

MENTAL FATIGABILITY IN AYURVEDA: CONCEPTUAL REVIEW OF MANSIKA GLANI WITH CONTEMPORARY NEUROCOGNITIVE CORRELATIONS

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ABSTRACT

Background: Easy Mental Fatigability is an emerging clinical entity in modern occupational Health, characterized by rapid onset of mental exhaustion on/during/after cognitive tasks. In Ayurveda, this correlates with Manasika Glani, manifested as a result of Dhi-Dhriti-Smriti Vibhramsha occurred due to vridhdhi in Manas doshas Rajas and Tamas and Ojo-kshaya.

Objective: To review classical Ayurveda concepts of Manasik Glani, its pathogenesis, Diagnostic features/symptoms, and management, and correlate with modern neuroscience.

Methods: Ayurveda Classical texts Brattrayi and Laghutrayi along with commentaries were screened. PubMed, Science Direct, DHARA, AYUSH Research Portal, Namaste Portal, Cochrane were searched for “Mental fatigue” AND “Ayurveda” from 2000-2005.

Results: Manasik Glani results from Rajas-Tamas Vridhdhi, Vata-Pitta Prakopa, and ojo-kshaya. Modern correlation includes impaired prefrontal cortex function, reduction in BDNF and HPA axis dysregulation. Yastmadhu, Bramhi and Shankhpushpi are the Medhya Rasayanas, have shown anti-fatigue actions via multiple pathways anti-oxidant, cholinergic, GABAergic and neuroplasticity pathways.

Conclusion: Manasika Glani is a strong Ayurveda framework for Mental Fatigability. Integrated assessment using standardized and validated scales as CHQ, CIS-R etc. and Ayurveda symptoms of Manasik Glani, Dhi-Dhriti Vibhramsha are required. Also, Ayurveda assessment scale for Glani needs to be validated. Also, clinical trials on Medhya Rasayana with large sample size are needed.

Keywords: Mental Fatigability, Mental tiredness, Ayurveda, Medhya Rasayana, Cognition, Glani

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INTRODUCTION

Easy Mental Fatigability is an emerging clinical entity in modern occupational Health, characterized by rapid onset of mental exhaustion on/during/after cognitive tasks as thinking, decision making and focus tasks¹. Characterized by brain “fog”, burnout, slow responses, irritability, poor concentration, poor recalling, reduced motivation etc.² Mental fatigue has shown to be the root cause of decreased productivity and overall cognitive performance including thinking, reasoning, remembering, decision making, problem solving and

attention/alertness³. Early detection of Mental fatigue can prevent the escalation of symptoms that may lead to CFS and other disorders. Modern medicine lacks targeted pharmacotherapy including many medicines having abuse potential. The NAMASTE Portal was utilized to encode morbidity,

with *Glani* recorded under Serial No. 2312 and NAMC-Code O-53, signifying “exhaustion”. *Glāni* refers to “lassitude/exhaustion”; “being dejected (in mind)”, Mental Exhaustion, languor, fatigue (Lassitude). *Glani* is defined as a lack of desire for physical work and is one of the symptoms of many diseases termed in Ayurveda as *Glani*, like *Pandu*, *ras kshaya*, *ajeerna*, *murccha purva roop*, etc⁴. Also, in healthy populations, it is one of the pre-clinical symptoms of *akaaljararog*, *ojokshaya* (O). *Indu* considered *Glani* as depletion of *Harsh*. Bhāvaprakāśa (Madhyama Khaṇḍa 61/162) describes the characteristic symptoms of *Glani*. According to Ayurveda, Fatigue is caused by overuse, misuse, or lack of use of the mind, emotions, or body. These cause an imbalance in *Dhi*, *Dhriti*, and *Smriti*, contributing to an imbalance in mental abilities. Mental fatigue is associated with an imbalance in *vata dosh*, emotional Fatigue with *pitta dosh*, and physical Fatigue with *kaph dosh*.

Ayurveda documented *Manasik Glani* 3000 years ago. *Charak* described *Manasika Glani* as a *Manasik Roga* with impairment in *Dhi-Dhriti-Smriti*

impairment. This review synthesizes classical Ayurveda concepts and modern evidence to build a bridge for integrative research.

