



Therapeutic Effect of *Kasa Kasa Thappalam* for the Management of Insomnia (*Thookaminmai*)-A Case report

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ABSTRACT: Sleep related disorders are regarded as "an unmet public health problem" with Insomnia being a common under-reported ailment with their neglected implications. It is estimated that 20-30% of the general population suffers from various types of sleep disorders. A 47 year old female patient was reported at Velumailu Siddha Medical College and Hospital, Sriperumbudur with complaints of nocturnal insomnia, headache, restlessness and anxiety during day time for 3 years. The PSQI scale assessment showed value of 13 indicating primary insomnia. External therapy called 'Thappalam' was carried out with *Kasakasa* (*Papaver somniferum* Sd./Poppy Sd.), *Nellikai* (*Phyllanthus emblica*) and *Elumitchai* (*Citrus limon*) juices grinded and prepared as per the standard text *Arivayarvarmanool* (*Ulvarmam Odukivarmam*). The patient was instructed to follow the procedure thrice a week for 48 days.

Keywords: *Kasakasa*, *Elumitchai*, Insomnia, *Nellikai*, Siddha medicine.

INTRODUCTION

Sleep, being one of the three supporting pillars of life, is a primordial requirement for human sustenance, longevity, and prosperity. Sleep is responsible for the rejuvenation of the body, and disturbances in sleep are one of the contributing factors for various diseases (Jhawar *et al.*, 2022). In India, the prevalence of both subthreshold (mild) and complete insomnia is 12.13% and 31.97%, respectively. Females are more likely than males to have insomnia (Meitei *et al.*, 2021). Women, middle-aged and older persons, shift workers, and individuals with medical or mental issues are more likely to experience insomnia (CM, 2006). Insomnia is caused by changes in lifestyle, job description, dietary habits, leisure activities, hormone cycles, and stress. Consistent stress can have crippling physical effects, including migraines, uncontrollable shaking, and sweating, in addition to raising the risk of cardiovascular and cerebrovascular illnesses (Panda *et al.*, 2012).

Insomnia problems can be classified as either primary or secondary. The aetiology of primary insomnia might include both inherent and external causes. Secondary manifestations develop when insomnia is a symptom of a medical or mental condition, another sleep disturbance, or drug misuse. The conference on consensus development on insomnia was held by the National Institutes of Health in 2004. The term "comorbid insomnia" was popularised to describe primary insomnia in order to differentiate it from insomnia

brought on by other primary sleep disorders, medical and psychiatric conditions, and insomnia brought on by drug or medication use (Thorpy, 2012).

The current insomnia therapies and drugs are expensive and sometimes hazardous owing to severe adverse effects. A growth in interest in alternative and complementary therapies can be attributed to the tolerance and dependency of insomniacs on sleeping drugs (Vinjamury *et al.*, 2014). This interest has developed into the usage of a specific technique mentioned in the Siddha system of medicine called "Thappalam" to treat neuronal and psychiatric disorders. This paper discusses the therapeutic effect of *Kasa Kasa Thappalam*, an internal and external therapy for the management of insomnia.

Objective: The objective of this study shows the effectiveness of *Kasa Kasathappalam* for the management of insomnia. The study outcome was assessed by PSQI (Pittsburgh sleep quality index).

Patient History: A 47 year female who is a married home maker presented with nocturnal insomnia, headache and restlessness during day time to OPD of *Aruvatholmaruthuvam* at Velumailu Siddha Medical College and Hospital, Sriperumbudur. The patient had no past history of hypertension, diabetes and trauma but complained that her normal activities during day time were affected due to lack of consciousness and focus. She had problem in keeping enough enthusiasm to get things done, yawns often and trouble in staying awake during daytimes.

She was taking Alprozolam 0.5 mg for the past two months. The symptoms reduced and had good sleep but the symptoms reappeared when the medication was stopped. Intake of sleeping pills was stopped two weeks prior to hospital visit. The patient had a chronic depression for the past 3 years due to family issues.

