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Mindful Healing: Role of Meditation in Diabetes Management in India-2025

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Articalinfo

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Abstract

Meditation, mindfulness-based interventions (MBIs) and therapeutic yoga are increasingly studied as adjuncts to conventional diabetes care. This paper reviews current evidence (systematic reviews, meta-analyses, RCTs and Indian initiatives), proposes biological and behavioral mechanisms, and offers practical, scalable recommendations for integrating meditation into diabetes prevention and management programs in India (2025). Evidence shows modest but consistent improvements in psychological well-being and small improvements in glycemic control (HbA1c), while large-scale, high-quality RCTs in Indian populations remain limited.



Introduction

India faces a large and growing diabetes burden — recent estimates put the number of adults (20–79 y) with diabetes in India at ~89.8 million (2024), and prevalence is rising, creating an urgent need for cost-effective, scalable complementary approaches. Psychological stress, poor sleep, unhealthy eating, and low physical activity contribute to dysglycemia and poor self-management. Meditation and mindfulness interventions target these psychosocial drivers and have been proposed as complementary strategies to improve both behavioral self-care and physiological drivers of hyperglycemia, PRC-2024.

In recent years, the growing prevalence of diabetes in India has

prompted a national re-evaluation of both conventional and alternative healing strategies. As a chronic metabolic disorder characterized by impaired glucose metabolism and insulin resistance, diabetes has emerged not only as a medical challenge but also as a lifestyle and behavioral condition deeply intertwined with stress, diet, and physical inactivity. Within this context, meditation—rooted in India’s ancient spiritual traditions—has resurfaced as a scientifically supported, holistic approach to healing, TYD-2025.

MindfulHealing, as explored, represents the convergence of traditional wisdom and modern scientific evidence in addressing diabetes management and potential reversal, IDF-2024. Meditation-based



interventions such as mindfulness-based stress reduction (MBSR), transcendental meditation, and guided breath regulation have demonstrated measurable effects on glycemic control, cortisol regulation, inflammation, and overall quality of life. In India, where meditation is culturally integrated into daily living, its acceptance as a therapeutic adjunct is gaining new clinical relevance, IPA-2025.

The chapter examines the physiological, psychological, and behavioral impacts of mindfulness practices on diabetic individuals, contextualized within India's healthcare framework. It further explores emerging research on meditation's role in enhancing metabolic homeostasis, improving emotional resilience, and supporting patient adherence to lifestyle

modification programs. As the nation continues to merge traditional healthcare systems with modern medicine, MindfulHealing embodies a transformative model for sustainable diabetes care and self-empowerment through inner awareness and mental balance.

Methods

This is a narrative review focused on high-level evidence and the Indian context (2020–2025), incorporating:

1. Recent systematic reviews and meta-analyses of MBIs and glycemic outcomes (Ni Y, et al.2020).
2. Key randomized / prospective trials (including Indian trials of online MBIs and yoga-based protocols), (Kian, 2028,



Hamasaki et al., 2023).

Randomized / prospective trials (including India)

3. Governmental and institutional programs in India promoting yoga/meditation for NCDs (2024–2025).

- Several RCTs and prospective trials (including online MBIs in India) report improvements in stress, self-management behaviors, and some metabolic parameters; these trials support feasibility and promise but often have small samples or short follow-up.

Evidence summary

Systematic reviews / Meta-analyses

- Meta-analyses indicate MBIs can modestly improve HbA1c (pooled reductions around ~0.2–0.3% in some reviews), and more consistently improve psychological outcomes (stress, depression, diabetes distress). However, effect sizes vary and study quality is mixed.

Yoga and therapeutic-meditation studies in India

- India-specific yoga and mindfulness programs (e.g., Diabetic Yoga Protocols, local university initiatives and national AYUSH campaigns) show emerging evidence of benefit on FBG, postprandial glucose and HbA1c, and are being rolled out at community level as complementary programs. Evidence is encouraging but heterogeneous.

