



Insomnia Assessment

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7.1 Introduction

The assessment of insomnia is not markedly different from the assessment of sleep disorders in general, and a good insomnia history will necessarily include a good sleep history, psychiatric history and medical history. However, it is also possible to take a brief history that will ascertain the cardinal features of the disorder and allow one to formulate a management plan. In this chapter I will examine the aspects of history taking that are specifically important in insomnia patients, when to order investigations, what investigations are useful and the limitations of those investigations. I will conclude with a suggested formula for conceptualizing the patient's insomnia and organizing the information you have gleaned so that the appropriate treatments can be selected.

7.2 Taking an Insomnia History

When taking an insomnia history, it can be helpful to bear in mind the 'Three P' theory of disease: predisposing, precipitating and perpetuating factors. In this model each patient has certain inherent factors that predispose them to getting insomnia. Certain personality traits, socio-economic variables, medical conditions and psychiatric disorders can increase the susceptibility to insomnia. Many of these predisposing variables will be beyond the ability of the clinician to modify. However, many people with a high predisposition to developing insomnia will never get it; therefore there must be some precipitating factor which initiates the illness. Unlike most other sleep disorders, insomnia may have a very definite onset and clear precipitant, and many patients will be able to identify specific events that caused the insomnia.

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Clearly, if that precipitant is still present, then this should be explored and, if possible, addressed. However, in chronic insomnia patients, it is commonly the case that the precipitant will have resolved by the time the patient presents to a clinician, yet the insomnia persists, and so there must be separate perpetuating factors driving their insomnia. To a large extent, it is these perpetuating factors that need to be teased out by the history.

7.2.1 Main Complaint

A common perception is that insomnia describes difficulty getting to sleep and so patients who have no problems with sleep initiation, but struggle with sleep maintenance or early morning waking, may not report that they have insomnia. It is also important to remember that patients' broad descriptions of their problems may not always correspond with the picture elicited when a more detailed history is taken. For example, it is not uncommon for patients to say 'I don't sleep' or 'I haven't slept in years'. Often this is a figure of speech, and what they mean is that they sleep badly or don't get enough sleep. However, it is important when hearing this statement to explore it further. Some patients with severe paradoxical insomnia will report never getting any sleep at all, and this presents a different set of challenges.

It is important to explore what the patient perceives to be the precipitating factors and whether these factors are still present and relevant to the insomnia. Another useful—and underutilized—question is simply to ask the patient why they think they cannot sleep. This will often elicit a great deal of useful information about environmental factors, anxieties and dysfunctional sleep perceptions and behaviours. Many patients will express fears that their insomnia is a sign of a serious underlying physical problem. It will also reveal some, though rarely all, of the perpetuating factors.

7.2.2 Typical Night

Here one is looking at two areas. The first is a numerical/temporal description of the sleep pattern, i.e. what time the patient goes to bed, how long it takes to fall asleep, etc. The other is the person's bedtime habits and routines, how they use the bedroom and the bed environment. At this point it is also useful to ask if they sleep alone or if there is a bed partner and, if so, what the partner's bedtime routine is, whether they snore, etc.

One wants to ascertain:

- What time the patient goes to bed
- How long it takes to fall asleep—sleep onset latency (SOL)
- How many times they wake during the night and what wakes them
- How long they think they are awake for during the night; this includes time spent awake in the bed in the morning before rising—wakefulness after sleep onset (WASO)

- What time they wake in the morning and if this is spontaneous or to an alarm
- What time their alarm is set for if they are not woken by their alarm
- What time they get up
- How long they think they slept in total—total sleep time (TST)

From these figures one can calculate a number of important sleep parameters:

- The difference between the rising time and the bed time gives you the time in bed (TIB).
- $TIB - SOL - WASO = TST$. One can thus calculate the total sleep time from the other figures, and it will often give a very different figure from the patient's self-reported TST. It can be useful to explore why this is. Often it is because the patient gives the worst case scenario for each of the above parameters rather than the typical or average figures.
- $TST/TIB \times 100$ gives you the sleep efficiency (SE).

