Technical Report:

Cardiovascular Disease in Central Asia:

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Executive Summary

CVD poses a significant public health threat, claiming countless lives and hindering economic development. This report examines the alarming burden of cardiovascular disease (CVD) in Central Asia and delves into the burden, risk factors, and challenges surrounding CVD in the region, highlighting the need for a multi-pronged approach focused on prevention, healthcare strengthening, and addressing social determinants of health. To address this critical issue, I recommend a multi-pronged approach encompassing culturally sensitive prevention initiatives, strengthened healthcare systems, and policy-driven interventions aimed at reducing key risk factors.

Introduction

The region of Central Asia, which includes Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan, is at a turning point. Although its landscapes are renowned for their magnificent beauty and rich cultural fabric, cardiovascular disease (CVD) is a hidden threat that lies beneath the surface. This silent killer has gained hold of the region, taking over 50% of lives in some of the Central Asian countries and emerging as the main cause of death in most of nations.

Beyond just numbers, CVD casts a shadow that is ominous over communities and families. Imagine a young mother who suddenly passes away from a heart attack, leaving her kids without a parent. or a wage earner who suffers from a stroke and is unable to support their family. These acts are not unique; rather, they depict the bleak reality that millions of people in Central Asia must endure.

A deeper examination of the crisis's causes is necessary to comprehend its scope. The CVD epidemic is driven by rapidly aging populations as well as the widespread adoption of unhealthy lifestyles like

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tobacco smoking, physical inactivity, and inadequate nutrition. Furthermore, vulnerable groups are disproportionately affected by socioeconomic determinants of health, which increase their risk of developing cardiovascular disease (CVD). These factors include poverty, restricted access to healthcare, and inadequate information about healthy habits.

Literature Review:

Central Asia, a region of stark beauty and ancient cultures, faces a silent yet formidable threat: cardiovascular disease (CVD). This review delves into the burden, risk factors, and ongoing efforts to combat this critical health issue within the region.

Global and Central Asian Landscape:

Central Asia, however, paints a particularly grim picture. The region's burden is 6.8 times higher than the global average, with a staggering 516.9 deaths per 100,000 people due to CVD (Citoday, 2022). This stark disparity necessitates a closer examination of the factors fuelling this epidemic.

Descriptive Epidemiology and Local Statistics:

- Prevalence: The prevalence of CVD in adults in Central Asia is believed to be between 15 to 20%, with ischemic heart disease and stroke accounting for the majority of cases (Citoday, 2022).
- Mortality: CVD reigns as the leading cause of death in most Central Asian countries, claiming over 50% of lives in Kazakhstan and Kyrgyzstan (Lindstrom et al., 2022)

Key Risk Factors in Central Asia

The burden of cardiovascular disease (CVD) is increased in Central Asia by a complicated interaction between various lifestyle choices and societal variables. Excessive rates of smoking (over 25%), a general lack of physical activity (over 70% of people), and poor diets deficient in fruits and vegetables all play a major role. Furthermore, vulnerable individuals are disproportionately affected by

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socioeconomic disparities, which are characterized by poverty, restricted access to healthcare and education, and low awareness of healthy habits. These factors increase the risk of CVD.

Existing Interventions and Challenges:

Cardiovascular disease (CVD) is being addressed by Central Asian countries through public health efforts that encourage healthy lifestyles and raised awareness. Improvements to healthcare systems are also being made through expenditures in infrastructure, training, and drug accessibility. Despite the existence of national CVD initiatives, differences in implementation and effectiveness highlight the necessity for more integrated regional approaches.However, challenges persist in cardiovascular disease efforts that include limited funding, ineffective interventions, and the need to strengthen healthcare systems. Additionally, addressing social determinants like poverty and inequality is crucial for comprehensive solutions.

Specific Studies Summarized

1.The article, titled "Cardiovascular Disease Risk Factors Among Rural Kazakh Population", investigates the prevalence of cardiovascular disease (CVD) risk factors and residents' knowledge about them in rural Kazakhstan. The study employed a cross-sectional design, surveying 700 adults from 10 villages. Data was collected through questionnaires, anthropometric measurements, and blood pressure readings.

Key Findings:

- High prevalence of CVD risk factors: Over half of the participants engaged in tobacco smoking, were overweight, had hypertension, or consumed alcohol.
- Socioeconomic disparities: Individuals with higher incomes were more likely to be overweight and knowledgeable about CVD risk factors.
- Limited awareness: Only 25% of the population demonstrated good knowledge regarding CVD risk factors.

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The authors emphasize the need for targeted awareness campaigns to improve knowledge about CVD risk factors and encourage healthy lifestyle behaviours among the rural Kazakh population.

