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A review of cardiovascular health in Uttarakhand: current trends and future directions

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Abstract

Cardiovascular disease is a prevalent disease nowadays. As the lifestyles of people are changing their dietary habits are directly affecting their cardiovascular health and they facing problems like hypertension, cholesterol, obesity, diabetes, and other major heart diseases. This research paper was carried out based on secondary data. This study also took data from secondary sources such as research papers on Research Gate and Google Scholar. This study finds that the current trends in living and urbanization are giving dangerous diseases and making life worse. There is a need to change the lifestyle and awareness of CVD. This study finds that cardiovascular health in Uttarakhand needs more information and research to understand the current trends and future direction.

Keywords: Hypertension, cholesterol, obesity, diabetes, urbanization

Introduction

According to the World Health Organization. (2021). Cardiovascular Diseases (CVDs) cardiovascular diseases (CVDs) have emerged as a leading cause of morbidity and mortality worldwide, including in India. The state of Uttarakhand with its unique geographical, socio-economical, and demographic characteristics, presents distinct challenges and opportunities for cardiovascular health. This review paper aims to provide a comprehensive analysis of the current status of cardiovascular health in Uttarakhand, identifying key factors influencing these trends and proposing future directions for future research, policy, and practice. According to the NFHS-5 (2019-2021), 29.7% of women are obese, and out of them 39.1% are from an urban area and 25.4% of women are from rural areas of Uttarakhand, 27.1% of men are obese out of the 31.4% are from urban area and 25.0% are from rural area. 10.8% of women and 13.3% of men in Uttarakhand have high blood sugar levels (>140mg/dl) are taking medicine to control their sugar level, 22.9% of women and 31.8% of men from the Uttarakhand district have elevated blood pressure (systolic>140mm of hg and diastolic >90mm of hg) are taking medicine to control blood pressures. According to WHO, the most important behavioural risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use, and the harmful use of alcohol. One of the main environmental factors is air pollution. Individuals may experience increased blood pressure, blood glucose, blood lipids, and overweight, and obesity, therefore, behavioural risk factors. Reveal an elevated risk of heart attack, stroke, heart failure, and other these "intermediate risk factors" might be evaluated for implications in primary care settings. Decrease salt intake, stop smoking, and eat more fruits and vegetables. Avoiding alcohol misuse and getting regular exercise have been shown to reduce the risk of cardiovascular disease. Encourage people to adopt and maintain healthy behaviours, health policies that improve air quality and reduce pollution, as well as those that make healthy choices more accessible and inexpensive, are crucial.

A comprehensive strategy that allows the distinct environmental topographical social and cultural aspects at play is necessary to address cardiovascular disease in hilly areas. To reduce the burden of cardiovascular disease in these places it is imperative to improve the health care infrastructure, increase healthy lifestyle practices, raise awareness, and adapt to environmental obstacles working together. Local communities, healthcare professionals, and legislators can create solutions that are effective, and specifically suited to the needs of hilly areas.

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Review of literature

According to Wood M S FRCP, FESC, *et al.* (2001) ^[3] On behalf of Joint European societies. Task forces in the study of established and emerging risk cardiovascular risk factors. It is found that several factors are emerging as determinants of coronary disease or another atherosclerotic disease, which are not yet included in most risk systems. According to Vesna D. Garovic & Suzanne R Hayman (2007) ^[4] in the study of hypertension in pregnancy, an emerging risk factor for cardiovascular disease, it is found that hypertensive disorders of pregnancy and cardiovascular disease share several common risk factors. According to Nicole de Liz Maineri in the study of risk factor four cerebrovascular disease and cognitive function in the elderly, it is observed that the presence of stroke risk factors in the elderly was associated with the worst cognitive performance for memory and executive functions. According to Karin Schenck-Gustafsson (2009) ^[7] in the study of risk factors for cardiovascular disease in women. It is found that cardiovascular disease is the most common cause of death in both sexes and that there are gender-specific differences in the disease. According to Shah, Bela, *et al.* (2010) ^[15]. In the study of surveillance of cardiovascular disease risk factors in India, the need and scope. It is found that the burden of cardiovascular disease and its risk factors in India calls for a sound public health approach to stem the epidemic. According to Rajendra Pradeepa, Dorairaj Prabhakaran *et al.* (2012) ^[17] In the study of emerging economic and diabetes and cardiovascular disease, the burden of cardiovascular disease and diabetes in developing countries affects the productive younger age group has serious economic implications. Middle-income countries, suggesting that these disorders have become a leading threat to public health in most developing countries. According to Satoshi Hirayama, and Takashi Miida (2012) ^[5] In the study of small dense LDL, an emerging risk factor for cardiovascular disease, it is found that sd-LDL cholesterol sd-LDL-C concentrations are elevated in groups at a high risk for CAD patients. According to Tanmay Nag, and Arnab Ghosal (2013) ^[19] In the study of cardiovascular disease factors in the Asian Indian population, a systematic review, it is found that cardiovascular disease and its risk factors are increasing with R rapid pace in ancient Indian population. According to Gupta, Sushil *et al.* (2013). In the study of emerging risk factors for cardiovascular disease, in the Indian context, it is found that there are traditional emerging risk factors that have been the major cause of all major cardiovascular events. Diverse ethnic groups and variations in their susceptibility to cardiovascular risk factors have led to the identification of new emerging risk factors. According to Slavenka Jankovic, Dragana Stojisavljevic *et al.* (2014). In the study of the status of cardiovascular health in our transition. European country findings from our population-based cross-sectional study. It is found that extremely low prevalence of ideal and a high prevalence of poor cardiovascular health in adults. According to Nag, Tanmay; *et al.* (2015) ^[16]. In the study of the prevalence of cardiovascular disease risk factors in a rural community in West Bengal India. The present study showed that the prevalence of CVD risk factors is considerably high in the study population and warranted early intervention to check the progressive increase of cardiovascular disease risk factors in rural folk. According to Reil MD, Prakash Deedwania MD, *et al.* (2015) In the study of resting heart rate, risk indicators, and emerging risk factors in cardiovascular disease It is observed that the findings have been ubiquitous throughout the cardiovascular continuum,

