

## **GAD and Stress Management in IKS: An Integrated Ayur-Yoga Approach**

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### **Abstract**

*Post COVID-19 Pandemic, there is an outrageous increase in mental health diseases, with WHO statistics in prevalence of Anxiety and depression cases stands at ~25% increment worldwide [1] and in range of ~23.7% to ~35% alarming rates in India [2]. This rising trend of mental health disorders, mainly fueled by rapid urban-lifestyle changes, lack of socio-environmental interactions and excessive digital exposure, there is an urgent need to address this issue by an integrative approach, blending classical ayurvedic wisdom with emerging approaches in psychiatric care. Generalized Anxiety Disorder (GAD) can be correlated as 'Chittodvega' in Ayurveda as described by Acharya Charaka in 'Manasika Vikara' [3]. This paper intend to explore how a structured Ayur -Yoga framework , consisting of simple yogic and ayurvedic daily protocols viz. Dinacharya -chief components like Brahma-muhurta wake-up, Abhyanga, Nasya, Vyayama with special focus on Eight-limbed Yoga postulated by Maharshi Patanjali (Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, Samadhi), Snana-Saucha ,Sadvritti and mindful dietary practices (Bhojanavidhi), enhances the activation of body's innate bio-clock alignment with nature (Circadian Rhythm), promotes sustained relaxation, lower cortisol levels [12], thereby deflating stress and anxiety attack vulnerability. Classical Raja yoga treatise, namely Yog darshan's Ashtanga Yoga coupled with this holistic daily regimen (Dinacharya) can be an potential contributor in prevention and management of spectrum of mental health diseases like GAD as well as acute and chronic stress in individuals. Systemic comprehensive review suggest that this integrated structured Ayur-yoga approach comprising of Dinacharya with Ashtanga Yoga can be a promising non-invasive solution indicating positive clinical outcomes like reductions in perceived stress and anxiety scores, improvement in sleep quality, reduced facial pain, better emotional regulation, reduced BDNF, suggesting plausible neuroendocrine and autonomic mechanisms with enhancement in overall quality of life.*

**Keywords:** Generalized Anxiety Disorder, Indian Knowledge System, Stress, Dinacharya, Ashtanga Yoga.

## Introduction

‘Swastha’ is defined as the state of complete wellness where a person is devoid of any abnormal condition or infirmity [6]. There is no health without mental health. The very word ‘Stress’, more particularly in modern fast-paced lifestyle has become a menace in life of working Individuals, students as well as householders. Prolonged exposure to stress, irregular routines, maladaptive habits and poor coping skills results in severe mental and psychosomatic diseases [7]. More severe psychiatric disorders like Generalised Anxiety Disorders (GAD) is such a prevalent and disabling condition where persistent uncontrollable anxiety disrupts normalcy of daily chores in a person’s life. This form of mental diseases manifests through a complex interplay of psychological and somatic symptoms, including persistent muscle tension, autonomic hyperarousal, cognitive impairment, restlessness, and disturbed sleep might resulting in insomnia. Current pharmacological treatments, though effective, often carry adverse effects and do not adequately address lifestyle determinants of mental health. However an integrated Ayurveda-Yogic approach. Ayurveda conceptualizes anxiety-like state of mind as Manas Vikara, more precisely as ‘Chittodvega’ where ‘Chitta’ referring to ‘mind’ and ‘Udwega’ to anxiousness. arising from imbalance of Doshas and disturbance of trigunas (Sattva–Rajas–Tamas). Indian Knowledge system prescribes Dinacharya as a primary tool to restore psycho-physiological harmony, regulates sleep-wake cycle by harmonizing hormones ensuring sustainable health as per bio-clock in body of an individual. This study aims at proposing a qualitative and analytical research design to explore the fundamental principles of Dinacharya clubbed with Maharshi Patanjali’s Ashtanga yoga and their relevance in preventing mental health disorders and managing stress in an era of fast-paced world.

## Methodology

A comprehensive literary exploration has been carried out with the objective of bridging ancient Indian Ayurvedic wisdom with contemporary psychiatry research. The present methodological approach is based on comparative analysis of several diverse sources like 5000 years old ayurvedic treatises, modern scientific research publications like PubMed, Google scholar and yogic texts, related to Dinacharya, addressing its holistic usage and traditional principles in light of emerging scientific validation in mental health care. Extensive systematic review has been carried out including philosophical inquiry and addressing psychological perspectives to understand the correlation between Indian Knowledge System teachings and mental well-being. The research article primarily acquires information based on secondary data sources that includes Charak Samhita, Sushrut Samhita, Ashtanga Hridayam by Acharya Vagbhata, Patanjali’s Yoga Sutras (original Sanskrit verses and translations), classical and modern interpretations of this Sanskrit treatises by eminent scholars, several scientific research papers, articles, books and journals related to ayurveda, panchakarma, yoga, psychology, neuroscience, trusted case studies pertaining to psychiatric disorder, sustainable health and mental wellbeing.

