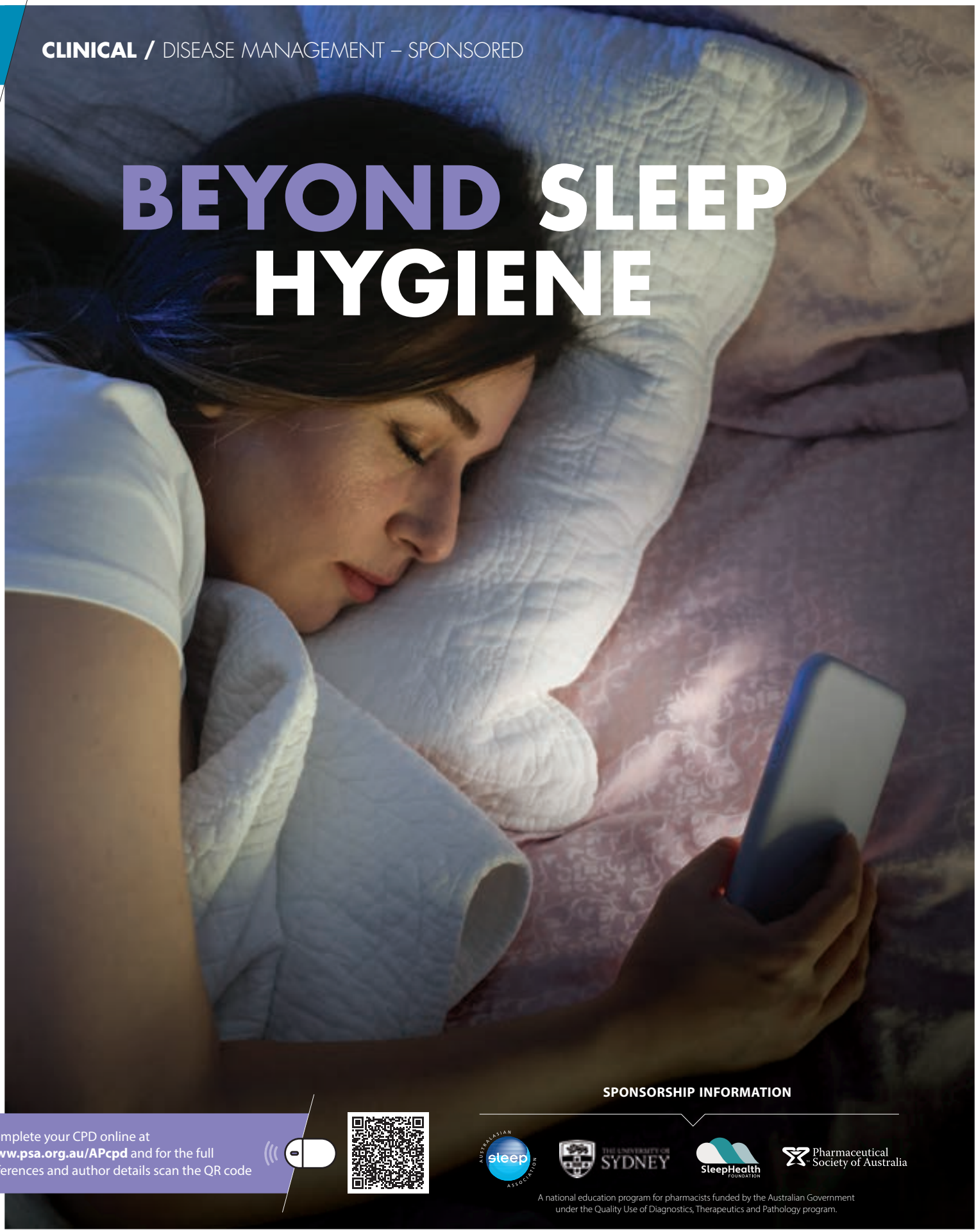
BEYOND SLEEP HYGIENE



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SPONSORSHIP INFORMATION

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CASE SCENARIO

Nia, 36 years old, presents to the pharmacy for advice, reporting difficulties falling asleep for the past 5 months. These problems started after a sporting injury. Although her injury has improved, Nia is still having difficulties sleeping. She reports that as soon as her head hits the pillow, she feels like her mind springs into action. You confirm that she isn't on any medicines, has no medical conditions and works full-time in the retail industry with regular daytime hours.