Table 1: Ayurveda Terminology

Sanskrit Term	Reference	Meaning
<i>Manasik Glani</i>	<i>Cha.Sha.1/9</i>	Mental Exhaustion/Tiredness of <i>manas and jnanendriya</i> , reduced interest in physical work
<i>Glani</i>	<i>Bhavprakash (madhyam khand 61/162)</i>	Yawning, Drowsiness, Sleepiness, heaviness, tiredness with reduced working efficiency, reduced motivation/willingness to indulge in any work, Vertigo, Gripping pain in the chest
<i>Shrama</i>	<i>Cha.Su.7/52</i>	Fatigue after physical exertion /Physical tiredness
<i>Klamah</i>	<i>Su.Utt. 39/15</i>	Exhaustion without exertion
<i>Dhi vibhramsha</i>	<i>Cha.Sha.1/99</i>	Impaired intellect/cognitive ability
<i>Dhriti vibhramsha</i>	<i>Cha.Sha.1/100</i>	Impaired retention/control/losing patience

2. Materials and Methods

For classical Ayurveda Review, *Brihatrayi* (*Charak Samhita, Sushrut Samhita and Ashtanga Hridaya*), *Laghutrayi* (*Sharangdhar, Madhav Nidan and Bhavprakash*) and their commentaries as *yogaratanakar, nighantus* were searched for the terms *Glani, manasik Glani, shrama, klama, Dhi-Dhriti Vibhramsha, Manasika Kshaya*.

Also Scopus, PubMed, AYUSH Research Portal, Namaste Portal, DHARA, Cochrane were reviewed with keywords: “mental fatigue” OR “cognitive fatigue” OR “Easy mental fatigability” AND “*Ayurveda*” OR “*Medhya Rasayana*” from 2000-2025.

3.CONCEPTS OF MENTAL FATIGABILITY

3.1 Ayurveda Terminology

Table 1 defines the critical ayurveda terminologies in terms of Sanskrit terms, respective reference and the meaning of the terminology.

3.2 Nidana (Etiology)

According to Ayurveda texts mental fatigue is caused by various factors including

1) Imbalance in *Dhi, Dhriti, and Smriti*-According to Ayurveda, Fatigue is caused by overuse, misuse, or lack of use of the mind (intelligence), emotions, body and sense objects. These cause an imbalance in *Dhi* (*grasping/perception*), *Dhriti* (*sustaining/retaining*), and *Smriti* (*recalling ability/memory*), contributing to an imbalance in mental/cognitive abilities⁵.

2) Imbalance of the Three Doshas- *Vata dosh* imbalance: An aggravated *Vata* can lead to anxiety, stress and mental exhaustion, leading to mental fatigue. *Pitta dosh* imbalance: Excessive *pitta* can cause irritability, frustration, burnout contributing to mental fatigue. *Kapha dosh* imbalance: An

aggravated *kapha* can cause lethargy, dullness, and lack of motivation, leading to mental fatigue. It can be interpreted as Mental fatigue is primarily associated with an imbalance in *vata dosh*, Emotional Fatigue with *pitta dosh*, and physical Fatigue with *kaph dosh*⁶ [Click or tap here to enter text.](#)

3) *Mansik Hetus* (Mental factors)- *Manasik klesha*: Mental afflictions like anxiety, anger, fear and grief can lead to mental fatigue. Imbalance in *Manas dosh*: An imbalance in *Rajas and Tamas dosh* lead to mental fatigue⁸.

4) *Ahara* (Dietary Factors)-Incompatible diet - Consuming unhealthy foods/*virudhdha aahar* can cause mental fatigue. *Dhatukshaya – kshaya in Rasa, Rakta and Ojas* can lead to Mental fatigue.

5) *Vihara* (lifestyle factors) –Various lifestyle factors like lack of sleep/poor sleep quality, prolonged stress and sedentary lifestyles can contribute to mental fatigue.

6) *Ritu evum vatavaran* (season and environmental factors)- changes in the seasons and exposure to noise, pollutants and other environmental stressors can lead to mental fatigue.

Modern Perspective

Increased mental load- Increased mental load results in the feeling of mental fatigue in many of the individuals of various age groups and occupations⁹. Mental load is faced by drivers before they drive, heavy workload of performing surgery as heart surgeon, crunching numbers as an accountant or prolonged classes of students. Table 2 describes the major Ayurvedic Etiological Factors (Nidana) Contributing to Ojo-Kshaya.

* Stress- Stress has potential mental fatigue enhancing effect to the individuals involved in

highly cognitive and attention demanding task. Furthermore, stress increases the risk of cognitive overload affecting learning and putting in a state of depression and other mental health and social issues.

associated with mental fatigue¹⁰. The changes were most evident in theta & alpha brain waves based on EEG responses.

Types of Easy Mental Fatigability –Based on the

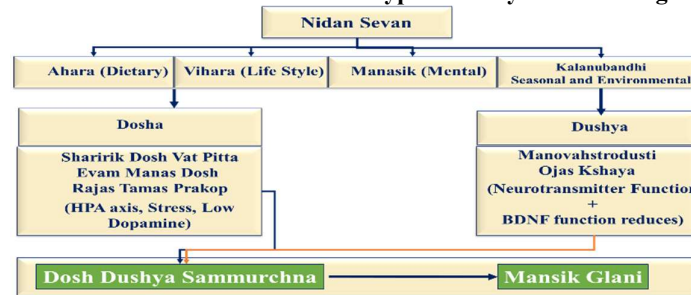


Figure 1: Sampranti with Modern Neuroscience correlative

*Environmental causes- Mental fatigue is often caused by environmental factors as high pressure occupations, long working hours and strain of performing well. Studies has showed that on figworking more than 280 h a month causes an increase in general fatigue (both physical and mental) and chronic tiredness.