At the same time, one should determine:

- What the patient does when they first go to bed, e.g. do they read, watch TV, play on their phone, listen to music or try to go to sleep immediately on going to bed?
- What the patient does if they have difficulty falling asleep or if they wake up during the night. Do they stay in bed, get up, take a sleeping pill, turn on the TV, etc.?
- What environmental factors there are that may affect sleep. Is there intrusive light or noise? Does their partner snore or keep different bed and rising times? Is the room cool or warm?

An additional tool that will, of course, be useful is a sleep diary. An example of a sleep diary is found in [Appendix C](#). This will allow one to get a longitudinal view of the sleep pattern and of the night to night variability of the various sleep parameters. However, a diary should not be a substitute for the history. Although the diary gives very useful quantitative information, it is not able to capture the qualitative data. Hearing the verbal description of the typical night gives you important information about the patient's emotions, thought processes and anxieties during the night. It helps you to understand the degree of distress their symptoms cause them and to recognize any dysfunctional thoughts and habits they have with regard to their sleep. Sometimes a seemingly insignificant comment, if picked up and pursued, can lead to profound insights into the patient's condition, and it is also important to patients that they are able to tell their story.

7.2.3 Daytime Symptoms

This is too often forgotten in insomnia assessments. Short sleep in the absence of daytime symptoms does not meet the criteria for insomnia. The pervasive idea that we are meant to sleep for 8 h means that those with a shorter sleep need may assume

there is a problem with their sleep despite feeling well during the day. One should therefore ascertain whether the patient experiences fatigue, cognitive difficulties, mood changes or occupational dysfunction.

It is also informative to differentiate between fatigue and sleepiness. Many, but not all, insomnia patients are ‘tired but wired’, i.e. tired but not sleepy. An Epworth Sleepiness Scale (ESS) ([Appendix A](#)) can be helpful in differentiating between fatigue and sleepiness as it asks the patient to focus on the likelihood of actually falling asleep. There is a perception amongst some clinicians that a patient with a normal or elevated Epworth score does not have insomnia and that another cause for their sleep disruption needs to be sought. While it is true that many insomnia patients have very low Epworth scores, it is by no means universal. Those patients who have a learned negative association with their bed and bedroom may well be sleepy during the day when they are not in their bedroom but find it difficult to initiate sleep when they are in the bedroom. In addition, many insomnia patients expend a great deal of effort trying to sleep at night. This effort actually reduces the likelihood of being able to sleep. During the day, when they are in situations where they are not trying to sleep, such as in a meeting, when watching TV or when reading, then the lack of effort allows their innate sleep drive to take over, and they fall asleep.

7.3 Other Sleep Disorders

Insomnia can be mimicked, or exacerbated, by a number of other sleep disorders. This is not only true of disorders such as restless legs or circadian rhythm disorders but is also true of sleep disorders more commonly associated with hypersomnolence such as obstructive sleep apnoea (OSA). Even if this is not the case in a particular patient, having insomnia is no bar to having other co-morbid sleep disorders. It is important therefore to screen for other sleep disorders when assessing insomnia. Given that most physicians have very little training in sleep medicine (Stores and Crawford 1998) it is highly likely that, when you take a sleep history, you will be the only person ever to do so! One should therefore screen for parasomnias, obstructive sleep apnoea, etc. However, one should pay particular attention to the circadian rhythm disorders, restless legs and periodic limb movements as these disorders often present as insomnia.

7.3.1 Circadian Rhythm Disorders

Insomnia is often the presenting complaint in patients with circadian rhythm disorders, particularly delayed sleep-wake phase disorder (DSWPD). Therefore, if patients have difficulty with sleep onset, one should ask what time of day they feel most tired and what time of day they feel most alert. In DSWPD they will typically feel worst in the morning with a gradual improvement in alertness leading to maximum alertness late at night. More rarely, advanced sleep-wake phase disorder (ASWPD) may be the underlying cause of early morning waking. (Note: terminal

insomnia is a medical term that should be avoided in patient interactions and clinic letters: patients may misinterpret the term as meaning fatal insomnia, and early morning waking is a preferable term.) These patients typically wake very early in the morning and feel excessively sleepy in the early evening (American Academy of Sleep Medicine 2014). The Morningness-Eveningness Questionnaire (Horne and Ostberg 1976) (Appendix B) can be helpful in supporting the diagnosis. A non-24-h sleep-wake rhythm disorder will demonstrate a progressive delay (or rarely advance) of the sleep period (American Academy of Sleep Medicine 2014). Shift work disorder may present with insomnia symptoms, particularly during scheduled sleep times, and difficulty staying awake during work hours (American Academy of Sleep Medicine 2014).

