EDITORIAL

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Healthy aging and cardiovascular health in Kyrgyzstan: current status and emerging challenges

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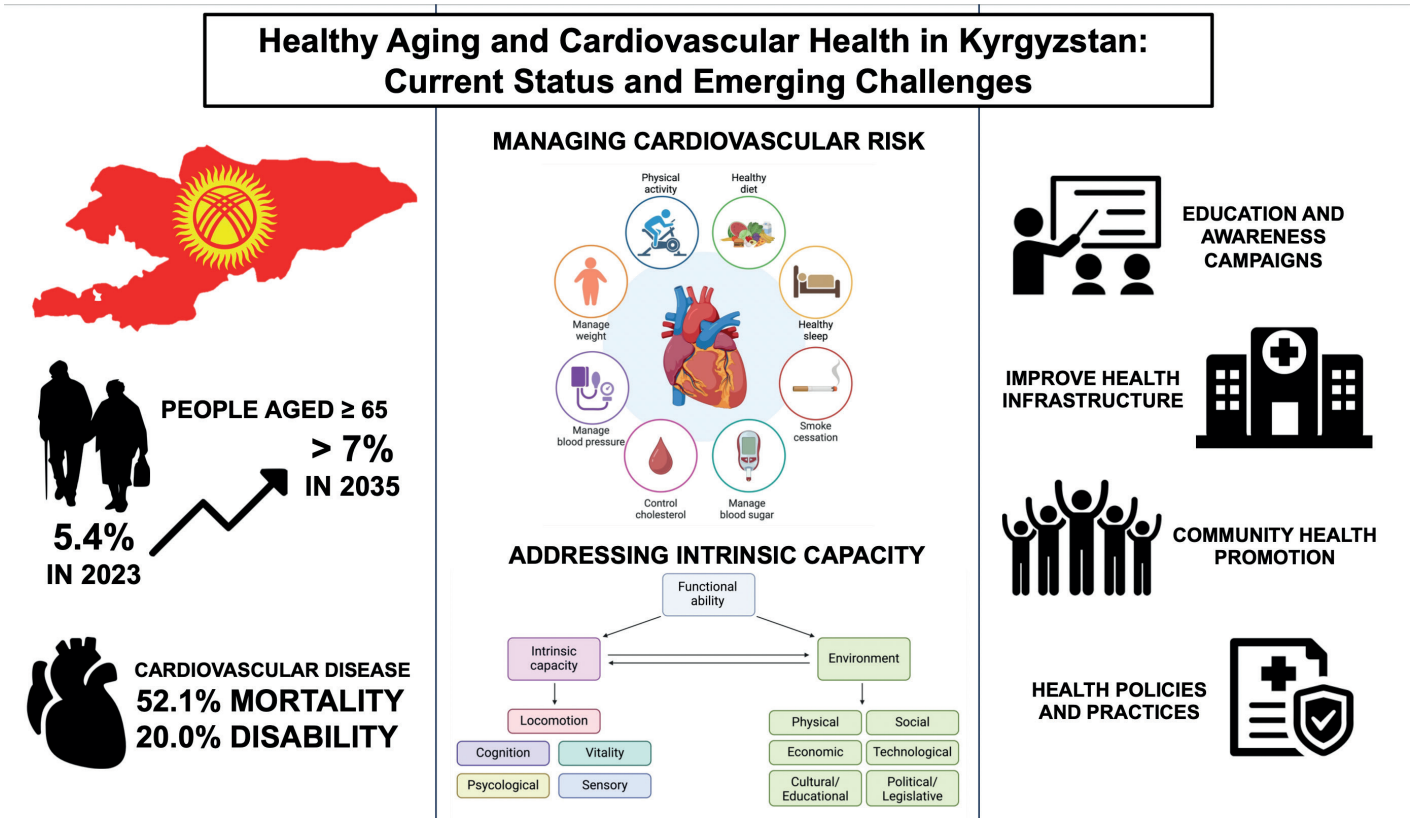
Abstract

As Kyrgyzstan undergoes significant demographic transitions, with an increasing aging population, the intersection of healthy aging and cardiovascular health emerges as a critical aspect of public health. We explore the relationship of healthy aging and cardiovascular health, underlining both the opportunities and challenges inherent in this demographic shift. Applying the World Health Organization's concept of "intrinsic capacity" and the "Integrated Care for Older People" (ICOPE) approach, we suggest strategies for addressing these crucial public health issues.



