



Taking a Sleep History

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3.1 Introduction

Taking a sleep history can at first seem a daunting task. After all, much of what we are asking about is occurring when the patient is asleep. As a result, it can be tempting to bypass the history and rely on objective sleep studies such as the polysomnogram (PSG). However, there is no substitute for a good history, and the majority of sleep disorders can be diagnosed on history alone, with objective studies often being used simply for confirmation or to look for complicating and exacerbating factors.

There are generally two types of sleep history: a screening history and an in-depth history. Often the purpose of the history is simply to screen for sleep disorders, and this is something that should ideally be done in every psychiatric patient. The screening history is necessarily brief and should take no more than a few minutes. However, if a potential sleep disorder is identified, or when patients present to a clinician with a complaint of a sleep disorder, a much more detailed history is warranted. In this chapter, I will first address the detailed sleep history and then demonstrate an efficient way of quickly screening for sleep disorders that can be incorporated into a psychiatric history.

3.2 Main Complaint

It may sound obvious, but it is essential to allow the patient to explain what it is that distresses them and why they are seeking help. This not only informs your history taking but allows you to direct your treatment plan to address the patient's concerns. Often patients will be referred to a specialist with a request from the referrer to

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address a particular problem, but that may not be the problem that particularly worries the patient. In particular, it is helpful to determine whether it is the patient, the bed partner, the employer or a physician who has raised the concern.

Patients presenting with sleep disorders may present with a very clear description of their problem, but this is not always the case. They may describe their problem in layman's terms which are at odds with the terminology we use. For example, they will often confuse nightmares and night terrors, and therefore it is essential to ask the patient to describe their symptoms in more detail.

In terms of how you take a history, the presenting complaint will likely fall into one of three categories:

- Difficulty initiating and/or maintaining sleep or sleeping at the wrong time. The common differential diagnoses are insomnia, restless legs and circadian rhythm disorders.
- Excessive daytime sleepiness and/or snoring with or without observed apnoeas. Diagnoses to consider include obstructive sleep apnoea (OSA), periodic limb movements (PLMs), narcolepsy and idiopathic hypersomnia (IH).
- Unusual behaviours or unpleasant experiences at night. These include the parasomnias, nocturnal epilepsy and nocturnal panic attacks.

3.3 Timeline of Symptoms

Explore when the symptoms were first noticed, how they developed over time and whether they vary from night to night. It is particularly important to establish whether the onset of symptoms had any relationship with starting or stopping medication or whether medications exacerbate or improve the symptoms. In the context of psychiatric patients, determine whether the sleep disorder preceded the psychiatric disorder or vice versa and whether the patient feels that one contributes to the other. Numerous disorders, particularly insomnia and some of the parasomnias, may be particularly sensitive to anxiety and mood changes and understanding that relationship allows one to focus on managing those precipitants.

Some sleep disorders may vary in intensity or frequency across the year. The reasons for this are likely to be multifactorial. The amount of light exposure is certainly relevant in more northerly latitudes, but other factors to consider are cycles of work stress, increased alcohol consumption in holiday periods or decreased sleep opportunity at certain times of the year.

3.4 Typical Night

Ask the patient to describe in some detail a typical night's sleep. Beware that, when asked this, patients will often describe their most recent night's sleep regardless of whether or not it is typical or they will describe the worst-case scenario. If the sleep

pattern is very variable, record what good and bad nights look like. Similarly, if they take hypnotics, ask them to describe a night with the hypnotic and a night without it. However, as most hypnotics can cause rebound insomnia, the first few nights after stopping the hypnotic may not be representative of their baseline sleep. Therefore, one may need to obtain information about a night during the rebound period and a night during a more sustained period of hypnotic abstinence.

There are a number of specific questions to ask if the patient does not volunteer the information in their description of the night:

- What time do they go to bed, and what do they do when they go to bed, i.e. do they read, watch TV, watch a video on their laptop, etc.?
- How long does it take to fall asleep? This will give you an estimate of their sleep onset latency (SOL). A SOL greater than 20 min in children and young adults, or 30 min in middle aged or elderly adults, is indicative of insomnia (American Academy of Sleep Medicine AASM 2014).
- How many times do they wake during the night, and what wakes them? How long does it take for them to get back to sleep each time? This gives an estimate of the time awake during the night. Ask what time the awakenings occur and what they do during these awakenings, e.g. do they get up, eat, read or lie in bed trying to sleep?
- What time do they wake up? Is this to an alarm or spontaneously? Are they waking earlier than they would like and, if so, how much earlier? This information can be combined with the time awake during the night (see above) to estimate the wakefulness after sleep onset (WASO). WASO greater than 20 min in children and young adults, or 30 min in middle aged or elderly adults, is indicative of insomnia (AASM 2014).
- What time do they rise? Note that this is the time they actually climb out of bed, not the time they wake up. Knowing the rising time and the bedtime will allow you to calculate the time in bed (TIB). Generally, this calculation ignores any time spent out of the bed during awakenings in the middle of the night.
- Ask the patient how long they feel they sleep in total. Often patients will answer this by giving you the time of their longest individual sleep period during the night, so it is important to check that the patient is giving you the total of all their sleep periods. This is their total sleep time (TST) and there is no normal value for this. It can be interesting to compare their estimated TST with the TST calculated from their TIB, SOL and WASO, i.e. $TST = TIB - SOL - WASO$; if their estimated TST and calculated TST are very different, explore why that is. The ratio of the TST to TIB expressed as a percentage is called sleep efficiency (SE) and can be a very useful measure, particularly in insomnia treatment (see the Chap. 9 on cognitive behavioural therapy for insomnia for more details).
- If the main complaint involves specific events such as parasomnias, panic attacks, etc., then find out how long after sleep onset they occur. This will be expanded upon later.

