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Review Article

Integrating *Dinacharya* and Yoga for the Prevention of Lifestyle Disorders

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ABSTRACT:

Daily habits affect health, but keeping a healthy routine can be difficult when work, meals and sleep are irregular. Ayurveda describes *Dinacharya* as a way of organizing everyday care. Yoga can form part of this routine through movement, breathing exercises, meditation and relaxation. This narrative review examines the classical basis of these practices and selected research on physical activity, stress, blood pressure, sleep and diabetes prevention. It also proposes a daily routine that could be tested in future studies. Yoga studies report benefits for some outcomes, although the strength of the evidence varies. A three-year Indian trial found fewer new cases of diabetes when adults with prediabetes added structured yoga to standard lifestyle measures. Reviews of stress and blood pressure also suggest possible benefits, but differences between studies and weaknesses in their methods limit firm conclusions. These findings do not establish that a complete *Dinacharya* and yoga programme prevents lifestyle disorders. A practical programme should fit the person's health, ability and daily responsibilities, while keeping established medical care in place. Future trials need a clear description of the routine, suitable comparison groups, reliable measurements and longer follow-up. The combined approach is a reasonable proposal for preventive care, with its added value still to be tested.

Keywords: *Dinacharya*; yoga; *Swasthavritta*; lifestyle disorders; diabetes prevention; stress.

Introduction

Long periods of sitting, irregular meals and too little time for sleep or exercise can become part of ordinary life. Preventive advice needs to address these habits in a way that people can continue. A routine that is difficult to fit around work and family responsibilities is unlikely to last.

Ayurveda places daily care within its approach to maintaining health. The *Charaka Samhita* discusses food quantity and personal care in *Sutra Sthana*, chapter 5. The *Ashtanga Hridaya* gives a separate chapter to *Dinacharya*, including waking, hygiene, oil massage, exercise and conduct.[1,2] These passages

provide a traditional basis for organizing everyday habits.

Yoga adds practices involving posture, breathing and attention. This review considers how selected elements of *Dinacharya* and yoga could be brought together in a practical programme. The aim is to explain the supporting evidence, describe the limits of the comparison with modern medicine, and propose a routine for further study.

Review approach

This is a selective narrative review. Classical passages were considered alongside published trials, reviews and official health guidance. Targeted searches focused on yoga, stress, hypertension, prediabetes, insomnia, physical activity and meal timing. Available source texts, abstracts and bibliographic records were examined. No new patient data were collected, and no pooled analysis or formal assessment of study bias was performed. The review therefore does not claim to cover every relevant study.

What *Dinacharya* contributes

Dinacharya describes a regular pattern of daily care. Its practical value lies in giving routine activities a place in the day. The classical account includes oral care through *Dantadhavana* and *Jihva Nirlekhana*, procedures such as *Gandusha* and *Kavala*, *Abhyanga* or oil massage, *Vyayama* or exercise, and *Snana* or bathing. These practices have different purposes and should not all be assigned the same preventive effect.[1,2]

The recommendation to rise during *Brahma Muhurta* appears in *Ashtanga Hridaya*, *Sutra Sthana* 2/1. The same chapter discusses *Abhyanga* in verses 8–9 and exercise in verses 10–14, with attention to capacity and excessive exertion.[2] In a modern programme, early waking should be adapted to the person's working hours and need for adequate sleep. It should not become a reason to shorten sleep in someone who works late or on night shifts.

Asutkar and colleagues discuss the relevance of *Dinacharya* to present-day health maintenance.[3] This offers a useful conceptual starting point. However, a review of classical practices cannot establish that the complete routine prevents diabetes, hypertension or obesity.

Ayurvedic terms also need careful use. *Agni* describes a traditional concept concerned with digestion and transformation; *Dosha*, *Kapha* and *Meda* belong to the wider Ayurvedic account of bodily function. They may help frame clinical questions, but they are not direct substitutes for metabolic rate, hormones, insulin resistance or measured body fat. A study should define what it actually measures rather than use a modern label as an assumed translation.[3]

Physical activity and yoga

Vyayama provides a clear point of practical agreement with modern preventive care. Both approaches give exercise a regular place in life and recognize that activity should suit the person. The WHO recommends that adults aim for 150–300 minutes of moderate-intensity aerobic activity, or 75–150 minutes of vigorous activity, each week, together with muscle-strengthening activity on at least two days. It also advises limiting sedentary time.[4]

Yoga sessions can include *Asana*, *Pranayama*, *Dhyana* and relaxation. Some sessions are physically demanding, while others involve mainly quiet breathing or rest. A gentle session should therefore not automatically be counted as meeting an aerobic exercise target. Walking and other suitable forms of activity may still be needed. The programme should record the type, duration and intensity of movement, rather than assume that every yoga session provides the same amount of exercise.

