

Savasana as a Low-Cost Non-Pharmacological Intervention for NCDs: A Review of Clinical and Nursing Perspectives

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Abstract

Non-communicable diseases (NCDs), including diabetes mellitus, cardiovascular diseases, and dyslipidemia, account for global mortality, with a disproportionate impact in low- and middle-income countries. Metabolic risk factors such as elevated blood glucose, dyslipidemia, and chronic stress are closely linked to the progression of these conditions. In recent years, mind-body interventions—especially yoga-based relaxation techniques like Savasana—have gained recognition for their potential in addressing these risk factors. This review explores current evidence on the impact of Savasana on lipid profiles and glycemic parameters in individuals with NCDs. Findings from clinical trials and meta-analyses suggest that Savasana, often practiced as part of a broader yoga regimen, contributes to significant reductions in fasting blood glucose, HbA1c, and LDL cholesterol. These benefits are linked to enhanced parasympathetic activity, improved insulin sensitivity, and decreased cortisol levels. However, most studies include Savasana within multi-component interventions, and standardized protocols specific to Savasana are lacking. Savasana has the potential to be a cost-effective, non-invasive, and accessible adjunct to conventional therapies for NCDs. As key facilitators of lifestyle education, nurses can effectively deliver and monitor Savasana-based programs. However, future research should focus on isolating the effects of Savasana through standardized protocols, larger sample sizes, and long-term follow-up to validate its sustained impact on metabolic health.

Keywords: Savasana, Non-communicable diseases, Glycemic control, Lipid profile, Nursing interventions

Introduction

Non-communicable diseases (NCDs) such as cardiovascular diseases, diabetes mellitus, and dyslipidemia have become the leading causes of morbidity and mortality worldwide. According to the World Health Organization (WHO), NCDs account for approximately 71% of all global deaths, equating to 41 million people annually. Alarming, over 80% of these deaths occur in low- and middle-income countries, highlighting a significant health disparity [1].

India, in particular, faces a frightening challenge. India witnessed approximately 4.7 million deaths and 226.8 million disability-adjusted life years (DALYs) attributed to NCDs [2]. This number is projected to rise significantly in the coming decades, positioning India as a focal point in the global diabetes epidemic.

Lifestyle factors, including physical inactivity, poor dietary habits, and chronic stress, are primary contributors to the surge in NCDs [3]. Consequently, there is a growing interest in holistic and non-pharmacological interventions that address these modifiable risk factors. Yoga, an ancient practice integrating physical postures, breath control, and meditation, has emerged as a promising complementary therapy [4].

Among the various yogic practices, Savasana, or the Corpse Pose, is a relaxation technique known for its stress-reducing benefits. Preliminary studies suggest that the regular practice of Savasana can positively influence metabolic parameters [5]. Despite these encouraging findings, the specific effects of Savasana on lipid profiles and glycemic control in patients with NCDs remain underexplored. This review aims to consolidate existing research on the role of Savasana in modulating these metabolic parameters, thereby informing clinical practice and guiding future research endeavors.

Understanding Savasana

Savasana, or Corpse Pose, is a foundational relaxation posture in yoga. It involves lying supine with arms and legs comfortably extended, eyes closed, and the body completely relaxed [6]. Despite its apparent simplicity, Savasana facilitates profound physiological and psychological benefits by promoting deep rest and recovery [7].

Physiologically, Savasana induces a relaxation response that counteracts the stress-induced activation of the sympathetic nervous system. A study demonstrated that Savasana significantly decreased cardiac sympathetic modulation in hypertensive patients [8]. This shift towards parasympathetic dominance contributes to reductions in heart rate, blood pressure, and overall cardiovascular strain.

Similarly, research highlights Savasana's impact on metabolic parameters. A meta-analysis found that yoga interventions, including relaxation techniques like Savasana, led to significant reductions in total cholesterol, low-density lipoprotein cholesterol, triglycerides, and fasting blood glucose levels [9]. These findings suggest that Savasana may play a role in modulating lipid profiles and glycemic control, which is particularly beneficial for individuals with non-communicable diseases (NCDs).

Non-Communicable Diseases and Metabolic Risk

Noncommunicable diseases (NCDs) killed at least 43 million people in 2021, equivalent to 75% of non-pandemic-related deaths globally. In 2021, 18 million people died from an NCD before age 70 years. Cardiovascular diseases were responsible for at least 19 million deaths, followed by cancers (10 million), chronic respiratory diseases (4 million), and diabetes (over 2 million, including kidney disease deaths caused by diabetes) [10]. Metabolic risk factors, including high blood pressure, high blood glucose, overweight and obesity, are significant contributors to the burden of NCDs [11].

Addressing these metabolic risk factors is key in combating the growing burden of NCDs. Lifestyle interventions, including dietary modifications, increased physical activity, and stress management techniques like Yoga, have shown promise in improving metabolic parameters and reducing the risk of NCDs [12].

Savasana and Lipid Profile: Evidence Synthesis

Dyslipidemia is a key modifiable risk factor in the development of cardiovascular diseases, one of the leading non-communicable diseases globally [13]. With increasing interest in non-pharmacological

interventions, yogic practices, particularly Savasana (Corpse Pose), have gained recognition for their potential role in lipid regulation through relaxation and autonomic modulation [14].

Savasana, practiced daily, has been associated with improved lipid parameters by lowering sympathetic activity and stress hormone levels, particularly cortisol [15]. A systematic review found that yoga interventions, including Savasana, significantly reduced total cholesterol, LDL cholesterol, and triglycerides while increasing HDL levels by an average of [16]. Another study focused on yoga with a strong emphasis on relaxation postures and reported a 12% reduction in LDL and a 15% increase in HDL among individuals with metabolic syndrome over a 12-week period [17]. Mechanistically, Savasana promotes parasympathetic dominance, reducing lipid peroxidation and improving endothelial function. These physiological responses help in lowering circulating levels of atherogenic lipids.

