



Research Article

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GODUGDHA SHIRODHARA: A NON PHARMACOLOGICAL TREATMENT OF NIDRANASH (INSOMNIA)

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Received on: 06/05/13 Revised on: 21/06/13 Accepted on: 12/07/13

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DOI: 10.7897/2277-4343.04417

Published by Moksha Publishing House. Website www.mokshaph.com

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ABSTRACT

Ayurveda is the life science. Its objects are to maintain the health of healthy individual and cure of diseases mainly contributed by Aahara, Nidra and Brahmacharya. Being supported by these three sub pillars of life, the body is endowed with strength and growth. Present era is full of competition, everyone is struggling for existence. Man is working hard for day and night, besides that mental stress, addiction of alcohol, tobacco leads to insufficient sleep. The disease Nidranash (Insomnia) is gradually increasing in society and has become one of the common problem. According to modern science, pharmacological treatment advice in this case shows various side effects. Through this study effort was taken up to find out non-pharmacologic therapy to cure this crippling disease. Aim of present study was to evaluate the effect of non pharmacological therapy Shirodhara in Nidranash. Study was conducted in 30 clinically diagnosed patient of Nidranash with help of symptoms of Nidranash and Sleep Efficiency Index (SEI). Procedure of Godugdha Shirodhara was carried out in three steps purvakarma, pradhankarma and paschatkarma with all precautions. On the basis of observed data, it was concluded that Godugdha Shirodhara has highly significant effect on Nidranash.

Keywords: Insomnia, Shirodhara, Nidranash, Godugdha, Nidra

INTRODUCTION

The Important part of maintenance of the health of living being is mainly contributed by Aahara, Nidra and Brahmacharya, which are collectively known as Trayopastambha (three supportive pillars) of life.¹ Out of these sleep affects our daily functioning, physical, mental and spiritual health in many ways. Happiness and misery, nourishment and emaciation, strength and weakness, virility and sterility, knowledge and ignorance, life and death of an individual depend on the proper or improper sleep.² Present era is full of competition; everyone is struggling for existence, so man is working hard for day and night without taking adequate sleep. Beside that mental stress,³ addiction of alcohol⁴ and tobacco leads to insufficient sleep, insomnia,⁵ sleep disorder, sleep apnea⁶ which are included in Nidranash. In basic tests Aswapna⁷, Nidralpata⁸, Nidrakshaya⁹, Nidrahani¹⁰, Nidraghat, Mandnidra¹¹ and Nidrabhramsha¹² all these terms are included in Nidranash. The disease Nidranash is found to be gradually increasing in the society and has become one of the common health problems. Ayurveda has taken the foremost place in the management of crippling disease, Nidranash is one of them. Ayurveda definitely offers remedies in the form of Godugdha Shirodhara to treat the disease. This fact inspires to undertake study effect of non pharmacological regimen Godugdha Shirodhara on Nidranash (Insomnia).

Aims and Objectives

To evaluate the effect of Godugdha Shirodhara on Nidranash.

MATERIAL AND METHODS

Total 30 patients fulfilling the criteria for the diagnosis of Nidranash irrespective of their sex, religion were selected for the present study by simple random sample technique from OPD of Rognidana and Kayachikitsa department, after seeking the permission of Institutional Ethical Committee. The materials required to conduct study were Godugdha, Shirodhara Patra, Shirodhara Table, Clean Cotton Pads etc.

Inclusive criteria

- Patients between the age group 20 to 70 years of both the sexes.
- Patients having classical features of Nidranash mentioned in Ayurvedic text.¹³

Exclusive criteria

- Patients who were known case of major psychological disorder.¹⁴
- Patients having less than 20 and more than 70 years of age.
- Patients having Sleep Efficiency Index ≥ 80 %.
- Participants unwilling to comply with the protocol.
- Nidranash of Sutika and Garbhini patients was excluded.

The subjects, who did not undergo treatment properly, did not attend follow up were dropped out from the study.

