



ISSN 2456-3110

Vol 8 · Issue 6

June 2023

Journal of
**Ayurveda and Integrated
Medical Sciences**

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



Maharshi Charaka
Ayurveda

Indexed

Effect of *Ashwagandha Kwatha Dhara* in *Anidra* - A Case Series

Kavita Kumari¹, Santosh Kumar Bhatted²

¹Assistant Professor, Ishan Ayurvedic Medical College, Greater Noida, India.

²Associate Professor, All India Institute of Ayurveda, New Delhi, India.

ABSTRACT

Insomnia also known as sleeplessness, is a sleep disorder in which people have trouble in sleeping. There are around 10% to 30% of the adults have insomnia at any given point in time and up to half of people have insomnia in a given year and about 6% of people have insomnia that is not due to another problem and lasts for more than a month. The typical first line of treatment are Sleep hygiene and lifestyle changes but is restricted only to the mild cases, Moderate or severe cases requires medications like sleeping pills, sedatives, antidepressants, antipsychotic drugs like Antihistamines, Benzodiazepines etc. The side effect, dependency and withdrawal symptoms of these drugs are not new to the medical sciences. On the antagonistic part *Ayurveda* can provide a safe and effective non interventional solution to it by *Shirodhara* a *Panchakarma* therapeutic measure. In this case series *Ashwagandha Kwatha Dhara* was used to see the effect on various criteria like Athens Insomnia Scale Hamilton Anxiety Scale, Hamilton Depression Scale, WHO – Quality of scale (Bref) and *Ayurveda Lakshana* and an overall improvement of 86.5 % was found in all these criteria's which was found worth sharing to the medical fraternity for enhancement and its further appraisal.

Key words: *Anidra, Shirodhara, Ashwagandha Kwatha Dhara, Insomnia, Ayurveda*

INTRODUCTION

The man of 21st century is breathing under various stresses, strains and anxiety. Someone is worried on account of lack of material, happiness and comforts; while someone else is worried on account of lack of mental peace. Co-ordination between ambitions and capabilities is no more seen. Everybody is desirous for rising higher than his present position for reaching the acme of progress. The lifestyle is far from what the natural anatomy and physiology of human body

permits. Irregular and unnatural food habits, suppression of natural urges, lack of proper sleep and less time for relaxation are the inseparable parts of our routine which enervate body and finally lead to the disease. This stress and strain of day-to-day life affects one's bodily organs through several psycho-physical mechanisms. Among the several psychosomatic diseases, insomnia is one of them, which can be compared with *Anidra*. *Ahara, Nidra and Brahmacharya* are the three factors which play an important role in the maintenance of a living organism. In *Ayurvedic* literature, these factors i.e., *Ahara* (diet), *Nidra* (sleep) and *Brahmacharya* (celibacy) have been compared with the three legs of sub-support and have been termed as the three *Upastambhas*.^[1] The ancient *Acharyas* have stated that happiness and sorrow, growth and wasting, strength and weakness, virility and impotence and the knowledge and ignorance as well as the existence of life and its cessation depend on the sleep.^[2] There is a close connection between our body and our mind.^[3] *Charaka* defined *Chinta* (stress)-*Atichintan* (overthinking) are the causative factors of

Address for correspondence:

Dr. Kavita Kumari

Assistant Professor, Ishan Ayurvedic Medical College, Greater Noida, India.

E-mail: kavitasain757@gmail.com

Submission Date: 13/04/2023

Accepted Date: 21/05/2023

Access this article online

Quick Response Code



Website: www.jaims.in

DOI: 10.21760/jaims.8.6.46

the vitiation of *Rasavaha Srotas*-a body channel that may cause many diseases in the human body. *Chinta* aggravates *Vata*,^[4] the vitiated *Vata* adversely affects the heart and destabilize the *Buddhi* and *Smriti*.^[5] According to *Ayurveda* physiology, *Tridosha* (functional units of the body) regulates the normal physiology of the human body; they maintain or destroy the body by equilibrium or disequilibrium.^[6] *Shirodhara* is a unique non-invasive technique of *Ayurveda*. Its non-invasive approach has been shown good or even better for the treatment of insomnia, anxiety, stress, headache, hypertension.^[7] *Shiro* means head and *Dhara* means dripping. *Shirodhara* is the procedure in which oil or any liquid dripping on the forehead in a steady stream or flow for 36 min to 1 h 12 min.^[8] Total treatment duration in terms of days is not specified in classical texts, based on various practices in India *Shirodhara* is done for 3, 7, 14, or 28 days.^[9] Many studies showed that *Shirodhara* significantly decreased levels of state of anxiety.^[10] Studies published by Japanese researchers showed plasma levels of noradrenaline decreased significantly in the *Shirodhara* treatment.^[11] *Shirodhara* may also be useful for restraining the disruption of *Manasbhava* and anxiety disorder.^[12] Along with it *Ashwagandha* (*Withania somnifera*) has its own antistressor properties as it has various Glycowithanolides, Sitenosides VII, VIII, IX & X and many others active components,^[13] hence it was taken into consideration to view its combined effect with *Shirodhara*.

