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Australasian Sleep Association position statement regarding the use of psychological/behavioral treatments in the management of insomnia in adults

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A B S T R A C T

Insomnia disorder is a high prevalence condition with a high disease burden, which, left untreated, can increase risk of poorer health outcomes. Due to Insomnia's tendency towards having a chronic course, long-term treatment approaches are required to reduce the impact of Insomnia over time. After reviewing the available literature, The Australasian Sleep Association (ASA) recommends Cognitive Behavior Therapy for Insomnia (CBT-I) as a first line treatment in the management of Insomnia. The ASA notes that in addition to CBT-I, there is emerging evidence for the use of Mindfulness Based Therapy for Insomnia when used in combination with behavioural techniques (MBT-I). CBT-I should be used whenever possible, and medications should be limited to the lowest necessary dose and shortest necessary duration. CBT-I, whilst the most effective long-term treatment, does not work for everybody across all circumstances, so there will be circumstances in which other treatments are required (e.g., pharmacotherapy). Improving access to CBT-I is an important issue which will involve raising awareness of the effectiveness of CBT-I, increasing the number of trained practitioners, and the development of effective low intensity treatments that can be offered in the first instance.

1. Background

1.1. Insomnia disorder definition

Insomnia disorder as defined in the Diagnostic and Statistical Manual fifth Edition (DSM-V, [2]) as longstanding (more than 3 months) subjective difficulty initiating asleep, maintaining sleep, or waking too early, accompanied by distress about the experience of daytime fatigue and its impact on day-time functioning. The difficulty occurs at least three nights per week, despite adequate opportunity for sleep. Adjustment Insomnia/Acute Insomnia is less than 1 month in duration.

1.2. Insomnia disorder subtypes

- The DSM-V outlines five insomnia subtypes: sleep initiation insomnia; sleep maintenance insomnia, early morning awakening, a combination of these three core symptoms, or non-restorative sleep.
- The International Classification of Sleep Disorders-3 (ICSD-3, [1]) outlines four chronic insomnia subtypes: psychophysiological insomnia (insomnia that occurs due to a learned response of increased arousal whilst attempting to sleep), idiopathic insomnia (lifelong insomnia), paradoxical insomnia (sleep state misperception), and inadequate sleep hygiene (insomnia due to poor sleep habits).
- According the DSM-V and ICSD-3, to receive a diagnosis of insomnia disorder, the insomnia should be clinically significant on its own even though it may occur at the same time as another physical or mental condition.
- The primary and secondary insomnia distinction has been removed in the DSM-V and ICSD-3, in order to emphasise the mutually exacerbating nature of chronic insomnia with other mental and physical conditions. 'Insomnia disorder' is now recognized as a condition requiring independent clinical attention, regardless of other medical problems that may be present.

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- Although the primary and secondary insomnia distinction is no longer used the most common diagnostic classification systems, they are defined here as these terms appear widely in the Insomnia literature.
- Primary insomnia: Insomnia that is not directly attributable to a medical, psychiatric, or environmental cause. Primary Insomnia according to the ICSD may be psychophysiological insomnia (objectively verifiable impaired sleep), idiopathic insomnia (childhood onset), or paradoxical insomnia (sleep state misperception).
- Secondary insomnia: Insomnia that is result of other causes such as (medical condition, medication or substance, mental disorder, inadequate sleep hygiene).

1.3. Prevalence and course

Insomnia is the most prevalent of all sleep disorders in the general population [31]. In terms of prevalence of Insomnia symptoms, population-based studies across various countries suggest that approximately 30% of adults report one or more of the symptoms of insomnia: difficulty initiating sleep, difficulty maintaining sleep, waking up too early, and in some cases, non-restorative or poor quality of sleep. Indeed, acute Insomnia prevalence rates are higher, at approximately 30% [3]. Prevalence of individuals meeting full criteria for insomnia disorder is estimated at 10% among the general population with increased rates in increasing age, female gender, and presence of medical or psychiatric illness. A recent Australian study estimated the prevalence to be 7% [14]. Importantly, chronic insomnia is a persistent, long-term disorder. For example, research has suggested that three quarters of individuals reporting insomnia at baseline still report having insomnia 1 year later and almost half reported having insomnia at three consecutive annual assessment points [26].