### Stress and Generalised Anxiety Disorder (GAD) in Ayurveda

In ayurveda, Anxiety Disorders and Stress is dealt under a specialised branch of Ayurveda known as 'Bhutavidya' or 'Graha Chikitsa'. It is linked to Manasika Vikara which can be correlated to mental health diseases in modern psychiatry. Key etiological factors for all Manas-vikara are 'Prajnaparadha' (Intellectual misuse), 'Asatmendriyarthasamyoga' (Improper Sensory Usage) and 'Parinama' (Improper use of Kala) [8]. Mental health disorders in Ayurveda mainly arises from disturbance of Manasika Doshas (Rajas and Tamas) along with deranged Tridosha (particularly Vata) which correlates closely with symptoms of anxiety such as restlessness, fear, and instability of mind or 'Anavasthita Chitta'. Conditions like 'Chittodvega' are described as states of mental agitation, fear, and incessant thought turbulence, closely resembling the phenomenology of Generalised Anxiety Disorder. According to DSM-V, Generalized Anxiety Disorder (GAD) represents a chronic anxiety condition marked by pervasive, excessive and uncontrollable worry related to every day trivial things, often disproportionate to situational demands. Long-standing stress and improper lifestyle (Mithya Ahara-Vihara) are said to disturb the normal equilibrium state of trigunas viz. Satva, Rajas, and Tamas, leading to psychosomatic illness in which Manasika (mental) and Sharirika (bodily) disorders mutually influence each other.

'Distress' (a negative form of stress) can be understood as a real or imaginary threat affecting an individual's coping ability during continuous exposure to adverse environmental and psychological factors (*Manas Hetu*) such as fear, anger, grief, overwork, irregular routines, and sensory overload. These factors trigger "fight or flight" responses, with increased secretion of stress hormones, mirroring modern concepts of hypothalamic-pituitary-adrenal axis activation. Over time, this disturbed psycho-physiological state leads to *Manovaha Srotas Dushti*, resulting in insomnia, digestive disturbance, disturbed metabolism and weakened Ojas (vital essence), all of which increase vulnerability to anxiety and depressive states.

### Dinacharya as a Preventative Approach

The Sanskrit Word 'Dinacharya' has been taken from two words 'Dina' means Daytime and 'Acharya' means Behaviour or Routine. As per Acharya Charaka, continuum of dosha, dhatu and mala is defined as state of good health 'Swasthya' and in this context ayurveda's dinacharya plays a very crucial role in prevention and management of personal well-being as well as longevity 'Deergham Jeevitham' [5]. Comparative analysis of dinacharya as illustrated by various Acharyas in Brihadtrayee (C.S, S.S, A.H) is tabulated in Table no 1.

SI No	Charak Samhita	Sushrut Samhita	Ashtanga Hridayam
1.	Anjana	Brahmamuhurta uttisthet	Brahmimuhurtejagarana
2.	Dhumpana	Malotsarga Vidhi	Malotsargavidhi

3.	Nasya	Dantadhavana- Jivhanirlekhana- Achamana	Dantadhavana- Jivhanirlekhana- Achamana
4.	Dantadhavana- Jivhanirlekhana	Anjana	Anjana
5.	Gandusha	Nasya	Nasya
6.	Snehadharan	Kavala-Gandush	Kavala-Gandush
7.	Karnapurana	Dhoompana	Dhoompana
8.	Abhyanga Padabhyanga	Abhyanga	Abhyanga
9.	Parimarjana	Vyayama	Vyayama
10.	Snana	Udhvartam	Udwartana
11.	Swachhya Vastradharana	Snana	Snana
12.	Ganda,Mala, ratnadharana	Bhojanvidhi	Bhojanvidhi
13.	Padatran,Chhatra Dharan	Madhyana Charya	-

Table 1: Comparative illustration of Dincharya in Charak Samhita, Sushrut Samhita, Ashtanga Hridayam [12,17]



Figure 1: Various modalities of Dinacharya beneficial in mental health diseases prevention and management

**Results and Discussion**

Generalised Anxiety Disorder is associated with hyperactivity of the HPA Axis (Hypothalamic–pituitary–adrenal axis, lowered heart rate variability (HRV), elevated sympathetic drive and cognitive biases toward threat. Chronic Anxiety possesses negative impact on autonomic nervous system, withdrawal of PNS activity with reduction in vagal tone, decreased HRV [21]. Interventions that stabilize circadian rhythm, enhance parasympathetic tone and improve top-down regulation of limbic circuits are therefore biologically plausible candidates for adjunctive GAD management [20].