Introduction

Insomnia is defined as self-reported difficulties falling asleep, maintaining sleep, and/or early morning awakenings from sleep on at least 3 nights per week despite adequate opportunity for sleep (i.e. sufficient time in bed without external interruptions to sleep), with associated daytime feeling or functioning impairment. Insomnia is characterised as acute if symptoms last <3 months, and chronic if these symptoms continue for ≥3 months.[1–3]

The recommended first-line treatment for insomnia is cognitive behavioural therapy for insomnia (CBTi).[4–7] However, most primary care patients with insomnia are initially managed with sedative-hypnotic medicines (e.g. benzodiazepines, non-benzodiazepine hypnotics), or provided 'sleep hygiene' recommendations, while only 1% are referred for CBTi.[8–10] The use of simple sleep hygiene information to manage chronic insomnia is prolific throughout the health system, despite limited scientific evidence of effectiveness.

This article aims to define the key differences between sleep hygiene and CBTi, describe the development of insomnia and situations in which different types of non-drug interventions are appropriate, and support pharmacists in moving beyond simple sleep hygiene recommendations in the management of chronic insomnia.

What is sleep hygiene?

The term 'sleep hygiene' is now used ubiquitously throughout the health system to describe good sleep practices and environmental conditions that promote healthy sleep.[11,12] It has also been referred to as 'healthy sleep habits' or 'healthy sleep behaviours', to reduce the connotation that an individual has 'unhygienic' or 'dirty' sleep practices; however the term 'sleep hygiene' remains most common. Some examples of sleep hygiene recommendations include: getting out of bed at a consistent time each morning, avoiding late and/or excessive caffeine consumption, and avoiding the use of electronics in bed.[13]

Promotion of healthy sleep practices may be helpful for the general population to prevent insomnia, and in people with sub-threshold insomnia (before perpetuating factors of insomnia develop) or short-term insomnia (e.g. lasting 1–2 weeks), to prevent transition to chronic insomnia. However, evidence-based guidelines, such as a 2022 insomnia guideline produced by the American Academy of Sleep Medicine, do not support the use of sleep hygiene recommendations as a standalone treatment for chronic insomnia.[14,15] »

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CONFLICTS OF INTEREST:
Alex reports research equipment and/or funding support from the National Health and Medical Research Council, Medical Research Future Fund, Flinders University, the Flinders Foundation, the Hospital Research Foundation, Big Health, Philips Respironics, Compumedics, ResMed and Cerebra.

Moira is on the health advisory board of healthylife, which is owned by Woolworths and is CEO of the Sleep Health Foundation.

LEARNING OBJECTIVES

After reading this article, pharmacists should be able to:

- Describe how long-term insomnia is maintained by psychological and behavioural factors
- Discuss the use of sleep hygiene in the management of sleep problems
- Explain the role of cognitive behavioural therapy in management of insomnia.

Competency standards (2016) addressed: 1.1, 1.4, 1.5, 2.2, 3.1, 3.5

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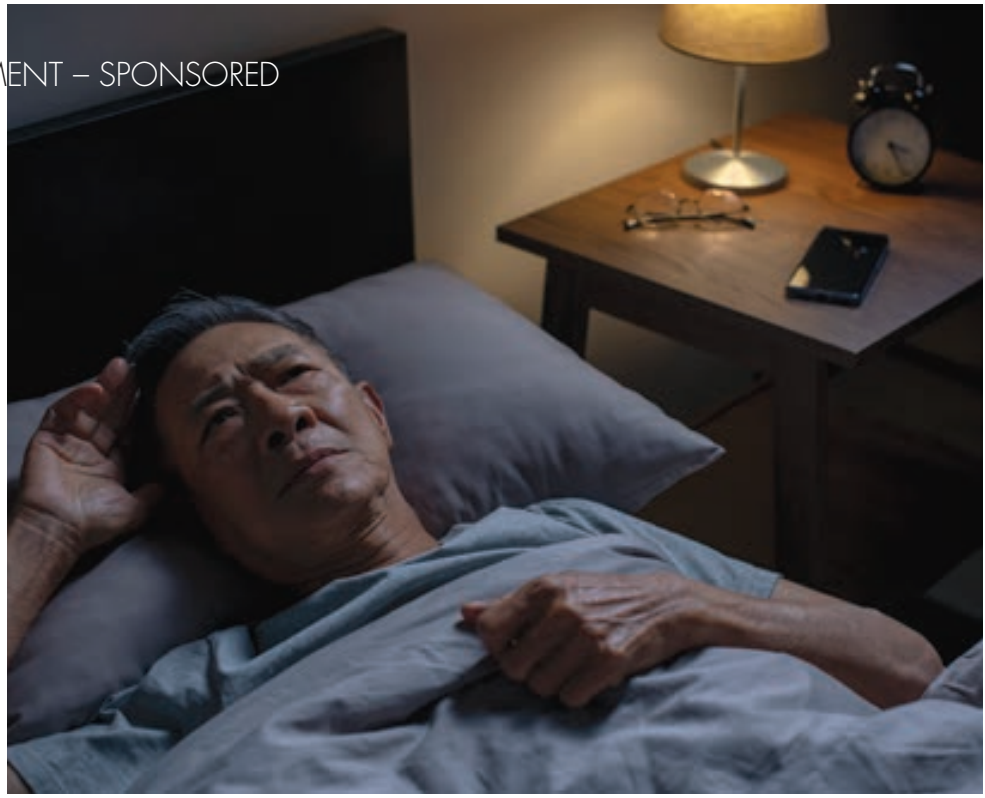


