

Review Article

Critical Review on applicability of concept of *Dinacharya* (Daily routine) on managing Madathya and its morbidities with special reference to Alcoholism

Abstract

Comment [DSC1]: IMRaD structure should be followed.

Alcohol is a psychoactive and toxic substance which consists with dependence creating properties. Alcoholism has listed as one of the three most deadly killer diseases of the 20th century by World Health Organization. According to Ayurveda, Madathya is a diseases which is characterized by various conditions related to excessive and improper alcohol drinking. Alcohol will affect as an inebriant and contributes to 3 million mortalities each year globally with many more morbidities. Ayurveda has mentioned about the concept of Dinacharya (daily routine) which denotes the whole range of activities, attitudes of every day from sunrise to sunset which leads to positive health. Thus the objectives of this study was to study on Madathya with special reference to Alcoholism and applicability of concept of Dinacharya for managing morbidities occurred due to Alcoholism. The literature data were gathered by Ayurvedic authentic text books, Medical books, previous published Journals and authentic web sites. There are three main treatises in Ayurveda called vruhatraya; Charaka Samhita, Susrutha Samhita and Ashthanga Hridaya Samhita. According to Charaka Samhita it has mentioned about the origin of Madathya as Vataja, Pittaja, Kaphaja and Sannipataja. Considering on gathered data, it can be concluded that signs, symptoms and complications mentioned in both modern and Ayurveda systems are correlated to each and applying the concept under Dinacharya as getting up in Brahmamuhurtha, Ushapana (Intake of water in early morning), Sauchakarma (Voidings of excrements), Dantadhavana (cleaning of teeth), Jivhanirlekhana (cleaning of tongue), Anjana (application of collyrium), Nasya (nasal cleansing), Gandusha, Kavala (mouth gargles), Abhyanga (Massage), Snana (Bath), Vyayama (Exercise), Udvarthana (exfoliation) and Ahara (diet) gives positive effect on managing morbidities occurred due to Alcoholism.

Background

Alcohol is a psychoactive and toxic substance which consists with dependence creating properties. Alcoholism is a health issue in the world which can harm the society as well as the

individuals. Alcoholism has listed as one of the three most deadly killer diseases of the 20th century by World Health Organization (WHO). Having alcohol will affect as inebriant and alcohol consumption contributes to 3 million mortalities each year globally as well as many more morbidities especially in low socioeconomic backgrounds. Overall use of alcohol is responsible for 5.1% of the worldwide burden of diseases. ^[1]

Comment [DSC2]: Kindly provide a reference.

Comment [DSC3]: Kindly provide a reference.

According to Ayurveda, Alcoholism can be correlate with *Madathya*; which is characterized by various conditions related to excessive and improper alcoholic beverages. *Madathya* includes tridoshas and it vitiated *Rasa* and *Rakta dhatu*. *Rasavaha*, *Raktavaha*, *Sangyavaha Shrotas* are vitiated in *Madatya*. *Hridaya* (Heart) is the main *adhistan* (seat) and it affects the *ojas* in the body. Finally it leads to *Ojakshaya* (Reducing immunity), *Dhatukshaya* (Diminishing body tissues), *Sharirkampa* (Tremors in the body), *Pralapa* (Delirium), *Bhrama* (Tremors), *Agni Vikara* (Metabolic defects) and *Anidra* (Insomnia) in alcoholic individual.

There are three main treaties in Ayurveda called vruhatraya; *Charaka Samhita*, *Susrutha Samhita* and *Ashthanga Hridaya Samhita* According to *Charaka Samhita* it has mentioned about the origin of *Madathya* as *Vataja*, *pittaja*, *kaphaja* and *Sannipataja*^[2] and *Susrutha Samhitha*^[3] has mentioned the *Panathya*, *Panajeerna*, *Paramada* and *Panavibharama* in *Panatyayapratisedha*.

Comment [DSC4]: Should be in Italic.