Savasana and Glycemic Control: Evidence Synthesis

Glycemic dysregulation, characterized by elevated fasting blood glucose and impaired insulin sensitivity, is central to the pathophysiology of diabetes mellitus and other non-communicable diseases (NCDs) [18]. Stress-induced activation of the hypothalamic-pituitary-adrenal (HPA) axis increases cortisol and catecholamine levels, contributing to insulin resistance [19]. Savasana, as a deep relaxation technique, offers a promising, low-cost, non-pharmacological strategy to improve glycemic parameters by modulating stress responses and promoting autonomic balance [20].

Several studies have explored the glycemic benefits of yoga interventions incorporating Savasana. A study reported significant improvements in fasting blood glucose and HbA1c among adults practicing yoga, particularly those involving guided relaxation postures like Savasana [21].

A study showed that in a yoga-based lifestyle program, the yoga group had a significant reduction in fasting blood glucose (FBG) by 31.98 mg/dL, postprandial blood glucose (PPBG) by 25.59 mg/dL, and glycosylated hemoglobin (HbA1c) by 0.73% compared to minimal changes in the control group [22].

While more high-quality studies isolating Savasana are needed, current evidence strongly supports its inclusion in diabetes management protocols. The pose's simplicity and accessibility make it an attractive adjunct in nursing-led self-care programs for glycemic control in patients with NCDs.

Mechanisms of Action: Linking Relaxation to Metabolic Health

The therapeutic benefits of Savasana, particularly in managing lipid and glycemic parameters among individuals with non-communicable diseases (NCDs), are primarily attributed to its ability to activate the body's relaxation response. This response counteracts the harmful effects of chronic stress on metabolic health by modulating the autonomic nervous system and neuroendocrine pathways [23].

Chronic stress triggers the hypothalamic-pituitary-adrenal (HPA) axis, increasing cortisol and catecholamines and contributing to insulin resistance, visceral fat deposition, and dyslipidemia [24]. Savasana promotes parasympathetic nervous system (PNS) activity, leading to decreased heart rate, lower blood pressure, and reduced cortisol levels [25]. A study reported a 21% reduction in salivary cortisol levels among participants practicing deep relaxation techniques, including Savasana, over 8 weeks [26].

Savasana has been shown to influence glucose uptake and insulin sensitivity at the biochemical level. Activation of the parasympathetic nervous system improves pancreatic β -cell function and peripheral glucose utilization [27]. A study on individuals with type 2 diabetes showed improved insulin sensitivity and decrease in HbA1c following a yoga regimen with daily Savasana practice [28].

Strengths

Several randomized controlled trials (RCTs) and meta-analyses have demonstrated statistically significant improvements in fasting blood glucose, HbA1c, and LDL cholesterol in interventions that included Savasana as part of a broader yoga. These studies often feature relatively large sample sizes and utilize validated metabolic markers, enhancing the external validity of their findings.

Limitations

However, the majority of these studies employ multi-component yoga interventions, combining asanas, pranayama, meditation, and savasana. This makes it difficult to isolate the specific impact of savasana on metabolic outcomes. Only a limited number of trials have evaluated savasana as a standalone intervention, and most have short follow-up periods, limiting insights into long-term effects.

Gaps in Evidence

A critical gap lies in the lack of standardized Savasana protocols—with variations in duration (ranging from 10 to 30 minutes), frequency (daily to weekly), and mode of instruction (guided vs. unguided). This heterogeneity hampers cross-study comparisons and limits the reproducibility of findings. Future research should aim to strengthen the evidence base by standardizing protocols, including objective stress and metabolic biomarkers, and using Savasana-focused trials.

Implications for Clinical and Nursing Practice

With the global rise in non-communicable diseases (NCDs) such as diabetes, cardiovascular disease, and dyslipidemia, healthcare systems are increasingly embracing integrative and holistic approaches. Savasana, a yogic relaxation technique, has shown promising results in improving lipid and glycemic parameters, providing a valuable, low-cost, and non-invasive tool that nurses can incorporate into patient care.

Nurses, as frontline healthcare providers, play a crucial role in patient education, behavior modification, and chronic disease management. Incorporating Savasana into nursing protocols could enhance patient outcomes through better stress management, improved metabolic markers, and enhanced quality of life. Savasana can also be utilized in inpatient care, especially in cardiac units, where stress reduction is critical. The pose requires minimal space and no equipment and can be tailored for patients with physical limitations. Integrating Savasana sessions during hospitalization or as part of discharge counseling may support recovery and long-term health behavior change. Additionally, incorporating relaxation techniques like Savasana into nursing curricula and continuing education can empower nurses to lead evidence-based wellness programs, especially in resource-limited settings where traditional therapies may be less accessible.

Conclusion

Although often underestimated due to its simplicity, Savasana emerges as a powerful relaxation technique with measurable benefits for individuals living with non-communicable diseases. Evidence from recent clinical trials and meta-analyses highlights its role in improving lipid profiles, reducing fasting blood glucose, and enhancing overall metabolic health by modulating the autonomic nervous system and reducing stress-induced hormonal activity. Despite being included in multi-component yoga interventions, its individual contribution remains promising, warranting further exploration. Integrating Savasana into

clinical and community health settings, particularly through nurse-led initiatives, can offer a low-cost, accessible, and patient-centered strategy for NCD management.

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