

Insomnia: A Study on Sleeping Disorder with the Reference of Ayurvedic Herbs

Dr. Shashank Tiwari^{1*} & Ms. Shreya Talreja²

¹Director, Lucknow Model College of Pharmacy, Lucknow

²Lecturer, Lucknow Model College of Pharmacy, Lucknow

Abstract

The definition of health has been modified in present time; it is not just confined to physical health rather mental health is also given a lot of importance. It is important that for a good quality of life both physical and mental health of a person is in good conditions. But nowadays even when people know the importance of mental health yet due to their busy lifestyle usually they succumb to unhealthy lifestyle which later pose harm to their health. Due to extreme stress in life people are becoming susceptible to various mental health issues like anxiety, depression and insomnia. Insomnia is a condition where a person is unable to sleep or does not have a sound sleep and wakes up usually tired and exhausted. Insomnia is generally caused by stressful lifestyle or it can be caused by trauma. It is generally of two types: one with short duration of few days to few weeks is referred to as acute insomnia and the second which lasts for longer duration of few months to even years is referred to as chronic insomnia. Major symptoms of insomnia include: difficulty in falling asleep at night, sleeplessness, waking up abruptly while sleeping and then not being able to fall asleep again, waking up tired and exhausted, irritability and low mood throughout the day, over thinking and worry related to sleep. There are various treatments available for this ailment in the form of drugs and medicine. But all these remedies work on symptomatic relief for proper cure plant extracts are highly valued and studied upon. According to ayurveda herbs like brahmi, Ashwagandha, vacha, sarpagandha are known to produce calming and relaxing effect and result in sound and good sleep. This paper tries to explain insomnia in detail and ponder upon the Ayurvedic herbs that can help cure this disorder.

Keywords: Insomnia, sleeplessness, anxiety, irritability, ayurveda

INTRODUCTION

In today's time the meaning of well-being and health is not just defined as mere absence of disease from the body. Rather according to the World Health Organization health is the complete sense of well being in terms of physical well being, psychological or mental well being as well as social well being of a person. The seriousness and required attention to the mental health has only been paid very recently. Nowadays people finally understand that for a good quality life mental well being is as important as physical well being. The studies on mental health also bring light to various mental ailments that are usually caused by disrupted or unhealthy lifestyle of people. Insomnia is one such ailment where the afflicted person is either unable to sleep at all or has disturbed and disrupted sleep. This is an ailment which is caused either by an unhealthy lifestyle, trauma or as a co-morbidity with ailments like depression and anxiety. The cure for these mental ailments is seen through western medicine system in the form of drugs or there is a psychological aspect that includes therapy. The synthetic drugs work only on the symptomatic relief rather than on the complete cure of the disease. This is the reason why plant based medicine is studied thoroughly so that probable cure for mental ailments can be derived from that. In traditional medicine systems of India, certain herbs like brahmi, sarpagandha, ashwagandha etc are mentioned which can be used for curing insomnia but extensive research in this area is still required.

Insomnia

Insomnia is a sleep disorder in which the affected person faces difficulty in falling asleep, feels hard to stay asleep, or cause the person to wake up too early and then unable

to sleep again thereafter. The affected may feel tired and exhausted even after waking up from a sleep. Insomnia negatively impacts the mood of the person and the person feels irritated and agitated throughout the day. It can pose harm to the general of the person causing headaches and in severe conditions even migraine and in turn impacts the person's everyday life very negatively. Insomnia hampers the quality of life of the person. Many researches done on this sleep disorder show that it is a widely prevalent disorder throughout the world. These researches suggest that one in three adults worldwide suffers from one or more symptoms of Insomnia which is truly alarming. Through insomnia many additional ailments can be caused in the body. Many studies have also shown that 75-90% of the people suffering from insomnia are also at risk of developing various pain conditions like headaches, migraine pain in neck or cervical issues. The co morbidity along with insomnia may also include neuro-degenerative diseases and certain gastric disorders.

Usually some people experience short-term insomnia which is also called acute insomnia. This type of insomnia lasts for days or few weeks. It is usually caused by intense stress or trauma in a person's life. Some people have long-term insomnia also called chronic insomnia. This insomnia lasts for a month or more than that. Sleep disturbances associated with chronic insomnia can pose like risk factors which adversely affect an individual's quality of life. Various researches prove that good sleep is also effective in efficient endocrine functions.