Criteria for Diagnosis

- Presence of signs and symptoms of Nidranash Vyadhi as per text was essential for diagnosis.^{15,16}

- Detailed history was taken and Clinical examination was done on the basis of a special proforma incorporating all the signs and symptoms of the disease.
- The routine hematological investigations such as Hemoglobin percentage, TLC, DLC, ESR were carried out to exclude any other pathology
- Sleep Efficiency Index (SEI) was calculated to support the diagnosis with the help of formula¹⁷

$$SEI = \frac{\text{Total Sleep Time}}{\text{Time In Bed}} \times 100$$

SEI is expressed as a percentage (%).
An index of less than 80 % indicates poor sleep

Method of Godugdha Shirodhara

Procedure of Godugdha Shirodhara was carried out in three steps which are as follows.

Purva Karma (Before Procedure)

Patient was asked to evacuate the bowel and urinary bladder and made to lie down in supine position on the Shirodhara Table. Body of the patient below the neck was draped with a cloth. Both eyes of patient were covered by wet and square cotton pads of size 4 inches. The stand with Shirodhara patra was placed at head end of the table, in such a way that wick of patra pointing toward centre of patient's forehead. Four Angula distance is maintained between the free end of the wick and the forehead of the patient.

Pradhan Karma (Main procedure)

Lukewarm Godugdha of temperature 38^o- 40^oC was filled in Shirodhara patra then Godugdha was allow to flow through wick of patra steadily and oscillatory in to and fro fashion across the head. In this way Shirodhara was carried out for 30 minute at a time per day for 7 days as one setting.¹⁸

Pashchat Karma (After procedure)

After Shirodhara the patient was asked to take rest for 10-15 minutes in the same position. Then cotton pads were removed over from the eyes. Forehead cleaned with dry cotton and asked the patient to take head bath with warm water.

Method of Administration of Drug

Drug - Godugdha
Dose - 1 liter per day / patient
Route of administration - External (Shirodhara)
Time of administration - In morning

Duration and Course of Shirodhara

The procedure of Godugdha Shirodhara was carried out for about 30 minutes at a time per day. In this way Shirodhara was performed for 7 days as one setting (follow up) continued with another 2 settings (follow up) of 7 days each, with an interval of 7 days after both first and second settings (follow up). So the total duration of treatment was of 35 days.

Precautions

- Jerky movements of the dharapatra were avoided during the procedure.
- Both eyes of the patient were kept covered and protected during the procedure.

OBSERVATION AND RESULT

At the beginning of study most of the patients reported sleep difficulties in the various forms such as difficulties in falling sleep, malaise, fatigue, loss of memory, less time spent in deeper stages of sleep, early morning awakening.¹⁹ Improvement in the following symptoms of Nidranasha were assess before and after treatment. For the Symptom of Nidranash before treatment Mean ± SD was 2.067 + 0.6915 and after treatment Mean ± SD were 0.4667 + 0.8193. For the Symptom Angamarda before treatment Mean ± SD was 1.967 + 0.1826 and after treatment Mean ± SD were 0.5333 + 0.7303. For the Symptom Shirogaurava before treatment Mean ± SD was 2 + 0 and after treatment Mean ± SD were 0.5667 + 0.5683. For the Symptom Jrumbhika before treatment Mean ± SD was 1.467 + 0.6288 and after treatment Mean ± SD were 0.2 + 0.4068. For the Symptom Jadya before treatment Mean ± SD was 1.833 + 0.379 and after treatment Mean ± SD were 0.6333 + 0.6687. For the Symptom Glani before treatment Mean ± SD was 1.567 + 0.5683 and after treatment Mean ± SD were 0.5333 + 0.5713. For the Symptom Bhrama before treatment Mean ± SD was 1.667 + 0.4795 and after treatment Mean ± SD were 0.3333 + 0.4795. For the Symptom Apakti before treatment Mean ± SD was 1.467 + 0.5713 and after treatment Mean ± SD was 0.3333 + 0.4795. For the Symptom Tandra before treatment Mean ± SD was 1.567 + 0.504 and after treatment Mean ± SD were 0.4333 + 0.5683. Obtained P value for all above symptoms was (P < 0.001) which shows highly significant result described in Table 1, 2 and Graph 1. For Sleep Efficiency Index before treatment Mean ± SD was 42.95 + 18.38 and after treatment Mean ± SD was 79.84 + 16.22. Obtained P value (P < 0.001) was highly significant. In 30 patients of Nidranash disease, the mean Sleep Efficiency Index (SEI) percentage before treatment was 42.95 % which was 79.84 % after medication. The result was highly significant described in Table 3 and Graph 2. After the completion of therapy improvement in the feeling of the well being in all the 30 patients were observed. For the analysis of all above data Kruskal – Wallis test with Dunn's Multiple Comparison Test was applied. This is one way ANOVA Test. (Non – Parametric).²⁰

