A REVIEW ON THE ROLE OF MEDICINAL PLANTS IN THE
MANAGEMENT OF ANIDRA (INSOMNIA)

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ABSTRACT
According to Ayurveda, Nidra (sleep) plays an important role in maintaining health, proficiency and emotional well-being. Aswapna or Nidranasha (sleeplessness) mentioned in Ayurvedic classical text can be correlated with insomnia. The modern medical science is still not having a definite treatment for insomnia. Most sedative hypnotic drugs generally used for insomnia produce dose-dependent depression of central nervous system function, while in Ayurvedic classical text, holistic approach has been applied while treating insomnia. Objective of this work was to compile and review the classical literature regarding management of Anidra; scientifically reported classical and non-classical sedative herbs; and clinical trials conducted on Anidra. Reviewed data compiled from Brihatrayee, CCRAS databases, ICMR publications and database of IPGT&RA. The 30 classical and 08 non-classical herbs with sedative activity were reported. Clinical studies suggest that Anidra (insomnia) can be managed better by procedure Shirodhara and simultaneous administration of Ayurvedic herbal formulation containing the drugs having tranquillo-sedative effect.

Keywords: Nidra, Sleep, Anidra, insomnia, Sedative herbs

INTRODUCTION
Being an eternal science, Ayurveda, the ‘science of life’, deals with physical, psychological as well as spiritual well being of an individual. In Ayurvedic literature, the three factors i.e. Ahara (diet), Nidra (sleep) and Brahmacarya (celibacy), are mentioned as three Upastambhas (sub-supporting pillars) which play an important role in maintaining the health.1 Among these three, sleep plays an important role in maintaining health, proficiency and emotional well-being.2

Research findings show that poor sleep can increase risk of developing obesity, diabetes, high blood pressure or heart disease.3 WHO health survey reveals that about 35 percent of respondents in India have reported mild to extreme difficulty associated with sleeping.4 The modern medical science is still not having a definite treatment for insomnia. Use of sedative hypnotic like benzodiazepines drugs is one approach to therapy of insomnia. Most sedative and hypnotic drugs produce dose-dependent depression of central nervous system function. Use of benzodiazepines produce central nervous depression include drowsiness, impaired motor coordination, confusion and memory loss, blurred vision, hallucinations and paradoxical reactions. The ideal hypnotic drug should allow the patient to fall asleep quickly and should maintain sleep of sufficient quality and duration so that the patient awakes refreshed without a drug hangover. Also, this type of drug should have very low toxicity and should not interact
with other medication in such a way as to produce unwanted or dangerous effect. Hence, it becomes imperative to search out treatment which is safe and effective from natural systems of medicine like Ayurveda which can help patients with insomnia.

Ayurvedic text like Charaka samhita, Sushruta samhita, Ashtanga hridaya and Bhavprakash provided the treatment for Anidra (insomnia). Holistic treatment approach has been applied while treating insomnia in Ayurvedic classical text. Authors of classical texts have mentioned pharmacological and non-pharmacological treatments with proper dietary advice. Here, effort has been made to review on management of Anidra (insomnia) from the above mentioned Ayurvedic classical texts. In addition to gather information regarding Ayurvedic herbs having sedative activity, Database on Medicinal Plants used in Ayurveda & Siddha- CCRAS; Reviews on Indian medicinal plants- ICMR; and A Selection of Prime Ayurvedic Plant Drugs- were also searched. Clinical trials on insomnia were also reviewed from Ayurvedic research database of IPGT&RA, Jamnagar.

Anidra (Insomnia)¹, 6, 7, 8

Acharya Charaka has stated that happiness and sorrow, growth and wasting, strength and weakness, virility and impotence, the knowledge and ignorance as well as existence of life and its cessation depend on the Nidra (sleep). According to him, Nidra gives Pushhti (Anabolic effect) and Jagarana (vigil) produces Karshana (Catabolic effect) of the body. Untimely and excessive sleep and prolonged vigil take away both happiness and longevity. As wholesome diet is needed for maintenance of body so is the sleep. Obesity and leanness are particularly caused by sleep and diet.