Table 3.1 Summary of sleep parameters and calculations

Lay terms	Technical terms	Calculations
Time taken to fall asleep	Sleep onset latency (SOL)	SOL = time from lights out to falling asleep
Wakefulness during the night	Wakefulness after sleep onset (WASO)	WASO = sum of time awake during awakenings + time awake in the morning before the alarm
Time from going to bed to rising	Time in bed (TIB)	TIB = rising time – bedtime
Time asleep	Total sleep time (TST)	Either estimated by patient or calculated as $TST = TIB - SOL - WASO$
Proportion of time in bed spent asleep	Sleep efficiency (SE)	$SE (\%) = TST / TIB \times 100$

3.5 Typical Day

3.5.1 Effect on Daytime Functioning

In most sleep disorders, it is not the night-time symptoms that cause the most distress but rather the impact of the disorder on daytime mood, alertness and cognitive function. Therefore it is important to establish how the disorder affects your patient during the day.

3.5.2 Sleepiness and Fatigue

One of the essential skills needed to take a good sleep history is the ability to differentiate between fatigue and sleepiness. Fatigue has many causes—one of which is poor sleep—whereas sleepiness is more likely a sign of a sleep disorder. Patients who report feeling tired may be talking about fatigue, sleepiness or both. Fatigue is a state of reduced subjective energy, motivation, concentration, etc., while sleepiness is difficulty staying awake and a strong desire to sleep. It is essential to ask patients which of these they mean by ‘tiredness’. In this context, the Epworth Sleepiness Scale (ESS) (Appendix A) is often helpful (see below for more detail on the ESS). This scale asks the patient the likelihood of falling asleep in eight scenarios, and this forces the patient to think about their degree of sleepiness separately from their fatigue.

The majority of patients with OSA and clinically significant PLMs will score highly on the ESS; practically all narcolepsy and hypersomnia patients will have high ESS scores. The situation with insomnia is more complex. Some insomnia patients will have high ESS scores, but many will have normal, or indeed very low scores. Insomnia patients with hypervigilance will not only be unable to sleep well at night but will be unable to feel sleepy during the day despite having significant fatigue.

In addition to performing an ESS with the patient, one should ask if they nap during the day, how often and for how long. Some sleepy patients have a low ESS

because they take planned naps and will therefore only score high on the question that asks about napping but will score low on the other questions.

One should also ask about when the patient feels most fatigued or sleepy and when they feel most alert. The importance of this will be expanded upon in the section on circadian rhythm disorders.

3.5.3 Occupation and Driving

At this point it is worth determining the impact of the sleepiness/fatigue on driving and occupational functioning. Here again, the ESS can be useful as it asks a specific question about the likelihood of falling asleep when in a stationary car. However, one should also ask directly about sleepiness when driving, especially long distances. In many countries, sleepiness due to a sleep disorder needs to be reported to the relevant licencing authority, and patients must be made aware of this. However, once patients become aware of this legal requirement, they may be reluctant to disclose sleepiness when driving for fear of losing their licence. It is useful therefore to reassure them that most sleep disorder patients are permitted to drive once their condition is treated.

The relationship between sleep disorders and occupation is bidirectional. Understanding how the sleep difficulty impacts on work attendance, performance and safety is central to determining how urgent treatment is and which risks need to be managed. For example, untreated OSA can effectively end the career of a trucker or taxi driver, while a shift work sleep disorder might affect the safety of a doctor working on a rotating shift pattern. Conversely, work stress, shift work and irregular working hours can all have a negative impact on sleep, while it is not uncommon for parasomnia patients to report a reduction in symptom frequency when not working and an increase in frequency when working long hours. Ironically, the sedentary lifestyle of occupational drivers predisposes them to obesity which may cause the OSA which then threatens that occupation.

3.6 Assessing Insomnia, Restless Legs and Circadian Rhythm Disorders

Patients with these disorders will typically present with a complaint of difficulty initiating sleep, maintaining sleep or of sleeping at the wrong time. When a patient complains of difficulty initiating or maintaining sleep, it is tempting to assume that the problem is insomnia and leave it at that. However, while insomnia is the commonest cause of sleep initiation or maintenance problems, circadian rhythm disorders or restless legs are not infrequently the underlying problem; indeed, almost any sleep disorder can present with insomnia symptoms. Therefore, a complaint of insomnia should be a trigger to take a comprehensive sleep history. A more detailed description of the insomnia assessment is to be found in Chap. 7.