International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Ayurvedic CDC Protocol for Type 2 Diabetes Mellitus: Glycemic Outcomes Across 316 Patients at Madhavbaug Central RIC Clinics — A Multi-Centre Retrospective Analysis

Dr. Rohit Madhav Sane[1], Dr. Pravin Jayaram Ghadigaonkar[2], Dr. Nilesh Kulthe[3]

[1]MD and CEO, Vaidya Sane Ayurved Laboratories Limited
[2]Head, Medical Operations, Vaidya Sane Ayurved Laboratories Limited
[3]Zonal Medical Head, Medical Operations, Vaidya Sane Ayurved Laboratories Limited

Abstract

Background: Type 2 diabetes mellitus (T2DM) imposes significant metabolic burden in India. Madhavbaug's CDC (Chronic Disease Control) protocol integrates Panchakarma, low-calorie Prameha diet, and herbal medication as a structured Ayurvedic intervention.

Objective: To evaluate the effect of the CDC protocol on glycemic and cardiometabolic parameters in 316 T2DM patients across Central RIC clinics.

Methods: Retrospective observational study of 316 T2DM patients (CDC-SP and CDC-KP arms) enrolled at Madhavbaug Central RIC clinics. Paired t-tests evaluated within-group change in HbA1c, RBS, weight, BMI, abdominal girth, blood pressure, and lipid profile.

Results: HbA1c declined from 8.95±2.17% to 7.36±1.33% (Δ −1.59%, −17.7%, $p<0.001$); RBS reduced from 231.68±93.73 to 160.92±64.51 mg/dL (−30.5%, $p<0.001$). Weight fell by 2.89 kg (−3.9%), BMI by 0.97 kg/m² (−3.4%), abdominal girth by 3.22 cm (−3.2%), SBP by 6.45 mmHg, DBP by 3.72 mmHg (all $p<0.001$). Total cholesterol decreased by 10.6% ($p=0.006$).

Conclusion: The Madhavbaug CDC protocol produced statistically significant and clinically meaningful improvements in glycemic, anthropometric, and cardiometabolic parameters across 316 patients at multiple Central RIC sites, replicating single-clinic findings at scale.

Keywords: Type 2 diabetes mellitus, HbA1c, CDC protocol, Ayurveda, Panchakarma, RBS, glycemic control, multi-centre

1. Introduction

India harbours over 101 million individuals with Type 2 diabetes mellitus (T2DM), representing approximately 17% of the global diabetic population. Despite pharmacological advances, a large proportion of patients fail to achieve glycaemic targets on conventional therapy alone, with progressive polypharmacy escalation and suboptimal targeting of underlying metabolic dysfunction. Ayurveda conceptualises diabetes as Prameha — specifically Madhumeha — a disorder of Kapha-Meda imbalance

obstructing the Medovaha Srotas. The Madhavbaug CDC protocol operationalises this classical framework through BMI-stratified Panchakarma (Snehan, Swedan, Basti), an 800 kcal/day low-carbohydrate Prameha diet, and individualised herbal medication.

2. Materials and Methods

2.1 Study Design

Retrospective observational study. Data extracted from electronic patient records at Madhavbaug Central RIC clinics covering Kalyan, Thane, Navi Mumbai, and Mumbai branches. Study period: 2024–2026. Institutional ethical principles for retrospective research were followed.

2.2 Study Participants

Inclusion: Patients enrolled in the CDC DM Package (CPType = DM Packages) with confirmed T2DM, having documented pre- and post-treatment HbA1c or RBS values. Exclusion: Patients lacking baseline clinical measurements or with less than one completed intervention cycle. Final n = 316 (Male: 192, 60.8%; Female: 124, 39.2%).