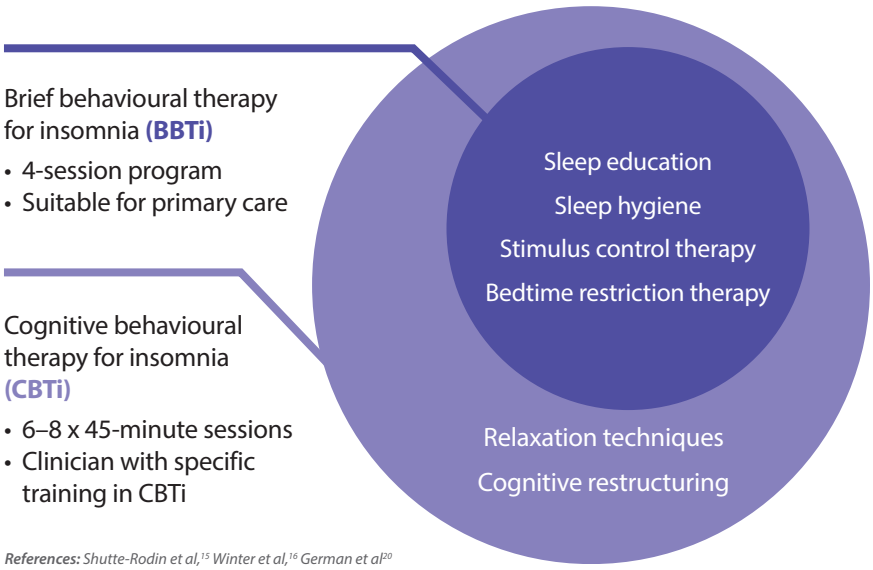
In fact, clinical trials of CBTi often use sleep hygiene education as a 'control' condition (i.e. to control for short-term expectation, demand and placebo effects).[14]

What is cognitive behavioural therapy for insomnia (CBTi)?

CBTi is a multi-component treatment (see Figure 1) that includes several cognitive, behavioural and educational strategies that aim to identify and gradually treat the underlying psychological and behavioural perpetuating factors of insomnia, and a state of learned (conditioned) insomnia. Although information about healthy sleep habits is included in many CBTi programs, this information should be provided alongside other active and evidence-based CBTi components, listed below[16]:

- stimulus control therapy (reinforcing the bedroom as a stimulus for sleep)
- bedtime restriction therapy (temporarily restricting the time in bed to consolidate sleep periods and reduce time spent awake in bed)
- sleep education (education on the factors that control the timing/quality of sleep)
- relaxation techniques (techniques to reduce mental and physical arousal)
- cognitive restructuring (identifying and challenging of thoughts, feelings and behaviours which impact sleep).