1.4. Burden

Sleep is an important component of health and has a large negative impact on quality of life, affecting how well people think, work and interact with others (e.g., Ref. [17]). Individuals with insomnia experience fatigue, mood disturbance, and distress [25], have greater absenteeism rates, 60-percent greater healthcare costs as compared to the general population, (e.g., Refs. [36,39]) and an increased risk of accidents [7]. There is also an increased risk for depression, anxiety, suicide, and substance use, with Insomnia being an independent risk factor. The economic burden in Australia is estimated to be $5.1 billion per year [14].

2. The use of cognitive behavioral treatments in insomnia disorder

The main treatment goals in insomnia are: (1) to reduce nocturnal hyperarousal, (2) to improve sleep quality and quantity, (3) to reduce insomnia related daytime impairments, (4) reduce the distress and anxiety associated with poor sleep. Psychological/behavioral treatment approaches assume that physiological and cognitive hyperarousal (tension and worry) contribute to the evolution and maintenance of poor sleep. Poor sleep results in unhelpful sleep habits (e.g., irregular sleep routine, excessive caffeine use, long daytime naps) that maintain insomnia over time. Cognitive Behavior Therapy for Insomnia (CBT-I) is a multicomponent treatment that consists of an educational component, cognitive interventions (correcting unhelpful beliefs, reducing worry, reducing cognitive hyperarousal) and behavioural interventions (sleep restriction, stimulus control) which work to reduce arousal and behaviours/routines that interfere with sleep.

Meta-analyses and systematic reviews support the efficacy of CBT-I interventions for insomnia in both younger and older adults [5,18,40,43]. Dismantling studies suggest that both Cognitive maximises both acute and long term effects [13]. Research investigating the combination of CBT-I and pharmacotherapy suggests this is effective as long as the pharmacotherapy is short-term and adverse effects of medications are assessed [24,26,28]. As far as stand-alone treatments are concerned, CBT-I has the best efficacy [43]. The acute effects of CBT-I are comparable with or superior to those of hypnotic medications and are maintained for up to 3 years of follow-up [23]. There is emerging evidence that mindfulness-based treatment for insomnia (MBT-I) is also efficacious [11,33,34].

Outcome studies support the use of both individual and group CBT-I treatments [18,27,30]. There is also evidence for the effectiveness of telephone, printed self help, and online cognitive-behavioural therapy (for reviews see Refs. [16,41,42,46]). One randomized controlled trial of individual face-to-face versus online CBT-I exists and this suggested superiority of face-to-face treatment [20]. There is evidence to suggest that brief, weekly telephone support [15] or personalised motivational feedback emails [21] may enhance outcomes for online treatments. Telephone, printed self help, and internet-based options (with personalised support where possible) are recommended by the ASA as part of a stepped-care approach, or in places where face-to-face treatments are unavailable or too costly, or when there is a low level of complexity in the insomnia disorder [4,9,16,44].

A proportion of Insomnia patients have circadian rhythm abnormalities that can result in sleep onset insomnia (delayed sleep phase) or early waking insomnia (advanced sleep phase). Careful timing of exposure to bright light in the morning or evening, respectively, may be a behavioural intervention that is useful in such cases [19,22].

2.1. Recommendation that CBT-I is a first line treatment

The ASA recommends treatments with either Level I or Level II evidence. The Australian National Health and Medical Research Council [29] and the Oxford Centre for Evidence Based Medicine [35] use the following classification system when assessing evidence for specific treatments.

Level I

- Evidence obtained from a systematic review of all relevant randomised controlled trials (meta-analyses).

Level II

- Evidence obtained from at least one properly designed randomised controlled trial.

The ASA recommends CBT-I as a first line treatment of insomnia disorder as it has extensive level I evidence. It is universally accepted as the best treatment modality for insomnia disorder, in the long term.

2.2. CBT-I description

The table below provides a summary of the core components of CBT-I (Table 1).

Table 1
Components of CBT-i.

