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Review Article

Physiological and psychological effects of *Vegadharana* with special reference to *Kshudha* and *Trishna*: an integrative review

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ABSTRACT

Vegadharana (voluntary suppression of natural bodily urges) is recognized in Ayurveda as an important etiological factor for various physical and psychological disorders. Among the thirteen *Adharaneeya Vegas*, *Kshudha* (hunger) and *Trishna* (thirst) are essential for maintaining metabolism, hydration, nutritional balance and homeostasis. Modern lifestyle factors such as prolonged fasting, irregular eating habits, occupational demands, psychological stress and inadequate fluid intake often lead to suppression of these natural urges. Objectives were to review and analyze the physiological and psychological effects of *Kshudha* and *Trishna Vegadharana* through classical Ayurvedic literature and contemporary scientific evidence. An integrative narrative review was conducted by analyzing classical Ayurvedic texts, including Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya, along with contemporary biomedical literature related to hunger, thirst, metabolism, hydration, cognition, and mental health. The review indicates that suppression of hunger impairs Agni, aggravates Vata Dosha and leads to weakness, fatigue, dizziness, emaciation, irritability and reduced concentration. Suppression of thirst results in dehydration, electrolyte imbalance, fatigue, cognitive impairment, mood disturbances and systemic dysfunction. Contemporary scientific evidence supports these observations, demonstrating the adverse effects of prolonged hunger and inadequate hydration on metabolic, neuroendocrine, cognitive and emotional functions. Timely fulfilment of hunger and thirst is essential for maintaining physiological and psychological well-being. Classical ayurvedic concepts of *Kshudha* and *Trishna Vegadharana* are supported by contemporary scientific evidence, highlighting their relevance in preventive healthcare and emphasizing the integration of Ayurvedic principles into modern lifestyle practices.

Keywords: Ayurveda, *Vegadharana, Kshudha, Trishna*, Hunger, Thirst, Dehydration, Agni, Preventive healthcare, Lifestyle disorders

INTRODUCTION

Ayurveda, the ancient Indian system of medicine, emphasizes maintaining harmony between the body, mind and environment to preserve health. One of its fundamental principles is the timely expression of natural physiological urges (Vega), which are broadly classified into Dharaniya Vega (suppressible urges) and Adharaniya Vega (non-suppressible urges). Suppression of non-suppressible urges (*Vegadharana*) is considered a major cause of disease because it disturbs the equilibrium of Dosha, Dhatu, and Mala. Among these, *Kshudha* (hunger) and *Trishna* (thirst) are essential physiological urges necessary for maintaining energy balance, tissue nourishment, fluid homeostasis and overall health. Classical Ayurvedic texts describe that voluntary suppression of hunger and thirst results in several physical and psychological disorders, emphasizing the importance of responding promptly to these natural urges.[1-3]

In modern society, suppression of hunger and thirst has become increasingly common because of busy work

schedules, prolonged screen time, irregular eating habits, dieting practices, occupational stress and inadequate fluid intake. These lifestyle behaviours contribute to dehydration, impaired cognitive performance, metabolic disturbances, fatigue and psychological stress.[4-6] According to the World Health Organization, inadequate hydration remains an important public health concern, particularly among children, older adults and individuals exposed to hot environmental conditions.[7] Furthermore, eating disorders such as anorexia nervosa, bulimia nervosa and binge-eating disorder affect millions of individuals worldwide and represent a growing cause of physical morbidity and mental health burden.[8,9]

Physiological regulation of hunger and thirst involves highly coordinated neuroendocrine mechanisms. Hunger is primarily regulated through ghrelin, an orexigenic hormone secreted by the stomach and leptin, an adipocyte-derived hormone that suppresses appetite through actions on hypothalamic appetite-regulating centres. Additional metabolic signals, including insulin and gastrointestinal peptides, contribute to energy homeostasis.[10,11] Thirst is controlled mainly by hypothalamic osmoreceptors, which detect changes in plasma osmolality and stimulate thirst perception and the release of antidiuretic hormone (ADH). Fluid balance is further maintained by the renin-angiotensin-aldosterone system (RAAS), particularly during dehydration and hypovolemia.[12,13] Moreover, psychological stress activates the hypothalamic-pituitary-adrenal (HPA) axis, increasing cortisol secretion, which influences appetite regulation, glucose metabolism, hydration status and energy balance.[14,15] These physiological mechanisms provide a scientific framework for understanding the pathological consequences of *Kshudha* and *Trishna Vegadharana* described in Ayurveda.