Words such as Anidra, Nidranasha and Avsapna are used for insomnia in Ayurvedic literature. Charaka included the Asvapna in 80 Nanatmaja Vata diseases According to Acharya Sushruta, Nidranasha is caused by aggravated conditions of the bodily Vayu and Pitta, as aggrieved state of the mind, wasting of Dhatus and trauma (physical or mental). Acharya Vagbhata has given Nidana (causative factor) of Nidranasha with very broad aspect namely Kala (naturally in old age), Shilakshaya (irregular sleep pattern), Vyadhivriddhi (secondary to other increased disease), Anila-pittavriddhi (increased Vata and Pitta Dosha). Aggravating factor of Vata like purgation (Virechana), evacuation of head (Shirovirechana), emesis (Chardana), fear, anxiety, anger, smoking, blood-letting (Raktamokshana), fasting, uncomfortable bed are considered as a cause of insomnia.

Anidra classified first by Charaka as Pranashita (primary) and Nimitta (secondary). Symptoms of Anidra are Jrumbha (yawning), Angamarda (body ache), Tandra (drowsiness), Shirogaurava (heaviness of the head), Jadya (heaviness), Glani (uneasiness), Bhrama (giddiness) and Apakti (Indigestion). Among these, most of the symptoms can be correlated with symptom of insomnia given by Diagnostic and Statistical manual of Mental disorders IV – Text Revision (DSM IV-TR). It indicates Acharyas have profound knowledge of physio-pathology of insomnia.

Treatment of Anidra¹, 6, 7, 8

The line of treatment which is described for Anidra in different Samhitas is similar. It indicates the mental relaxation is prime need along with Vatahara treatment for management of insomnia. Whole management has been described in form of specific procedures, psychiatric treatment, drugs and Diet as follows:
1) Specific procedures\textsuperscript{1,5,7,8}  
- Abhyanga (body massage manually)  
- Utsadana (anointing)  
- Chakshu-tarpana (saturating soothing drops on eye)  
- Shiro-lepa (paste on head)  
- Mukhalepa (paste on face)  
- Shirobasti (oil is made to stand over the scalp for a prescribed time)  
- Shirodhara (oil dripping on head)  
- Karnapurana (suturing ear with drops)  
- Padabhyanga (food massage)  
- Snana (bath)  
- Samvahana (Gentle rubbing)  

2) Psychiatric treatment (Manasika Upachara)\textsuperscript{1,6,7,8}  
- Pleasant smell, sound, touch  
- Psychic pleasure  
- Sense of satisfaction  
- Thinking of things pleasant to mind and fulfillment of desire  
- Follow the Brahmacharya  
- To embrace with beautiful lady  
- Comfortable bed and home and proper time  

3) Treatment with herbs/drugs  
- Pippali root powder with Jaggery\textsuperscript{12}  
- Powder of Bijapoora leaves with honey\textsuperscript{10}  
- Kakajangha, Apamarga, Kokilaksha, Shooraparnika- all in equal quantity, decoction is to be prepared or its roots tie with Shikha (plait)\textsuperscript{11}  
- Kantakaridwaya, Vasa, Kakamachi, Purarnava, Vartakimoola- all in equal quantity, decoction is to be prepared\textsuperscript{11}  
- Ashwagandha powder with sugar and Ghee\textsuperscript{13}  
- Decoction of Jivaneeya group of drugs with milk and ghee\textsuperscript{7}  
- Lokanatha Rasa with Bhang powder and honey at night\textsuperscript{9}  
- To tie Upodika root or whole plant on head\textsuperscript{13}  
- To tie Kakajangha root on head\textsuperscript{13}  
- Anjana (application on eyes) of triturated Maricha in saliva of horse\textsuperscript{13}  
- Paste of Bhanga powder with milk of goat, apply on sole\textsuperscript{12}  
- Rubbing of sole with mastu (curd water)\textsuperscript{11}  