*Neural mechanism- The frontal and occipital cortical regions of the brain have been primarily

basis of Chronicity it can be Acute (lasting < 6 months / unspecified duration) and Chronic (lasting > 6 months). Based on the basis of Severity it can be Mild, Moderate and Severe. On the basis of Causes, it can be Explained easy mental fatigability (pathological) and Unexplained easy mental fatigability (non-pathological: due to mental load).

Table 2. Major Ayurvedic Etiological Factors (Nidana) Contributing to Ojo-Kshaya.

Aaharaj Nidan (Dietary)	Viharaja nidan (Lifestyle)	Manasika nidan (Mental factors)	Kalanubandhi nidan(season and environment factors)
Ruksha, Alpa, Asatmya Aahar leading to Dhatu kshaya causing ojo- kshaya	Ratri jagarana, Ati- Chintana, Ati-Vyayama causing vata-Prakopa	Chinta, shoka, bhaya causing Rajas-Tamas Vridhhi	Vasha Ritu, Aparahna causing Vata vridhhi

3.3 Samprapti (Pathogenesis)

Nidana sevan causes vridhhi in Manas doshas Rajas-Tamas and Vata(prana-udan)-Pitta(sadhak) Prakopa. Among five types, especially Prana Vayu controls functioning of Buddhi and man while Udan vayu¹¹ helps in rentention and recalling (Dhriti) past experiences. One of the pitta subtype Sadhak pitta/Ojaskar pitta¹², located in Hridaya is primarily aligned with psychosomatic functions, behavior, emotional regulation and promoting Medha (Cognitive ability) and Ojas^{13,14}. There Prakopa leads to depletion in Sattva (Sattva kshaya). Altogether causing Manovaha Srotodushti resulting in Hridaya-Mastishka Ashrita Ojo-Kshaya and Dhi-Dhriti Vibhramsha manifesting in Manasika Glani. Fig 1 describes the Samprapti with Modern Neuroscience correlative explanation

3.4 Lakshna (Clinical Features)

As Mental fatigability can be correlated with Glani as per Ayurveda. Categorized under Kshudrarogadhikar Symptoms of Glani is characterized in Bhavprakash (madhyam khand 61/162) as Vaktre madhurta (prominent sweet perception), Tandra (drowsiness), Hridiyodwestan (Gripping pain in the chest), Bhrama (Vertigo) and Anyamanaskta (reduced motivation/willingness to indulge in any work).¹⁵. Further, the symptom

Tandra is elaborated as perplexing sensory sensation/reduced working efficiency, feeling of heaviness in body, yawning, tiredness and sleepiness. Also symptoms of Dhi vibhransh is being described as poor understanding, poor decision making regarding healthy and unhealthy choices. Dhriti Vibransh is characterized by losing patience/poor control over chitta(man/mind) from restraining to involve in Ahit Arth (unheathy practices) and Smriti Vibhransh by poor recalling.

Based on dominance of Doshas Prakopa it can be Vatik or Paittic Glani.

3.5. Chikitsa (Management Principles)

1) Nidan (Parivarjana-) Avoiding Nidana, Apathya Aahar-Vihar can prevent and manage mental fatigue. Work-Rest cycle must be maintained. Apathya Aahar and Vihar must be avoided.

2) Shodhan (Panchkarma)-In Chronic Mental-fatigue Shodhan (especially Shiroabhyanga, Shirodhara, Shiropichu and Shirobasti)⁴ is done after Ama-pachan. Anxiety and Mental Fatigue has been relieved by balancing in vata and pitta doshas Brahmi oil, ksheerbala oil, murdhini oil, jatamansi oil etc. Based as per symptoms mridu virechan in Pitta-pradhan and Basti in Vata-pradhan Glani.

3) Shaman (Rasayana)- Bramhi(H), Mulethi¹⁶⁻¹⁹

*Vacha*²⁰*Shankhpushhi*²¹, etc herbs are described as *Medhya rasayana*²² to promote mental health, cognitive-enhancing, mental clarity, stress reducing properties, vitality, and longevity.

4) Lifestyle Modifications-Including *Pathya aahar-vihaar* can prevent and manage mental fatigue. *Pathya (Recommended) Aahar* (Dietary), Satvic *Aahar* and *Ojovardhak Aahar*-Foods like ghee, milk and dates improve mental clarity and vitality. *Pathya Vihar* includes *Sattvavajay Chikitsa practicing Achar Rasayana*.

