Insomnia: An Overview Of Herbal Treatments

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Abstract

Insomnia is a common disorder in both clinical and general populations. Treatment is complicated various methods of classification and confounding co-morbidity. Conventional pharmaceutical managements tends to focus on short term relief of symptoms rather than managing the underlying cause of insomnia. Moreover, conventional pharmaceuticals have unwanted side effects, tolerance and dependence. Herbal medicine provides safe, effective and reliable treatment strategies aimed at addressing both symptoms and aetiology of insomnia. Herbal treatments for insomnia tend to offer a cost effective alternative with no associated issues relating to tolerance and dependence. This article provides a summary of herbal treatment options in insomnia, and a brief analysis of supporting evidence.

INTRODUCTION

It is important to distinguish insomnia from other sleeping disorders. Indeed, a patient may themselves not know sufficient information about their sleep disorder and history to differentiate. Often it is information from parents or a bed partner that provides the clues to differentiate insomnia from, for example, hypersomnia and parasomnia. Moreover, one must differentiate insomnia symptoms from clinical insomnia (genuine dissatisfaction with sleep) highlighted perhaps by a recent study that indicated 36% of people reported insomnia but only 25% of those (9% overall) experienced genuine dissatisfaction with sleep ([1]).

Insomnia relates to problem initiating or maintaining sleep ([2,3]) and tends to result in day time fatigue ([3]). Hypersomnia is excessive day time sleepiness with a tendency to fall asleep during the day and is generally associated with respiratory disorders (sleep apnea, narcolepsy) ([3]). Parasomnia are sleep aberrations like sleep walking, night tremors, nightmares and sleep paralysis ([3]). Other sleep disorders include restless leg syndrome and circadian rhythm disorder ([3]).

Insomnia can be classified in terms of either its duration (acute or chronic) or its aetiology (primary or secondary) ([4]). Acute insomnia (also known as transient insomnia) generally results from a significant event in ones daily life (eg. trauma, long distance travel, change in sleep/awake pattern) and can be treated directly or preventative measures might be adopted ([4]). Chronic insomnia tends to be longer lasting with an association with medical aetiology and requires a more rigorous assessment to determine treatment options ([4]). Primary insomnia are those where there is no mental or physical cause requiring more direct treatment while secondary insomnia results as co-morbidity associated with other mental or physical illness requiring a more considered treatment approach ([4]). It must be noted, however, that any classification of insomnia can be confounded by the presence of a multitude of contributory factors ([2]).

In general practice, the prevalence of clinical insomnia (causing day time dysfunction) range from 10% to 34% and is typically higher in older persons, women, those with less education, the unemployed and in those separated or divorced ([1,5]). Prevalence of insomnia is also higher in clinical populations than the general population ([5]) which reflects both secondary insomnia and the skewed age distribution in the clinical population. Ebert, Wafford and Deacon ([2]) report that 25% of adults experience insomnia at some point while 10% of the population consider insomnia to be a chronic problem.

PATIENT HISTORY

The goal of the patient history is to elicit sufficient information to classify the sleep disorder; to confirm indeed that the patient is suffering insomnia and not another sleep disorder. If insomnia is the correct sleep disorder, the information will also provide some scope to classify the type of insomnia; chronic versus acute, primary versus secondary, and an insight into the cause, although one recognises that

causal relationships are extraordinarily difficult to establish. Only after establishing this history can an intervention be considered; the correct treatment will depend on accurate classification and reatments should reflect the aetiology of insomnia and, thus, be individualised for each patient.

HISTORY (,):

- Onset of insomnia
- Severity of insomnia
- Duration of insomnia
- Progression of insomnia
- Impact on awake activities
- Family history of sleep disorders
- Sleeping habits (sleep hygiene) and perhaps a ‘sleep diary'.
- Age

Medications known to cause insomnia ([3,4,7]):

- Anti-depression
- Anti-anxiety
- Levodopa (anti-parkinsonian)
- ACE inhibitors
- Beta adrenergic blockers
- Corticosteroids
- Thyroid hormones
- Substance abuse (alcohol/drugs) and/or withdrawal
- CNS stimulants
- Nicotine
- Xanthines (caffeine)
- Theophylline (bronchodilator)
- Quinidine (anti-arrhythmic)
- Withdrawal from CNS depressants
- Cough and cold preparations

Co-morbidity ([1,5,7]):

- Menopause
- Depression. Over 90% of patients with clinical depression have insomnia (3).
- Other psychiatric or neurological conditions
- Recent hospitalisations (relative to insomnia duration)
- Recent surgery
- Heart disease (myocardial infarction, congestive heart failure, ischaemia)
- Respiratory disease (obstructive airways disease)
- Pain (back, hip, osteoarthritis)
- Urinary problems or prostate problems (not in Anna's case though)

Lifestyle ([4,7]):

- Changes to family circumstances
- Major events
- Physical, emotional or financial stress
- Type of employment / changes in responsibility
- Recent travel
- Caffeine and other stimulants
- Children

TREATMENT OPTIONS

It is common practice for people to use either supplements or herbal products to promote sleep. Indeed, a 2002 survey of US adults indicated that 5.9% of the population used valerian and 5.2% melatonin ([9]). Interestingly, gender (females) and age (younger) were predictors of valerian and melatonin use ([9]). Table 1 provides a summary of herbal treatments and their potential role in insomnia. Figure 1 provides a staged treatment response for insomnia. A number of safety issues need to be considered when prescribing herbal treatments for insomnia:

- Care needs to be taken with respect to interactions with other herbal or prescription medications.