Component	Description
Cognitive therapy	Aims to identify, challenge, and replace dysfunctional beliefs and attitudes about sleep and insomnia. Such misconceptions may include unrealistic expectations of sleep, fear of missing out on sleep, and overestimation of the consequences of poor sleep.
Stimulus control	Behavioral instructions aimed at strengthening the association between bed and sleep and preventing conditioning of the patient to associate bed with other stimulating activities. Such instructions include avoiding nonsleep activities in the bedroom; going to bed only when sleepy; and leaving the bedroom when unable to sleep for 15–20 min, returning to bed only when sleepy.
Sleep restriction	Behavioral instruction to limit time in bed to match perceived sleep duration in order to increase sleep drive and further reduce time awake in bed. Time allowed in bed is initially restricted to the average time perceived as sleep per night and then adjusted to ensure sleep efficiency remains >85%.
Sleep hygiene	General recommendations relating to environmental factors, physiologic factors, behavior, and habits that promote sound sleep. Specific instruction s include advice on control of the bedroom environment, including avoiding visual access to a clock; regular sleep scheduling and avoiding long daytime naps; and limiting alcohol, caffeine, and nicotine intake, especially before bed.
Relaxation	Any relaxation technique that the patient finds effective can be used to limit cognitive arousal and reduce muscular tension to facilitate sleep. Specific techniques that may be used include meditation, mindfulness, progressive muscle relaxation, guided imagery, and breathing techniques.

CBT-i = cognitive behavioral therapy for insomnia.
Note: Although patients with chronic insomnia should adhere to rules of good *sleep hygiene*, there is insufficient evidence to indicate that sleep hygiene alone is effective in the treatment of chronic insomnia. It should be used in combination with other therapies. It is considered a part of CBT-I, so it is recommended alongside the other components of CBT-I (see table).
Source: http://annals.org/data/Journals/AIM/934264/7tt1_Table_1_Components_of_CBT-i.jpeg.

2.3. Comorbid insomnia

Insomnia disorder is frequently comorbid with other physical and mental disorders. Traditional treatment for insomnia with comorbid conditions has focused on treating the comorbid condition with the expectation that the insomnia will resolve. Recent studies, however, suggest this approach is not the most appropriate. Instead, treating both conditions simultaneously may improve the outcomes for each [38]. There is extensive research demonstrating the effectiveness of CBT-I in the context of comorbid conditions (see Ref. [12]).

Assessment and consideration of comorbid conditions in treatment planning is important.

2.4. Mindfulness Based Therapy for Insomnia (MBT-I)

Ong and colleagues [32–34] developed an adaptation of Mindfulness Based Stress Reduction (MBSR) tailored specifically to insomnia that is called Mindfulness-Based Therapy for Insomnia (MBT-I). MBT-I is a program that integrates behavioural techniques for insomnia in addition to Mindfulness meditation techniques. Mindfulness is a very practical intervention and helps individuals to learn to recognise and manage uncomfortable thoughts and feelings including those associated with poor sleep. There is emerging evidence for the effectiveness of Mindfulness as a stand-alone treatment and in combination with behavioural techniques (e.g., Refs. [34,45]). MBT-I has level II evidence, in so far as research is emerging on this relatively new treatment (for a review see Ref. [11]). At this point in time CBT-I remains the gold standard of treatment.

2.5. Combination therapy

There is a role for combining CBT-I with hypnotic medication, particularly when commencing treatment. An insight in to how treatments might be combined comes from work by Morin et al. [24,26,28], where 160 patients were randomised to CBT-I or CBT-I plus the non-benzodiazepine, zolpidem 10 mg, for 6 weeks. The group who used zolpidem together with CBT-I for 6 weeks, then stopped zolpidem, did better at 6 months than those able to continue to use zolpidem beyond that 6-week point, or who had CBT-I alone. Further work needs to be done in this area to clarify the sequencing of these treatments, which have different mechanisms of action and time courses of onset and offset of effect, and may well be complementary.

3. Issues of access to psychological treatment

Despite its high prevalence and burden, insomnia often goes unidentified and untreated. Many individuals with insomnia don't seek professional help, but rather use self-help remedies of limited benefit [25]. This may be due to fatigue and reduced motivation, perceived lack of treatment success, and the perception that Insomnia is a benign condition that can be managed without professional input. Given the potential seriousness of the condition, efforts should be made to educate patients regarding treatment options. Of those Insomnia sufferers that do seek professional help, treatment is usually limited to pharmacotherapy [6,13]. Data from many developed countries show that hypnotics are the most commonly used insomnia treatments for people seeking help for insomnia in primary care. Australian data from 2987 general practice treatment episodes of sleep disorders showed 81% of patients reporting a new problem of insomnia were prescribed a medication [6]. Rates of referral for advice or counselling were much lower than for other disorders and only 0.8% of patients were referred for specialist care compared to an average across all general practice presentations of 8.3%.