Table 1: Nidranash Rating Scale before Treatment

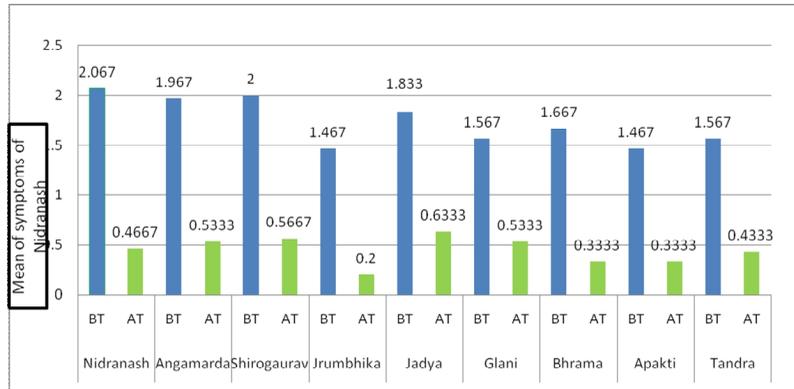
Symptoms	BT				Sum
	Mean	Median	SD	SE	
Nidranash	2.067	2	0.6915	0.1262	62
Angamarda	1.967	2	0.1826	0.03333	59
Shirogaurav	2	2	0	0	60
Jrumbha	1.467	1	0.6288	0.1148	44
Jadya	1.833	2	0.379	0.0692	55
Glani	1.567	2	0.5683	0.1038	47
Bhrama	1.667	2	0.4795	0.08754	50
Apakti	1.467	1.5	0.5713	0.1043	44
Tandra	1.567	2	0.504	0.09202	47

BT = before treatment

Table 2: Effect of Godugdha Shirodhara on Nidranash Rating Scale after Treatment

Symptoms	AT					
	Mean	Median	SD	SE	Sum	P
Nidranash	0.4667	0	0.8193	0.1496	14	< 0.001
Angamarda	0.5333	0	0.7303	0.1333	16	< 0.001
Shirogaurav	0.5667	1	0.5683	0.1038	17	< 0.001
Jrumbha	0.2	0	0.4068	0.07428	6	< 0.001
Jadya	0.6333	1	0.6687	0.1221	19	< 0.001
Glani	0.5333	0.5	0.5713	0.1043	16	< 0.001
Bhrama	0.3333	0	0.4795	0.08754	10	< 0.001
Apakti	0.3333	0	0.4795	0.08754	10	< 0.001
Tandra	0.4333	0	0.5683	0.1038	13	< 0.001

AT = after treatment



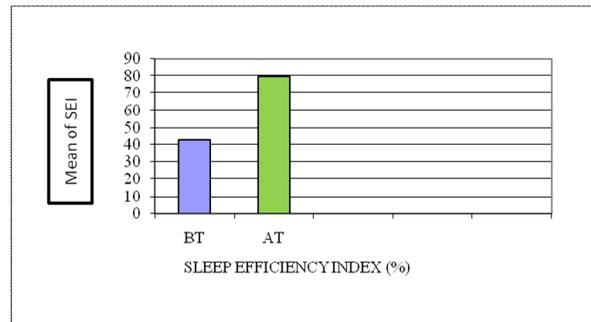
Graph 1: Various symptoms of Nidranash on before treatment (BT) and after treatment (AT)

Table 3: Effect of Godugdha Shirodhara on Sleep Efficiency Index before and after treatment

Parameters	BT	AT
Mean	42.95	79.84
Median	47.22	85.71
Std. Deviation	18.38	16.22
Std. Error	3.356	2.962
Sum	1289	2395
P value summary		< 0.001

BT = before treatment. AT = after treatment

Table 3 shows scores of the symptoms and Sleep Efficiency Index (SEI) in group of 30 patients of Nidranash were analyzed by comparing before treatment with after treatment (after 35 days) which showed highly significant improvement (P < 0.001).



