in particular, is beneficial in improving muscle strength, explosive power, flexibility, and balance. Moreover, aerobic exercise helps improve cardiovascular health, which is essential for maintaining overall physical function in older adults. The benefits of physical activity extend beyond just preventing impaired physical function. Early initiation of regular physical activity can even reduce the age at which disability develops. It has been demonstrated that physical activity is an effective intervention to prevent impaired physical function in middle-aged and older adults. Higher levels of physical activity also help maintain physical function in community-dwelling older adults. Even performing just 5 minutes of moderate or vigorous physical activity is strongly associated with a 2% increase in physical function levels (Tian Y et al 2022). In addition to improving physical function and mobility, physical activity has positive effects on body composition and functional capacities in older adults (Buckinx, F et al 2021) It has been shown to strengthen muscles, enhance balance, and improve overall physical functions in older adults. Implementing muscle-strengthening geriatric care programs can further enhance balance and functional performances in community-dwelling older adults (Wickramarachchi B et al 2023). Engaging in regular physical activity not only helps strengthen muscles but also plays a crucial role in maintaining independence in day-to-day activities for older adults. It can also prevent or delay age-related health problems and has a positive effect on daily physical function in older adults. The risk of impaired daily physical function is lowest in older adults who have a higher volume of physical activity. Moreover, older adults who engage in physical activity at a level of 1800-2999 MET-minutes/week have the lowest risk of impaired daily physical function. Overall, regular physical activity is important for older adults to improve their physical function and mobility. It not only helps prevent impaired physical function but also has numerous other benefits, including improving cardiovascular health, enhancing muscle strength and balance, and maintaining independence in daily activities. Therefore, incorporating physical activity into the lifestyle of older adults is crucial for healthy aging and improved quality of life.

### **Conclusion**

In conclusion, physical activity, exercise, and health are important components of overall health and wellness for an aging population. Research has shown that physical activity and exercise can reduce the risk of chronic diseases, improve cardiovascular health, improve mobility and balance, and reduce the risk of falls. However, older individuals may face challenges in participating in physical activity and exercise, such as physical limitations due to age, mobility issues, and chronic conditions. Governments and organizations should encourage physical activity through initiatives such as public health campaigns, providing access to physical activity facilities, and offering

incentives. In doing so, they can help to reduce healthcare costs and improve the overall well-being of the population.

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