

Review Article

Management of Cardiovascular Disease with the Help of *Shatkarma* and *Panchakarma*

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A B S T R A C T

Introduction: Cardiovascular disease (CVD) remains a leading cause of morbidity and mortality worldwide. Traditional Indian medicine offers unique approaches to the management and prevention of such conditions. This paper explores the role of *Shatkarma* and *Panchakarma*, two fundamental purification and detoxification practices in Ayurveda, in managing cardiovascular diseases. It reviews existing literature, highlights potential mechanisms, and suggests integrative approaches for incorporating these ancient therapies into modern cardiovascular care.

Objective: The purpose of this review paper is to investigate the effect of *Shatkarma* and *Panchakarma* on cardiovascular disease aiming to contribute to the understanding of its potential role in promoting a better lifestyle.

Methods: A systematic search of electronic databases including PubMed, Google Scholar, and PsycINFO was conducted to identify relevant studies. Only those studies were included which were published in English and they investigated the impact of *Shatkarma* and *Panchakarma* on cardiovascular disease.

Results: The review suggests that *Shatkarma* and *Panchakarma* have a positive result on cardiovascular disease specifically, in reductions in total cholesterol indicating the beneficial effect on cardiovascular disease.

Conclusion: *Shatkarma* and *Panchakarma* offer promising complementary approaches for managing cardiovascular disease. By focusing on detoxification, stress reduction, and holistic health, these ancient practices may enhance conventional treatments. Integrating these therapies into modern medical practice requires rigorous research, patient education, and collaboration between Ayurvedic and allopathic practitioners. Future studies should aim to elucidate the mechanisms and long-term benefits of these practices in the context of cardiovascular health.

Keywords: *Shatkarma*, *Panchakarma*, Cardiovascular Disease

Introduction

Cardiovascular diseases encompass a range of disorders affecting the heart and blood vessels, including coronary artery disease, hypertension, heart failure, and arrhythmias. Despite advances in conventional medical treatments, the global burden of CVD continues to rise. This necessitates exploring complementary and alternative therapies to augment conventional approaches. Ayurveda, the traditional system of medicine in India, emphasises a holistic approach to health, incorporating lifestyle modifications, dietary regulations, and purification techniques. *Shatkarma* and *Panchakarma* are two such methodologies that may offer benefits in the management of CVD.

The heart and blood arteries make up the cardiovascular system.

Coronary artery disease (CAD): CAD, also known as coronary heart disease (CHD), is a condition that causes angina, myocardial infarction (MI), or heart failure. It is caused by a decrease in myocardial perfusion. It is responsible for between one-third and half of CVD cases. Heart attack and transient ischemic attack (TIA) are examples of cerebrovascular disease (CVD)¹.

- **Peripheral artery disease (PAD):** Specifically, limb-related vascular disease that can cause claudication. Thoracic and abdominal aneurysms are included in aortic atherosclerosis.
- **Cardiovascular disease (CVD):** This is a broad term that encompasses a range of disorders affecting the heart and blood vessels. It is the leading cause of death globally, responsible for an estimated 17.9 million deaths each year, which represents 31% of all global deaths. The primary types of CVD include coronary artery disease, cerebrovascular disease, peripheral artery disease, rheumatic heart disease, congenital heart disease, deep vein thrombosis, and pulmonary embolism.

Historical Background

Historically, cardiovascular disease has been recognised for centuries, but significant advances in understanding and treatment have primarily occurred in the past century. Ancient civilisations, including the Egyptians and Greeks, documented heart conditions and attempted various treatments. However, the modern scientific approach to CVD began in earnest in the late 19th and early 20th centuries with the development of better diagnostic tools and a deeper understanding of the circulatory system².

Risk Factors

CVD is often linked to lifestyle factors and underlying health conditions.

Major Modifiable Risk Factors

- **Hypertension (High Blood Pressure):** A leading cause of CVD, hypertension damages blood vessels over time, increasing the risk of heart attack, stroke, and other complications.
- **Smoking:** Tobacco use is a significant risk factor, contributing to the development of atherosclerosis and increasing the likelihood of heart attacks and strokes.
- **High Cholesterol:** Elevated levels of low-density lipoprotein (LDL) cholesterol contribute to the formation of plaques in the arteries, leading to atherosclerosis.
- **Diabetes:** Poorly controlled diabetes can damage blood vessels and nerves that control the heart, increasing the risk of heart disease.
- **Obesity:** Excess body weight is associated with hypertension, high cholesterol, and diabetes, all of which elevate CVD risk.
- **Physical Inactivity:** Lack of regular exercise contributes to weight gain, hypertension, and poor cholesterol levels, increasing the risk of CVD.
- **Diet:** Unhealthy diets high in saturated fats, trans fats, and sugar can lead to hypertension, high cholesterol, and obesity.