A helpful way to differentiate between insomnia and a circadian rhythm disorder is to ask about the patient's sleep when the external constraints on their bed and rising times are removed, e.g. when on holiday. Circadian rhythm disorder patients will generally sleep well when allowed to sleep at the times dictated by their body clock and will therefore feel alert when awake. Insomnia patients will usually continue to experience poor sleep and daytime fatigue, even when they can choose their bed and rising times.

7.3.2 Restless Leg Syndrome

Restless legs will usually present as difficulty initiating sleep but may also cause difficulty with sleep maintenance. It is surprising how few patients volunteer the symptoms of restless legs until one explicitly asks about them. Restless legs can be exacerbated by antihistaminergic drugs. As antihistamines or antidepressants and antipsychotics with antihistaminergic properties are frequently prescribed for insomnia, if one hasn't detected the restless legs on history, there is a risk that the prescribed treatment could make the problem worse!

Similarly, periodic limb movements (PLMs) can mimic insomnia by causing sleep fragmentation. It is difficult to detect on history but should be suspected if the patient has even occasional restless leg symptoms, repeated leg twitches prior to sleep onset and signs of restless sleep on waking or reports of leg twitches during sleep from the bed partner. Because there is a circadian element, with the periodic limb movements being more severe in the first part of the night, some patients with PLMs will report having a better quality of sleep in the second half of the night or when sleeping during the day.

7.3.3 Medical Disorders

A full medical history is important, not only because one is looking for anything that may contribute to the insomnia but also because the presence of co-morbid medical conditions will inform your decisions on the safety of various treatments. For example, sleep scheduling, which can lead to a transient reduction in sleep time,

may be contraindicated in epilepsy which may be sensitive to sleep loss. Similarly, one would be cautious about prescribing sedative antidepressants to treat insomnia in patients with cardiac disorders that might be affected by drugs with anticholinergic properties.

The medical history may also detect signs or risk factors of other sleep disorders. For example, nocturia, hypertension, type II diabetes and cardiac arrhythmias might raise one's index of suspicion for obstructive sleep apnoea, while chronic kidney disease or radiculopathies increase the likelihood of the patient having RLS or PLMs.

7.3.4 Psychiatric Disorders

The presence of psychiatric disorders can, of course, complicate the management of insomnia, but one should not fall into the trap of assuming that the insomnia is secondary to the psychiatric disorder. Particularly in the case of depression, it is often the case that the insomnia precedes the depression (Baglioni et al. 2011). For many patients, this is a fact which is important to acknowledge as they are often frustrated by the repeated attempts to treat their depression without tackling the insomnia. Indeed, one should not take a diagnosis of depression in a patient with insomnia at face value. It is not uncommon for euthymic patients with insomnia to be given a diagnosis of depression and treatment with antidepressants by primary care physicians. While it is true that insomnia can be a symptom of depression, one should look for the presence of other symptoms to determine if the diagnosis is valid.

7.3.5 Medications

In addition to determining what the current medication regime is, one is looking for any drugs that may be having an adverse impact on sleep, such as β -blockers or alerting antidepressants. One should enquire about the time that those medications are taken; it is not uncommon for patients (and doctors) to assume that all antidepressants are sedating and therefore to take alerting antidepressants at night. Ascertaining whether there have been any adverse drug reactions in the past is also essential.

7.3.6 Habits

A detailed assessment of the patient's caffeine, nicotine, alcohol and illicit or recreational drug use often yields information that can lead to simple and effective interventions. Caffeine is an effective stimulant with a half-life of 3.5 to 5 h and active metabolites that may extend the stimulant action of the caffeine (Nishino and Mignot 2017). Patients are often unaware that caffeine can therefore accumulate in the bloodstream with repeated dosing. Therefore one should ascertain how many