METHODOLOGY

It is a randomised clinical trial with a purpose of treating *Anidra* through intervention of *Shirodhara* with three different medicinal forms in a parallel assignment.

Patients coming to O.P.D of All India Institute of Ayurveda, New Delhi were selected on the basis of inclusion and exclusion criteria. Total 7 patients were taken in the study.

Total Duration of study - 30 Days

Intervention time - 14 Days

Follow up - 16 days

Assessments - 1st, 7th, 14th, 21st, 30th day (Earlier total of 7 assessments were reduced to 5 assessments due to COVID 19 Pandemic)

Statistical Tools - Test was used statistical analysis within the groups and between the groups.

Inclusion Criteria

1. Patients presenting with complaints of Reduction of sleep time.
2. Patients fulfilling AIS scoring i.e., ≥ 7 .
3. Wakefulness during normal sleep.
4. All of them for the duration of 3 months or more.
5. Patients of either sex in the age group of 20 – 70 years.

Exclusion Criteria

1. Patient below 20 and above 70 years
2. Pregnant women and Lactating women.
3. Patient with Stroke, Hemorrhagic disorders, Epilepsy or any other psychotic disorder.
4. Patient with alcohol dependency or drug addict.
5. Rashes, Cut, Abrasion, neck Injury on head.

Assessment Criteria

Assessment criteria includes two types of assessment

1. Primary
2. Secondary

Primary Criteria includes

- Athens Insomnia Scale
- Hamilton Anxiety Scale
- Hamilton Depression Scale
- WHO - Quality of scale (Bref)

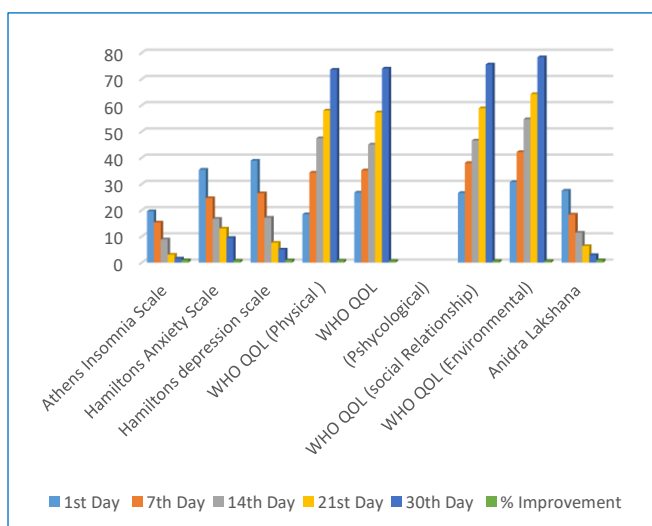
Secondary Criteria includes - Anidra Lakshanas (*Jrumbha, Tandra, Angamarda, Shiroroga, Shirogurav, Akshigaurav, Jadya, Glani, Bhrama, Apakti, Vataroga.*)

RESULT

Following result were found in the study,

Assessment Criteria	1 st Day	7 th Day	14 th Day	21 st Day	30 th Day	% Improvement
Athens Insomnia Scale	19.57	15.29	8.86	3.00	1.57	91.9 %
Hamiltons Anxiety Scale	35.43	24.57	16.71	13.00	9.43	73.3 %
Hamiltons depression scale	38.86	26.43	17.14	7.57	5.00	87.1 %
WHO QOL (Physical)	18.43	34.29	47.43	58.00	73.57	74.9 %
WHO QOL (Phycological)	26.71	35.14	45.00	57.29	74.00	63.9 %
WHO QOL (social Relationship)	26.57	38.00	46.57	58.86	75.57	64.8 %
WHO QOL (Environmental)	30.71	42.14	54.71	64.29	78.29	61.5 %
Anidra Lakshana	27.43	18.29	11.43	6.29	2.86	89.5 %