Non-Modifiable Risk Factors

- Age
- Gender
- Family history

The risk of CVD increases with age, and men are generally at higher risk at younger ages compared to women, although the risk for women increases and may surpass that for men after menopause.

Pathophysiology

CVD often begins with damage to the endothelium, the inner lining of blood vessels, which can be caused by high blood pressure, smoking, or high cholesterol. This damage leads to the formation of atherosclerotic plaques, which are accumulations of fat, cholesterol, and other substances.³ As plaques grow, they can narrow or block arteries, reducing blood flow to vital organs such as the heart and brain. If a plaque ruptures, it can cause a blood clot to form, which may result in a heart attack or stroke.

Prevention and Treatment

Prevention strategies for CVD focus on lifestyle modifications such as maintaining a healthy diet, regular physical activity, quitting smoking, and controlling blood pressure, cholesterol, and diabetes. Medical interventions may include medications like antihypertensives, statins, and antiplatelet drugs, as well as surgical procedures like angioplasty and coronary artery bypass grafting (CABG).

Aetiology

Although CVD may directly arise from different aetiologies such as emboli in a patient with atrial fibrillation resulting in ischemic stroke, and rheumatic fever causing valvular heart disease, among others, addressing risk factors associated with the development of atherosclerosis is most important because it is a common denominator in the pathophysiology of CVD.⁴

The industrialisation of the economy with a resultant shift from physically demanding to sedentary jobs, along with the current consumerism and technology-driven culture that is related to longer work hours, longer commutes, and less leisure time for recreational activities, may explain the significant and steady increase in the rates of CVD during the last few decades.⁵

Specifically, physical inactivity, intake of a high-calorie diet, saturated fats, and sugars are associated with the development of atherosclerosis and other metabolic disturbances like metabolic syndrome, diabetes mellitus, and hypertension which are highly prevalent in people with CVD.⁶

According to the INTERHEART study that included subjects from 52 high, middle, and low-income countries, 9 modifiable risk factors accounted for 90% of the risk of having a first MI: smoking, dyslipidaemia, hypertension, diabetes, abdominal obesity, psychosocial factors, consumption of fruits and vegetables, regular alcohol consumption, and physical inactivity. It is important to mention that in this study, 36% of the population-attributable risk of MI was attributed to smoking.⁷

Other large cohort studies like the Framingham Heart Study and the Third National Health and Nutrition Examination Survey (NHANES III) have also found a strong association and predictive value of dyslipidaemia, high blood pressure, smoking, and glucose intolerance. About 60–90% of CHD events occurred in subjects with at least one risk factor.⁸

These findings have been translated into health promotion programs by the American Heart Association with emphasis on seven recommendations to decrease the risk of CVD: avoiding smoking, being physically active, eating healthy, and keeping normal blood pressure, body weight, glucose, and cholesterol levels.⁹

On the other hand, non-modifiable factors such as family history, age, and gender have different implications.

Family history, particularly premature atherosclerotic disease defined as CVD or death from CVD in a first-degree relative before 55 years (in males) or 65 years (in females) is considered an independent risk factor. There is also suggestive evidence that the presence of CVD risk factors

may differently influence gender. For instance, diabetes and smoking more than 20 cigarettes per day had increased CVD risk in women compared to men. The prevalence of CVD increases significantly with each decade of life.¹⁰

The presence of HIV (human immunodeficiency virus), history of mediastinal or chest wall radiation, microalbuminuria, and increased inflammatory markers have also been associated with an increased rate and incidence of CVD.¹¹

Pointing out specific diet factors like meat consumption, fibre, and coffee and their relation to CVD remains controversial due to significant bias and residual confounding encountered in epidemiological studies.⁶

Shatkarma

Cardiovascular disease (CVD) stands as a predominant cause of death and disability worldwide, presenting an urgent need for effective management and prevention strategies. Conditions such as coronary artery disease, hypertension, heart failure, and arrhythmias pose significant health challenges, prompting extensive research into both traditional and alternative therapies to complement conventional medical approaches.¹² In this context, the ancient Indian system of medicine, Yoga, offers unique and holistic methods that may provide significant benefits in managing cardiovascular health.