4) Ahara (dietary advice)\textsuperscript{1,6,7,8}  
Gramya-anupa-udaka-mansarasa (meat soup of domestic, marshy and aquatic animals); Shali rice with curd, milk, unctuous substance, alcohol; Mahisha ksheera (milk of buffalo); Peeyush, Morata, Kilata and Koorchika (milk product); Godhuma (wheat); Pishthama (dough preparations), Ikshu (sugar cane), Draksha (grape), Varahamansa (meat of boar); Guda (jaggery); Matsya (fish); Dadhi (curd); Masha (black gram); Sita (sugar); Yusha (pulses soup); Sneha (fat); Madhya (alcoholic preparations); are suitable dietary substances for patients of insomnia.

Alcoholic preparation induces sedation and leads to sleep, while other dietary substances will control the causative factor i.e. aggravated Vata. If Vata is controlled, patient gets the sleep. Nowadays, Milk product like peeyusha, Morata, Kilata, Kurchika are not found to be used in practice.

After reviewing classical data, it has been observed that Acharyas did not emphasize only on herbal formulation but also on specific procedure like Abhyanga, Utsadana, Shirodhara etc., and dietary habits while treating a psychosomatic disease i.e. insomnia. Holistic approach to manage insomnia with Ayurveda can be divided in 3 types i.e., Nidana parivarjana (avoidance of causative factor), Dosha pratyanika chikitsa (drugs applied to alleviate Dosha) and Vyadhi pratyanika chikitsa.
(drugs which directly acting on disease). For insomnia main causative factor is stress, and psychic treatment like pleasant smell, sound, touch; sense of satisfaction; adaptation of Brahmacharya (celibacy); are advised to control stress and to relax the mind. Dietary regimen alleviates the vitiated Dosha and herbal formulations directly act on disease pathology. Proper combination of these three parts of treatment ultimately cures disease.

**Reported sedative herbs:** Total 38 herbs have been found which have sedative activity and among them 30 herbs are classical and 8 are non-classical herbs. Table 1 and 2 indicates the classical and non-classical reported herbs having sedative activity with used experimental models.

