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Review Article

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Cardiovascular Disease - Systematic Review: Reasons, Danger Factors, Prevention, Diagnosis, Treatment and Global Health Issue and Impact

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Abstract

Cardiovascular disease is a group of disorders of the heart and blood vessels that includes coronary heart disease, stroke, congestive heart failure, and other conditions, is the leading cause of death worldwide and a major contributor to disability. In 2025, an estimated 525 million people had some form of Cardiovascular disease, and approximately 20 million deaths were attributable to Cardiovascular disease; this represents approximately 35% of all global deaths and is an absolute increase of 19% from 2013. The Several of the contextual risk factors attributed to increased Cardiovascular disease burden are covered in this special collection. Cigarette smoking persists among adults with chronic disease. Using data from the 2019 National Health Interview Survey (NHIS), Loretan and colleagues reported that more than 1 in 4 US adults aged 18 to 64 years with 1 or more chronic diseases associated with smoking were current smokers. The current cigarette smoking prevalence in the US reached 51.9% among adults aged 18 to 45 years with 2 or more chronic diseases. Furthermore, that study showed that smoking cessation services were not being provided to almost 1 in 3 people who have a chronic disease, leaving important steps to be taken toward successful smoking cessation in this population. Also concerning, rates of smoking vary significantly across countries, and approximately 1 billion people smoke globally, with significant negative implications for cardiovascular health.

Keywords: Phostoxi, Intermittent Inhalation, Chronic Toxicity

Introduction

Cardiovascular diseases (CVDs) remain the leading cause of death worldwide, but integrating preventative cardiovascular medicine with various aspects of cardiac health can significantly reduce this burden. As heart disease continues to affect millions globally,

understanding how both treatment and preventative strategies contribute to public health is essential for improving outcomes and reducing healthcare costs. In this article, we explore how the combination of cardiology, including heart disease treatment and prevention-focused approaches, contributes to a healthier future on a global scale.

Cardiology is focused on diagnosing, treating, and managing heart-related conditions such as heart failure, arrhythmias, and coronary artery disease. However, preventative cardiovascular medicine plays a key role in reducing risk factors, improving cardiac wellness, and preventing heart disease before it occurs.

Cardiovascular Disease Reasons

Cardiovascular disease is mainly caused by a combination of lifestyle habits, medical conditions, and genetic factors that damage the heart and blood vessels over time.

Key Medical Risk Factors

- **High blood pressure:** Strains artery walls and forces the heart to work harder.
- **High cholesterol:** Leads to Atherosclerosis, where plaque builds up and narrows the arteries.
- **Type 2 diabetes:** High blood sugar damages blood vessels and nerves that control the heart.
- **Chronic conditions:** Kidney disease and long-term inflammation raise overall cardiovascular risk.

Lifestyle and Behavioral Causes

- **Unhealthy diet:** Eating foods high in sodium, trans fats, and added sugars.
- **Physical inactivity:** Lack of exercise contributes to obesity, high blood pressure, and diabetes.
- **Tobacco use:** Smoking or vaping damages blood vessel linings and reduces oxygen in the blood.
- **Alcohol overuse:** Drinking too much raises blood pressure and blood triglyceride levels.

Non-Modifiable Factors

- **Age:** Risk increases as blood vessels naturally stiffen and age.
- **Family history:** Inherited genetics can predispose individuals to early heart disease.

Cardiovascular disease Danger Factors

Cardiovascular disease (CVD) danger factors are divided into modifiable habits and non-modifiable traits that increase your chance of heart attacks and strokes.

Major Danger Factors

- **High blood pressure:** Strains the heart and damages arteries over time.
- **High cholesterol:** Builds up plaque in artery walls, which restricts blood flow.
- **Smoking:** Harms blood vessels and raises the risk of dangerous clots.
- **Diabetes:** High blood sugar doubles your general likelihood of heart disease.
- **Obesity:** Excess body weight forces the heart to work harder.
- **Physical inactivity:** A lack of exercise contributes to unhealthy weight and high blood pressure.

Prevention and Management

- **Eat healthy:** Choose more fruits, vegetables, and whole grains while cutting back on salt and saturated fats.
- **Stop smoking:** Seek professional support or cessation programs to quit tobacco.
- **Exercise regularly:** Stay active most days of the week to protect your heart.

- **Check-up Regularly:** Check blood pressure, cholesterol, and blood sugar levels regularly with a doctor.

Cardiovascular Disease Diagnosis

Using a complete medical history, physical exams, and specific diagnostic tests

Common Diagnostic Tests

- **Electrocardiogram (ECG/EKG):** A quick test that records the heart's electrical signals to check for irregular rhythms.
- **Echocardiogram:** An ultrasound test using sound waves to see the heart muscle and blood flow in motion.
- **Blood Tests:** Laboratory work that measures cholesterol, blood sugar, and cardiac biomarkers like troponin to detect heart damage.
- **Stress Tests:** Monitoring how the heart performs while walking on a treadmill or riding a stationary bike.
- **Cardiac Catheterization:** A procedure using a thin tube to inject dye and check for blocked arteries via X-rays.
- **Imaging Scans:** Chest X-rays, CT scans, and MRI scans show the size and structural health of the heart.

Cardiovascular disease treatment

Combines lifestyle changes, medications, and surgical procedures backed by ongoing clinical studies to improve patient outcomes

Lifestyle Modifications

- Adopt a heart-healthy diet like the Mediterranean diet rich in whole grains, olive oil, and fresh produce.
- Engage in regular physical activity, such as 20 minutes of exercise three times a week.
- Quit smoking and avoid tobacco products entirely.

Medical Treatments

- Take statins to lower low-density lipoprotein (LDL) cholesterol and reduce plaque buildup.
- Use beta blockers to slow the heartbeat and reduce blood pressure.
- Manage blood pressure with ACE inhibitors or angiotensin receptor blockers (ARBs).
- Prevent dangerous blood clots using antiplatelet therapy like low-dose aspirin

Cardiovascular Disease Global Health Issue and Impact

Cardiovascular diseases (CVDs) are the leading cause of death and disability globally, accounting for roughly one in every three deaths.

- **Total Deaths:** CVDs caused roughly 19.2 million deaths globally.
- **Prevalence:** Prevalent cases surged from 311 million in 1990 to 626 million in 2023.

Discussion

The prevalence of cardiovascular diseases (CVDs) among adults in worldwide, revealing a significant national burden of 11%. The findings highlight the rising prevalence of CVD, especially in urban areas, and reveal important regional and gender-based variations. Despite some heterogeneity across the included studies, the evidence underscores the escalating threat of CVD and emphasises the urgent need for public health interventions that address the impacts of urbanisation, lifestyle changes, and an ageing population.

Conclusion

Preventative cardiovascular medicine and cardiology have the potential to transform public health on a global scale. By addressing both the root causes of heart disease and focusing on effective treatment and prevention, we can reduce the burden of cardiovascular diseases, improve

quality of life, and lower healthcare costs. As more healthcare professionals are trained in this dual approach, the impact will be felt worldwide, leading to healthier populations and more sustainable healthcare systems.

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