Diagnostic assessment: The Siddha assessment like *Envaigai thervu* and sleep score by Pittsburgh Sleep Quality Index (PSQI) was assessed. The sleep score on PSQI showed 13 on initial assessment. The assessments were done before and on weekly basis during the treatment. The *Naadi* was found to be *Pitha Vaatham*; *Vizhi* (Eye) examination showed pain around the eyes.

From the above symptoms the patient was diagnosed with *Thookaminmai* (Co-morbid Insomnia) with predominance of *Pitha* humour.

Therapeutic intervention: *Kasa Kasa Thappalam* is an external therapy consisting of three main ingredients enlisted in Table 1. It was carried out as mentioned in the text *Arivayarvarmanool* (*Ulvaram Oduktivaram*). The therapy was done thrice a week for 48 days.

MATERIALS AND METHODS

Table 1: Constituents of Kasakasa Thappalam.

Sr. No.	Constituents	Scientific Name	Amount
1.	<i>Kasakasa</i> (Poppy seeds)	<i>Papaver somniferum</i> Sd.	<i>Kaal Balam</i> (18.75g)
2.	<i>Nellikai Chaaru</i>	<i>Phyllanthus emblica</i>	<i>Uzhakalavu</i> (325 ml)
3.	<i>Elumitchai Chaaru</i>	<i>Citrus limon</i>	<i>Uzhakalavu</i> (325 ml)

Preparation: *Kasakasa* was grinded and made into paste using the juices of *Nellikai* and *Elumitchai*. The prepared paste was divided into 4 parts out of which 1/6th part was given internally and the remaining 5/6th part was heated and applied over the head before the heat alleviates. The patient was instructed to follow the procedure thrice a week for 48 days.

Indication:



Pithadiseases, Paithyarogam


Scientific Rationale on Selecting Study Drug: Ingredients of *Kasakasa thappalam* with phytochemicals and actions are enlisted in Table 2. This scientific rationale highlights the hypnotic-sedative and anti-stress effects of these ingredients.



Fig. 1. Grinded paste of *Kasa Kasa*.

Table 2: Ingredients and their Action.

Sr. No.	Ingredients	Phytochemical Constituents	Pharmacological Activity
1.	<p><i>Papaver somniferum</i></p>  <p>Fig. 2. <i>Kasa kasa</i>.</p>	Codeine, Morphine, Alpha and gamma tocopherols, sitosterol, stigmaterol, linoleic acid, oleic acid, palmitic acid, codeine and morphine (Zahid <i>et al.</i> , 2015).	Hypnotic, Analgesic, Antitussive, Sedative, Antispasmodic, Antitumor, Muscle Relaxant and Vasodilator, Antidiarrheal, Antiviral, Antimicrobial (Jan and Peer 2021)
2	<p><i>Phyllanthus emblica</i></p>  <p>Fig. 3. <i>Nellikai</i>.</p>	Chebulinic acid, Gallic acid, Quercetin, Ellagic acid, Methyl gallate, Chebulagic acid, Isostrictinin, Apigenin, Punigluconin, Luteolins, Corilagin and tannins like Emblicanin A, Emblicanin B, Phyllaemblicin B, and Pedunculagin (Rayma <i>et al.</i> , 2021).	Antianxiety, Memory enhancing, Antistress, Anticonvulsant Immunomodulatory property, Antiangiogenic, Hematinic, Nutritive, Antidepressant, Anticancer (Dhingra <i>et al.</i> , 2012).

3	 <p><i>Citrus limon</i></p> <p>Fig. 4. Elumitchai.</p>	α -pinene, β -pinene, myrcene, p-cymene, (R)-limonene, Sabinene, α -thujene, and γ -terpinen (Viana <i>et al.</i> , 2020). Vicenin 2, Eriocitrin, Quercetin-3-rutinoside, Rutin and myricetin, kaempferol (Makni <i>et al.</i> , 2018).	Anxiolytic and Hypnotic-sedative effects (Viana <i>et al.</i> , 2020). Antiinflammatory, Anti-oxidant, Immunomodulatory, Metabolic, Cardiovascular and Neuroprotective (Zibae <i>et al.</i> , 2020).
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Follow up and outcomes: The treatment was started during September 2022 to October 2022 and the procedure was followed thrice a week for 48 days. The outcome was assessed using PSQI scale on a weekly basis after treatment. Assessment on day 7 showed decreased PSQI scale to 10 with reduction of symptoms such as pain around the eyes and restlessness. The patient reported more reduction in headache, anxiety and increased sleep latency during the following weeks with gradual decrease in the scale score. Further reduction in PSQI scale score to 8 is observed at the end of the study period (48th day).