- Some treatments may need to be discontinued prior to general anesthesia.
- Be aware of possible paradoxical stimulation of the central nervous system (CNS).
- Relatively contraindicated in children or during pregnancy/lactation.
- Additive effect with CNS depressants.
- Additive effects with anti-depressants.

{image:1}

{image:2}

BENZODIAZEPINES

Most prescription medications that are used to treat insomnia increase the function of the inhibitory neurotransmitter gamma-aminobutyric acid (GABA) in the brain ([3]). This has sedative effects but also demonstrates anti-convulsant and anti-anxiety properties ([3]). Benzodiazepines are an example of hypnotics that act in this fashion. More recently, a range of non-benzodiazepine hypnotics have become available for the treatment of insomnia which provide greater control over the onset of hypnotic effect, its duration and, thus, day time sedation ([2]).

A number of non prescription medications (over the counter) treatments are also available for insomnia. This type of medication generally contain histamine receptor antagonists (anti-histamines) but are divided into two groups; the older sedating antihistamines, and the newer non- or less-sedating antihistamines ([7]). Clearly the later plays little role in treating insomnia and their emergence perhaps is reflected in the general lack of recent medical literature relating to antihistamine treatment of insomnia. Indeed, antihistamine use appears to have been supplanted by anti-depressants as a pharmacologic alternative to benzodiazepines for insomnia. A contributor to this includes the more limited use of sedating antihistamines; the elimination of ‘unwanted' side effects like sedation (first do no harm). The traditional antihistamines are not generally very specific and as a result have a wide range of therapeutic and side effects while the newer antihistamines are more preferential in their blockade of peripheral H1 receptor sites resulting in fewer side effects and elimination of the sedative effect ([21]).

More recently, anti-depressant medications have been used to treat insomnia; selective serotonin reuptake inhibitors (SSRIs) can cause insomnia in depressed patients but have been shown to be effective long term due to the anxiolytic effects in the main, and in non depressed patients serotonin receptor blockers promote sleep with short term improvements ([3,19]). It is important to note, however, that some anti-depressants may cause insomnia ([19]). Anti-psychotic medications have also been used to treat insomnia because of their anxiolytic and sedative properties ([19]).

There is both growing interest in and evidence for the use of non pharmacological treatments for insomnia; either alone or in combination with pharmaceuticals ([1]). The poor long term effectiveness, risk in the elderly, tolerance and dependence are the major drivers for both patient and clinician migration to non pharmaceutical interventions in insomnia. Given the declining use of antihistamines for insomnia, an evaluation of randomised controlled trials making direct comparison between valerian and benzodiazepines (table 2) is more insightful and useful:

- In a double blind study Dorn (22) reported no statistically significant difference between the outcomes of valerian and oxazepan in insomnia.
- Gerhard et al. (23) compared valerian with hops, valerian alone, flunitrazepam and a placebo and reported that sleep improved in all treatment groups (compared to placebo). Only flunitrazepam impaired performance on the subsequent day, Flunitrazepam was also associated with mild side effects in 50% of participants while the other treatment groups (and the placebo group) reported just 10%.
- Valerian was compared to oxazepam in a double blind randomised controlled trial by Ziegler et al. (24). Valerian was shown to be ar least as efficacious as oxazepam. 83% of participants rated the effect f valerian as very good while only 73% rated the effects of oxazepam as very good. This may simply reflect the unwanted side effects of oxazepam.

The underlying theme throughout the reliable literature is that valerian offers a suitable substitute for benzodiazepines in terms of efficacy but extends enormous advantage to patient and clinician alike in control of unwanted side effects, circumventing issues of dependence, tolerance and rebound insomnia, and providing a better treatment option for chronic insomnia.

{image:3}

CONCLUSION

Sleep disorders tend to be classified, not so much by their cause, but rather by their symptoms. Not unlike many other disease processes, the focus of classification on symptomology results in conventional medicine treatment aimed toward alleviating symptoms rather than addressing the underlying cause. Herbal treatments, particularly valerian strategies, offer an effective, safe and cost effective alternative to pharmaceutical treatment and allow an integrated approach to managing the presenting symptoms (insomnia) and underlying cause for an improved long term outcome.

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