2.3 Intervention

CDC-SP (BMI ≥23 kg/m²): Bio-purificatory Panchakarma including Abhyanga (Neem Siddha Taila), Swedana (Dashmula Kwath), and Kwath-based Basti (Gudmar, Daru Haridra, Yashti Madhu) with 800 kcal Prameha diet. CDC-KP (BMI <23 kg/m²): Nourishing-supportive Panchakarma with oil-based Basti. Both arms received individualised oral herbal medication.

2.4 Statistical Analysis

Descriptive statistics reported as mean ± SD. Paired Student's t-test (two-tailed) for within-group pre-post comparisons; significance threshold $p<0.05$. Analysis conducted in Python (pandas, scipy.stats).

3. Results

3.1 Baseline Characteristics

Parameter	Value	Range / Category
Total Patients	316	—
Sex (M/F)	192 / 124	60.8% / 39.2%
Mean Age (years)	49.1 ± 11.7	Range: 18–79
Baseline HbA1c (%)	8.95 ± 2.17	4.4 – 16.2
Baseline RBS (mg/dL)	231.68 ± 93.73	—
Baseline BMI (kg/m²)	28.31 ± 4.72	—
Baseline SBP (mmHg)	132.28 ± 19.26	—

3.2 Pre-Post Outcomes

All primary and secondary parameters showed statistically significant improvement (Table 2).

Parameter	Pre (Mean±SD)	Post (Mean±SD)	Δ Mean	% Change	p
HbA1c (%)	8.95±2.17	7.36±1.33	−1.59	−17.7%	**<0.001**

RBS (mg/dL)	231.68±93.73	160.92±64.51	−70.76	−30.5%	**<0.001**
Weight (kg)	73.57±13.93	70.68±13.61	−2.89	−3.9%	**<0.001**
BMI (kg/m²)	28.31±4.72	27.34±4.57	−0.97	−3.4%	**<0.001**
Abd. Girth (cm)	99.22±11.00	96.00±10.57	−3.22	−3.2%	**<0.001**
SBP (mmHg)	132.28±19.26	125.83±16.10	−6.45	−4.9%	**<0.001**
DBP (mmHg)	83.74±10.91	80.02±9.27	−3.72	−4.4%	**<0.001**
Total Cholesterol	195.52±42.85	174.86±37.91	−20.65	−10.6%	**0.006**
Triglycerides	190.90±136.12	178.63±129.49	−12.27	−6.4%	**0.011**
LDL (mg/dL)	122.70±41.04	113.64±42.07	−9.06	−7.4%	**0.007**

4. Discussion

The 17.7% relative reduction in HbA1c (8.95% → 7.36%) across 316 patients at multiple Central RIC The RBS reduction of 30.5% (231.68 → 160.92 mg/dL) demonstrates acute glycaemic benefit even within shorter intervention windows. The concurrent 3.4% BMI reduction and 4.9% SBP reduction indicate that the protocol addresses multiple metabolic axes simultaneously, consistent with the holistic Prameha framework of Ayurveda.

The 10.6% total cholesterol reduction and 6.4% triglyceride reduction are clinically meaningful, reducing atherogenic burden. At the multi-centre scale, these results support the generalisability of the CDC protocol beyond single-site settings, demonstrating consistent outcomes across diverse urban populations in Maharashtra.

5. Conclusion

The Madhavbaug CDC protocol achieved statistically significant improvements across all glycaemic, anthropometric, and cardiometabolic parameters in 316 T2DM patients across Central RIC clinics. The multi-centre nature of this analysis strengthens the evidence base for Ayurvedic multimodal intervention in T2DM management. Prospective randomised controlled trials are warranted.

References

1. IDF Diabetes Atlas, 10th Edition, 2021.
2. Mohan V, et al. Lancet Diabetes Endocrinol. 2018.
3. Charaka Samhita, Chikitsa Sthana.
4. Sushruta Samhita, Nidana Sthana.
5. Shanmugasundaram ER, et al. J Ethnopharmacol. 1990.
6. Singh J, et al. Phytother Res. 2003.
7. Lean ME, et al. (DiRECT). Lancet. 2018.