### **Brahmamuhurta Uttisthet as Anti-Stress Tonic**

Brahma Muhurta refers to the second last muhurta before sunrise (Approx. ~ 96 minutes before sunrise). Waking up early in this 48 minutes morning window sets a natural anti-stress tone for the rest of the day as the endogenous cortisol level is naturally at peak during Brahmamuhurta [22]. From an Ayurvedic standpoint, early rising before sunrise (*Brahma-Muhurta Uttisthet*) optimizes Satva guna and balances Vata, providing mental clarity (Prasanna Manas).

A review study by Bhende et al (2024) showed that dinacharya practices in ayurvedic samhitas such as Brahmamuhurta jagarana, Abhyanga, Vyayama coupled with meditation or pranayama, coherently aim to improve mental health of individuals, reducing anxiety symptoms, to attain four goals of human life [22]. Regular habit of early rising, particularly in between 4.24 am to 5.12 am also aligns with evidence from chronobiology that consistent sleep–wake schedules improve mood, reduce perceived stress and enhance cognitive control over worry by stabilizing prefrontal–limbic networks, hence can be helpful in prevention and management of anxiety disorders like GAD.

### **Nasya in Generalised Anxiety Disorder**

Nasal cleansing in Ayurveda, popularly known as Nasya, involves the instillation of medicated authentic oils/dravyas such as Anu Tailam, Tila taila or Brahmi Taila [4] into the nostrils, regarded as the gateway to the head. Daily practice of this therapy not only cleanses nasal passages, lubricates mucous membranes but balances Prana Vayu—a Vata subtype governing respiration, cognitive and nervous functions. Appropriate medicated Nasya applications clears Kapha accumulations from the head, thereby enhancing mental clarity, reducing stress and anxiety, improved cognitive function and better emotional stability [12].

Pseudo Randomised study conducted by Vivera et.al (2016) on 30 patients presented significant improvement has been observed in facial paralysis (Ardita) patients with symptoms of facial distortion, pain, ear ache, speech disorders when treated with effective ayurvedic Taila Nasya instillation within the statistical range of 78.2% to 90.9% [10].

Daily Nasal drop instillation, known as ‘Pratimarshya Nasya’ delivers lipophilic medicaments to the directly to the brain via nasal mucosa, improving actions of neurotransmitters like GABA and serotonin for anxiolytic effect [4]. Sharma et al (2025) reported ~81.16% relief in on

Hamilton Anxiety Rating Scale (HAM-A) scores in disease of chittodvega (GAD), with 80.43% symptoms reduction with statistical deviation less than ( $p < 0.001$ ) is observed on clinical case studies on five patients of generalised anxiety disorder, receiving integrated ayurvedic protocol of Pratimarsha Nasya and oral Medhyaghritapana [4]. A similar case study on GAD is presented by et al (2021) randomized trial ( $n=108$ ) comparing Brahmi Taila and Anu Taila Pratimarsha Nasya over 90 days reported highly significant HAM-A improvements ( $p=0.000$ ) and Clinical Global Impression changes in both groups, reducing severe cases to zero and confirming non-invasive efficacy for early GAD [14].

Nasya's neuroprotective action stems from crossing the blood-brain barrier, pacifying aggravated doshas, bolstering Sattva Guna and Ojas for resilience, and alleviating GAD symptoms like worry, insomnia, and tension without side effects, positioning it as a safe adjunct in integrative GAD protocols.

### **Abhyanga in Stress and GAD**

*Abhyaṅgam ācaren nityam sa jarā-śrama-vātaḥ |  
Dr̥ṣṭiprasāda-puṣṭy-āyuh svapna-sukha-karam param || 8 ||*

*Puṣṭāṅge dr̥ḍha-dehe ca tvak-sāraḥ priya-darśanaḥ |  
Balavān kleśa-sahaś ca bhavaty abhyaṅga-sevanāt || 9 ||*