including in settings of substantial cardiovascular comorbidities, such as renal disease erectile dysfunction and pulmonary hypertension, heart rate is a marker of disease. According to Aniza I, Nurawati A, *et al.* (2016) ^[20] In the study of modifiable risk factors of cardiovascular disease among adults in the rural community of Malaysia, a cross-sectional study, it was found that hypertension, diabetes, mellitus, and obesity are the major modifiable risk factors associated with an increase in cardiovascular disease among adult in rural. According to Ben Lacey, William G. Harrington *et al.* (2017) ^[2] In the study of the role of emerging risk factors in cardiovascular outcomes, it is found that there is a range of blood-based cardiovascular risk factors. This study focused on the blood-based relation of cardiovascular risk factors with major coronary disease. According to Prabhdeep Kaur 1, Sudha Ramachandran Rao 1 *et al.* (2019) ^[18]. In the study of risk factors for cardiovascular disease in rural South India. A cohort study, which is found a high burden of fatal cardiovascular disease and identified the role of cardiovascular disease risk factors such as hypertension, self-reported diabetes, smoking, and central obesity. There is an urgent need to implement low-cost interventions such as smoking cessation and treat hypertension and diabetes in primary care settings. According to Lucy Geraghty MBBS *et al.* (2021) ^[6] In the study of cardiovascular disease in females from pathophysiology to novel and emerging risk factors, it is found that vascular disease is a cause of significant morbidity and mortality in women, with clear differences from cardiovascular disease in man. According to Tao Wang, Yilin Li *et al.* (2023) ^[12]. In the study of the Association of socioeconomic status with cardiovascular disease. Cardiovascular risk factors are systematic review and meta-analysis. It is found that socioeconomic status is inversely correlated with cardiovascular disease outcomes and the prevalence of CVRFs for CVD incidents. Education. According to Ursula Mikkola, Ina Rissanen *et al.* (2024) ^[13] In the study of overweight in adolescence and young adulthood in association with adult cerebrovascular disease The NFBC, 1966 study, it is found that among women being overweight in adolescence or young adulthood increases the risk of cerebrovascular disease, especially ischemic independent of their earlier or later body mass index. According to Wayne C Zheng, William Chan *et al.* (2024) the study of novel therapeutic targets and emerging treatments for atherosclerotic cardiovascular disease, provides an overview of novel therapeutic targets for ASCVD and emerging treatments to address the mechanism, efficacy, and safety. According to Ranjan Ashish *et al.* (2024) ^[13] In the study of young adults at risk unveiling novel factors in myocardial infarction, susceptibility, and Prevention, it is observed that sex and geographic-specific base approaches are required to reduce risk factors and prevent AMI in young women.

Conclusion of review of literature

It is found that there is a lack of research on mountain areas and no research has been conducted to see the current event and future directions in terms of cardiovascular disease-causing the life-threatening issues. I decided to write this review paper so that people are aware and further research can be conducted Most of the researchers have explored the emerging risk factors of cardiovascular disease in their specific regions. This issue is unexplored in the Uttarakhand areas as the lifestyle, and working types of people have changed which causes to arise heart-related diseases.

Purpose of the study

Presently people are living with lots of technologies that reduce their physical activities giving them a lot of diseases. People nowadays are getting lazier and consuming lots of processed food and ready-to-eat (junk foods), street food all these such shortcuts to conserve time are making high consumption of saturated fat, and trans fat which making their heart health very poor and giving several diseases such as obesity, hardening of arteries, high cholesterol level diabetes, etc. the purpose of this study is to explore A review of Cardiovascular health in Uttarakhand: current trends and future directions. Which opens the new directions for further research.

Results

There is a lack of region-specific data on cardiovascular disease risk factors in Uttarakhand Most of the time existing studies focus on broader areas, making it difficult to apply their findings to these specific regions. The role of socio-economic status, lifestyle choices Cultural practices in influencing cardiovascular disease risk is underexplored in hilly areas. More detailed insights are needed to understand how these factors contribute to the disease. There is insufficient comparative research on how cardiovascular disease risk factors differ between urban and rural populations within Uttarakhand, understanding these differences is crucial for developing targeted interventions. Research on the availability accessibility and utilization of health care services for cardiovascular disease prevention and treatment in this district is limited. Understanding barriers to health care can help in designing effective public health strategies.

Suggestions

1. Awareness should be spread about the dangerous and life-threatening disease (CVD) and its emerging risk factors. Physical activity should be balanced by joining yoga classes, gym, cycling walking jogging, etc.
2. There should be regular health check-ups specifically based on CVDs.
3. Health camps should be organized in rural as well as in urban areas.
4. Several programs for preventing cardiovascular disease should be launched and their progress should be checked regularly.
5. Saturated fat, trans fat, junk food, and processed food should be avoided for a long and healthy life, and those who are hereditary having CVD, obesity, thyroids, diabetes, etc. should strictly stop the intake of the above-mentioned food.

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