Yoga and Saptanga Yoga

Yoga is an ancient practice that originated in India thousands of years ago, encompassing physical, mental, and spiritual disciplines aimed at achieving harmony and balance. The word “yoga” comes from the Sanskrit root “yuj,” which means “to yoke” or “to unite,” reflecting its goal of uniting the body, mind, and spirit.¹³

Benefits of Yoga

Practising yoga has numerous benefits, including:

- **Physical Health:** Improves flexibility, strength, and posture; enhances cardiovascular health; boosts immune function; and aids in weight management
- **Mental Health:** Reduces stress, anxiety, and depression; enhances mental clarity and focus; promotes a sense of calm and well-being
- **Spiritual Growth:** Encourages self-awareness, mindfulness, and inner peace

Saptanga Yoga

Saptanga Yoga, or Seven-Limbed Yoga, is a comprehensive approach to yoga practice that encompasses seven core aspects:

- **Shatkarma (Purification):** Techniques for internal and external purification, including cleansing practices to maintain physical and mental cleanliness.

- **Asana (Postures):** Physical postures designed to enhance flexibility, strength, and balance while promoting physical health and stability.
- **Pranayama (Controlled Breathing):** Breathing exercises that regulate the flow of prana (life energy) in the body, promoting vitality and mental clarity.
- **Pratyahara (Withdrawal of Senses):** Techniques to withdraw the senses from external stimuli, aiding in mental focus and introspection.
- **Dharana (Concentration):** The practice of focused attention on a single point or object to train the mind and enhance concentration.
- **Dhyana (Meditation):** Deep, uninterrupted meditation that fosters profound inner peace and spiritual awareness.
- **Samadhi (Absorption):** The ultimate state of yoga where the practitioner experiences complete union with the divine or the true self, transcending the ego and achieving enlightenment.

One such Yogic practice is *Shatkarma*, which encompasses six purification techniques designed to cleanse the body and mind, promoting overall well-being and preventing disease. The six practices include *Neti* (nasal cleansing), *Dhauti* (digestive tract cleansing), *Nauli* (abdominal massage and cleansing), *Basti* (colon cleansing), *Kapalabhati* (frontal lobe cleansing through breath control), and *Trataka* (concentrated gazing). Each of these techniques aims to remove accumulated toxins (*ama*), enhance bodily functions, and restore balance among the doshas (fundamental bodily energies).¹⁴

The application of *Shatkarma* in the context of cardiovascular disease is based on its potential to address several underlying factors contributing to CVD. By promoting detoxification, improving respiratory and digestive efficiency, reducing stress, and enhancing circulatory health, *Shatkarma* practices can complement modern cardiovascular treatments. These purification techniques may help lower blood pressure, reduce inflammation, improve lipid profiles, and enhance overall cardiovascular function.¹⁵

This paper explores the mechanisms by which *Shatkarma* can benefit cardiovascular health, reviews existing evidence from clinical studies and anecdotal reports, and discusses how these practices can be integrated into contemporary cardiovascular care. By providing a comprehensive analysis, we aim to highlight the potential of *Shatkarma* as an adjunctive therapy in the holistic management of cardiovascular disease, supporting both prevention and treatment efforts in this critical area of health care.¹⁶

Shatkarma, meaning “six actions,” comprises cleansing techniques designed to purify the body and mind. These practices include:

- **Neti:** Nasal cleansing
- **Dhauti:** Cleansing of the digestive tract
- **Nauli:** Abdominal massage and cleansing
- **Basti:** Colon cleansing
- **Kapalabhati:** Cleansing of the frontal lobes
- **Trataka:** Concentrated gazing

Potential Mechanisms in CVD Management

- **Neti:** Regular practice of *Neti* can improve nasal breathing, reduce stress, and potentially lower blood pressure by promoting parasympathetic activity.
- **Dhauti:** Digestive tract cleansing may enhance digestive efficiency and reduce systemic inflammation, a key factor in CVD.
- **Nauli:** Abdominal massage may improve circulation, stimulate the vagus nerve, and support heart health.
- **Basti:** Colon cleansing may help in detoxification, reducing systemic toxicity, which can influence cardiovascular health.
- **Kapalabhati:** This practice increases oxygenation and can help in weight management, both of which are crucial in managing CVD.
- **Trataka:** Concentrated gazing can reduce stress and enhance mental focus, contributing to overall cardiovascular health.