Types of insomnia

Insomnia is classified on various grounds as discussed below.

Insomnia is classified on the basis of duration in 2 types:

1. **Acute Insomnia:** It is also called transient insomnia. It is a short-term ailment which can last upto few days to few weeks. Acute insomnia often happens because of certain stressful life circumstances like death of a loved one, divorce etc. It can also be caused due to underlying unresolved issues.
2. **Chronic Insomnia:** When insomnia prevails for long periods of time, then it is regarded as chronic insomnia. This ailment can last for months or years. Chronic insomnia is diagnosed when there is disruption in sleep for at least three nights per week and lasts for three months minimum. It can be caused by sudden changes in the environment, unhealthy sleep habits and due to certain medications. Chronic insomnia can also be co morbid as it is linked to another medical or psychiatric issue.

Insomnia is classified on the basis of cause in following 2 types:

- **Primary Insomnia:** Insomnia and sleep abnormality is regarded as primary insomnia when it is not related to any other ailment of the body and is not a co morbidity itself.
- **Secondary Insomnia:** When insomnia either appears as a co morbidity or as a complication of other diseases like asthma, depression, arthritis, cancer, or heartburn, pain, medication, or substance use like alcohol, then it is termed as secondary insomnia.

Causes of Insomnia

Insomnia can be caused by various medical and psychiatric condition, trauma, unhealthy sleep habits or by excessive intake of stimulates like coffee, tea and alcohol. Insomnia can be co-morbidity in case of severe problems like anxiety, depression and certain chronic ailments.

Some general causes of insomnia include:

- **Presence of mental health disorders:** Insomnia could be co-morbidity along with anxiety, depression or post- traumatic stress disorder. Insomnia can occur with other mental health conditions as well.
- **Certain heavy medications** - Prescription drugs for various diseases can disturb the sleep, for example some of the antidepressants and medications for asthma or blood pressure leads to an unbalanced sleep cycles. Moreover even the over-the-counter medications for allergy, cold and flu, pain-killers medications and some weight-loss products have caffeine or other stimulants as one of the compounds that also disrupts sleep.
- **Severe medical conditions** – Some of the serious medical conditions can also lead to insomnia. These severe conditions may be chronic pain, heart disease, asthma, gastro esophageal reflux disease (GERD), cancer, diabetes, overactive thyroid, Parkinson's disease and Alzheimer's disease.
- **Other Sleep-related disorders** - There are some of the disorders that are exclusive to insomnia. These sleep related disorders include - sleep apnea which causes difficulty in breathing periodically throughout the night thereby disrupting the sleep. Another sleep

disorder is restless legs syndrome which causes irritable sensations in the legs and irresistible desire to move the legs either by shaking them or actually walking, this severely disturbs the sleep of an individual.

- **Intake of caffeine, nicotine and alcohol** – Any beverage that contains stimulants should be avoided completely especially during evening or night time. Products containing tobacco should also be avoided because it contains nicotine and it stimulates the body to not take rest easily. Consumption of alcohol induces very irregular sleep throughout the night as it makes an individual to wake up occasionally at night.

Specific insomnia causes:

Causes of **primary insomnia** include:

- Stressful life events like severe changes in life or death of a loved one.
- Various environmental stressors like noise, light, or temperature
- Changes in sleep schedule due to situations like jet lag, a new shift at work, or certain bad habits that negatively impact the state of sleep.

