

A STUDY TO EVALUATE THE EFFECT OF SWADAMSHTRADI RASAYANA IN THE MANAGEMENT OF NIDRANASHA

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Article Received on
18 Jan. 2020,

Revised on 07 Feb. 2020,
Accepted on 28 Feb. 2020,

DOI: 10.20959/wjpr20203-17022

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ABSTRACT

Nidranasha or Insomnia is one of the most common among adult people, affecting their quality of life. *Nidra* is one among three *upstambha* of life. Population based studies suggest that about 30% of general population complains of sleep disruption, while approximately 10% has associated symptoms of day time functional impairment consistent with the diagnosis of insomnia. Even among severe insomnias, only 55% ever discussed sleep complaints with a doctor, and only 27% reported use of a sedative or hypnotic medication. Evidence also suggests that insomnia may lead to development of depression. It is also associated with an increased risk of suicide in

depressive patients and increases resistance to cognitive-behavioural therapy. In this study, *Swadamshttradi Rasayana* mentioned in *Astangahridaya uttara-sthana Rasayanaadhyaya*, was planned to evaluate its role in the management of *Nidranasha*, which is in use by many traditional vaidyas since long. The ingredients are *Gokshura*, *Amalaki* and *Guduchi* in equal quantity with *ghrita* and *madhu* as anupana in unequal quantity. Classics quote this formulation to be beneficial in *Shanthavikaradukha* and in *samatva* (balance in mind and body), *sthiratva* of body and mind. Study Design was interventional pre-post test without control. In the present study, patients between age group 25-60 years who fulfilled the inclusion and exclusion criteria were selected.

KEYWORDS: *Swadamshttradi Rasayana*, *Nidranasha*.

INTRODUCTION

Ayurveda is an intricate system of healing that originated in India thousands of years ago. As per *ayurveda*, health is a state of equilibrium of normal functions of *doshas*, *dhatu*s, *malas* and *agni* with delighted body, mind and soul means that when they are constantly in

functional equilibrium then health is maintained. Erratic lifestyle is believed to be one of the basic reasons behind the failure of the mechanism of maintaining equilibrium.

About one third of our lives we spend asleep. Through the ages, sleep has occupied a special place in human concern. So great sages of *ayurveda* considered *nidra* as a very essential factor for all living beings. *Acharayas* had mentioned *nidra* as one of the *trayopastambhas*, and included it as *adharaneeya vega*. *Nidra* plays a role in nutrition and development of the body. *Nidranasha* leads to various problem likes *dukha*, *karshaya*, *abala*, *klibata*, *ajnana* and at last it may lead to death also.^[1] For *nidra acharayas* have mentioned that *sharirik dosha kapha*, *manshik dosha tama*, *chetana sthana hridaya* and *sanjnavaha srotas* are responsible for it. Vitiation of these factors leads to the condition of *nidranasha*.

Stress causes insomnia by making it difficult to fall asleep and to stay asleep, and by affecting the quality of sleep. Stress causes hyper arousal, which can upset the balance between sleep and wakefulness. Insomnia is considered to be the most common sleep disorder. Insomnia has always been and still is an under-recognized and therefore under-treated problem. Most of them suffering from insomnia never talk to their physician about their sleeping difficulties. The inadequate identification and treatment of insomnia has significant medical and public health implications. Chronic insomnia results to impaired occupational performance and affects quality of life. Chronic insomnia can lead to metabolic and endocrine changes that are precursors for specific diseased states (e.g. obesity and diabetes) and are also relevant in increasing ageing process. 40% of adults in the general population with insomnia have a diagnosable psychiatric disorder. Increased incidence of occupational and road traffic accidents is associated with decreased sleep.

There is no ideal medicine for insomnia in modern medicine. Available medicines like sedatives, tranquilizers, psychotropic, hypnotics have got their own limitations because of its adverse side effects and their role in curing disease is very limited rather the patient will have hang over effect, addiction, variety of neurological, endocrine and hepatic side effects. Hence prolonged medication is not safe.

Swadamshtadi Rasayana is mentioned in *Astanga Hridaya Rasayana Adhyaya*. The ingredients are *gokshura*, *amalaki* and *guduchi* in equal quantity with *ghrita* and *madhu* (cheru then) as anupana. Classics quote this formulation as beneficial in *shanthavikaradukha* and also brings about *samatva* (balance in mind and body), *sthiratva*.^[2] Though there is no

direct reference of *Swadamshtadi Rasayana* in *nidranasha*, the properties of the ingredients paves light on the action of it in *nidranasha*. Also many traditional vaidyas have been prescribing this formulation in sleep related disorders.

Keeping in view all these factors the above said compound herbal drug has been selected to evaluate its effect on *nidranasha*.

MATERIAL AND METHODS

Study design was Interventional pre– post test without control.