Ethyl alcohol depresses the CNS and acts as harmful addicted substance and effect on vital body part. 80 % percent alcohol absorbed in small intestine and metabolizes in liver and thus lead to damage the liver due to alcoholism. Alcohol is CNS depressant that acts on receptor for γ -aminobutyric acid (GABA) the main inhibitory neurotransmitter in the nervous system. Cognitive, behavioral and psychomotor changes can emerge at blood alcohol level as low as 0.02-0.03 g/dl.^[4]

Dinacharya or daily routine denotes the way people live and reflecting the whole range of activities, attitudes of every day from sunrise to sunset. Importance of getting up in *Brahmamuhurtha*, *Ushapana* (Intake of water in early morning), *Sauchakarma* (Voidings of excrements), Importance of squatting in toilets, *Dantadhavana* (cleaning of teeth), *Jivhanirlekhana* (cleaning of tongue), *Anjana* (application of collyrium), *Nasya* (nasal cleansing), *Gandusha*, *Kavala* (mouth gargles), *Abhyanga* (Massage), *Snana* (Bath), *Vyayama* (Exercise), *Udvarthana*, *Ahara* (diet) concepts are need to be implicated for positive health to manage morbidities due to alcoholism and *Madatya*.^[5]

Comment [DSC5]: Ayurvedic terminology should be in italic.

Objective

Critical review on *Madathya* and its complications with special reference to Alcoholism

Applicability of concept of *Dinacharya* for managing morbidities occurred due to *Madatya*

Materials and Methodology:

The literature data was gathered from Ayurvedic authentic text books, Medical books, previous Journals and web sites. The gathered data were analyzed according to the study.

Results:

Table1: Causative factors and signs and symptoms of each *Madathya* types according to *Ayurveda*

Type of <i>Madatya</i>	Causative factors	Signs and symptoms
<i>Vatika Madatya</i> ^[2]	If a person is excessively emaciated due to <i>Krodha</i> (Anger), <i>Shoka</i> (grief), <i>Bhaya</i> (Fear), <i>Vyavaya</i> (sexual-intercourse), <i>Chankramana</i> (walking), <i>Sahasa</i> (Stress), eating <i>Ruksha</i> (dry), less or limited quantity of food, drinks excessively fermented <i>Madya</i> at night lead to the impairment of <i>Nidra</i>	<i>Hikka</i> (Hiccup) <i>Shwasa</i> (Asthma), <i>Shirah Kampa</i> (Tremors in head) <i>Parshva Shula</i> (pain in flanks) <i>Prajagara</i> (Insomnia) <i>Bahupralapa</i> (Delirium)
<i>Pittaja Madatyaya</i> ^[6]	If a person, indulging in food that is <i>Amla</i> (Sour), <i>Ushna</i> (hot) and <i>Teekshna</i> (Sharp), having wrathful disposition and excessive exposure to the	<i>Trishna</i> (Thirst), <i>Daaha</i> (Burning Sensation) <i>Jvara</i> (Fever) <i>Sweda</i> (Sweating)

	fire and sun, drinks excess quantity of Teekshna, Ushna and Amla Madya	<i>Moorcha</i> (Fainting) <i>Atisara</i> (Diarrhohea) <i>Vibhrama</i> (Giddiness) <i>Haritavarna</i> (Greenish complexion)
Kaphaja Madatyaya ^[7]	If a person who is habituated to <i>Madhura</i> (Sweet), <i>Snigdha</i> (Uncotous) and <i>Guru</i> (Heavy) Ahara, does not perform <i>Vyayam</i> (Exercise), who takes <i>Diwaswapna</i> (Day sleep) and Sukhaseenata, excessively drinks Madya which is not an old one or which is prepared of Guda(Jaggery), and <i>Paishtika</i> (Cereals)	<i>Chardi</i> (Vomiting) <i>Aruchi</i> (Anorexia) <i>Hrillasa</i> (Nausea) <i>Tandra</i> (Drowsiness) <i>Staimitya</i> (Stiffness) <i>Gaurava</i> .(Heaviness)
Sannipataja Madathya ^[8]	Combination of above mentioned all causative factors	<i>Shareeradukham</i> (Physical distress) <i>Balavatsammoha</i> (Mental confusion) <i>Hridayavyatha</i> (Cardiac pain) <i>Aruchi</i> (Anorexia) <i>Pratata Trishna</i> (Continous thirst) <i>Jwara</i> (Fever) <i>Sheetoshnalakshana</i> (Hot and clod features) <i>Shirokampa</i> (Tremors of head), <i>Jrumbha</i> (Yawning) <i>Sphuranam</i> (Twitching) <i>Veepanam</i> (Tremor) <i>Shrama</i> (Stiffness)

