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REVIEW ARTICLE: AYURVEDIC MANAGEMENT OF GERIATRIC CHRONIC FATIGUE SYNDROME.

VRC31
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trn:oid:::1:3420742707

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REVIEW ARTICLE: AYURVEDIC MANAGEMENT OF GERIATRIC CHRONIC FATIGUE SYNDROME.

INTRODUCTION: - Fatigue is defined as a subjective feeling of weakness, lack of energy, and tiredness[1,2]. Due to several of functional decline associated with aging, fatigue has become a common complaint in older adults and has a serious impact on their quality of life[3, 4]. The population aged 60 years and older is projected to increase to 1.4 billion by 2030 and 2.1 billion by 2050, based on WHO data[8] As the world's population ages rapidly, the negative health consequences associated with fatigue pose a serious challenge to the care of older adults. Therefore, in the context of aging, attention to the status of fatigue has important health implications in older adults[5-7].

It is a disorder in which person suffers from extreme fatigue. In general fatigue is feeling of tired and weak condition. It can be overcome by taking rest. Fatigue may be felt physically or mentally. The period of fatigue is more than 6 months then it is reported as chronic fatigue. It cannot be managed with rest. It may be due to any reason like medical, psychological stress, genetic or infectious disease. Chronic fatigue syndrome is also known as *Mansa Dhatugat* and *Mansavrut Vata*or *Balakshaya*in *Ayurveda*. According to *Ayurveda*, the imbalance of any three energies (*vata, pitta and kapha*) results in health complications. The main reason of chronic fatigue is aggravation of *vatadosha* that generates negativity at physical and mental levels. It affects nervous system that causes weakness of nervous system and it may create hypersensitivity that results in pain and tenderness. It may lead to mental disorders like cognitive disorders and disturbances in sleep. It may be due to accumulation of ama (toxins) that results in disconnection of mind, body and spirit.Chronic fatigue syndrome (CFS) is also known as Myalgic Encephalomyelitis.[8]It is complicated disorder in which person gets fatigued that may worsen with physical or mental activity. The exact reason is unknown but it may be due to psychological stress, hormonal imbalance or any viral infections. According to *Ayurveda* it can be managed with the help of *Agnideepan, Amapachak, sroto shodhak, Vatashamaka, abhyang-swedana* and *Rasayana chikitsa* are beneficial for the management of chronic fatigue syndrome in Geriatric age.

Aim: The paper aims to review Chronic Fatigue Syndrome seen in ageing and their prevention and management through *Ayurveda.*

Review on Diseases:

According to *Ayurveda*: -In *Ayurveda saṁhita granthas*, direct mentioning of chronic fatigue syndrome was not found. But through the Guidelines mentioned in *saṁhitas* for understanding *Anukta vyadhi(*not mentioned*)*, one can understand the condition. To understand and appreciate the concept of *anukta vyadhi*, it is essential to consider basic concepts of *Ayurveda* like *doṣha, dhatu, agni, srotas*, and so on. Though *anukta vyadhi* are not interpreted in terms of their names, the cluster of signs and symptoms and underlying pathology can be understood by the basic principles stated above which not only helpful in understanding the pathogenesis but also gives a direction to think in terms of treatment for the same.

In *Ayurveda* Ageing can be related as *Jara or vardhakya*. *Jara* is natural phenomenon like hunger, thirst or sleep.In old age ***Vata*** predominates which predominates Shoshana and