Participants- 30.

Intervention- *Swadamshtadi Rasayana* Choorna 6 gm morning before food and 6 gm at bed time with *madhu* and *ghrita* as anupana(in unequal amount).

Intervention period- 1 months.

Outcome measure- Sleeplessness, Disorders of Sleep-Wake (S-W) Schedule, Sleep Quality, Sleep Time, Feel After Awakening, Epworth Sleepiness Scale.

Inclusion Criteria

- Patients with symptoms like sleeplessness, change in sleep-wake schedule, less sleep quality and time.
- Patients of age group 25-60 years.
- Patients will be selected irrespective of caste, religion and economic status.
- Patients with written informed consent.

Exclusion Criteria

- Patients associated with known severe systemic diseases.
- Patients having serious psychiatric illness.
- Patients having jobs affecting normal sleep pattern.
- Patients having drug or alcohol induced sleep disorders.
- Patients having Diabetes and Dyslipidemia.

STATISTICAL ANALYSIS

By Wilcoxon's signed rank test and Paired 't' test.

RESULTS AND INTERPRETATION

Effect of *Swadamshtadi Rasayana* on *Nidranasha*.

ANALYSIS OF EFFECT OF THERAPY ON EPWORTH SLEEPINESS SCALE

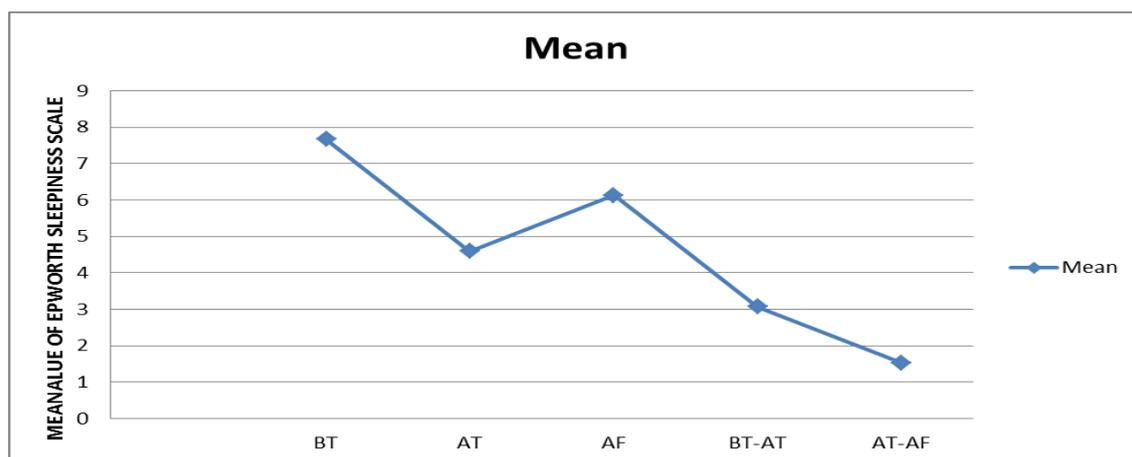
PAIR	Mean	% of Mean Difference	S.D.	S.E.	't'	P
BT	7.666		6.1718			
AT	4.6		3.4300			
AF	6.1333		5.1777			
BT-AT	3.07	40.04 %	3.61	0.66	4.6532	<0.01
AT-AF	1.6	33.26 %	2.47	0.45	3.5453	<0.01

In the study, the mean value of EPWORTH SLEEPINESS SCALE obtained before treatment was 7.666 with a standard deviation of 6.1718. After treatment with *Swadamshtradi Rasayana* for one month the mean value decreased to 4.6 with a standard deviation of 3.4300.

From the above table 't' value was 4.6532 with $p < 0.01$ and there exist highly significant effect of treatment on Epworth Sleepiness Scale while comparing before treatment and after treatment.

While comparing follow up with after treatment values the mean was 1.6 and 't' value of 3.5453, which was found to be highly significant at ($p < 0.01$).

ANALYSIS OF EFFECT OF THERAPY ON EPWORTH SLEEPINESS SCALE



ANALYSIS OF EFFECT OF THERAPY ON ASSESSMENT PARAMETER

S. NO.	ASSESSMENT PARAMETER	MEAN			% OF IMPROVEMENT			P VALUES		
		BT	AT	AF	BT	AT	AF	BT	AT	AF
1	Analysis of Effect Of Therapy On Sleep Quality	1.933	0.833	1.16	--	56.896%	40%	--	<0.01	<0.05
2	Analysis of effect of Therapy on	3.1	1.1333	1.6	--	63.440%	41.1760%	--	<0.01	<0.01

	Sleeplessness									
3	Analysis of Effect of Therapy on Sleep Time	2.766	1.333	1.6	--	51.807%	20%	--	<0.01	>0.05
4	Analysis of Effect of Therapy on Sleep-Wake Schedule	2.5	1.7	1.8333	--	32%	7.84%	--	<0.01	>0.05
5	Analysis of Effect of Therapy - Feel After Awakening	1.4	0.4333	0.5333	--	69.04762%	23.07692%	--	<0.01	>0.05

DISCUSSION

Swadamshtadi Rasayana contains three drugs viz. *guduchi*, *amalaki*, *gokshura* in equal quantities. It was administered orally with *madhu* and *ghrita* in unequal quantities as *anupana*.