RESULTS AND DISCUSSION

An adult population of healthy people had an 18.6% prevalence of insomnia, according to South Indian research. The prevalence of insomnia was high (28.1%) and substantially increased with advancing age in those with associated chronic physical illnesses. Anxiety, hypertension, depression, and other associated illnesses were frequently found to coexist with insomnia, and alcohol intake was shown to be noticeably greater in those who experienced insomnia (Bhaskar *et al.*, 2016). At the moment, sleep disturbances are a developing public health issue with a rather high incidence. However, there are side effects such as drug dependence, tolerance, rebound insomnia, forgetfulness, and psychomotor impairment that are linked to the therapeutic applications of sleep disorder drugs. As a result, current research has focused on finding novel hypnotic and sedative substances that have fewer negative effects than conventional and alternative treatments (Panara and Nariya 2022). *Kasakasa Thappalam*—an internal and external therapy containing the ingredients Kasakasa, Nellikai, and Elimitchai—is used for the management of insomnia (Pitha disease).

Opium from *Papaver somniferum* is the oldest known hypnotic agent used by humans. It is unexcelled as a hypnotic and sedative and frequently administered to reduce anxiety, induce calm (sedative effect), and induce sleep (hypnotic effect) (Jan and Peer 2021). The polyphenols in *Phyllanthus emblica* have indicated some antidepressant action in various studies. The phytochemicals' neuroprotective properties support their prospective function as a helping agent to lessen the biochemical and physiological alterations connected to neurological diseases (Gul *et al.*, 2022). Secondary metabolites of *Citrus limon*, such as limonene, myrcene, α -pinene, and β -pinene, have demonstrated hypnotic-sedative effects as they enhance sleep time and decrease sleep latency (Viana *et al.*, 2020).

In Siddha basis, Sleep being part of the *anthakaranam* is normal due to the humour *Kabham*. This normalcy of *Kabham* induces deep sleep and its imbalance is due to increase in *Vatham* or *Pitham*. *Thookaminmai* (Sleeplessness) occurs due to the increase in *Vadham* (Air + Space) causing Insomnia. Insomnia occurs due to the derangement of either *Vatham* or *Pitham*. Affected *Pitham* causes excessive unnecessary dreams and deranged *Vatham* causes uncontrollable thinking, loss of mind control with physical and mental pain. This imbalance in *Pithavadham* results in fear and palpitation (Shanmugavelu, 2003).

The 47 year old female reported with Insomnia due to *Pithavadham* disease was treated with *Kasakasa Thappalam* as it is indicated for *Pitha* diseases. The patient presented with nocturnal insomnia, headache, restlessness and anxiety, trouble in staying awake during daytimes, disinterested in doing things, lack of consciousness and focus. Therapy of *Kasakasa Thappalam* was applied thrice a week for *one mandalam* (48 days). Assessment was done using *Envagai thervu* and PSQI scale on a weekly basis during treatment. Gradual reduction in the insomnia PSQI scale score from 13 to 8 was obtained at the end of the treatment.

CONCLUSION

Sleep related disorders are caused by changes in lifestyle, job description, dietary habits, leisure activities and other aspects of daily life. The identification and treatment of insomnia may enhance a person's performance and may help in prevention of accidents, complications related to psychological problems and cardiovascular diseases. *Kasakasathappalam* is a cost-effective therapy used as a hypnotic and sedative remedy for insomnia with lesser side effects.

FUTURE SCOPE

Continual patient observation is necessary to demonstrate whether increase in therapeutic dosage of *Kasakasathappalam* have improved potential hypnotic action. As the innovative formulation *KKT* for insomniacs both quick and hassle-free, much importance must be given for this external therapy. In future perspective, pre-clinical *in vivo* studies and escalation to clinical trials in the coming years is expected for *KKT* treatment in insomnia.

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