Graph 2: Sleeps Efficiency Index before treatment (BT) and after treatment (AT)

DISCUSSION

In 30 patients of Nidranash, the significant symptomatic relief was observed in most of the symptoms after administration of Godugdha Shirodhara. After clinical evaluation specifically, 77.41 % relief in symptom Nidranash, 72.88 % relief in Angamarda, 71.66 % relief in Shirogaurava, 86.36 % relief in Jrumbhika, 65.45 % relief in Jadya, 65.95 % relief in Glani, 80.00 % relief in Bhrama, 77.27 % relief in Apakti, 72.34 % relief in Tandra was observed. In 30 patients of Nidranash disease, the mean Sleep Efficiency Index (SEI) (%) before treatment was 42.95 % and after treatment it was 79.84 %. The result was highly significant statistically. An attempt has been made to manage this disease by an Ayurvedic regimen. In the trial period of 30 patients of Nidranash no patient developed any side effect.

Probable Mode of Action of Godugdha Shirodhara

According to Ayurveda, Nidra is a normal phenomenon of well being which is produced due to predominance of Shleshma and Tamoguna. In Nidranash, sharirik and manasika hetu causes aggravation of Vata-Pitta and Rajas guna vrudhhi with Shleshma and Tamas kshaya. Here Godugdha and Shirodhara procedure might have work collectively. Godugdha is Snigdha, Guru, Mrudu, Shlakshna, Vata-Pitta Shamaka and also useful in Manas Vikar.²¹ With this, Shirodhara is one of the lines of treatment of Vataj and Pittaj Vyadhi and especially of psychosomatic disorders. Shirodhara is a specific method of treatment which directly acts on central nervous system and Raja-Tama Manas Dosha.²² According to modern science, in the condition of insomnia probably the function of structures like thalamus and forebrain might be diminished along with quantitative decrease in serotonin and increase in the quantity of catecholamines.²³

Thus it results into the state of insomnia. In the procedure of Shirodhara particular pressure and vibration is created over the forehead. The vibration is amplified by hollow sinus present in the frontal bone. Vibration is then transmitted inwards through the fluid medium of cerebrospinal fluid. This vibration along with the little temperature may activate the functions of thalamus and basal forebrain which then brings the amount of serotonin and catecholamine to the normal stage inducing the sleep.²⁴ Shirodhara stimulates the pineal gland which produces the hormone melatonin. Melatonin regulates the wake and sleep cycles of the body. From the view point of Ayurveda, Shirodhara lowers the Vata dosha, the fundamental principle that comprises the air and space elements in the body. When one's Vata dosha is out of balance, one may experience insomnia, anxiety, fear and insecurity. It promotes sound sleep by increasing melatonin.²⁵ Previous research shows that warmed oil during Shirodhara falls on the Aadnya Chakra, the point of forehead considered in Ayurveda to have the highest concentration of nerves in the body. It relieves tension, dispels worry, reduces anxiety, calms fear, renews the nervous system and relieves chronic headaches.²⁵

CONCLUSION

Based on the finding of the present clinical trials it can be concluded that, non pharmacological therapy Godugdha Shirodhara relieves the clinical sign and symptoms of Nidranash without side effect. It also shows the improvement in SEI of the patient.

AKNOWLEDGEMENT

The authors express heartfelt thanks for support and guidance by G. P. Upadhyay Secretary of Bhartiya Vaidyak Samnvaya Samiti, Shri Ayurved College, Nagpur, India.

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Cite this article as:

Gotmare Ashish, Tawalare Kiran, Nanote kalpana, Dehankar Manisha. Godugdha shirodhara: A non pharmacological treatment of Nidranash (Insomnia). Int. J. Res. Ayurveda Pharm. 2013;4(4):541-544 <http://dx.doi.org/10.7897/2277-4343.04417>

Source of support: Nil, Conflict of interest: None Declared