Causes of **secondary insomnia** include:

- Already existing mental health issues like depression or anxiety
- Certain medications can also disrupt sleep cycle especially medications for allergies, depression, high blood pressure, and asthma
- Presence of discomfort during night in the form of chronic pain.
- Excessive use of caffeine, tobacco, or alcohol

Common causes of **chronic insomnia** include:

- **Stress** – Stress related to work, family, health, finances or education can be a cause of sleeplessness during the night. Also stressful events like trauma due to death, illness, loss or job or divorce can lead to insomnia. Stress has been proven to be a major cause of insomnia largely because it occurs out of very basic conditions in one's life.
- **Sudden changes in work schedule** – A disturbed internal clock can also lead to insomnia. These types of disturbances in the internal clock can be a result of jet lags, too late or too early work shifts, and frequent changes in daily habits. The internal clock governs the sleep-wake cycle, metabolism and the body temperature. So any disturbances in it can cause disturbed lifestyle and sleep.
- **Poor sleep habits** – Sleeping habits that are unhelpful for sound sleep includes irregular naps, stimulating activity before bed, uncomfortable sleep environment or using excessive technology. These habits are the cause of poor sleep quality at night and often lead to insomnia. These habits also promote unbalanced sleep-wake cycles.
- **Overeating in the evening** – It is advised to consume light meals before going to bed because a heavy meal makes the digestion process much

complex while a person is sleeping right after having heavy dinner. It is common to see that people feel bloated, backflow of acid into esophagus, acidity or even heartburn during the night time. This is the result of eating a heavy dinner before bed. These conditions make it difficult of people to sleep comfortably at night and hence lead to insomnia.

Risk factors

The risk of insomnia for any individual increases in the following cases:

- **Individual is a woman** – in a women hormonal changes are very prevalent, be it pregnancy or menopause. Women go through significant changes in their body during these phases. For example, during menopause women often experience night sweats and hot flashes that disrupt sleep.
- **Individual is aged above 60 years** – insomnia is more common among elderly people due to the reasons like heavy medications, less physical activity and uneven sleeping pattern.
- **Individual has a mental health or physical health condition** – Any health condition be it physical or mental leads to the disturbed sleep at night because the body is not fully rested if it is going through any medical condition.
- **Individual is going through stress** – Stressful situations can be a cause of insomnia. Events that are not much impactful have short-term effect on an individual's sleep however a more impactful event might lead to chronic insomnia.
- **Individual does not follow a fixed routine** – People who have a habit of not following routine are more susceptible to insomnia. Some of these changes could be - changing work shifts or jet lag due to traveling can disrupt the sleep-wake cycle of an individual.

Old age people become more susceptible to insomnia due to following reasons:

- **Uneven sleep patterns** – In old age sleep usually becomes disrupted and uneven therefore even a slightest noise in the environment may lead to breaking of the sleep of the elderly. This change in sleep pattern reduces the restfulness. Another reason for uneven sleeping pattern is the advancement of internal clock of elderly people due to which they feel tired easily and tend to sleep early in the day time and hence wake up too early in the morning or even sometimes in the middle of the night.
- **Reduced level of activity** – People in their later ages generally are less involved in physical or social activity as compared to younger aged people. Hence the lack of physical stimulation reduces sleeping intensity at night making the sleep not much restful.
- **Persistent Health Issues** - Due to the diseases like arthritis, depression, back-pain or even high blood pressure and anxiety the quality of sleep can seriously be affected. Sometimes even the conditions that force the need to urinate at night more often can disturb the sleep of the elderly people.

- **Use of medications** – Elder people consume more medicines daily. This causes the induced insomnia that is associated with the medications.

Symptoms/ complications- Insomnia symptoms may include:

- Sleeplessness
- Abrupt/ disturbed sleeping pattern
- Waking up too early or difficulty in staying asleep
- Waking up tired and exhausted
- Tiredness and sleepiness in day time
- Irritability, headache and depression or anxiety
- Poor memory, trouble with attention and not being able to focus on work.
- Prone to accidents and mishaps
- Not feeling well rested
- Hindrances in carrying out day to day activity

Treatment:

Treatment of insomnia include psychological therapies like cognitive behavior therapy, medication in western system of medicine is also available as a cure for insomnia. Such medications include corticosteroids, statins, alpha-blockers, beta-blockers, selective serotonin reuptake inhibitor, or SSRI, antidepressants, angiotensin converting enzyme, or ACE, inhibitors, angiotensin II receptor-blockers, cholinesterase inhibitors, non-sedating H1 agonists, combination of glucosamine and chondroitin. Nowadays herbal treatments are being sought after. Plant based medicine is also being researched upon to find a cure for insomnia.