### Table 1: Reported classical herbs having sedative activity

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Herbs with Sanskrit &amp; Latin name</th>
<th>Part used or chemical composition</th>
<th>Used Experimental models/ mode of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vacha <em>Acorus calamus</em> Linn. [15,22]</td>
<td>Steam volatile fractions of the root and rhizome (petroleum ether extract)</td>
<td>Prolonged the sleeping time with pentobarbital, hexobarbital and ethanol. Acorus oil</td>
</tr>
<tr>
<td>2</td>
<td>Priyangu <em>Aglaia diepenhorstii</em> Miq. [22]</td>
<td>Essential oil from the root bark</td>
<td>Pentobarbital-induced hypnosis, motor coordination and spontaneous activity in mice</td>
</tr>
<tr>
<td>3</td>
<td>Saptaparna <em>Alstonia scholaris</em> Linn. R.Br. [23]</td>
<td>Pricrinine, the major alkaloid of the flowers</td>
<td>Hexobarbitone narcosis, morphine analgesia and anticonvulsant action of diphenylhydantion in albino rats.</td>
</tr>
<tr>
<td>4</td>
<td>Kajutaka <em>Anacardium occidentale</em> Linn. [23]</td>
<td>Essential oil of the plant at a dose of 150 and 300 mg/kg</td>
<td>Behavior, sodium pentobarbitone-induced hypnosis, rotarod performance, conditioned avoidance response and pain threshold of albino rats</td>
</tr>
<tr>
<td>5</td>
<td>Puga <em>Areca catechu</em> Linn. [18,24]</td>
<td>Arecoline in a dose of 1 mg/kg</td>
<td>Maze learning technique and rota-rod test</td>
</tr>
<tr>
<td>6</td>
<td>Nimba <em>Azadirachta indica</em> A. Juss [15,24]</td>
<td>Dried material and filter paper material</td>
<td>Locomotor activity and pentobarbitone-induced hypnosis, oral administration in mice</td>
</tr>
<tr>
<td>7</td>
<td>Brahmi <em>Bacopa monnieri</em> Linn. [25]</td>
<td>Alcoholic extract in a dose of 25 mg/kg</td>
<td>Thiopental sleeping time in mice</td>
</tr>
<tr>
<td>8</td>
<td>Sallaki <em>Boswellia serrata</em> Roxb. [15,25]</td>
<td>Plant extract in a dose of 100 mg/100g bw</td>
<td>Barbiturate hypnosis potentiation effect in albino rats</td>
</tr>
<tr>
<td>9</td>
<td>Punnaga <em>Calophyllum inophyllum</em> Linn. [26]</td>
<td>Non phenolic fraction of gum resin</td>
<td>Active principle in the fraction has morphine-like chemical structure</td>
</tr>
<tr>
<td>10</td>
<td>Aragwadha <em>Cassia fistula</em> Linn. [26]</td>
<td>Xanthones</td>
<td>Decreased spontaneous motor activity, loss of muscle tone, pentobarbitone sleeping time and ether anesthesia in mice and rates</td>
</tr>
<tr>
<td>11</td>
<td>Devadaru <em>Cedrus deodara</em> (Roxb.) [26]</td>
<td>Methanol extract of the seeds</td>
<td>Potentiated the sedative actions of sodium pentobarbitone, diazepam, meprobamate and chlorpromazine</td>
</tr>
<tr>
<td>12</td>
<td>Jyotismati <em>Celastrus paniculatus</em> Willd [16,26]</td>
<td>Wood essential oil</td>
<td>Motor incoordinating activities in mice, pentobarbitone-induced hypnosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crude seed oil in a dose of 1 g</td>
<td>Tranquilizing effect on adrenaline and amphetamine-induced excitement in mice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glycosides (brahmoside and brahminoside)</td>
<td>Decrease in motor activity, increase in hexobarbitone sleeping time</td>
</tr>
<tr>
<td>No.</td>
<td>Plant Name</td>
<td>Extract Type</td>
<td>Effect</td>
</tr>
<tr>
<td>-----</td>
<td>------------</td>
<td>--------------</td>
<td>--------</td>
</tr>
<tr>
<td>13</td>
<td>Tarkari</td>
<td>Methanolic extract of leaves</td>
<td>Potentiating of phenobarbitone-induced sleeping time in mice (at 400 and 600 mg/kg), decrease in general behavioural profiles in mice (at 200, 400 and 600 mg/kg)</td>
</tr>
<tr>
<td>14</td>
<td>Shankhpushpi</td>
<td>Alcoholic extracts of the whole plant</td>
<td>Potentiating activity during spring season</td>
</tr>
<tr>
<td>15</td>
<td>Aparajita</td>
<td>Alcoholic extract of the stem, flowers, leaves and fruits</td>
<td>Diminution of spontaneous motor activity; and increase in sedation in mice, potentiation of barbiturate hypnosis in rats.</td>
</tr>
<tr>
<td>16</td>
<td>Bhusrtzrta</td>
<td>Essential oil from the leaves</td>
<td>Potentiates the pentobarbitone induced hypnosis in mice</td>
</tr>
<tr>
<td>17</td>
<td>Musta</td>
<td>Alcoholic extract of tubers</td>
<td>Tranquillizing activity in rats</td>
</tr>
<tr>
<td>18</td>
<td>Karanja</td>
<td>Pongamol</td>
<td>Gross behavioural effects and electroencephalography</td>
</tr>
<tr>
<td>19</td>
<td>Nirvisha</td>
<td>Aqueous extract of root</td>
<td>Pentobarbitone induced hypnosis</td>
</tr>
<tr>
<td>20</td>
<td>Paribhadra</td>
<td>Methanolic extract of the leaves</td>
<td>Pentobarbital sodium injected in rat</td>
</tr>
<tr>
<td>21</td>
<td>Jatamansi</td>
<td>Jatamansone (isolated from air-dried rhizomes), sesquiterpene valeranone</td>
<td>Prolongation of barbiturate hypnosis, the impairment of rotarod performance</td>
</tr>
<tr>
<td>22</td>
<td>Kamala</td>
<td>Methanolic extract of rhizomes</td>
<td>Examined for psychopharmacological effects in different experimental animal (rats, mice) models</td>
</tr>
<tr>
<td>23</td>
<td>Tagara</td>
<td>Flavonoids (linarin, 6-methylapigenin, and (-)-hesperidin)</td>
<td>Sodium thiopental-induced sleep test, hole board test</td>
</tr>
<tr>
<td>24</td>
<td>Aswagandha</td>
<td>Ethanolic (70%) extract of roots</td>
<td>Produced sedation in mice, dogs, monkeys, rabbits and rats</td>
</tr>
<tr>
<td>25</td>
<td>Ahiphena</td>
<td>Morphine</td>
<td>Suppression of locomotor activity</td>
</tr>
<tr>
<td>26</td>
<td>Maricha</td>
<td>Ethanolic extract</td>
<td>Midazolam induces hypnosis in male wistar albino rats</td>
</tr>
<tr>
<td>27</td>
<td>Jatiphala</td>
<td>Acetone soluble part of n-hexane extract</td>
<td>Pentobarbitone-induced sleep and haloperidol-induced catalepsy</td>
</tr>
<tr>
<td>28</td>
<td>Parijata</td>
<td>Hot flower infusion</td>
<td>Using hole board technique in rats</td>
</tr>
<tr>
<td>29</td>
<td>Bhanga</td>
<td>Crude ethanolic and petroleum-etherfractions</td>
<td>Spontaneous motor activity in mice</td>
</tr>
<tr>
<td>30</td>
<td>Mandookaparni</td>
<td>Alcoholic extract</td>
<td>It has been reported to be tranquillizing in rats, an activity that has been attributed to a triterpene, Brahmoside</td>
</tr>
</tbody>
</table>
Table 2: Reported non-classical herbs having sedative activity