Despite detailed descriptions of *Kshudha* and *Trishna Vegadharana* in classical Ayurvedic literature, there is limited evidence integrating these traditional concepts with current knowledge from physiology, endocrinology, neuroscience and behavioural medicine. Existing reviews have largely discussed *Vegadharana* from either a classical or biomedical perspective, with few attempts to correlate both systems comprehensively. Therefore, the present review aims to critically analyse classical Ayurvedic literature alongside contemporary scientific evidence to elucidate the physiological and psychological implications of suppressing hunger, thirst to explore their relevance in preventive and lifestyle medicine.

Although the concept of *Vegadharana* has been extensively described in classical Ayurvedic texts, most published literature has primarily focused on its traditional descriptions and clinical implications.[1-3] Few reviews have comprehensively integrated the Ayurvedic concepts of *Kshudha* and *Trishna Vegadharana* with contemporary evidence on appetite regulation, neuroendocrine mechanisms, dehydration, stress physiology and behavioural medicine.[16,17] Furthermore, the relationship between classical Ayurvedic principles and modern physiological concepts such as ghrelin–leptin signalling, hypothalamic regulation, osmoreceptor function, ADH, the RAAS and HPA axis activation has not been comprehensively synthesized in the available literature.[10-13] Therefore, the present review aims to bridge this knowledge gap by integrating classical Ayurvedic literature with contemporary biomedical evidence, providing an updated scientific perspective on *Kshudha* and *Trishna Vegadharana* and highlighting their relevance in preventive healthcare, lifestyle medicine and integrative medicine.

Aim

Aim was to review the physiological and psychological consequences of suppressing Hunger (*Kshudha*) and Thirst (*Trishna*) to establish their relevance through an integrative Ayurvedic and modern scientific perspective.

Objectives

Objectives were to review Ayurvedic description of *Kshudha* and *Trishna Vegadharana*, to analyse physiological consequences from modern medicine and to examine psychological effects associated with hunger and thirst suppression.

REVIEW OF LITERATURE

Review design

This narrative review was conducted to critically evaluate the Ayurvedic concept of *Kshudha Vegadharana* (suppression of hunger) and *Trishna Vegadharana* (suppression of thirst) and correlate it with contemporary physiological and biomedical evidence.

Data sources and search strategy

A comprehensive literature search was performed using the electronic databases PubMed, Scopus, Web of Science, Google Scholar, and the AYUSH Research Portal. Classical Ayurvedic literature was reviewed from Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, Ashtanga Sangraha and relevant commentaries. The search included publications from January 2000 to June 2026, while classical Ayurvedic texts were searched without time restrictions.

Search keywords

The following Medical Subject Headings (MeSH) terms and free-text keywords were used individually and in combination using Boolean operators (AND/OR):

Vegadharana, *Kshudha Vegadharana*, *Trishna Vegadharana*, natural urges, suppression of hunger, suppression of thirst, eating disorders, dehydration, hunger physiology, thirst physiology, ghrelin, leptin,

hypothalamus, osmoreceptors, ADH, RAAS, stress physiology, cortisol, ayurveda.

An example search strategy used in PubMed was: (*Vegadharana* OR suppression of natural urges) AND (hunger OR thirst OR dehydration OR eating disorders OR Ayurveda).

Inclusion criteria

Discuss the Ayurvedic concept of *Kshudha* and *Trishna Vegadharana*, evaluated physiological regulation of hunger or thirst, investigated dehydration, eating disorders, appetite regulation, neuroendocrine mechanisms or stress physiology and studies published in English, including original research articles, systematic reviews, meta-analyses, narrative reviews, and clinical guidelines, were considered eligible included in the study.

Exclusion criteria

Conference abstracts without full text, editorials, letters, opinion articles, and unpublished literature, duplicate publications, animal studies not directly relevant to the review objectives and articles unrelated to hunger, thirst or natural urge suppression were excluded from the study.

Study selection process

The database search results were imported into a reference management software and duplicate records were removed. Titles and abstracts were screened for relevance based on the inclusion and exclusion criteria. Full-text articles were subsequently assessed for eligibility. Relevant information regarding Ayurvedic concepts, physiological mechanisms, neuroendocrine regulation, dehydration, eating disorders and stress responses was extracted and synthesized narratively.

Data synthesis

Evidence from classical Ayurvedic literature and contemporary biomedical research was integrated to compare traditional concepts with current scientific understanding of hunger and thirst regulation, highlighting similarities, differences and existing research gaps.

KSHUDHA VEGA DHARANA IN AYURVEDA

Kshudha (hunger) is a natural physiological signal indicating the body's need for nourishment. In Ayurveda, it is regulated by Agni (digestive fire), which governs digestion, metabolism, nutrient assimilation and mental clarity. Suppression of hunger (*Kshudha Vegadharana*), whether intentional or due to lifestyle factors, is considered detrimental to health.