- **Vāgbhaṭa. Aṣṭāṅga Hṛdaya, Sūtrasthāna, 2 (8-9)**

According to Acharya Vagbhata, regular *Abhyanga* alleviates ageing, fatigue, and vāta disorders, promotes clarity of vision, nourishment of tissues, vitality, longevity [14]. *Abhyanga* not only increases physical strength but also enhances tolerance to stress and exertion. Variants of *Abhyanga*, namely Siro-*abhyanga* and pada-*abhyanga* regulates stress responses, promotes psychophysiological relaxation, improves sleep quality, emotional balance, and mood stabilization. These effects are particularly relevant in anxiety disorders such as Generalized Anxiety Disorder (GAD), where chronic hyperarousal, somatic tension, and sleep disturbances are core symptoms. By reducing stress hormones and alleviating neuromuscular rigidity, *Abhyanga* may help mitigate physical manifestations of anxiety and restore autonomic nervous system balance as presented by Basler et al (2011) [13].

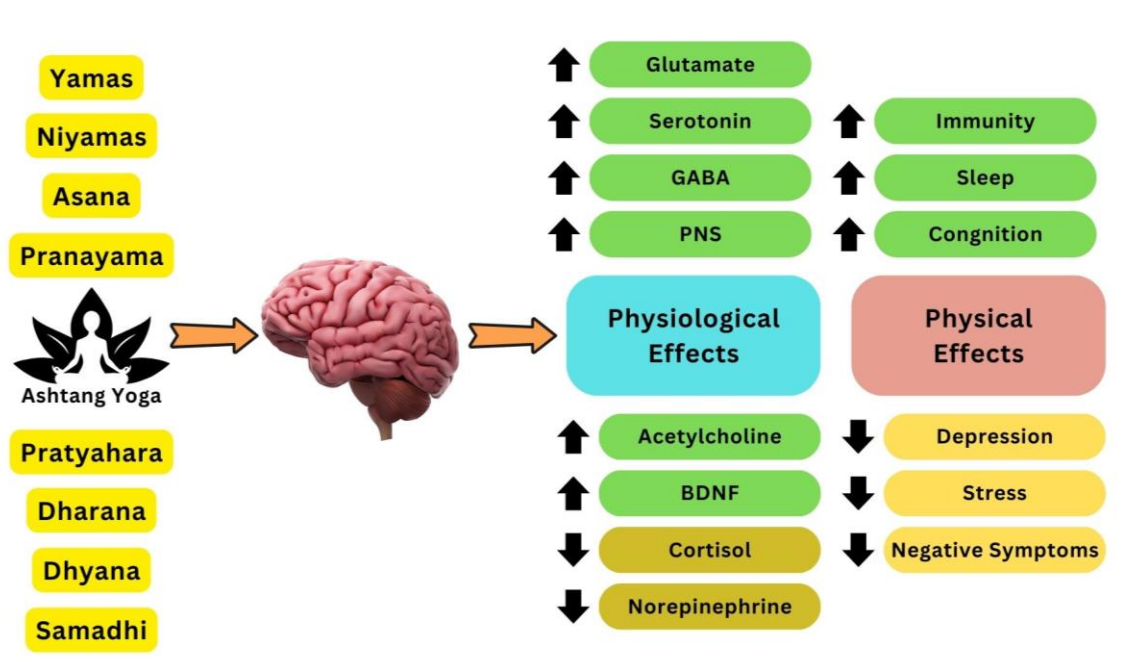
Sinha et al (2024) shows that regular practice of warm oil massage over full body has been shown to reduce muscle tension, enhance peripheral circulation, and induce a relaxation response, reduced perceived anxiety and stress symptoms [9] as seen in Chittodvega.

### **Vyayama (Yoga) in Stress and Anxiety related Disorders**

Vyayama in Dincharya refers to any physical activity involving rigorous exercises leading to sweating. This is achieved through combined practices like mindfulness through

Dhyana/Meditation, focussed breathing through Pranayama and Asanas/postures targeting holistic Musculo-skeletal movement with breath awareness. Adequate physical exercise (Vyayama) leading to fatigue activates parasympathetic nervous system, scheming counteraction in flight or fight response, thereby promoting relaxation and stress relief.

**Ashtanga Yoga**



**Fig. 1.** Schematic diagram of influence of Ashtanga yoga on biomarkers-organs [15] in healthy person

The effect of yoga practice on biomarker [15] in healthy individuals is illustrated in figure 1, reported in various psychiatry studies where positive shift in neurotransmitters, increased GABA (gamma-aminobutyric acid) levels [20], growth factors, BDNF [16], reduces oxidative stress, serum cortisol [19] is observed by yoga including meditation.

Sharma et al(2025) shows significant positive impact of yogic interventions in Heart Rate Variability and Anxiety cases among student populations, involving 277 students with mean age of  $19.3 \pm 1.89$  years , study done through systematic review and meta-analysis [21].