Guduchi is having *tikta*, *kashaya rasa*, *laghu*, *snigdha guna*, *madhura vipaka*, and *tridoshashamak* property, *shrotoshodhaka* effect because of its *tikta rasa*, has the ability to remove both exogenous and endogenous toxins. It has a direct *medhya rasayana* effect, which enhances *dhi*, *dhriti* and *smriti*. It is a powerful *rasayana* as it increases the quality and quantity of *ojas*, the master coordinator between mind and body. *Guduchi* is with proven stress attenuating activity. In addition it is adaptogenic^[2,3], antioxidant^[4], immunomodulatory^[5], anti-inflammatory^[6] activities in experimental animals. It has strong immunostimulant and anti-cytotoxic effects, which supports normal function of the immune system. *Guduchi* is claimed to be useful in maintaining healthy brain functions and in stress management.^[7] The supportive evidence is in terms of normalization of stress-induced biochemical changes in norepinephrine (NE), dopamine (DA), and 5-hydroxytryptamine (5-HT) in experimental rats and improved levels of 5-hydroxyindoleacetic acid (5-HIAA) a metabolite of 5-HT. Studies have shown anxiolytic and anti-depressant action of *guduchi*.^[8] and has positive effects on emotional and psychological health. The causes of depression are decreased brain levels of monoamines like noradrenaline, dopamine and serotonin. Therefore, drugs restoring the reduced levels of these monoamines in the brain either by inhibiting monoamine oxidase or by inhibiting reuptake of these neurotransmitters might be fruitful in the treatment of depression. Therefore we can say that *guduchi* has therapeutic value for depressive disorders, hence it is useful in treating insomnia because depression and anxiety are one of the causes for insomnia.

Amalaki is having *pancharasa* except *lavana rasa*, *laghu*, *ruksha*, *sheeta*, *sheeta virya* and *madhura vipaka* with *tridoshashamaka* properties. *Amalaki* is a powerful *rasayana* and it is best *vayasthapana* drug. Among the list of fruits that can be consumed on daily basis (*Nitya Sheelneeya*) and also among food materials which are best suited for health, *amalaki* is given first priority. This may be because it pacifies *tridoshas* and provides necessary micronutrients to the body. Studies show that *amalaki* is one of the richest sources of vitamin C and tannins, which makes it a good antioxidant. The oxidant status in human reflects the dynamic balance between the antioxidant defense and pro-oxidant conditions, which is a useful tool in estimating the risk of oxidative damage. Studies show *amalaki* as a protective drug against stress and having antioxidant activity against ischaemia-reperfusion-induced oxidative stress in rat heart. The plant extract lowered hepatic lipid peroxidation (LPO) and increased the superoxide dismutase (SOD) and catalase (CAT) activities in hyperthyroid mice, exhibiting its hepato-protective nature. Studies shown that it reversed the amnesia induced by scopolamine and diazepam. It has proved to be useful in memory improvement and reversal of memory deficits because it facilitates oxygen transportation and thus preventing brain degeneration.

Acharaya Charaka states that, *Ghrita* is *medhya* it promotes memory, intelligence, *agni*, *shukra*, *ojas*, *kapha* and *medas*. It alleviates *vata*, *pitta* and *visha*. It is best of all the *sneha* and has *madhura rasa*, *madhura vipaka* and *sheeta virya*. It is an excellent *anupana* (vehicle) for transporting the drugs to the deeper tissue of the body. It has a striking efficacy in crossing BBB (Blood Brain Barrier) which is very much needed for treating mental anomalies. The antioxidant properties^[9] of ghee help prevent damage of nervous and brain tissues besides retarding the progress of degenerative diseases. *Nagarjuna* has mentioned that *medhya* drugs mainly act by their *achintya veerya* i.e. *prabhava*.