Herbal Medicine in Insomnia-

According to Ayurveda sleep is one of three pillars of healthy sustenance of life, these pillars are Aahara which is food, Brahmacharya which is conscious relationships and Nidra that is sound sleep. The Charak Samhita mentions importance of sleep in the verses mentioned in the book. The benefits of good sound sleep are as follows:

- a) It helps the person to be more joyful and be present in the moment
- b) A good sleep promotes proper physical growth and tissue regeneration as well
- c) Sound sleep is also related to enhanced Immunity
- d) Sound sleep and rested body is also associated with enhanced fertility
- e) Sleep helps in solidification of learning in the brain and hence boost memory and logical thinking

Therefore it can be inferred that, Ayurveda recognizes that insomnia is not just an illness rather it is a group of symptom related to underlying imbalances of doshas in the body. It is also regarded as a sign of chronic physical, behavioral, cognitive and mental issues that may appear in future if not dealt with properly. The treatment for insomnia in Ayurveda is done in 2 ways:

- To help with the quality and quantity of sleep
- To address the underlying cause and prevent long term health impacts due to it.

In Ayurvedic medicine certain herbs are known to produce calming and relaxing effect on mind thereby inducing sound sleep. These drugs can be used in finding treatment for disorders like insomnia. Some of the plants used for inducing sleep are; Brahmi, Shankhpushpi, Vacha, Sarpagandha, Ashwagandha, Jatamasi, Chamomile and Lavender. In ayurveda another treatment method is used known as Shirodhara. It involves the rhythmic pouring of herbal medicated oil extracted from above mentioned plants, to the forehead of the person. It helps to reduce the hyperactivity of nerves, reduce stress, calms the mind, and stimulate the pituitary gland. It also helps in the proper functioning of other endocrine glands and induces better and sound sleep.

Preventive measures for Insomnia:

Even after cures and remedies available as a cure for insomnia, prevention is still a better. Some prevention techniques for insomnia are as follows:

- Making a fixed time routine for sleeping and for waking up. This means that sleeping at a specific time and waking up at a specific time.
- Naps during the day time should be avoided as makes an individual less sleepy at night.
- Use of technology like phone, television, laptops etc should be avoided because light coming from them makes it difficult to sleep easily.
- Foods or beverages that contain caffeine, nicotine or alcohol should not be consumed before sleeping. The reason being that caffeine and nicotine are stimulating agents and it prevents from falling asleep. Alcohol consumption can also cause disturbances in the middle of the sleep at night.
- Regular exercise is recommended. However studies have shown that any workout should be done 3-4 hours before going to bed in order to sleep peacefully and to wake up well rested.
- It is better to avoid eating heavy meal before going to bed. Moreover a light snack before bed can help an individual to sleep better.
- The ambience of the bedroom should be comfortable with less to no noise, temperature of the room should be optimum and lights should be low.
- Make a habit to read a book, listen to music or take a bath before going to bed.
- It is recommended to not use your bed for any other purpose like studying or eating. It should only be used for sleeping.
- Over-thinking should be avoided and journaling the ideas might help in such situations.

CONCLUSION

Through this paper it can be concluded that the way health is defined has been changed. Health is not just confined to physical body rather mental health is also given a lot of importance. But nowadays even when people know the importance of mental health yet due to their busy lifestyle usually they succumb to unhealthy lifestyle which later pose harm to their health. Due to extreme stress in life people are becoming susceptible to various mental health

issues like anxiety, depression and insomnia. Insomnia is a condition where a person is unable to sleep or does not have a sound sleep and wakes up usually tired and exhausted. Insomnia is generally caused by stressful lifestyle or it can be caused by trauma. Major symptoms of insomnia include: difficulty in falling asleep at night, waking up abruptly while sleeping and then not being able to fall asleep again, waking up tired and exhausted, irritability and low mood throughout the day, over thinking and worry related to sleep. There are various treatments available for this ailment in the form of drugs and medicine. But all these remedies work on symptomatic relief for proper cure plant extracts are highly valued and studied upon. According to ayurveda herbs like brahmi, Ashwagandha, vacha, sarpagandha are known to produce calming and relaxing effect and result in sound and good sleep. But to substantiate the effect of these herbs as cure for insomnia more extensive research is required in this area.