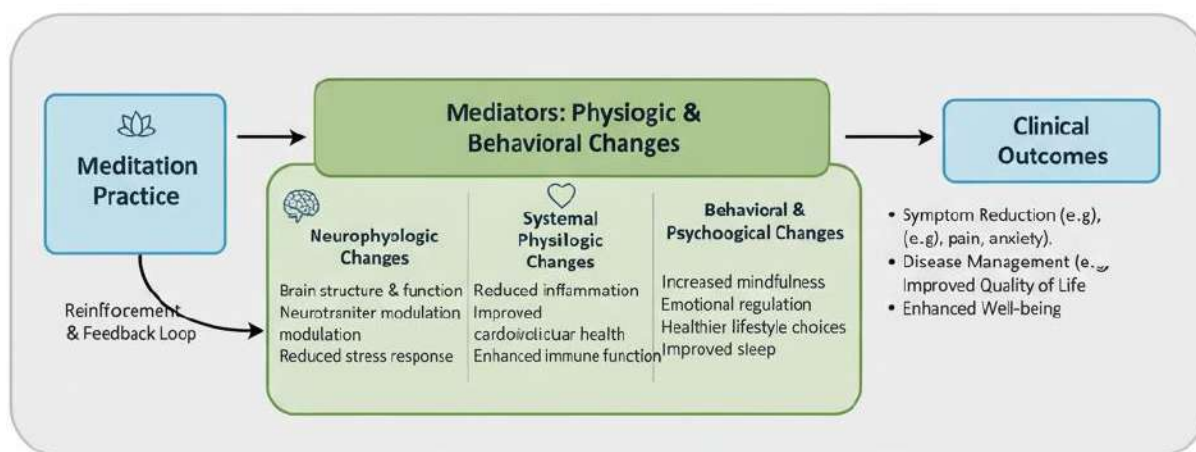


Figure 1: Presents the mechanistic pathway by which meditation may improve diabetes outcomes

Proposed mechanisms



1. **Psychoneuroendocrine effects:**

reduced HPA axis activation,
lower cortisol → improved
insulin sensitivity.

2. **Autonomic balance:**

increased parasympathetic tone →
improved glucose homeostasis.

3. **Reduced inflammation:**

lowered inflammatory
mediators may improve
metabolic profile.

4. **Behavioral changes:**

improved dietary behavior, medication
adherence, sleep and physical
activity through stress
reduction and enhanced self-
regulation.

modules in diabetes clinics and
NCD programs.

Program models

● **Low-cost scalable options:**

Group-based MBSR/MBCBT
sessions, brief digital/tele-
mindfulness programs, and
community yoga camps
coordinated with AYUSH/health
departments. Pilot projects
(universities, AYUSH) show
feasibility.

Policy & public health

- Integrate mindfulness/yoga
into national NCD strategies
with standardized protocols,
training for community health
workers, and monitoring
frameworks (HbA1c, QoL,
diabetes distress). Public
campaigns can leverage
International Yoga Day and
existing AYUSH infrastructure.

Practical implications for India (2025)

Clinical integration

- **Adjunct therapy:** Recommend
meditation/MBI as adjunct to
standard diabetes care (not as
replacement for
pharmacotherapy when
indicated). Include brief MBI

Proposed research agenda (India- focused)



1. **Large, adequately powered RCTs** comparing standardized MBIs + usual care vs usual care alone with 12+ months follow-up, primary outcome HbA1c and secondary outcomes (QoL, medication adherence, healthcare utilization).
2. **Implementation research:** assess real-world delivery via primary care/AYUSH integration, digital platforms, and cost-effectiveness analyses.
3. **Mechanistic studies** measuring cortisol, HRV, inflammatory markers to confirm pathways in Indian cohorts.

Limitations of current evidence

- Heterogeneity in interventions (type/dose), small sample sizes, short follow-ups, and variable trial quality. Many studies show psychological benefits robustly, while metabolic benefits are modest and inconsistent —

necessitating larger, rigorous trials in Indian populations.

Conclusion

Meditation, mindfulness-based programs, and therapeutic yoga are promising, low-cost adjuncts for diabetes management in India in 2025. They consistently improve psychological outcomes and show modest improvements in glycemic control. For population-level impact and to evaluate the possibility of long-term disease modification (“cure” is not yet supported by high-quality evidence), India needs larger RCTs, standardized protocols, and robust implementation research integrated with existing health systems and AYUSH initiatives.

References

Ni Y, et al. Effects of mindfulness-based intervention on glycemic outcomes —



systematic review & meta-analysis. 2020.

Hamasaki H. The Effects of Mindfulness on Glycemic Control — overview of systematic reviews. 2023.

Kian AA. The Impact of MBSR on glycemic control — review (2018).

PRC-Prospective randomized controlled trial (online MBI) — JAPI, 2024 (India trial summary).

TYD-Therapeutic yoga & diabetes (India reviews / JAIDS, 2024–2025).

International Diabetes Federation (IDF)/ Diabetes Atlas — India estimates (2024: ~89.8M adults with diabetes).

IPA-Indian programs & AYUSH/University yoga initiatives (2024–2025 report).