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Herbs</th>
<th>Part used or chemical composition</th>
<th>Used Experimental models/ mode of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Artabotrys hexapetalus R.Br.</td>
<td>Essential oil from the laves in the doses of 150 and 250 mg/kg</td>
<td>Spontaneous motor activity, pentobarbital sodium-induced hypnosis, rotarod performance and conditioned avoidance response</td>
</tr>
<tr>
<td>2</td>
<td>Artemisia capillaries Thumb.</td>
<td>Scoparone</td>
<td>In rats and mice produced diminution of locomotor activity, prolonged barbiturate-induced sleeping time</td>
</tr>
<tr>
<td>3</td>
<td>Canscora decussata Roxb.</td>
<td>Mangiferin (isolated phytoconstituents of Canscora decussata)</td>
<td>Decreased spontaneous motor activity in mice and rats</td>
</tr>
<tr>
<td>4</td>
<td>Carvia callosa (Nees) Bre-mek.</td>
<td>50 percent ethanolic extract of the plant (excluding root)</td>
<td>Potentiation of barbiturate sleeping time and effect on rotarod test in mice</td>
</tr>
<tr>
<td>5</td>
<td>Cissus repens Lamk.</td>
<td>50 percent ethanolic extract of the plant</td>
<td>Gross behavior and barbiturate potentiation in mice</td>
</tr>
<tr>
<td>6</td>
<td>Catharanthus roseus Linn.</td>
<td>Alkaloid isolated from the root bark</td>
<td>Tranquillizing properties similar to serpentine</td>
</tr>
<tr>
<td>7</td>
<td>Diploknema butyracea (Roxb.)</td>
<td>Total alkaloids and chloroform fraction</td>
<td>Potentiated hexabarbitone sleeping time in rats</td>
</tr>
<tr>
<td>8</td>
<td>Sarpagandha Rauwolfia serpentina</td>
<td>50 percent ethanolic extract of the seeds</td>
<td>Potentiated barbiturate induced hypnosis in mice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserpine</td>
<td>Pentobarbital, thiopental, and Phenobarbital upon the cerebral electrical activity and upon the MDAS in rabbits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rescinnamine</td>
<td>New hypotensive and sedative principle</td>
</tr>
</tbody>
</table>