Ethical Clearance- Taken form LMCP Institutional Committee.

Source of Funding- Self Funded

Conflict of Interest- Nil

Acknowledgement- The author would like to thank all his mentors. The paper compiled here are collected over a period of time and may have been reproduced verbatim. Apologize to all researchers if in-advertently failed to acknowledge them in the references.

REFERENCE

1. Desai, Priti & Sawarkar, Gaurav & Yelne, Umesh. (2016). Managing Sleep Disorders in the Elderly with Ayurveda. *International Journal of Ayurveda and Pharma Research*. 4. 48-51.
2. Tiwari, S., Talreja, S. Do you think disease and disorder are same?— here is the comparative review to brush up your knowledge. *J. Pharm. Sci. & Res.* Vol. 12(4), 2020, 462-468.
3. Dement W, Richardson G, Prinz P, Carskadon M, Kripke O, Czeisler C. Changes of sleep and wakefulness with age. In: Finch C, Schneider EL, eds. *Handbook of the Biology of Aging*. 2nd ed. New York: Van Nostrand Reinhold, 1996.
4. Liu, L., Liu, C., Wang, Y., Wang, P., Li, Y., & Li, B. (2015). Herbal Medicine for Anxiety, Depression and Insomnia. *Current neuropharmacology*, 13(4), 481-493. Retrieved from: <https://doi.org/10.2174/1570159x1304150831122734>
5. Tiwari Shashank, Talreja Shreya, "Human Immune System and Importance of immunity Boosters on Human Body" *Journal of Global Trends in Pharmaceutical Sciences*, 2020; 11 (4): 8641 - 8649
6. Kuppermann M, Lubeck DP, Mazonson PD, Patrick DL, Stewart AL, Buesching DP, Fifer SK. Sleep problems and their correlates in a working population. *J Gen Intern Med* 1995;10:25-32.
7. Morin CM, Belleville G, Belanger L, Ivers H. The Insomnia Severity Index: psychometric indicators to detect insomnia cases and evaluate treatment response. *Sleep*. 2011;34(5):601-8.
8. Tiwari Shashank, Unit Dosage form Tablet: An Overview, *International Research Journal of Humanities, Engineering and Pharmaceutical Sciences*, 2015, Vol. 1(9): 8-36.
9. Nair N.T. et. al. (2018). Review of Ayurvedic Strategies to Overcome Nidranasha and Improve Quality of life. DOI: 10.7860/JCDR/2018/35301.11670
10. Pearson NJ, Johnson LL, Nahin RL. Insomnia, trouble sleeping, and complementary and alternative medicine: analysis of the 2002 national health interview survey data. *Arch Intern Med*. 2006;166(16):1775-82.

11. Tiwari, Shashank, Sachin Saxena, and Rohit Kumar. "Process Scale Up of Ibrufen Tablet." *Journal of Pharmaceutical Sciences and Research* 3.10 (2011): 1525.
12. Richardson GS, Roth T. Future directions in the management of insomnia. *J Clin Psychiatry* 2001;62 Suppl 10:39-45.
13. Roth T. (2007). Insomnia: definition, prevalence, etiology, and consequences. *Journal of clinical sleep medicine: JCSM : official publication of the American Academy of Sleep Medicine*, 3(5 Suppl), S7–S10.
14. Sleep; National Institutes of Health State of the Science Conference Statement on Manifestations and Management of Chronic Insomnia in Adults, June 13–15, 2005; 2005: 1049–57.
15. Tiwari, Shashank, and Navneet Batra. "Oral drug delivery system: a review." *Am. J. Life. Sci. Res* 2.1 (2014): 27-35.
16. Vinjamury, S. P., Vinjamury, M., der Martirosian, C., & Miller, J. (2014). Ayurvedic therapy (shirodhara) for insomnia: a case series. *Global advances in health and medicine*, 3(1), 75–80. <https://doi.org/10.7453/gahmj.2012.086>
17. Tiwari, Shashank & Talreja, Shreya. (2020). A Review on Use of Novel Drug Delivery Systems In Herbal Medicines. *Ciencia and Engenharia/ Science and Engineering Journal*. 24. 190-197.