Graphical representation of all assessment criteria



Analysis

An overall improvement was seen in the assessment criteria taken into consideration. In Athens Insomnia Scale there was an overall decrease seen from 19.57 to 1.57 from Day 1 to Day 30 with a percentage improvement of 91.9 %. Likewise, in Hamilton's Anxiety Scale also a decrease was seen from 35.43 to 9.43 from Day 1 to Day 30 with a percentage improvement of 73.3 %. Also, in Hamilton's Depression Scale decrease was seen from 38.86 to 5 from Day 1 to Day 30 with a percentage improvement of 87.1 %. WHO Quality of Life was also observed to have an overall improvement of 74.9%, 63.9%, 64.8%, and 61.5% in physical, phycological, social relationship, environmental aspects respectively. All the *Anidra Lakshana* was seen to decrease significantly with an overall improvement of 89.5 %.

DISCUSSION

Shirodhara is a purifying and rejuvenating therapy designed to eliminate toxins and mental exhaustion as well as relieve stress and any ill effects on the central nervous system. *Shirodhara* therapy is used for alleviation of many ailments. Sleep is an important component of mammalian homeostasis, vital for our survival. Sleep disorders are common in the general population and are associated with significant adverse behavioural and health consequences. Sleep, in particular deep sleep, has an inhibitory influence on the hypothalamic-pituitary- adrenal (HPA) axis, whereas activation of the HPA axis or administration of glucocorticoids can lead to arousal and sleeplessness. Insomnia, the most common sleep disorder, is associated with a 24hour increase of ACTH and cortisol secretion, consistent with a disorder of central nervous system hyperarousal. On the other hand, sleepiness and fatigue are very prevalent in the general population, and studies have demonstrated that the pro inflammatory cytokines IL6 and/or TNF-alpha are elevated in disorders associated with excessive daytime sleepiness, such as sleep apnoea, narcolepsy and idiopathic hypersomnia. Sleep deprivation leads to sleepiness and daytime hypersecretion of IL6, whereas daytime napping following a night of total sleep loss

appears to be beneficial both for the suppression of IL6 secretion and for the improvement of alertness. These findings suggest that the HPA axis stimulates arousal, while IL6 and TNF-alpha are possible mediators of excessive daytime sleepiness in humans. It appears that the interactions of and disturbances between the HPA axis and inflammatory cytokines determine whether a human being will experience deep sleep/sleepiness or poor sleep/fatigue.^[14] It can be concluded that Insomnia is associated with an overall increase of ACTH and cortisol secretion, which, however, retains a normal circadian pattern. Chronic activation of the hypothalamic-pituitary-adrenal axis in insomnia suggests that insomniacs are at risk not only for mental disorders i.e., chronic anxiety and depression, but also for significant medical morbidity associated with such activation. The therapeutic goal in insomnia should be to decrease the overall hyperarousal of HPA axis with that level of physiologic and emotional arousal, and not just to improve the night time sleep.^[15] In *Ayurvedic* classics *Ashwagandha* is reported having *Shothahara, Vedanasthapana, Mastishkashamaka, Deepana, Anulomana, Shoolaprashmana, Krimighna, Raktashodhaka, Kaphaghna, Shwasahara, Vajikarana, Garbhashayashothahara, Yonishoolahara, Mootrala, Kushthaghna, Balya, Brinhana, Rasayana* activities. Several experimental studies are conducted on *Ashwagandha* and its constituents providing the scientific bases for the activities reported in *Ayurveda*. Significant number of investigations have been carried out on anticancer and chemoprotective activities of *Ashwagandha* indicate the drug is a potentially useful adjunct for patients undergoing radiation and chemotherapy. The *Ashwagandha* was evaluated in various experimental models for assessment of activities of *Ashwagandha*. Clinical trials carried out for Anti-inflammatory, sedative, as adjuvant to chemotherapy, rejuvenating effect, hypoglycemic and hypocholesterolemic, Cardioprotective, *Rasayana*, growth-promoting effect of *Ashwagandha* support and provide scientific validations. Various *Samhitas* and *Nighantus* studies indicate *Ashwagandha* possesses many qualities, including *Kustha, Vata Roga, Dipan, Pachan, Jwara, Osteoporosis, Pregnancy to infertile*