Urovibandha, (Disturbance in
 Thorax)
Kasa (Cough)
Hikka (Hiccup)
Shwasa (Asthma)
Prajagara, (Insomnia)
Shareera Kampa (Body
 Tremors)
Karnakshimukharoga (Diseases
 in eye ears and mouth)
Trikagraha (Pain in coccyx area)
Chhardi (Vomiting)
Atisara (Diarrhea)
Hrulasa (Nausea)
Bhrama (Giddiness)
Pralapa (Delirium)

Table 2: Signs and symptoms of stages in Acute alcohol poisoning ^[9]

Stage	Signs and Symptoms
Stage of Excitement (Blood alcohol level: 50-150 mg%)	Person will be euphoric (sense of well-being). Speech actions, and emotions are less restrained. He cannot keep secrets Lowering of visual acuity. Nystagmus Less mental concentration Less judgment Attention and recall deteriorates

<p>Stage of In-coordination (Blood alcohol level: 150-250 mg%)</p>	<p>Due to further depression of higher centres, the person may be irritable. Perception and skilled movement centers are involved Incoordination of fine movements Alterations in speech Alteration in fine finger movements. Nausea and vomiting. Flushed Face Rapid Pulse Diminishing touch, taste, smell and hearing Hypothermia. Breath smells of alcohol. Pupils are dilated Sluggish in reacting to light.</p>
<p>Stage of Coma (Blood alcohol level > 250 mg)</p>	<p>Slurred speech. Coordination is markedly affected and becomes giddy and fall. Rapid Pulse . Hypothermia. Pupils are contracted,</p>

Ayurveda emphasized that the **complications** of Madatyaya as :

Hikka (Hiccup),

Jwara(Fever),

Vamathu(Vomitting),

Vepathu(Tremors),

Parshwashoola(Pain in flanks),

Kasa(Cough) and *Bhrama*(Giddiness)^[10].

The Common clinical syndromes associated with chronic alcoholism according to modern science are

- Delirium tremens,
- Alcoholic hallucinosis,
- Korsakoff's psychosis,
- Wernicke's encephalopathy,
- Marchiafava-Bignami syndrome,
- Alcoholic paranoia and Alcoholic seizures^[11].

Table 3: Applicability of *Dinacharya* in managing morbidities of Madatyā/ Alcoholism

Type of Dinacharya ^[5]	Benefits for the individual according to Ayurveda	Applicability of Dinacharya in managing morbidities of Madatyā & Alcoholism
Brhmmuhrthe Uththishteth	<p>Brahmamuhurtha is the second last muhurta before sunrise or 96 minutes before sunrise.</p> <p>Calm and quite environment and ideal time for grasp knowledge.</p> <p>Environment pollution is low and air is clean.</p>	<p>People who wake up early tend to go to bed earlier and enjoy longer, better quality sleep to avoid insomnia, mental confusion and distress due to Madatyā . Further improve mood and better concentration</p> <p>Photosynthesis in plant kingdom is high and oxygen which easily mixes with haemoglobin forming and oxyhaemoglobin reaching to the remote tissues and cause to boost the immune system</p>

Ushapana	Drink a glass of lukewarm or normal temperature water after waking up.	Drink water in early Morning causes to avoid Arsha (Haemorrhoids), Sotha (oedema), Grahani (Sprue), Jwara (fever), Jara (old age), Kustha (skin disorder), Medo vikara (Obesity related disease) and live long.
Sauchakrama	Voiding the excretory products in the morning	Relieving from the natural urge or perform excretory functions early in the morning prolongs life. Suppress of natural urges increase the Vata dosa and increase the conditions of tremors, delirium, pain in flanks and giddiness.
Dantadhavana	Cleaning of teeth	Twigs of kashaya(Astringent), katu(Pungent) and tikta(Bitter) rasa dominant trees are advisable to use in cleaning teeth and it leads to decrees the anorexic conditions
Jihva Nirlekhana	Tongue Scraping	Remove the coating , increase the oral hygiene and increase taste sensation by avoiding anorexic conditions