Key words: Healthy aging, demographic transitions, cardiovascular disease, public health, World Health Organization, noncommunicable disease, multimorbidity, ICOPE

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Introduction

Kyrgyzstan joins the ranks of many nations witnessing a surge in life expectancy, which translates into a higher percentage of older adults (1). While reflecting significant progress in healthcare and living conditions, this demographic transition also brings into focus the need to address health challenges specific to aging population. In the present paper we discuss on the current status and emerging challenges relating to healthy aging and cardiovascular health in Kyrgyzstan.

Demographics and aging in Kyrgyzstan

The Kyrgyz Republic is a mountainous nation located in Central Asia. The National Statistical Committee estimates a population of 7.38 million individuals in 2023, with one third of the population (34.9%) living in urban areas and two thirds residing in rural regions (65.1%) (1). Due to high fertility, decreased mortality and positive migration rate, Kyrgyzstan is one of the fastest growing countries in Asia (1). As per the United Nations definition, a population is considered young if the proportion of persons aged 65 and older is below 4%. A population with proportions ranging from 4% to 7% indicates a country that is approaching old age, and a percentage exceeding 7% indicates an old population (2). As of early 2023, individuals aged 65 and over account for 5.4% of the total population (1), and according to projections by the Economic and Social Commission for Asia Pacific (ESCAP) this proportion is believed to increase above 7% by 2035 (3) marking a definitive shift towards an older demographic. Although Kyrgyzstan is a relatively young country with a mean age of 28.3 years (1), the increasing number of older adults poses challenges and opportunities for the nation's social and economic structures.

Cardiovascular disease burden in Kyrgyzstan: current status and emerging challenges

The burden of cardiovascular disease (CVD) in Kyrgyzstan is a significant public health concern. CVD are responsible for more than half of death (52.1%) and account for nearly the 20% of all causes of non-communicable disease and disability, especially in working age (1, 4). Acting on modifiable risk factors for CVD as those recommended by the American Heart Association's Life's Essential 8 (Fig. 1) (5) - is a major area of focus.

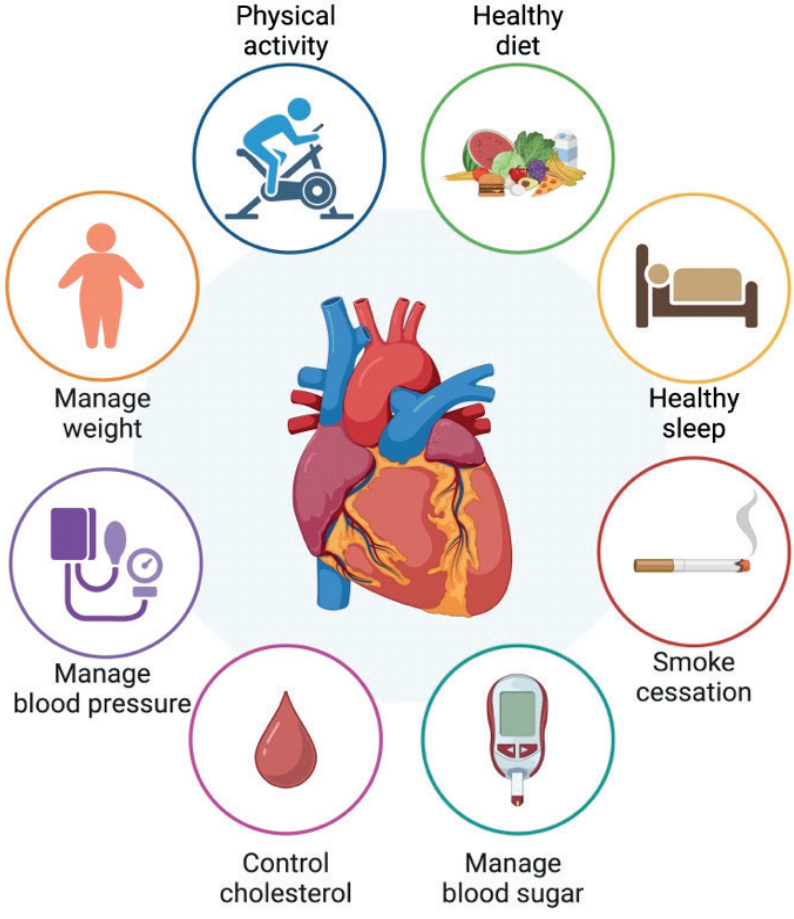

Figure 1. Modifiable risk factors for cardiovascular disease included in the American Heart Association's Life's Essential 8 (made with BioRender.com, accessed 30 January 2024)