However, furthermore exploration is required to assess the efficacy of yoga in this context as some psychiatric disorders don't have strong biomarkers. There is a need for large scale clinical data synthesis to validate its legitimate effect as a potential therapy in major psychiatric disorders.

**Snāna- Saucha and Neurophysiological Regulation**

Snāna (daily bathing) forms an quintessential part of dinacharya in maintaining positive health and psychophysiological balance. From a neurobiological perspective, routine bathing has been shown to activate the parasympathetic nervous system, which is responsible for relaxation and restoration of homeostasis [11]. Activation of this system counteracts sympathetic overactivity commonly observed in stress-related disorders and Generalized Anxiety Disorder (GAD).

Jagdale et al (2024) suggest that Snāna may serve as a non-pharmacological intervention supporting autonomic balance and emotional regulation [12]. Thermal stimuli during bathing further modulate stress responses. Warm water bathing induces vasodilation, promotes muscle relaxation, and reduces musculoskeletal tension, thereby contributing to both physical and mental relaxation. In contrast, cold water exposure has been associated with stimulation of endorphin release and increased noradrenergic activity, which may improve mood and reduce symptoms of stress and anxiety.

‘Malotsarga Vidhi’, which refers to the timely elimination of urine and feces, is an essential component of Śauca in Ayurvedic practice. Suppression of natural urges has been linked to autonomic dysregulation and increased physiological stress. Regular and timely urination helps relieve visceral pressure and discomfort, thereby contributing to psychological ease.

### **Savritta in Sustainable Health**

*Sadvritta* provides detailed ethical rules and regulations on *Sharirika*, *Manasika*, *Dharmika*, *Samajika* and *Vyavaharika Sadvritta* which demonstrate the ideal way of living, including prescribed dos and don'ts for individuals to attain positive psychiatric health outcomes, reducing day to day stress and anxiety related diseases [23].

*Svāsthavṛttam yathoddiṣṭam yo samyaganutiṣṭhati |*  
*Sa samaḥ śatamīvyādhir āyur na vihanyate || 31 ||*

*Nṛlokaṃ pūrayed yaśasā sa tu sammataḥ |*  
*Dharmārthāvāptibhūtānāṃ bandhutām upagacchati || 32 ||*

*Parān sukṛtino lokān puṇyakarmā prapadyate |*  
*Tasmād vṛttam anuṣṭheyam sadvṛttam sarvadā budhaiḥ || 33 ||*

- Charaka Saṃhitā. (n.d.). *Sūtrasthāna*, 8(31–33)

Acharya Charaka emphasize *Sadvritta* [18] which integrates ethical conduct and psychosocial harmony, as a preventive and promotive health discipline for living hundred years without any abnormality. Dharmatti et al (2023) scientifically reviewed efficacy of conduct, behavioural code and moral values (*Sadvritta*) in generating positive physical, psycho-social and mental health, thereby strengthening mental resilience and reducing neuropsychological stress in individuals [23].

## Conclusion

Various factors within an individual's daily routine directly or indirectly influence physical and mental health, often contributing to the development of psychosomatic disorders. As sustained psychophysiological dysregulation in Generalized Anxiety Disorder (GAD) contributes to significant disruption of daily life and overall well-being of an individual, an integrated Yogic-Ayurvedic strategy from perspective of traditional interventions rooted in Indian Knowledge System addresses this mind-body paradigm well. Sustainable ayurvedic practices like Dinacharya (with special focus on Brahma Muhurta Jagrana, Abhyanga, Vyayama, Snana, Saucha, Nasya and Sadvriti), coupled with traditional Ashtanga Yoga can be framed as a structured biopsychosocial intervention that modulates autonomic nervous system, balancing sympathetic-vagal functioning, regulates HPA-axis activity and cognitive-emotional processing, thereby offering a plausible adjunctive approach in stress and GAD management. Proper synchronization of circadian clock with Brahmamuhurta cortisol surge may support HPA-axis efficiency and reduce maladaptive, prolonged cortisol secretion later in the day, improve HRV which is implicated in anxiety and stress-related disorders. Emerging clinical data on Abhyanga, Nasya, Vyayama and structured Ayurvedic regimens in GAD support symptomatic improvement, although high-quality randomized trials remain limited. Moreover observance of daily rituals prescribed under *Dinacharya* enhances *Dhairya* (mental steadiness), clarity of mind, concentration, and self-confidence portraying the holistic view of Ayurveda (*swasthasya swasthya rakshanam*).

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