Kshaya i.e. decay of different ***dhatus***or tissues leading to gradual decline of *dhatus*, *indriyas* and ***Ojas***.Young adults – Digestive capacity and metabolic rate is high due to increased activity of *Pitta*.In old Age Digestive capacity and metabolic rate becomes low due to increased activity of *Vata*. A low or weak digestive fire ***(Jatharagni***) is a major cause of fatigue, as it leads to the buildup of toxins called ***Ama*** **(**undigested food**)** This blocks the body's ***srotas***(srotas), inhibiting the flow of Vital energy. Imbalances in ***Jatharagni*** can lead to a host of health issues and diseases. Ultimately, *Ayurveda* emphasizes that the healthy state of the body and the onset of disease are intricately linked to the status of *Agni*. Therefore, maintaining the balance and strength of *Agni* through proper diet, lifestyle, and *Ayurvedic* treatments is essential for promoting health and well-being according to this ancient system of medicine.[9]*Ayurveda* emphasizes that the disturbed function of *Agni* is the root cause of all diseases.(*sarv roga api mandagne smrite*)[10]The incomplete or improper digestion of food due to decreased Ushma (*Agni*) function results in the formation of undigested and contaminated essence, known as *Ama,* in the stomach.[11]When the bodily digestive fire, *Kayagni*, is weak, the food essence, *Ahara Rasa*, is inadequately formed in the stomach, leading to a condition known as *Ama*.[12]

In Geriatric age due to lack of *Agni* and not a proper digestion of food which is create *Ama* leads to obstruction in *srotas* and leads to *Dhatukshaya –Oja Kshaya*(decreases Immunity). Also,in old Age due to *Vata* dominancy creates *dhatukshaya* and hardness in Dhamani (Artery) means *Dhamnikathinya (*Atherosclerosis) and lack of blood supply to all the system of Body and creates geriatric disorders are causative factors ofchronic fatigue syndrome.

- **Ayurveda and Modern Correlation of Geriatric disorders**

(1) **Lack of Blood supply to Digestive system:** -Geriatric patients are at risk for decreased food intake due to several factors:

- Mobility impairment
- Ability to obtain food
- Loss of taste, may be due to decreased olfaction
- Poor dentition
- Decreased appetite
- "Anorexia of Aging," may be related to neuroendocrine changes
- Depression

Constipation refers to bowel movements that are infrequent or hard to pass. Constipation is a symptom with many causes. These causes are of two types: obstructed defecation and colonic slow transit (or hypo mobility).

The definition of constipation includes the following:

- Infrequent bowel movements (typically three times or fewer per week)
- Difficulty during defecation (straining during more than 25% of bowel movements or a subjective sensation of hard stools)
- The sensation of incomplete bowel evacuation.
- Gastro esophageal reflux disease (GERD) is a condition in which the stomach contents (food or liquid) leak backwards from the stomach into the esophagus (the tube from the mouth to the stomach). This action can irritate the esophagus, causing heartburn and other symptoms.
- IBS, Ulcerative colitis, Acid peptic disorders create**Fatigue.**

(2) **Lack of Blood supply to Respiratory system:** -The common changes in the physiology of lungs and bronchi in elderly

- Gradual reduction in lungs volume
- Fall in static elastic recoil of lungs
- Reduced ventilator responses, hypoxia, hyperpnea, etc.
- Alveoli change (from grape-like clusters to large pocket-like sacs) whichdecreases the surface area available for the exchange of oxygen and carbon dioxide.
- Trachea and large bronchi become enlarged, but the lumen reduces in diameter from calcification of the airways.
- Functioning cilia decreases with age - cause a less effective cough reflex - a buildup of pulmonary secretions, airway plugging,the lung's expansion, volume capacity, and airflow are all negatively affected
- Reduction in respiratory muscle mass and strength causes a decline in **vital capacity**-risk of aspiration and infection
- Changes in the size and shape of the thorax, such as **kyphosis** or **barrel chest**
- **Common diseases:** Recurrent respiratory infections, pulmonary tuberculosis, chronic obstructive pulmonary disease (COPD), chronic bronchitis, Bronchial asthma and lung cancer.

(3) **Lack of blood supply tocardiovascular system: -**Commonly occurring cardiovascular problems include Hypertension, Hyperlipidemia and Ischemic heart disease and congestive cardiac failure in old age due to atherosclerosis and lack of blood supply to Myocardium muscle.