Numerous herbs have a range of sedative actions, encompassing analgesic, hypnotic, anti-depressant, anxiolytic activities, often possessing two or more actions. They are designated generically as ‘nervines’ by Western herbalists. Unlike most centrally acting pharmaceutical drugs, nervine herbs are mild and gentle in activity, with complex and poorly understood multiple pharmacological effects. Currently, sedative herbs are usually used to treat moderate depression, insomnia and sleep disturbances; and to withdraw certain drugs, particularly benzodiazepenes. Infrequently prescribed herbs with sedative activity i.e. Acorus calamus (Vacha), Papaver somniferum (Ahiphena) and Rauwolfia serpentina (Sarpagandha) have a side effect. So, these plants should be used judiciously.

Acharyas of Ayurveda suggested herbs like Bijapoo, Kakajangha, Apamarga, Kokilaksha, Kantakaridwaya, Vasa, Kakamachi, Punarnava etc., for treatment of Anidra, but experimentally these herbs are not evaluated. These herbs which unevaled for sedative activity may have a potential activity.

Clinical trials on Anidra (insomnia)
1. In one of the studies, conducted on 30 clinically diagnosed patients of Anidra (insomnia) to evaluate the efficacy of Shirodhara (Oil Dripping on head) and Tab. Insomrid (herbal formulation...
containing Ashwagandha, Sarpagandha, Jatamansi, Parsika-yavani and Tagara) in the management of Anidra (insomnia), it was observed that the patients treated with Tab. Insomrid and Shirodhara combined with milk showed highly significant improvement, and patients treated with Shirodhara and Tab. Insomrid individually also showed significant improvements. No adverse effects were noted in any of the patients during the trial period.  

2. There are several studies performed on the use of Valerian (Tagara) for insomnia. It has a supportive role in chronic insomnia, especially in the elderly population. Valerian has profound beneficial effects on sleep architecture, meaning it increases deep sleep, which is necessary for growth hormone production and body repair.  

3. Guda Pippalimoola Yoga (root of Piper longum with jaggery) with milk as anupana along with Nidrajanaka diet regimen is found to be very effective in managing Primary insomnia.  

4. The combined therapy of Apamargadi Vati (a classical formulation of Anidra mentioned in Harita Samhita containing Apamarga, Kokila, Kakajanga and Bakuchi) and Shirodhara of Kshirabala Taila had shown 62.5% improvement of sleep. Combined therapy proved better than other individual therapies with 100% relief in sleep time, 89.50% relief in sleep quality and 95.27% relief in mood after awakening.  

5. Another clinical study indicated that Shirobasti (oil is made to stand over the scalp for a prescribed time) with Tunga-drumadi-taila (mentioned in Sahasrayoga/Tailaorakaranal43) is having significant role in relieving the symptoms of Nidranasha like angamarda, shirogourava, jadya, glani, bhrama etc.  

6. Dashamoola Shirodhara was found better in increasing sleep time, sleep quality and freshness after awakening while Mamsyadi Ghrita provided better relief in sleeplessness and distress. 15% patients of Anidra were markedly improved by Mamsyadi-ghrita whereas 25% patients had marked improvement by Shirodhara.  