Anjana	Application of collyrium	It helps to increase vision and removes the eye diseases in Madatyā
Nasya	Nasal Cleansing	Nose is believed as the entry of the head and cleanse all the diseases above clavicle. Indicated for daily use in one or two drops especially strengthens the sense organ, improves health of the hairs, shin and throat.
Gandusha & Kavala	Filling the mouth with some medicated fluid and retaining for some time or gargling	Enhances the senses and removes anorexia
Abhyanga	Oil Massaging	Decreases the stiffness , tremors and mental confusions
Vyayama	Regular exercises	vyayama helps to physical development luster and increase the hunger by decreasing physical debility, heaviness of the body. Provide compactness of body parts and optimum immunity
Udvarthana	Rubbing of the body by medicated powders	It removes sharira dourgandhya (body odour), Gurutva (heaviness), Tandra (drowsiness), Kandu

		(itching), (anorexia) and (sweating)	Arochaka and Sweda
Ahara	Healthy and balanced diet	It gives physical fitness and provide energy and immunity. According Ayurveda no medicine can be equated with food and gives the intellectual power and strength.	

Discussion:

Disease which has mentioned in Ayurveda as *Madathya* is emerged due to excessive consumption of alcoholic beverages. Considering the signs and symptoms of the *Madathya* with Alcoholic intoxication according to Modern Science, it is revealed that both concepts can be correlated with each other.

Alcohols are inebriants which affects to the Central Nervous System and it is highlighted that most of the signs and symptoms which shows in the *Madathya* related with the Central Nervous System. According to Modern medicine, complications as Delirium tremens is an acute organic brain syndrome which shows psychomotor agitation with mental confusions and Wernicke syndrome or Wernicke encephalopathy, is due to thiamine deficiency and is characterized by the triad of ataxia, oculomotor abnormalities and confusion.^[12] Alcoholic hallucination is characterized by the state of hallucination, mainly auditory with systematized delusions of persecution. Further, the Korsacoff's Psychosis is organic amnesic syndrome. Thus, considering the signs and symptoms of each type of *Madathya* with stages of Alcohol intoxication, that first stage can be correlated with *Vataja Madathya*, second stage with *Pittaja* and *Kaphaja Madathya* and third stage with *Sannipataja Madathya* respectively. Moreover the complications and *Sannipataja Madatya* mentioned by the Ayurveda also related with the physical and mental confusion conditions which harms the person.

Thus the managing these morbidities through Ayurveda concepts will be an effective influence to reduce the burden to socioeconomic environment. Importance of getting up in Brahmamuhurtha has been proved by the researches as an older age, male gender, and early waking time showed significant positive correlations with physical activity level. Ushapana (Intake of water in early morning) will lead to flush out all impurities and help to prevent from diseases. Sauchakarma (Voidings of excrements) balance physiological systems. *Dantadhavana* (cleaning of teeth) and *Jivhanirlekhana* (cleaning of tongue) increase the sensation and reduce plaque levels in teeth,[13] *Anjana* (application of collyrium) increases the eye sight and *Nasya* (nasal cleansing) leads for stimulation of the hormones and increase the effect in neuro vascular and neuro endocrine levels. *Gandusha ,Kavala* (mouth gargles) enhances the senses, maintains clarity, brings about a feeling of freshness, and invigorates the mind. *Abhyanga* (Massage), According to the evidences, *Snana* (Bath) is a therapeutic preventive and rejuvenating ritual for the body, mind and soul.[14] *Vyayama* (Exercise) helps to physical development luster and increase the hunger by decreasing physical debility. *Udvarthana* which leads to detoxification and *Ahara* (diet) concepts in Ayurveda gives lusture,mental vigor and strength.

Conclusion:

Effect of *Madatya* which has been mentioned in Ayurveda can be correlated with the Alcohol intoxication in Modern Science and in both concepts it is revealed that Alcohol harms the person and gives the complications by affecting the central nervous system. Further, the concepts of *Dinacharaya* are can to be implicated for positive health to manage morbidities due to alcoholism and *Madathya*

NOTE:

The study highlights the efficacy of "Ayurveda" which is an ancient tradition, used in some parts of India. This ancient concept should be carefully evaluated in the light of modern medical science and can be utilized partially if found suitable.

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