Figure 1 – Schematic of cognitive, behavioural and educational components commonly included in multi-component CBTi and BBTi programs



References: Shutte-Rodin et al,[15] Winter et al,[16] German et al[20]

To access CBTi, patients can be referred to their GP for a Mental Health Treatment Plan to access a psychologist at a subsidised cost.[17] Patients may also wish to try CBTi programs that have been translated to self-guided digital programs, such as *This Way Up*, *Sleep Better Without Drugs* and *A Mindful Way*.[18]

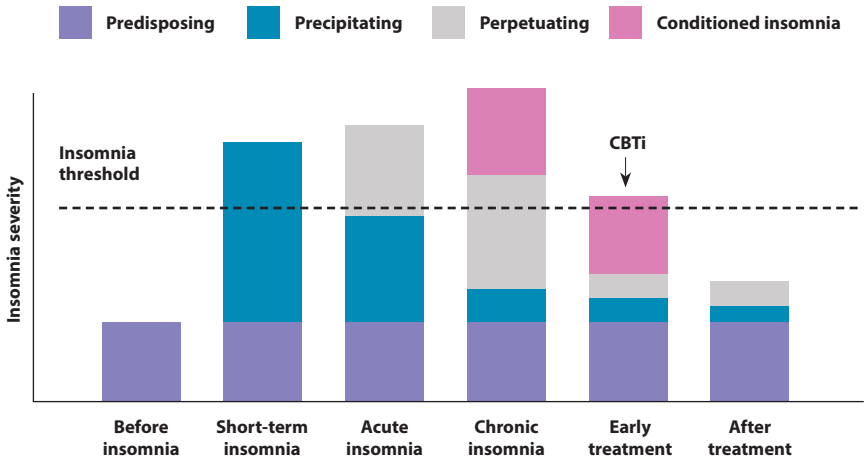
Although CBTi is the 'gold standard', a condensed brief behavioural therapy for insomnia (BBTi) program, which can be delivered by GPs, may be considered in some cases. It is a 4-session program that uses 4 foundational components of CBTi (see Figure 1).[19] Suitably trained pharmacists may also be able to deliver certain evidence-based components such as stimulus control therapy.[21]

Development of insomnia

Chronic insomnia is thought to develop due to a combination of predisposing, precipitating and perpetuating factors, and a state of 'conditioned insomnia' (see Figure 2)[22,23]:

- **Predisposing factors** include any biological, psychological or social factors that increase a person's risk of experiencing sleep disturbance. These factors alone are not enough to cause insomnia.

Figure 2 – Development of insomnia, and opportunities for non-pharmacological strategies



Reference: Adapted from Spielman et al[22], Perlis et al[23]

- **Precipitating factors** represent the initial short-term trigger of sleep disturbance. There are many physical, mental and contextual/social/lifestyle factors that can disrupt sleep (e.g. acute pain due to a sporting injury or medical procedure, work/life stress, jet lag, grief, adverse effect of another medicine). Precipitating factors can cause a short-term period of insomnia (e.g. 1–2 weeks). In most people, sleep improves following remission of the precipitating trigger, and insomnia symptoms do not persist into a chronic condition.
- **Perpetuating factors** refer to any psychological, behavioural or physiological factors that maintain the insomnia over time, independently of the initial precipitating factors. There are many types of perpetuating factors and they manifest in different ways from person to person. For example, people with insomnia may start to spend more time in bed to increase their opportunity to 'catch up' on sleep. However, this often results in more time spent awake in bed, rather than more time spent asleep in bed. Behaviours such as long daytime naps may also reduce 'sleep pressure' in the subsequent evening, and make it more difficult to initiate or resume sleep during the night. Importantly, perpetuating factors can cause the insomnia condition to persist, even after the initial precipitating factors are completely resolved.
- **Conditioned insomnia** refers to a learned relationship between the bed and a state of alertness, anxiety, frustration or worry that is incompatible with sleep. Repeated pairing of being in bed and being awake feeling anxious, worried or frustrated can lead to a 'learned' association whereby the bed or bedroom environment becomes a conditioned stimuli to evoke an alertness/arousal response.

Figure 2 also informs the most effective non-pharmacological treatments for insomnia at different stages of insomnia development. For example, sleep hygiene information may be useful before someone experiences a precipitating factor that causes short-term sleep disturbance. Information about healthy sleep practices and information about sleep structure and mechanisms may also be helpful in the short-term and very acute phases of insomnia development (i.e. before any perpetuating factors have developed). However, after perpetuating factors have developed in acute and chronic insomnia, simple sleep hygiene recommendations are generally not an adequate standalone treatment. Instead, CBTi would be the recommended treatment.[23] »

Sleep health information and the role of the pharmacist

There is an enormous amount of information (and misinformation) and advice available via online and print articles, podcasts, viral videos, mobile applications, consumable remedies and services that claim to improve sleep. Although easily accessible, much of this information is not evidence-based. Australian pharmacists can play an important role in providing evidence-based information about healthy sleep practices to the general public. The Sleep Health Foundation is a not-for-profit Australian sleep advocacy and consumer-facing organisation that develops and promotes evidence-based sleep health resources (*www.sleephealthfoundation.org.au)*.