- **"Hypertension (HTN) is defined as sustained abnormal elevation of the arterial blood pressure. This requires the heart to work harder than normal to circulate blood through the blood vessels.** There is no direct reference to Hypertension in Ayurvedic classical texts. Various authors have given their opinion to coin a name of Disease and to understand it in better way; some of them are:

✓ *Raktagata vata.*
✓ *Shiragata vata*
✓ *Avrita vata*
✓ *Dhamani Prapurnata.*
✓ *Rakta Vriddhi*

Headache, vertigo, Numbness, Palpitation and dyspnea on exertion and **Fatigue** Found in Hypertension**.**

- **Hyperlipidemia:- abnormally elevated levels of any or all lipids and/or lipoproteins in the blood.**

Classification- Primary and Secondary

Primary hyperlipidemia is usually due to genetic causes (such as a mutation in a receptor protein), while secondary hyperlipidemia arises due to other underlying causes such as diabetes.Two of the closest diseases in Ayurveda having some amount of relation with Hyperlipidemia are *Atisthaulya* or *Medo Roga.*

Dyspnea on exertion, Chest pain, sweating and **Fatigue** found in Hyperlipidemia.

(4) Lack of blood supply to Joints: - In old age due to *Vata* aggravation and deficiency of nutritional substances creates degeneration in Joints and pain. More than 6months of this disease creates severe pain and **Fatigue.**

(5) **Pandu (Anemia): -**Due to lack of Hb creates**Fatigue** and other symptoms like Pallor (skin, sclera, Nail, Tongue), Weakness, *Aruchi(*lack of appetite*),* Vertigo, Numbness, Palpitation and dyspnea on exertion.

(6) **Cognitive Impairment, Neurological and Psychiatric disorders in Old Age: -**

- The basic cognitive functions most affected by age are attention and memory.
- Attributed to age related decrease in several glycolytic enzymes resulting in problems related to energy supply to cholinergic neurons.
- The important neurological disorders of elderly are **Parkinsonism, Alzheimer's disease, Hemiplegia and facial paralysis.**
- Most common psychiatric problems of old age are **depression,phobia,and cognitive impairment due to dementia, alcohol and drug dependence.**
- *Ayurveda* has considered cognitive impairment as an accompaniment of aging which starts as early as fourth decade of life itself.

Parkinson's disease: - A disorder of the brain that leads to shaking (tremors) and difficulty with walking, movement, and coordination. Early in the course of the disease, the most obvious symptoms are movement-related; these include shaking, rigidity, slowness of movement and difficulty with walking and gait. Later, cognitive and behavioral problems may arise, with dementia commonly occurring in the advanced stages of the disease. Other symptoms include sensory, sleep and emotional problems. PD more common in elderly with most cases occurring after age of 50.

Kampavata: - Direct reference to the Parkinson's disease in the ancient ayurvedic literature is sparse and refers only to related symptoms including tremors. Thus, the condition is referred to in the modern ayurvedic literature by various names for tremors: *Kampavata* (tremors due to *vata*), *vepathu* (shaking, as in being off track or out of alignment), *prevepana* (excessive shaking), *sirakampa* (head tremor), *spandin* (quivering), **Fatigue**and *kampana* (tremors).Due to aging-*Vataprakopa-Sthana sanshraya* in *dhatus-majja dhatu*-damaging portions of the brain stem and causing altered coordination and tremors.

- Additional components of the pathology which are c *Snehana-Abhyanga,internal snehapana,anuvasan basti*
- *Swedana*
- If the patient exhibits significant ama and is strong enough, gentle purification procedures should be administered first.
- Oils medicated with *ashwagandha* (withania somnifera) and *bala* (sida cordifolia) are commonly used to pacify *vata* and build *ojas.*commonly present include *vata (*vyana) entering *mamsa dhatu* causing muscle rigidity which is pacify by oil.
- *Atmagupta* (Mucuna Pruriens - also known as Kappikacchu) contains Levodopamine or L -dopa within its seeds.
- *Jatamansi* (Nardostachys Jatamansi) and *Shankh Pushpi* (Canscora Dicussata) may be used.