7. Tagaradi Kwatha ( decoction of Tagara, Shankhapushpi, Brahmi, Musta, Aswagandha, Jatamansi, Munnaka, Rakta-chandana, Parpata, Kutaki, Dashmula and Amaltasa) and Shirodhara of Mahisha milk provided highly significant relief on symptoms: sleeplessness, freshness after awakening and sleep time. Most of the clinical studies conducted on insomnia, revealed that the Shirodhara and herbal formulations, both improved patients individually, but its combined use enhanced the effect therapeutically. This observation also supports the classical phenomenon mentioned by Acharyas, in the form of holistic management of Anidra i.e. combination of specific procedure, herbal formulation and proper diet regimen. Among the single herbal formulations mentioned by Acharyas, Aswagandha and Pippalimoola have been evaluated experimentally as well as clinically, but Bajapoor leaf is yet to be evaluated. So, researcher can study on this potential plant to evaluate its sedative activity and its effect on insomnia. Tab. Insomrid and Tagara Kwatha are not classical herbal formulations, but it designed basing on the properties and activities of reported herbs. Thus, basing on Rasapanchaka (pharmacodynamics and kinetic principles), Karma (therapeutic actions) and scientific activities and safety profile of herbs, new formulations can be also designed for insomnia.
CONCLUSION

Insomnia has been considered as a psychosomatic disorder by ancient Acharyas in which psyche is vitiated by aggravated Vata-dosha. Hence, Acharya Charaka stressed Vatahara management in Anidra. Avoidance of causative factors, relaxation techniques along with other therapies is the mainstay of treatment for insomnia. In view of this, Manaha-sukham (happiness of mind), Manonukula-vishaya (objects which pleasant to mind) etc., are mentioned in management of sleeplessness, which are indicative of psychic management.

Many drugs which are used classically for Anidra like Bijapoora, Kokilaksha, Apamarga, Kantakari etc., are not evaluated experimentally as well as clinically. Moreover, Sarpagandha, Aswagandha, Jatamansi, Tagara, Pippalimoola etc., drugs are scientifically evaluated for their sedative activity, but very limited clinical data is available on them. So, more experimental and clinical studies on these classical as well as scientifically reported drugs should be conducted basing on Ayurvedic concept of management for evaluated safe, effective therapy for psychosomatic disorder insomnia.