4.Diagnostic Approach with Integrative Model

Screening of Mental fatigability can be done Subjectively through using various self-reporting validated Questionnaires/Scales and objectively as enlisted below. Also, laboratory investigations should be done to rule out mental fatigue induced due to metabolic, hormonal and as a result of other diseases like TSH, B12, D3, RBS, Hb gm% etc.

Table 3. Summary of Validated Subjective, Objective, and Biomarker-Based Assessment Tools for Mental Fatigue and Cognitive Impairment.

Sn	Name of Validated Questionnaire	Time	Type	Questionnaire formatting	Result as Mental Fatigue
1.	CIS-R (Revised Clinical Interview Schedule)	15 min	subjective	14 Sections/questions as interviewed as Somatic, Fatigue, concentration sleep, irritability, worry etc.	Total Score:0-56 a) Significant Psychiatric morbidity ≥ 12 b) Moderate/severe morbidity ≥ 18
2.	CFS/CFQ-11 (Chalder (Fatigue Questionnaire) ²³	5-8 min	Subjective	11 Questions 1-7 on physical fatigue and Question 8-11 on Mental Fatigability subscale	Two scoring methods are used a) Likert 0-1-2-3 Total:0-33 with cutoff ≥ 22 b) Bimodal Scoring0-0-1-1 Total:0-11 With cutoff ≥ 4
3.	MFIS(Modified Fatigue Impact Scale)	5-10min	Subjective	21 Item Questionnaire Measures the Impact of Fatigue.	Total Score 0-84 with cutoff as ≥ 38 as to discriminate case; higher scores indicating greater impact on quality of Life
4.	FSS(Fatigue Severity Scale)	2 min	Subjective	9 Item Scoring Scale to access the severity and frequency of fatigue.	Total Score 9-63 With scoring method 1-7 Likert scale per item with 4.0-4.9 as cutoff for borderline/moderate fatigue.
5.	MMSE (Mini-Mental State Examination)	7 min	Subjective (bedside)	Scale frequently used for cognitive impairment and dementia	Total points -30 Cutoff ≤ 24 Less than 8 th class cuff is 21 and for illiterate 17-18
6.	MoCA (Montreal Cognitive Assessment)	12min	Subjective (bedside)	Scale frequently used for cognitive impairment.	Total points -30 Cutoff ≥ 26 If less than 12 th class one point is added to the total score.
7.	PVT-10 (Psychomotor Vigilance Test) ²⁴	10 min	Objective	Objectively Measures the mental fatigue by accessing the overall slowing of responses using software on device/laptop	Mean Relapse time less than 300 -350ms and Lapses 3-5 is used as cutoff suggesting mild Impairment.
8.	ANT(attention network test)		Objective	Mental fatigue is evaluated by measuring attention	Subjects having greater Mental Fatigability display abnormal

5.Discussion

Manasika Glani is a strong Ayurveda framework for Mental Fatigability. Integrated assessment using standardized and validated scales as CHQ, CIS-R etc. and Ayurveda symptoms of *Manasik Glani*, *Dhi-Dhriti Vibransh* are required. Also, *Ayurveda* assessment scale for *Glani* needs to be validated. *Medhya Rasayanas*, have shown anti – mental fatigue actions via multiple pathways anti- oxidant, cholinergic, GABAergic and neuroplasticity pathways. Also, clinical trials /RCT's on *Medhya Rasayana* with neuroimaging endpoints (showing reduced activation in DLPFC and ACC) and large sample size are needed as most of the Ayurveda trials are small. Table 3 presents the summary of validated subjective, objective, and biomarker-based assessment tools for mental fatigue and cognitive impairment.

				over time using a reaction-time paradigm.	performances in all three attention networks in the ANT.
9.	BDNF(Brain derived Neurotrophic Factor)		Blood Test for BDNF Protein level.	Biomarker for mental fatigability, cognitive functions	Less than 15ng/mL IS seen in Mental Fatigue
10.	Stroop Test (Stroop Color-Word Test) ²⁵	45 sec	Subjective	Patient has to tell the words quickly within 45 sec written on 3 cards(word, color and word-color)	Total Score:30-40 indicates frontal lobe weakness or Mild Cognitive and impairment .Lower than 30 indicates severity .

6.Conclusion-

Manasika Glani is the Ayurveda term can be correlated with Mental Fatigability, providing a holistic framework with detailed pathogenesis and management. Integrated Protocols using Ayurveda management like *Medhya Rasayana*-unlike single target drugs, *Ayurveda Aahar vihar* must be prioritized for early detection and safe management.

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