Dementia is a serious loss of global cognitive ability in a previously unimpaired person, beyond what might be expected from normal ageing

- Not a single disease, but a **Fatigue** with non-specific illness syndrome (Dementia is not merely a problem of memory, It reduces the ability to learn, reason, retain or recall past experience, There is also loss of patterns of thoughts, feelings and activities, Additional mental and behavioral problems often affect people who have dementia, and may influence quality of life, caregivers, and the need for institutionalization (i.e., set of signs and symptoms).
- Affected cognitive areas can be memory, attention, language, and problem solving.

- Normally, symptoms must be present for at least **six months to support a diagnosis.**
- Fewer than 10% of cases of dementia are due to causes that may presently be reversed with treatment.
- Some of the most common forms of dementia are: Alzheimer's disease, vascular dementia, front temporal dementia and dementia with Lewy bodies. Alzheimer's disease, vascular dementia.
- Most common form of dementia.
- There is no cure for the disease, which worsens as it progresses, and eventually leads to death.
- Most often, AD is diagnosed in people over 65 years of age.
- Early symptoms are often mistakenly thought to be 'age-related' concerns, or manifestations of stress.
- In the early stages, the most common symptom is difficulty in remembering recent events.

Alzheimer's disease - There is no cure for the disease, which worsens as it progresses, and eventually leads to death. Most often, AD is diagnosed in people over 65 years of age.

- Early symptoms are often mistakenly thought to be 'age-related' concerns, or manifestations of stress. In the early stages, the most common symptom is difficulty in remembering recent events and psychological**Fatigue**. When AD is suspected, the diagnosis is usually confirmed with tests that evaluate behavior and thinking abilities, often followed by a brain scan if available.
- As the disease advances, symptoms can include confusion, irritability and aggression, mood swings, trouble with language, and long-term memory loss.
- As the sufferer declines, they often withdraw from family and society.

The cause and progression of Alzheimer's disease are not well understood. One theory believes that AD is caused by reduced synthesis of the neurotransmitter acetylcholine. Research indicates that the disease is associated with plaques and tangles in the brain.

Mental stimulation, exercise, and a balanced diet have been suggested as ways to delay symptoms in healthy older individuals, but there is no conclusive evidence supporting an effect. Because AD cannot be cured and is degenerative, the sufferer relies on others for assistant.**Management** - Five medications are currently used to treat the cognitive manifestations of AD: four are acetyl cholinesterase inhibitors (tacrine, rivastigmine, galantine and donepezil) and the other (memantine).

- ***Pakshaghata* (Hemiplegia): -**Hemiplegia is total paralysis of the arm, leg, and trunk on the same side of the body. In elderly individuals, strokes are the most common cause of hemiplegia.

  Common causes:

  Vascular: cerebral hemorrhage, stroke, diabetic neuropathy

  Infective: encephalitis, meningitis, brain abscess

Demyelization: disseminated sclerosis, lesions to the internal capsule

Traumatic: subdural hematoma rare cause of hemiplegia is due to local anesthetic injections given intra-arterially rapidly, instead of given in a nerve branch.

Congenital: cerebral palsy

The exact cause of hemiplegia is not known in all cases, but it appears that the brain is deprived of oxygen and this results in the death of neurons.

Depending on the site of lesion in brain, the severity of hemiplegia varies.

A lesion in internal capsule where all the motor fibres are condensed in a small area, will cause dense hemiplegia i.e complete loss of power of all muscles of one half of body

A lesion at cortical or subcortical level will cause varied amount of weakness of one half of the body.

Difficulty with gait

Difficulty with balance while standing or walking

Having difficulty with motor activities like holding, grasping or pinching

Increasing stiffness of muscles, Muscle spasms

Difficulty with speech

Difficulty swallowing food

Behavior problems like anxiety, anger, irritability, lack of concentration or comprehension and **Fatigue.**

- **Ayurvedic management:**

Drugs *like brahmi, shankhpushpi, vacha, guduchi, yashtimadhu, mandukparni, ashwagandha and jyotishmati* have shown varying degree of inotropic and psychotropic effects.

Medhya *Rasayana drugs* mentioned above can also be used in degenerative diseases of brain like cerebral atrophy,Alzeimer's disease,parkinsonism,etc.