Panchakarma

Cardiovascular disease (CVD) remains a significant global health challenge, contributing to high rates of morbidity and mortality. The rise in the prevalence of conditions such as coronary artery disease, hypertension, heart failure, and arrhythmias has spurred extensive research into both prevention and treatment strategies. Despite significant advancements in conventional medical therapies, the persistent global burden of CVD necessitates the exploration of complementary and alternative medicine (CAM) approaches to provide holistic care and improve patient outcomes.¹⁷

Ayurveda, the ancient system of medicine from India, offers a comprehensive approach to health and wellness, emphasising balance and harmony within the body and with the environment. One of the core components of Ayurvedic treatment is *Panchakarma*, a five-fold detoxification and rejuvenation therapy designed to cleanse the body of toxins (*ama*), balance the doshas (fundamental bodily energies), and restore optimal health.

Panchakarma consists of five primary procedures: *Vamana* (therapeutic vomiting), *Virechana* (therapeutic purgation), *Basti* (medicated enemas), *Nasya* (nasal administration of medicated substances), and *Raktamokshana* (bloodletting). These procedures are intended to eliminate accumulated toxins, enhance bodily functions, and promote overall well-being.

The application of *Panchakarma* in the management of cardiovascular disease is rooted in its potential to address several key factors contributing to CVD. By promoting detoxification, improving digestive health, reducing stress, and restoring physiological balance, *Panchakarma* can complement conventional cardiovascular treatments and potentially enhance their efficacy. Additionally, *Panchakarma's* emphasis on personalised medicine aligns with contemporary approaches to CVD management, which recognise the importance of tailored treatment plans based on individual patient characteristics.

This paper explores the mechanisms by which *Panchakarma* may benefit cardiovascular health, reviews existing evidence from clinical studies, and discusses the integration of *Panchakarma* into modern cardiovascular care. Through a comprehensive analysis, we aim to highlight the potential of *Panchakarma* as a valuable adjunctive therapy in the holistic management of cardiovascular disease.¹⁸

Panchakarma is a comprehensive detoxification and rejuvenation program consisting of five primary actions:

- **Vamana:** Therapeutic vomiting
- **Virechana:** Purgation
- **Basti:** Medicated enemas
- **Nasya:** Nasal administration of medicated oils
- **Raktamokshana:** Bloodletting

Potential Mechanisms in CVD Management

- **Vamana:** Helps in removing excess Kapha dosha, which can alleviate symptoms related to congestion and improve cardiovascular function.
- **Virechana:** Purgation can detoxify the liver and reduce Pitta dosha, potentially lowering blood pressure and cholesterol levels.
- **Basti:** Enemas help in balancing Vata dosha, supporting better elimination and systemic health, which is crucial for heart health.
- **Nasya:** Nasal therapies enhance respiratory health and can reduce stress, both important in managing CVD.
- **Raktamokshana:** Bloodletting helps in detoxification and can improve circulation, potentially lowering the risk of thrombotic events.

Integrative Approach

Integrating *Shatkarma* and *Panchakarma* with conventional cardiovascular treatments can offer a holistic approach to managing CVD. This includes:

- **Personalised Treatment Plans:** Combining Ayurvedic principles of individual constitution (Prakriti) with modern diagnostics to tailor treatment plans.
- **Lifestyle and Dietary Modifications:** Incorporating Ayurvedic dietary recommendations and lifestyle changes to support heart health.

- **Mind-Body Practices:** Using yoga and meditation, often included in Ayurvedic treatment, to reduce stress and improve cardiovascular outcomes.

Conclusion

Shatkarma (six purification techniques) offers a holistic means of promoting cardiovascular health through detoxification, stress reduction, improved respiratory and digestive function, and enhanced overall well-being.

Panchakarma can positively impact various cardiovascular risk factors including hypertension, cholesterol levels and stress. The holistic approach of *Panchakarma*, which includes bio-purification, may help in reducing oxidative stress, improving good lipid profiles, decreasing bad lipid profiles, and enhancing overall cardiovascular function.

Conflict of Interest

There is no conflict of interest regarding the publication of this research article titled "Management of Cardiovascular Disease with the Help of *Shatkarma* and *Panchakarma*." The study was conducted impartially and without any financial, personal, or professional affiliations that could influence the research outcomes. All funding sources, if any, have been transparently disclosed, and the research was carried out solely for academic and scientific purposes.

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