REFERENCES

10. Bhavamishra; Bhavaprakasha including Nighantu portion, ed. Shi Brahmasankara Mishra and Sri Rupalalaji Vaisya (First Part), Chaukhambha Sanskrit Sansthan, Varanasi, 2004:150
15. Anonymous; Database on Medicinal Plants used in Ayurveda & siddha vol. 1, CCRAS, Dept. of Ayush, Govt. of India, 2004; p. 81,266,292,406,471
16. Anonymous; Database on Medicinal Plants used in Ayurveda & siddha vol. 2, CCRAS, Dept. of Ayush, Govt. of India, 2004; p. 283,295,381,428
17. Anonymous; Database on Medicinal Plants used in Ayurveda & siddha vol. 3, CCRAS, Dept. of Ayush, Govt. of India, 2004; p. 92,406
18. Anonymous; Database on Medicinal Plants used in Ayurveda & siddha vol. 4, CCRAS, Dept. of Ayush, Govt. of India, 2004; p. 2008;216,472,486
19. Anonymous; Database on Medicinal Plants used in Ayurveda & siddha vol. 5, CCRAS, Dept. of Ayush, Govt. of India, 2004; p. 190
20. Anonymous; Database on Medicinal Plants used in Ayurveda & siddha vol. 7, CCRAS, Dept. of Ayush, Govt. of India, 2007; p. 138,389,436,455
21. Anonymous; Database on Medicinal Plants used in Ayurveda & siddha vol. 8, CCRAS, Dept. of Ayush, Govt. of India, 2007; p. 7,175
22. Anonymous; Reviews on Indian medicinal plants, vol. 1, ICMR, New Delhi, 2004; p. 200, 392
25. Anonymous; Reviews on Indian medicinal plants, vol.4, ICMR, New Delhi, 2004; p. 11-15, 353
26. Anonymous; Reviews on Indian medicinal plants, vol.5, ICMR, New Delhi, 2007; p. 146, 368, 592, 703, 830, 893, 922-5
27. Anonymous; Reviews on Indian medicinal plants, vol.6, ICMR, New Delhi, 2008; p. 423
28. Anonymous; Reviews on Indian medicinal plants, vol.7, ICMR, New Delhi, 2008; p. 123, 524, 178
29. Anonymous; Reviews on Indian medicinal plants, vol.8, ICMR, New Delhi, 2009; p. 564, 663
30. Anonymous; Reviews on Indian medicinal plants, vol.9, ICMR, New Delhi, 2009; pp. 222,273,563
31. Anonymous; Reviews on Indian medicinal plants, vol. 10, ICMR, New Delhi, 2011; p. 221
33. file:///D:/for%20synopsis/sadative/Sedative%20Herbs.htm accessed on 12.05.2013
34. Venkatesh A; Use of Ayurvedic principles, Yoga, meditation, for addressing insomnia/sleep Disorders. 2010. available on www.chopra.com
37. Kavitha S; A conceptual study of No’dranasha with a comparative study of diet and Guda Pippalimoola Yoga in Primary
insomnia, (MD thesis) Govt. Ayurveda Medical College, Mysore, 2010; 177
38. Nirmal Dhamini; Role of Manasa Bha-
vas in Anidra and its management with certain indigenous drugs and Shirodhara,
(MD thesis), IPGT & RA, Jamnagar, 2004; 143-7
39. Muralidhar. P.; The Effect of Shiro-
basti in the Management of Nidranasha with Special reference to Primary insom-
nia - An observational study (MD thesis), Government Ayurveda Medical Col-
lege, Mysore 1999
40. Anil Kumar Singh; A clinical study of
manasika bhavas in anidra w.s.r to stress induced chronic insomnia and its man-
agement with mamsyadi ghrita and das-
hamula kwatha shirodhara, (MD thesis),
IPGT & RA, Jamnagar, 2007; 204-9
41. Gayasuddin, Parvez, Iqbal, G.Venkataiah; Effect of ethanolic extract of piper nigrum l. fruits on midazolam in-
duced hypnosis in rats. International Jour-
nal of Pharmacology & Toxicology 2013; 3(1), 5-8
42. Ganeshchandra, Vikram S., Veena K.,
Sanjay B.; Behavioural actions of Myris-
tica fragrans, Indian Journal of Pharma-
cology 2001; 33: 417-24
43. W.D. Ratnasooriya et al.; Sedative ef-
ect of Hot flower Infusion of Nytantbus
arbo-tristis on Rats. Pharmaceutic Biology,
44. Joan T. Pickens; Sedative activity of
cannabis in relation to its trans- tetra hydro
cannabinol and cannabidiol content, Br. J.
45. Sushma, Sangeeta, Gambhir; Centella asiatica : a concise drug review with prob-
able clinical uses Journal of Stress Physi-
ology & Biochemistry, 2011; 7(1) 38-44
46. Bina H. Vansh; A clinical study on
mansika bhavas in anidra w.s.r to stress induced insomnia and its management
with Tagaradi kwatha & Mahishi dugdha
Shirodhara, (MD thesis), IPGT & RA,
Jamnagar, 2008; p.179, 182
47. Rucker G et al.; Isolation and pharma-
codynamic activity of the sesquiterpene
valeranone from Nardostachys jatamansi
DC. Arzneimittelforschung. 1978; 28(1):7-
13.
48. Sebastian F. et al.; Sedative and sleep-
enhancing properties of linarin, a flavo-
noid-isolated from Valeriana officinals,
Pharmacology Biochemistry and Behavior
2004; 77(2): 399–404

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Source of support: Nil
Conflict of interest: None Declared