Panchakarma procedures like *Shirobasti,Pinda sweda,shirovirechana,Basti* therapy

*Dashmularishta,Yograja guggulu, malla sindura,*etc. have shown symptomatic improvement in Cerebral atrophy, Parkinsonism,etc.

Hemiplegia and facial paralysis are taken by *Snehana*(oleation) with medicated oils like *Mahanarayan taila,Mahamasha taila*,etc.Some herbomineral neurotropic agents: *Vatagajankusha rasa, Brihat Vata chintamani rasa, Samirapannaga rasa*

Elderly with psychiatric complaints like depression, phobia, etc. are treated by Ayurvedic psychotropic medications, yogic exercise, and meditation and *Satvavjaya chiktisa.*

Commonly used medications: *Medhya Vati, Smritisagara rasa, Ashwagandha rasayana, Jawahar mohra pishti, mukta pishti*, etc.

Yoga procedures: *Shavasana, Yoga nidra, Sarvanagasana*

Apart from this regular morning walk, meditation, worshipping the Ishta deva helps in improving the mental status.

- **Facial nerve paralysis** is a common problem that involves the paralysis of any structures innervated by the facial nerve; the most common is Bell's palsy.

Causes: Facial paralysis is almost always caused by:

Damage or swelling of the facial nerve, which carries signals from the brain to the muscles of the face.

Damage to the area of the brain that sends signals to the muscles of the face.

Ayurvedic management: -

Single herbs-*Yashtimadhu,bala,ashwagandha,Lavanga,etc*

Compound preparations-*Dashmula arishta,Dhanwantara kashaya,Rasna churna,Trivrita ghrt,Brihat Vata Chintamani,Vatagajankusha rasa,Shallaki*,etc.

Panchkarma procedures-*Snehan,Swedana,Nasya,Ksheera dhuma,Shirobasti,Gandusha-Kaval,etc*

Treatment Principle of Chronic Fatigue syndrome in elderly: -

(1) ***Agni chikitsa*: -**The whole empire of Ayurveda is based on the concept of *Agni*.***Kayachikitsa*** (internal medicine) being the synonym of *Agni* emphasize the importance of this concept in the management of diseases. *Agnideepan drugs* like, *Chitrakadi vati, Higvastak churna and Trikatu churna*are useful to improve the function of*Agni* (digestive fire). And also, this *Jatharagni* nourishes the *Bhutagni* and *dhatvagni.*

(2) ***Amapachak chikitsa***: - Which are helpful to digest *Ama* and relives obstruction from *Srotasa. Ushanodak, Amapachanvati, Shivakshar pachan churna* are used for digestion. It's also reliving Fatigue, and stiffness.

(3) ***Kosthasudhi*(Laxative):**- *Haritaki, Triphala, Avipatikar churna* and *Erandbhrista Haritaki* are useful to remove toxins from Intestine by laxative effect of drugs. After Kosthasudhi Intestine is able to more absorb the Nutritional substances.

(4) ***Rasayana Therapy***: - *Ashwagandha, Guduchi, Bala, Bhrami, Shankhapushpi* are best *Rasayana* which are improve *Dhatus* (Tissues) and *Oja* leads to strengthen theimmune system and reduce Fatigue. *Ashwagandha* is particularly effective for calming *Vata* and reducing anxiety which is accompanies chronic Pain.*Bala* helps strengthen muscles and improve energy levels, making it ideal for those dealing with muscle and chronic fatigue syndrome.

(5) ***Abhyanga* (self-massage)**: - Daily massage with warm oil (*Sesame or Bala oil*) can reduce *Vata dosha* imbalances, promote blood circulation to all over body and relieve muscle pain and Fatigue.

(6) ***Swedana* (fomentation)**: -*Nadi swedana, Baspa swedana or Nirgundi patra pindswedana* are useful to pacify *Vata dosha* and remove toxins by sweating and relieve stiffness, Pain and Fatigue.

(7) ***Basti* (Medicated Enema)**: - This treatment focuses on balancing *Vata* by cleansing the colon and improving circulation. Basti is effective for alleviating pain, stiffness and Fatigue.