According to Kydyralieva et al. (6), over 21% of the Kyrgyz population had very-high risk of CVD, with a considerable prevalence of modifiable risk factors among those aged 40-65 years, including hypertension (61.5%), high total blood cholesterol (31.6%), smoking habit (19.0%), and diabetes mellitus (11.0%). To address the health and economic burden of CVD, the Kyrgyz Republic has taken action by designing specific health programs named Manas Taalimi (2006-2011) and Den-Sooluk (2012-2016) aimed at implementing comprehensive cardiology service systems at the republic level, including program of monitoring and evaluation, increase CVD prevention through the empowerment of local institutions and communities, raising awareness among healthcare workforce, and integrating modern diagnostic, therapeutic, and preventive technology for CVD in public health activities (7,8).

However, while Kyrgyz population is living longer, this does not necessarily equate to healthier aging. This trend highlights the distinction between life expectancy and healthy life expectancy, and therefore a growing need to extend the time span of life without chronic diseases and disability. As aging is one of the main factors affecting cardiovascular health (9), the extending lifespan of the population makes preventing CVD and related chronic conditions in advancing age even more important. Community-based studies indicate a need for tailored strategies and specific recommendations that account for the unique cultural context of Kyrgyzstan - including socioeconomic factors, cultural dynamics, and differences in healthcare infrastructure between urban and rural regions (10-13).

Geographical factors play a pivotal role in shaping health strategies. In Kyrgyzstan, over 40% of the territory lies at elevations exceeding 3,000 meters. Living at such heights, or intermittent ascents to them, has notable impacts on cardiovascular health, disease development, and overall life expectancy. Sulaiman et al. (14) identified distinct hematological and spirometry features in populations living in the Pamir mountains compared to those living in the lowlands, including lower arterial oxygen saturation, higher red blood cell counts and hemoglobin concentration, but worst performances in spirometry indicating restrictive lung disease especially in older individuals. Similarly, Akunov et al. (15) found a direct correlation between the duration of exposure to intermittent hypoxia and increased hemoglobin concentration among mine workers at altitudes near 4,000 meters in the Tian-Shan region. Epidemiological studies suggest that high altitudes might provide benefits with regards to CVDs, stroke, cancer, and Alzheimer's disease.

Conversely, these heights might elevate the risk of mortality from pulmonary diseases, such as emphysema and chronic obstructive pulmonary disease (16). It is important to note that genetic factors also influence how individuals adapt to high altitudes. This is evident from studies examining the phenotypic differences among highland populations in Tibet, Ethiopia, and the Andes (17, 18).

Intrinsic capacity and ICOPE approach

The World Health Organization defines healthy aging as the ability to maintain functional ability that ensures well-being in later life. This involves the ability to meet basic needs, make decisions, maintain mobility, establish relationships, and contribute to society. The determinants of functional capacity on which to act to achieve successful aging are the intrinsic capacity, environmental characteristics and the interaction between them (Fig. 2) (19). Intrinsic capacity refers to the composite of physical and mental capacities that an individual possesses, encompassing their ability to move, think, and engage in various activities. Addressing intrinsic capacity is essential to promote healthy aging and prevent functional decline and disability (19). The Integrated Care for Older People (ICOPE) offers a comprehensive strategy for managing health in older individuals emphasizing a person-centered and coordinated approach to healthcare, assessing and addressing various aspects such as mobility, nutrition, sensory functions, psychological health, and existing medical conditions (20). The ICOPE approach find its strength in its adaptability to different cultural and societal contexts (20), as empowering the population and establishing links with community resources is a key to obtain long-term benefits (21). By acknowledging and respecting cultural norms, interventions can be more effective in engaging and empowering aging individuals to adopt healthier lifestyles.

Strategies for promoting healthy aging and cardiovascular health

Promoting healthy aging and preventing CVD in the Kyrgyz Republic are significant challenges that impact both the general well-being and long-term viability of healthcare. In this regard, several points should be addressed both in research and in clinical practice.