What the clinical studies show

Stress

Schleinzer and colleagues reviewed 13 randomized trials involving 1,026 adults with stress; nine trials contributed to the pooled analysis. Yoga reduced reported stress in the short term compared with passive controls, such as waiting lists, but the evidence was rated low quality. Limited longer-term comparisons favoured active control treatments.[5] Yoga may be an option for stress management, but these results do not show that it is better than every other supported activity.

Blood pressure

A 2025 review by Geiger and colleagues included 30 randomized trials with 2,283 participants who had prehypertension or hypertension. Compared with waiting-list controls, pooled blood pressure reductions were about 8 mmHg systolic and 5 mmHg diastolic. The certainty of evidence was very low, and results differed considerably between studies. Against active controls, the systolic difference was not statistically clear, although a smaller diastolic reduction was reported.[6]

This supports further study of yoga alongside usual care. It does not justify stopping blood pressure medicines or applying the average study effect to an individual patient. Blood pressure must still be measured and treatment reviewed clinically.

Diabetes prevention

The Indian Prevention of Diabetes Study provides longer-term evidence. Madhu and colleagues randomized 974 adults with prediabetes at five centres. One group received a structured 40-minute yoga programme in addition to standard lifestyle measures; the other received lifestyle measures alone. Over three years, diabetes developed in 11.5% of the yoga group and 18.9% of the comparison group.[7]

The reported relative reduction was 39.2%. The absolute difference between the reported rates was 7.4 percentage points. This distinction helps describe the size of the result. The study was open-label and tested a defined yoga programme in people with prediabetes. It did not test a full *Dinacharya* programme or establish the same benefit in the general population.

Sleep

Verma and colleagues compared yoga, an Ayurvedic intervention and a control treatment in an open-label trial with 120 randomized participants. Assessments were made at the start and on day 48. The authors reported improvements in sleep and related measures, particularly in the yoga group.[8] The short duration and lack of blinding limit what the study can establish about lasting benefit. Persistent sleep problems still need assessment rather than being treated only as a failure to follow a routine.

Table 1 summarizes the evidence most directly relevant to the proposed programme.

Table 1 Selected clinical evidence and its limits

Area	Evidence	Interpretation
Stress[5]	Review of 13 trials; 1,026 participants.	Possible short-term benefit against passive controls; low-quality evidence.
Blood pressure[6]	Review of 30 trials; 2,283 participants.	Reductions against waiting lists; very low certainty and less clear results against active controls.
Diabetes prevention[7]	974 adults with prediabetes; 3 years.	Fewer new cases with yoga plus lifestyle measures; applies to the programme and population studied.
Sleep[8]	120 participants; assessment on day 48.	Reported improvement; brief, open-label study.

Meal timing and sleep

Regularity is a central idea in the proposed model. McHill and Butler review how the timing of food intake interacts with the body's daily rhythms. Their account brings together animal research and human studies and discusses why eating during the usual rest period may affect metabolism.[9] This provides a reason to study meal timing, but it does not make classical Ayurvedic meal advice identical to modern circadian medicine.

For practical care, a person could work toward reasonably consistent meal and sleep times that fit their circumstances. Food quality, quantity, medicines and working hours also need attention. The model does not require a single eating window or fasting schedule for everyone. Shift workers may need an adapted plan, and anyone taking glucose-lowering medicines should discuss substantial changes in meals or activity with the treating clinician.

Self care and conduct

Abhyanga is described as part of daily care in the classical texts.[1,2] A person may find a suitable massage comfortable or relaxing, but the evidence reviewed here does not establish that daily oil massage independently prevents obesity, diabetes or

cardiovascular disease. Its place in this proposal is optional self-care, with its effects judged separately from those of exercise or dietary change.

Sadvritta concerns personal conduct, speech, social behaviour and restraint from harmful actions. The conduct passages of *Ashtanga Hridaya*, *Sutra Sthana* 2/20–26, provide part of this traditional context.[2] These ideas are broader than a stress-management technique. A contemporary programme could draw on them when discussing daily habits and relationships, while avoiding claims that ethical conduct has a specific, proven biochemical effect.

A practical combined programme

The proposed programme brings together five areas, shown in Table 2. It is an adaptation of selected practices for contemporary use, rather than a claim that every classical procedure is suitable for unsupervised daily practice. Its value would depend partly on whether people find it manageable and continue it.

Table 2 Main parts of the proposed daily programme

Area	Practical approach	What could be recorded
Daily timing	Regular waking and sleeping, adapted to work and health.	Sleep and waking times; day-to-day variation.
Movement	*Vyayama* and suitable *Asana*, with other activity as needed.	Activity time, sitting time and practice attendance.
Stress management	Comfortable *Pranayama*, *Dhyana* or relaxation.	Perceived stress and time spent practising.
Eating habits	Suitable meals at reasonably consistent times.	Meal timing, food intake and relevant weight changes.
Self care	Hygiene, optional *Abhyanga* and discussion of *Sadvritta*.	Acceptability, adherence and unwanted effects.