women, Strength, anti-inflammatory, antitumor, and immunomodulatory properties, as well as exerting an influence on the endocrine, nervous, and cardio pulmonary systems. According to the *Samhitas* and *Nighantus*, *Ashwagandha* used in the various form or medium. The review indicates that WS may be useful in many ailments. To evaluate the antistress effect of WS, an alcohol extract from defatted seeds of WS dissolved in normal saline was given (100 mg/kg intraperitoneally as a single dose) to 20-25g mice in a swimming performance test in water at 28°-30°C. Including arthritis and other musculoskeletal disorders, and hypertension. It provides enough evidence to provide a firm scientific basis for definitive anti-stress therapeutic uses.^[16] *Ashwagandha* root extract is a natural compound with sleep-inducing potential, well tolerated and it was found that it improves sleep quality and sleep onset latency in patients with insomnia at a dose of 300 mg extract twice daily. It was found to possess potential to improve sleep parameters in patients with insomnia and anxiety.^[17] *Ashwagandha* was found to prevent myelosuppression in mice treated with all three immunosuppressive drugs tested. A significant increase in haemoglobin concentration (P < 0.01), red blood cell count (P < 0.01), white blood cell count (P < 0.05), platelet count (P < 0.01), and body weight (P < 0.05) was observed in *Ashwagandha*-treated mice as compared with untreated (control) mice.^[18] As Hb Concentration and Insomnia are interconnected as many research showed a significant link between anaemia and insomnia. Sleep is controlled in the brain through very complex interactions between neurotransmitters. Iron deficiency causes impaired function of some of these neurotransmitters, including: serotonin, noradrenaline, and dopamine.^[19] It can be concluded that *Ashwagandha* improves the Hb concentration, insomnia symptoms and vice versa. Also, researches have shown that anaemia can result in a disturbance of sleep cycle.^[20] The most notable changes are that there are more periods of REM sleep, and of different durations in those with anaemia. REM Sleep is where all the insomnia occurs, since it is the easiest stage of sleep to wake up from. So, it's not surprising if those with anaemia tend to have more disturbances during

the night. Conclusively it can be said that depressive symptoms are associated with anaemia in a general population^[21] and WS has a constructive impact on this. WS root and leaf extracts exhibit anti-stress and anti-anxiety activity in animal and human studies. WS also improves symptoms of depression and insomnia. WS may alleviate these conditions predominantly through modulation of the hypothalamic-pituitary-adrenal and sympathetic-adrenal medullary axes, as well as through GABAergic and serotonergic pathways. While some studies link specific *Withanolide* components to its neuropsychiatric benefits, there is evidence for the presence of additional yet unidentified active compounds in WS.^[22] The root *Ashwagandha* (*Withania somnifera*) has been used to induce sleep, water extract of WS which contain triethylene glycol as a major component induced significant amount of non-rapid eye movement sleep with slight change in rapid eye movement sleep. Commercially available triethylene glycol also increases non-rapid eye movement sleep in mice in a dose-dependent (10-30 mg/mouse) manner. These results clearly demonstrated that triethylene glycol is an active sleep-inducing component of *Ashwagandha* leaves and could potentially be useful for insomnia therapy.^[23]

CONCLUSION

Nidra is an essential phenomenon for maintenance and restoration of both body and mind, which is considered under *Trayopastambha*. Proper sleep provides immunity, balance of the body constituents, alertness, good vision, good complexion, fired digestive power as well as happiness, vigor, virility, nutrition and long life. Moreover, sleep maintains the nourishment of the body, relaxes the mind, enhance the longevity of the human beings. *Manasika Nidanas* as well as Psychic stress are the main causative factors of the disease. *Vata* and *Rajasa* play a key role in the pathogenesis of *Anidra*. Principal medications along with psychic management ultimately provides the '*Manah Sukham*'. *Anidra vis-à-vis* insomnia can be treated with *Shirodhara*. This procedure has been successfully practiced to treat stress induced various disorders like anxiety, depression, tension headache, hypertension, insomnia etc. This leads to relaxation of the frontalis

muscle to achieve decreased activity of central and autonomic nervous system with lowering of brain cortisone and adrenaline level.

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How to cite this article: Kavita Kumari, Santosh Kumar Bhatted. Effect of Ashwagandha Kwatha Dhara in Anidra - A Case Series. *J Ayurveda Integr Med Sci* 2023;06:283-288.
<http://dx.doi.org/10.21760/jaims.8.6.46>

Source of Support: Nil, **Conflict of Interest:** None declared.