According to the classical Ayurvedic texts, suppression of the urge of hunger (*Kshudha Vegadharana*) can lead to several adverse health effects. As described in the Charaka Samhita and Ashtanga Hridaya, it may cause emaciation (Karshya), weakness (Daurbalya), impaired complexion (Vaivarnya), body aches (Angamarda), anorexia (Aruchi) and giddiness (Bhrama).[1,3] Furthermore, the Sushruta Samhita mentions that persistent suppression of hunger may also result in diminished vision or visual weakness.[2]

Hunger suppression in modern

In modern medicine, suppression of hunger, whether due to restrictive dieting, psychological stress or eating disorders, can adversely affect both physical and mental health. Ignoring the body's natural hunger signals may result in metabolic disturbances, nutritional deficiencies, impaired energy balance and digestive dysfunction.[19] Psychologically, chronic hunger suppression has been associated with disordered eating behaviours and may contribute to the development of conditions such as anorexia nervosa, bulimia nervosa and binge-eating disorder.[18]

Common eating disorders include:[18]

Binge eating disorder (BED)

BED is characterized by recurrent episodes of consuming unusually large amounts of food within a short period, accompanied by a sense of loss of control over eating. Individuals often continue eating despite feeling physically full and subsequently experience guilt, shame, and psychological distress. This disorder is commonly associated with overweight and obesity.

Bulimia nervosa

Bulimia nervosa involves recurrent episodes of binge eating followed by compensatory behaviours intended to prevent weight gain. These behaviours may include self-induced vomiting, misuse of laxatives or diuretics, excessive exercise, or prolonged fasting. Individuals with bulimia nervosa may present with body weights that are below, within, or above the normal range.

Anorexia nervosa

Anorexia nervosa is characterized by persistent restriction of food intake, an intense fear of gaining weight, and a distorted perception of body image. The severe limitation of food consumption often results in significant weight loss, malnutrition, and multiple systemic complications. Among psychiatric illnesses, anorexia nervosa has one of the highest mortality rates.

Psychological impact

Chronic suppression of hunger can have significant psychological consequences. Ignoring physiological hunger signals may lead to emotional distress, anxiety, irritability, and abnormal eating patterns. Prolonged hunger suppression can also disrupt the balance of

neurotransmitters such as serotonin and dopamine, which play critical roles in appetite regulation, mood stabilization, and reward pathways. These neurochemical alterations may contribute to depressive symptoms, impaired emotional well-being, and the development or exacerbation of eating disorders.[20]

TRISHNA VEGADHARNA IN AYURVEDA

Trishna Vegadharana refers to the conscious withholding of water intake when the urge for thirst is present. According to Ayurvedic principles, suppression of this natural urge causes imbalance of doshas and depletion of body fluids.

According to classical text, Emaciation, weakness of body, deafness, improper perception of objects (delusion), giddiness and disorders of heart are produced by suppression of thirst.[1-3]

Thirst suppression in modern

Early manifestations of dehydration include dry mouth, thirst, fatigue, headache, dizziness and decreased concentration. As dehydration becomes more severe, symptoms such as tachycardia, hypotension, reduced urine output, muscle cramps, confusion and impaired thermoregulation may occur. Severe dehydration can lead to heat-related illnesses, kidney dysfunction and circulatory collapse.[19]

Common disorders associated with thirst suppression

Dehydration

The most direct consequence of ignoring thirst. Symptoms include dry mouth, fatigue, dizziness, headache, and reduced urine output.

Kidney stones (Nephrolithiasis)

Chronic low fluid intake increases urine concentration, promoting stone formation.

Urinary tract infections

Inadequate hydration may reduce urinary flushing of microorganisms, increasing infection risk.

Acute kidney injury

Severe dehydration can reduce renal blood flow and impair kidney function.

Constipation

Insufficient fluid intake can lead to hard stools and difficulty in bowel movements.

Electrolyte imbalance

Prolonged dehydration can disturb sodium and other electrolyte levels, causing confusion, weakness, and muscle cramps

Psychological impact

thirst suppression, resulting dehydration can significantly affect psychological and cognitive functions. Adequate hydration is essential for normal brain activity, neurotransmitter function, and cerebral blood flow. Even mild dehydration can impair mood, attention, memory, and mental performance.

Psychological effects of dehydration include:[22] Difficulty concentrating and reduced attention span, impaired short-term memory, mental fatigue and decreased alertness, irritability and mood disturbances, increased anxiety and tension, reduced cognitive performance and decision-making ability and confusion and disorientation in severe dehydration.