Note: This table describes a proposed framework. It does not assign a proven disease-prevention effect to each component.

Morning

After waking and personal care, a suitable yoga session could begin with gentle movements. An illustrative session might include 5–10 minutes of loosening exercises, 20–25 minutes of *Asana*, 10–15 minutes of comfortable *Pranayama*, and 5–10 minutes of meditation or relaxation. These times are planning examples, not a validated dose. Beginners may need a shorter session, with practices selected by a trained instructor.

During the day

The plan should allow regular movement and breaks from prolonged sitting. Meals can be planned around work, appetite and medical needs. Someone with limited time may find a short walk and a simple meal plan easier to maintain than a long list of daily instructions. Progress should be reviewed through what the person actually does, rather than what was written in the initial plan.

Evening and night

A quieter period before sleep may include easy breathing or relaxation. A reasonably consistent bedtime and waking time can be agreed where work permits. The routine should leave enough time for sleep and should not become another source of pressure. Its demands need to be adjusted when illness, caregiving or changing shifts interrupt the usual schedule.

Use in preventive and clinical care

For adults with excess weight, the programme could support movement and planned eating, with weight and waist circumference recorded over time. For prediabetes, glucose measures can be followed alongside established lifestyle care. For hypertension, blood pressure remains the main clinical measure. Stress and sleep can be assessed with suitable questionnaires, such as the Perceived Stress Scale and Pittsburgh Sleep Quality Index, together with the person's account of daily functioning. These are proposed uses and monitoring choices, not proof that the whole programme treats each condition.

Yoga is generally considered safe when taught appropriately, but strains and other injuries can occur. Older adults, pregnant people and those with

significant medical or musculoskeletal problems may need modified practices and clinical advice. Beginners should avoid extreme postures and forceful breathing. Severe or poorly controlled hypertension also calls for individual assessment.[10]

The programme should support ongoing care. It should not delay investigation of symptoms or replace prescribed treatment for diabetes, hypertension or another established illness. A participant who develops pain, dizziness or unusual breathlessness needs the practice reviewed. Adverse effects and reasons for stopping should be recorded in both clinical programmes and research.

How the combined programme should be tested

Any benefit could come from several changes occurring together: more movement, more regular meals, time for relaxation or better adherence to usual care. It could also reflect instructor attention, expectations or group support. Measuring cortisol, heart-rate variability or inflammatory markers may help explore a mechanism, but an improved questionnaire score alone cannot show which biological pathway has changed.

A future trial could compare three groups. All would receive the same standard lifestyle advice and any indicated medical care. The first would receive this care alone, the second would add a defined yoga programme, and the third would add the same yoga programme plus specified *Dinacharya* elements. This would test whether the added daily-routine component offers benefit beyond yoga and usual advice. Contact time should be made comparable where possible.

An initial 12–24-week study could examine feasibility and short-term outcomes, followed by longer observation. The primary outcome should match the population and be chosen before recruitment. For example, a prediabetes study might focus on HbA1c, while a blood pressure study would use standardized blood pressure measurements. Other measures could include waist size, lipids, stress, sleep, quality of life and adherence. Demonstrating prevention of diabetes would require a larger and longer study than a short feasibility trial.

The protocol should describe every component, its frequency, instructor training and allowed adjustments. Researchers should register the trial, justify its sample size, conceal allocation, use assessors unaware of group assignment and plan how missing data will be handled. Changes in medicines, diet and other exercise also need to be recorded. This would make the results easier to interpret and repeat.

Discussion

Dinacharya offers a way to organize daily habits, while yoga provides activities that can be included in that routine. The comparison is useful at a practical level, especially when it helps people understand and follow preventive advice. It becomes less reliable when traditional concepts are presented as established biological mechanisms.

The evidence is uneven. General physical activity has a well-supported place in prevention. Selected yoga studies report improvements in stress, blood pressure and sleep, and one large trial provides encouraging evidence for diabetes prevention in adults with prediabetes. None of these findings, alone, validates the complete programme proposed here. Evidence for one part should not be transferred automatically to the whole.

This review is limited by selective source use and the differing methods of the cited studies. It does not provide a new pooled estimate of benefit. The proposed routine also needs testing for cost, time burden and acceptability. A simpler programme that people can continue may be more useful than a demanding schedule, but that assumption should be examined rather than taken for granted.

Conclusion

Combining selected *Dinacharya* practices with yoga may provide a practical way to organize daily preventive care. The approach should emphasize manageable activity, suitable meals, adequate sleep and time for relaxation. Research supports some individual components, while the added benefit of the complete programme remains uncertain. Clear protocols and well-designed trials are needed before it can be described as a proven method for preventing lifestyle disorders.

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