First, implementing educational initiative is crucial to raising awareness about healthy aging and cardiovascular health. These initiatives should focus on lifestyle modifications, emphasizing the importance of regular physical activity, maintaining a balanced diet, undergoing routine health check-ups and vaccinations (i.e. COVID-19, flu, herpes zoster, and pneumococcal vaccines). Second, healthcare infrastructure should be improved, particularly in rural areas. Accessible and affordable healthcare services ensure timely detection and management of CVD and functional decline. Third, engaging communities in health promotion is a critical component of tackling cardiovascular health and population aging concerns. Community-based initiatives may empower people to take ownership of their health and develop a culture of prevention. Fourth, incorporating the intrinsic capacity concept and the ICOPE approach into healthcare policies and practices is essential. This involves personalized assessments, tailored interventions, and a holistic understanding of an individual's health status.

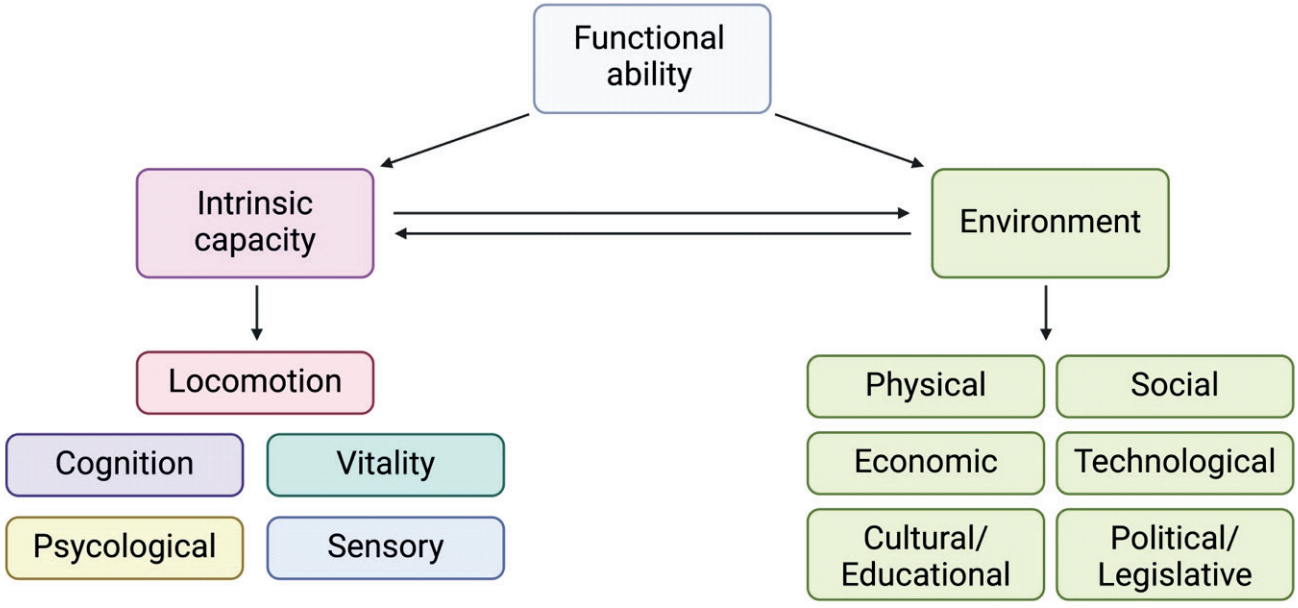

Figure 2. The World Health Organization's framework for healthy aging. Functional ability consists of the capacity to fulfill the basic needs, make decisions, move, establish and maintain relationships, and contribute to society. It encompasses the interplay between the intrinsic capacity of the individual and environmental characteristics (made with BioRender.com, accessed 30 January 2024)

Conclusion

Kyrgyzstan is at a crossroads at which an aging population demands a more complex approach to healthcare, particularly in the context of cardiovascular health. Proactive actions based on a thorough awareness of the local context are crucial. Prioritizing education, preventive care, a holistic approach to health and community involvement might contribute to a healthier and more resilient population in Kyrgyzstan. As the nation progresses, integrating these strategies into its healthcare framework will be critical in preserving the well-being of its older citizens and fostering healthy aging for future generations.

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