Honey possesses a variety of medicinal properties which is used to treat an incredibly wide range of health problems. It has *madhura rasa* and *kashaya anurasa*, *ruksha* and *sheeta guna*. *Honey* is the best *yogavahi*-catalyst substance. That it carries the properties of the drugs added to it, means it enhances the properties and actions of the substances with which it combines.^[10] Experiments and studies on honey have shown that honey is antiseptic, antimicrobial, antipyretic, anti-inflammatory, antitoxic, sedative, laxative, anti-anemic, antioxidant, healing and cleansing (external and internal), moisturizing and blood-purifying properties. It promotes rehydration, easily digestible, increases immunity and is beneficial for

all types of skin diseases.^[11] It contains trace amounts of the vitamins B₂, B₄, B₅, B₆, B₁₁ and vitamin C. Minerals like calcium, iron, zinc, potassium, phosphorous, magnesium, selenium, chromium and manganese are also present.^[12]

PROBABLE MODE OF ACTION OF 'SWADAMSHTRADI RASAYANA'

Rasayana effects mentioned in term of *vayasthapana* and *ayushkara*, *medhakara*, *urjaskara* acts at the level of *rasa* by improving specific nutritional values of *poshak rasa*. Drugs having *madhura*, *guru*, *snigdha*, and *sheeta* properties acts as *rasayana* at level of *rasa* by promoting the nutritional value of the *rasa* which in term helps in obtaining the best qualities of *dhatu*.

Swadamshtardi Rasayana selected for present study has been referred from *Asthanga Hridaya Rasayana* chapter. It contains three drugs viz. *guduchi*, *amalaki*, *gokshura* in equal quantities. It was administered orally with *madhu* and *ghrita* in unequal quantities as *anupana*. The cumulative properties of *Swadamshtardi Rasayana* are *madhura rasa*, *guru*, *snigdha* and *yogavahi guna*, *madhura vipaka* and *sheeta virya*, *medhya* and *tridosha shamaka* properties. *Madhura rasa* has *kapha vardhaka* and *vata-pitta shamaka*. It has *shareer satmya guna* which is compatible to body and *dhatu*. It has *ojovardhaka*, *ayushya* (increasing longevity) and *shad indriya prasadano guna* (creates happiness in all sense organs including mind), *sthairyakarah*. *Madhura vipaka* will increase *kapha*, in accordance with the theory of *samanaya* and *vishessa*, which is responsible for strength, stability. *Kapha* causes *dhatu vriddhi*. *guru guna* can lead to *sthairya* (stability), greater adaptation capacity, promote proper sleep and provide nourishment to prevent degeneration due to stress. On body tissues, *snigdha guna* shows nourishing effect, with *snehana* and *brimhana*^[13] actions. With the predominance of *kapha*, negative qualities like ignorance, laziness and jealousy are decreased and positive qualities like zeal, forgiveness and knowledge increases, which leads to *ahalada*^[14] (smoothing and delightfulness), *saumanasyatha* (sense of well being), *harshana* (pleasure), *sukham*^[15] (happiness). *Rasayana* drugs acts as antioxidant. They reduce oxidative damage caused by free radicals and acts as immunomodulator. *Medhya* meaning intellect or cognition and *rasayana* meaning rejuvenation. Neurological and psychiatric disorders are generally associated with loss of memory, cognitive deficits and impaired mental functions. It plays an essential role in the treatment of psychosomatic disorders. The mode of this therapy involves the individual to attain sedation, calmness, tranquility or a stimulation of activities of brain. These drugs promote the intellect (*dhi*), retention power (*dhriti*), memory (*smriti*).^[16] In fact they improve cerebral metabolism, having varying degree

of psychotropic action. They have specific effect on mental performance by promoting the functions of *buddhi* and *manas* by balancing the disturbances of *rajas* and *tamas*, by enhancing *satva*^[17], due to its *snigdha* and *sthira guna*, which helps the patient to get relieve from stress, anxiety and depression.

From the present study it can be concluded that *Swadamshtardi Rasayana* along with *ghee* and *honey* as *anupana* is found to be effective in decreasing the physical and mental complaints related to *nidranasa*. As stress increases, the quality of life decreases to the hazardous physical and psychological impact of stress. The *Swadamshtardi Rasayana* improves the adaptation to stress. Synergistic effect of drugs along with *ghee* and *honey* helped to improve quality of sleep, decreased the sleeplessness, increased the sleep time and feel after awakening was better than before.

CONCLUSION

A study to evaluate the effect of *Swadamshtardi Rasayana* in the management of *Nidranasha*. The conclusion on the basis of this study can be drawn as below.

- The *Swadamshtardi Rasayana* Therapy is effective in the treatment of *Nidranasha*; as it gives simultaneous relaxation effect on mind and body.
- *Swadamshtardi Rasayana* therapy is highly significant effect for reducing symptoms of sleeplessness, sleep quality, feel after awakening, heaviness of body, body ache, yawning, headache etc.
- No adverse effects were observed during study period.
- The treatment can be administered safely.
- Results obtained were sustained during follow up also.
- The intervention was effective in the management of *Nidranasha*, which was found to be highly significant. Hence the Null hypothesis is rejected and Alternate hypothesis accepted.

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