Pharmacists may also help prevent the transition from short-term to chronic insomnia before perpetuating factors begin to maintain insomnia over time, by providing general advice in areas such as healthy sleep practices (sleep hygiene) and relaxation techniques.[21,24] They can also educate patients about factors that control sleep (e.g. sleep pressure, individual variability, changes that occur with age, body clock) and 'normal' expectations about sleep structure (e.g. normalising brief awakenings during the night).[6] This may help ameliorate anxiety or worry which could otherwise exacerbate sleep disturbance.

Pharmacists can act as a referral pathway if insomnia is suspected, inform patients about the risks and benefits of hypnotic medicine use, identify if there are any medicines or other factors contributing to insomnia, and provide education to prevent the development of a state of conditioned insomnia.[19,21]

Conclusion

Sleep hygiene is often used in the management of chronic insomnia, despite evidence-based guidelines recommending that CBTi is a more appropriate treatment. Simple information about healthy sleep habits may have an important role in preventive sleep health (before a sleep problem occurs), and in the management of short-term or sub-threshold insomnia symptoms. However, patients with insomnia that has started to become maintained by psycho-behavioural factors or a state of conditioned insomnia require CBTi in addition to simple sleep hygiene information.

CASE SCENARIO CONTINUED

You assess Nia for symptoms of insomnia and other sleep disorders, and discuss the different strategies that she has tried to improve her sleep. It is apparent that Nia is following good sleep hygiene recommendations but is experiencing persistent insomnia symptoms despite this. You speak to Nia about CBTi, and refer her to the GP for a discussion and referral for an evidence-based CBTi program. You also provide her with information about where to find evidence-based information about insomnia and its management.

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KEY POINTS

- 'Sleep hygiene' information is not an adequate standalone treatment for insomnia, once maintained by psycho-behavioural factors. The most effective treatment is cognitive behavioural therapy for insomnia (CBTi).
- Simple sleep hygiene information may be helpful for the general population (e.g. as a preventive health activity) or in people with sub-threshold or short-term insomnia.
- Pharmacists have an important role to play in assessing the development and duration of sleep problems and insomnia symptoms in each patient, to identify the most appropriate management approaches. AP

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ASSESSMENT QUESTIONS

Each question has only one correct answer.

1 Which ONE of the following is the recommended first-line treatment for chronic insomnia?

A Sleep hygiene information.
B Sedative-hypnotic medicines.
C Cognitive behavioural therapy for insomnia.
D Standalone bedtime restriction therapy.

2 Which ONE of the following is the *MOST* appropriate option to provide sleep hygiene information as a standalone intervention?

A Before sleep problems develop (general population).
B A person who has experienced insomnia symptoms for 2 months and reports that their mind starts racing as soon as their head hits the pillow.
C Chronic insomnia (lasting 3 months or more).
D When brief behavioural therapy for insomnia is ineffective.

3 Which ONE of the following options describes how perpetuating factors are defined, in the model of insomnia development?

A Any factors that trigger the initial sleep disturbance (e.g. acute pain, grief, work stress, etc).
B Biopsychosocial traits that increase a person's risk of experiencing sleep disturbance.
C The bed becoming a conditioned trigger for a state of wakefulness, alertness, stress or anxiety.
D Any psychological and behavioural factors that maintain insomnia over time (e.g. increasing time in bed to 'catch up' on sleep).

4 Which ONE of the following is *CORRECT* regarding the treatment of chronic insomnia?

A Cognitive behavioural therapy for insomnia is a 4-session program which can be delivered in the primary care setting.
B Chronic insomnia is more severe than acute insomnia, and requires pharmacological treatments that target underlying chemical imbalance.
C Standalone sleep hygiene is inadequate for chronic insomnia as it is often maintained by underlying psychological and behavioural factors, and persists despite many patients already having healthy sleep habits.
D Brief behavioural therapy for insomnia does not include instructions for healthy sleep habits, and is therefore not effective in patients with chronic insomnia.