2. Cardiovascular Disease Risk Factors in the Kyrgyz Republic: This cross-sectional survey assesses the prevalence of cardiovascular risk factors in 2,417 individuals aged 25-65. Behavorial factors, such as smoking and diet, and biometric indicators, including hypertension and obesity, are examined using the WHO/ISH risk scale. The study aims to inform targeted interventions and public health strategies in the Kyrgyz Republic.

Key Findings:

CVD Risk Distribution:

- 73.9% of individuals had low risk of CVD.
- 21.4% had high or very high risk of CVD, significantly increasing with age.

Prevalent Risk Factors:

- Top 4: Arterial hypertension (61.5%), hypercholesterolemia (31.6%), obesity (36.5%), physical inactivity (29.3%).
- Additional: Insufficient fruit and vegetable intake (75.4%), excessive salt intake (14.0%).

Conclusions:

- High prevalence of CVD risk factors and high-risk individuals.
- Predictive risk assessment tools are crucial for early detection.
- Additional risk factors beyond WHO/ISH scale should be considered for a more accurate assessment.

Limitations: Cross-sectional design restricts causal inferences.

Policy Implications:

- Public health interventions needed to address modifiable risk factors.
- Interventions should target the most prevalent risk factors identified.
- Consideration of additional risk factors in risk assessment tools may be necessary.

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Overall: This study highlights the high burden of CVD risk in the Kyrgyz Republic and emphasizes the need for effective public health interventions to address modifiable risk factors and improve CVD prevention.

3. A pilot program in 12 primary healthcare facilities was to be evaluated for feasibility and effectiveness. The study, "Evaluation and pilot implementation of essential interventions for the management of hypertension and prevention of cardiovascular diseases in primary health care in the Republic of Tajikistan," set out to accomplish this. For controlling hypertension and preventing cardiovascular disease, six facilities carried out interventions that included patient education, medication provision, and healthcare professional training. The other six facilities served as controls. Data on blood pressure, medication adherence, and risk factors were gathered both at program start and 12 months later, offering valuable information about how the program improved Tajikistan's primary healthcare system's ability to control hypertension and avert cardiovascular illnesses.

Findings:

The pilot program significantly reduced systolic and diastolic blood pressure in intervention group participants compared to the control group (Collins et al., 2019). Medication adherence was high in both groups, but slightly better in the intervention group. Participants in the intervention group showed improved knowledge and awareness of CVD risk factors and healthy lifestyle behaviours.

Conclusions:

- The pilot program demonstrated the feasibility and effectiveness of implementing essential interventions for hypertension management and CVD prevention in Tajikistan's primary healthcare system.
- Scaling up this program could significantly contribute to reducing the burden of CVDs in Tajikistan.

Limitations:

- The study was quasi-experimental, limiting causal inferences.
- The follow-up period was relatively short.

Policy implications:

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The Tajikistani government should consider scaling up the pilot program nationwide to improve hypertension management and CVD prevention.
Investments in healthcare worker training, medication availability, and patient education are crucial for successful implementation.

Conclusion

The region faces a high prevalence of cardiovascular disease (CVD) risk factors, including hypertension, hypercholesterolemia, obesity, physical inactivity, and unhealthy diets. Particularly concerning is the significant proportion of the population in the Kyrgyz Republic categorized as high or very high risk, indicating a potential surge in the burden of CVD. Compounding this issue is the limited awareness of CVD risk factors and healthy lifestyle choices, particularly in rural areas, hampering individual efforts to manage health effectively.

Without intervention, the trajectory of CVD burden is anticipated to worsen due to factors such as population aging, urbanization, and the persistent prevalence of risk factors. However, there is optimism in the success demonstrated by the pilot program in Tajikistan, showcasing the effectiveness of targeted interventions within primary healthcare.

Factors for Improvement:

To address these challenges, stronger public health policies are essential. Implementing measures like taxation on unhealthy foods and tobacco can incentivize healthier choices. Additionally, enhancing healthcare services through investments in primary care infrastructure, healthcare worker training, and ensuring the availability of medications can ensure accessible and quality CVD prevention and management. Public awareness campaigns are crucial for empowering individuals with knowledge about healthy choices, and culturally tailored interventions that consider local contexts and cultural factors can be more effective. Long-term research efforts are also necessary to

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monitor intervention impacts, analyse cost-effectiveness, and conduct further research on risk factors and cultural influences for continuous improvement in CVD prevention and management strategies.

Recommendations

To tackle cardiovascular disease in Central Asia, a multi-pronged approach is needed. Policy changes like taxing unhealthy foods and tobacco, subsidizing healthy choices, and promoting workplace wellness can nudge people towards better habits. Strengthening healthcare involves expanding primary care, training providers, and improving medication access. Public awareness campaigns, school health education, and social media engagement can educate and empower communities. Culturally sensitive interventions, achieved through partnerships and leveraging existing healthy practices, can overcome resistance to change. By addressing funding, training, and cultural barriers through phased implementation, partnerships, and data-driven decisions, Central Asia can build a healthier future for its people.

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