(8) ***Nasya*** **(Nasal Therapy)**: -*Nasya by herbal oils* through the nasal passages, which clears toxins from the head and neck region, reducing tension, headaches, and mental Fatigue.

(9) ***Yoga, Pranayama and meditation***: - Chronic fatigue and pain are often exacerbated by stress. These therapies are helpful to relieve the stress, improve the sleep and relieve the fatigue and pain.

(10) According to ***Charak Samhita*** Milk and Ghee are best for Geriatric Age. Poor sleep due to Vata dosha dominancy is common symptom of chronic fatigue syndrome in Geriatric age. Warm milk with *Ashwagandha, Pippalimoola, Bhrami and Guduchi* before bed to calm the mind and promote the sleep and relieve fatigue.

(11) Diet and Regimen: -*Aaha*(diet), *Nidra*(sleep*) and Bhramcharya(worship God)* are 3 pillar necessary for healthy life.

CONCLUSION: -It can be concluded that in geriatric age chronic fatigue syndrome is found due to geriatric disorders. So Panchakarma procedures and *Rasayana* treatment are helpful to subsite these diseases. But first should be focus on *Agni* and *Vata dosha* which are the main cause of this disease. Chronic fatigue syndrome is common in ageing due to geriatric disorders and can be managed efficiently through *Ayurveda.*

Conflict of Interest-The author declares no conflicts of interest.

Source of Support- The author declares no source of support.

REFERENCES:

1.Morelli, V. Fatigue and chronic fatigue in the elderly: definitions, diagnoses, and treatments. *Clin. Geriatr. Med.***27**, 673–686 (2011). [DOI] [PubMed] [Google Scholar]

2.Su, Y. et al. Fatigue in community-dwelling older adults: a review of definitions, measures, and related factors. *Geriatr. Nurs.***43**, 266–279 (2022). [DOI] [PubMed] [Google Scholar]

3.Tralongo, P., Respini, D. & Ferraù, F. Fatigue and aging. *Critical Rev. Oncol.Hematol.*48, S57–S64 (2003). [DOI] [PubMed] [Google Scholar]

4.Yu, D. S. F., Lee, D. T. F. & Man, N. W. Fatigue among older people: a review of the research literature. *Int. J. Nurs. Stud.***47**, 216–228 (2010). [DOI] [PubMed] [Google Scholar]

5.Gorasso, V. et al. The non-fatal burden of cancer in belgium, 2004–2019: a nationwide registry-based study. *Bmc Cancer*.**22**, 58 (2022). [DOI] [PMC free article] [PubMed] [Google Scholar]

6.Jagger, C. et al. Inequalities in healthy life years in the 25 countries of the european union in 2005: a cross-national meta-regression analysis. *Lancet.***372**, 2124–2131 (2008). [DOI] [PubMed] [Google Scholar]

7.Torossian, M. R., Chung, J., Mamo, S. K. & Jacelon, C. S. Examining a fatigue management model in older individuals. *Rehabil. Nurs.***47**, 50–59 (2022). [DOI] [PubMed] [Google Scholar]

8. www.planetayurveda.com › chronic-fatigue-syndrome

9. Sharma RK, Das VB: Editor Caraka Samhita of Agnivesa, Chikitisa Sthan; Grahani Dosa Adhyaya: Chapter 15, Verse 3, Varanasi: Chaukhamba Krishnadas Academy, Edition, 2009; 1(IV): 1-2.

11. Vagbhatta, Ashtanga Hridayama, commentary by Brahamanand Tripathi, 1st edition, Chowkhama Prakashana, Sutra Sthana 13/25, Varanasi, 2009

12. Madhavakara, Madhava Nidana 25/1-5, Madhukosha Sanskrit Commentary by Sri Vijayraksita, Srikanthadatta and Vidyotini Hindi Commentary by Sri Sudarsana Sastri Edited by Prof.Yadunandan Upadhyaya, Chaukhambha Prakashana Varanasi. Revised Edition Reprint, 2009.