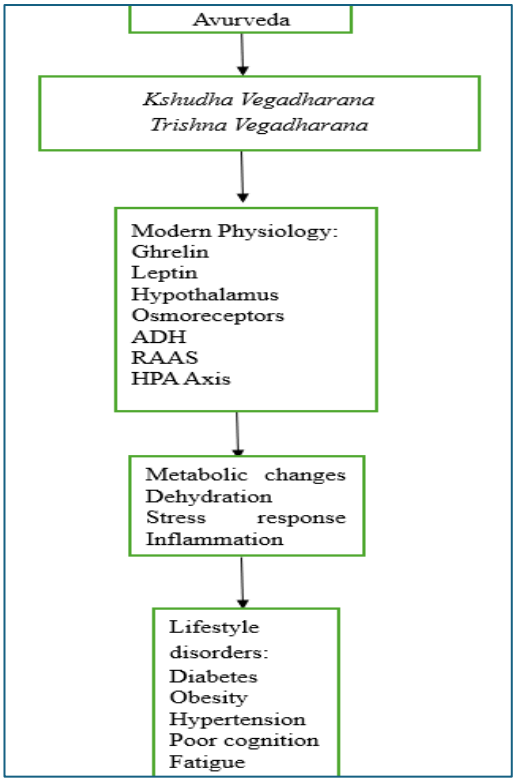


Figure 1: Integrative model of *Vegadharana*.

DISCUSSION

The present review extends the classical understanding of *Kshudha* and *Trishna Vegadharana* by integrating Ayurvedic principles with current evidence from physiology, endocrinology, and neuroscience. While Ayurvedic literature emphasizes that suppression of hunger and thirst disturbs physiological homeostasis and predisposes individuals to disease, contemporary research

provides plausible biological mechanisms supporting these observations. Hunger regulation is mediated by hormones such as ghrelin and leptin, which interact with hypothalamic appetite-regulating centres to maintain energy balance.[10,11] Similarly, thirst perception is regulated through hypothalamic osmoreceptors, ADH and the RAAS, which collectively preserve body fluid and electrolyte homeostasis.[12,13] Furthermore, activation of the HPA axis during psychological stress increases cortisol secretion, which may alter appetite, hydration behaviour and metabolic regulation.[14,15] By correlating these established physiological mechanisms with the Ayurvedic concept of *Vegadharana*, this review provides an updated scientific interpretation of *Kshudha* and *Trishna Vegadharana* and highlights their relevance in preventive healthcare, lifestyle medicine, and integrative medical practice. In addition, the review identifies the need for further clinical and translational studies to evaluate objective biomarkers and strengthen the evidence supporting these traditional concepts.

Table 1: Comparison of ayurvedic and modern concepts of *Kshudha* and *Trishna*.

Ayurvedic concept	Modern physiological correlation	Clinical significance
Kshudha	Ghrelin-mediated hunger signalling	Energy homeostasis
Agni	Digestive and metabolic regulation	Nutrient metabolism
Kshudha Vegadharana	Disruption of appetite regulation	Metabolic dysfunction
Trishna	Osmoreceptor-mediated thirst	Fluid balance
Trishna Vegadharana	Dehydration and electrolyte imbalance	Cognitive and renal dysfunction
Bala Kshaya	Reduced energy availability	Fatigue
Dourbalya	Muscle weakness	Reduced physical performance

Table 2: Physiological mechanisms associated with *Vegadharana*.

Physiological mechanism	Hormone/organ	Possible relation with *Vegadharana*
Appetite regulation	Ghrelin	Hunger stimulation
Satiety regulation	Leptin	Appetite suppression
Appetite control	Hypothalamus	Integration of hunger signals
Thirst regulation	Osmoreceptors	Detect plasma osmolality
Water conservation	ADH	Reduces water loss
Fluid homeostasis	RAAS	Maintains blood volume
Stress response	Cortisol (HPA axis)	Alters appetite and thirst

CONCLUSION

The present integrative review highlights the physiological and psychological significance of *Kshudha* (hunger) and *Trishna* (thirst) *Vegadharana* by correlating classical Ayurvedic concepts with contemporary biomedical evidence. The findings indicate that habitual suppression of hunger and thirst may adversely influence metabolic regulation, nutritional balance, hydration, electrolyte homeostasis, cognitive performance and psychological well-being. The review further establishes meaningful conceptual relationships between Ayurvedic principles such as Agni, *Kshudha* and *Trishna* and modern physiological mechanisms involving ghrelin, leptin, hypothalamic regulation, osmoreceptors, ADH, the RAAS and the HPA axis. By bringing together traditional Ayurvedic knowledge and contemporary scientific understanding within a single integrative framework, this review advances knowledge in the field by providing a broader scientific interpretation of *Vegadharana* and identifying potential neuroendocrine and behavioural pathways associated with the suppression of natural physiological urges. It also establishes a foundation for future interdisciplinary research involving clinical investigations, objective biomarkers and translational studies, thereby strengthening the potential relevance of Ayurvedic principles in evidence-informed preventive healthcare, lifestyle medicine and integrative clinical practice.

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