Access to CBT-I is an important issue and can be a barrier to people being referred. However, established patterns of referral and practice can take time to change. Training health professionals in the delivery of CBT-I is an imperative to increase accessibility. However, using a stepped care approach, with lower intensity methods of delivering care as the starting point may help to reduce access problems [9]. There are not yet adequate studies incorporating a stepped care approach and so it is not clear whether failure at an entry level self-help CBT-I (e.g., online), reduces the success of subsequent therapist-led CBT-I.

3.1. Patients and their physicians need more choices for treating insomnia

The National Sleep Foundation recognizes that patients and their healthcare providers should have access to a wide variety of treatment choices. Patients should be empowered to ask for and receive the best possible help for their insomnia from their healthcare provider. GPs and physicians should receive education regarding evidence-based treatment options for Insomnia.

4. Treatment principles

4.1. Codes of practice

Clinicians practicing in the field of behavioural sleep medicine should follow best practice procedures including following evidence-based behavioural and psychological interventions, and adhering to relevant codes of conduct.

4.2. Appropriate and recognised training and experience

A range of clinicians such as psychologists, nurses, sleep physicians, and GPs may work in settings where it is helpful to offer CBT-I. Insomnia usually does not resolve with general psychotherapy [37] and so clinicians should have specific training in the theory and delivery of CBT-I. Competency in CBT-I also requires the clinician to be versed in the science of sleep; content that is not typically well covered (if covered at all) in most mental health graduate training programs. Training may include attendance at professional CBT-I workshops, online CBT-I courses (e.g. through the Australian Psychological Society/ASA). Experience may include practice of CBT-I under supervision of an experienced clinician. Ability to recognise common comorbid mental (e.g., anxiety & depression) and physical (e.g., OSA, COPD, GERD, Cardiopulmonary disease, chronic pain) disorders is also important in order to facilitate appropriate onward referrals for treatment of these other conditions.

4.3. Thorough clinical assessment

A range of clinicians such as psychologists, nurses, sleep physicians, and GPs may work in settings where it is helpful to assess for insomnia disorder or symptoms. Insomnia is primarily diagnosed by clinical evaluation through a thorough sleep history, current 7–14 days sleep diary, and detailed medical, substance, and psychiatric history (including suicide/self harm risk assessments, particularly for patients presenting with depression). For effective delivery of psychological treatment, the sleep history is an important part of the clinical assessment and should cover the history of and current details regarding the sleep complaints, pre-sleep conditions, sleep–wake patterns, other sleep-related symptoms, lifestyle factors, and daytime consequences. The history helps to establish the type and evolution of insomnia, perpetuating factors, and identification of comorbid medical, substance, and/or psychiatric conditions. If another sleep disorder is suspected (e.g., OSA, PLMs) a sleep physician should be involved and a polysomnographic sleep study conducted. If available, an objective measure of sleep (such as a home based, limited channel PSG or wrist actigraphy over a 1–2-week period) may be appropriate. This can identify patients who may sleep less than 5 h per night (for whom there are adverse outcomes, e.g., Ref. [10]) and can also identify the extent of any sleep state misperception.

4.4. 'Dose' of CBT-I

CBT-I is most commonly administered in 4–8 individual or group therapy sessions at weekly or bi-weekly intervals (e.g., Refs. [8,13,27]). Insomnia comorbid with other psychiatric conditions and/or sleep disorders potentially may require more sessions with equal emphasis placed on interventions for each disorder. Specially trained mental health professionals are the appropriate professionals to deliver any psychiatric care.

4.5. Combined therapy (CBT-I plus medication)

Combined therapy (CBT-I plus medication) should be directed by (1) symptom pattern; (2) treatment goals; (3) past treatment responses; (4) patient preference; (5) cost; (6) availability of other treatments; (7) comorbid conditions; (8) contraindications; (9) concurrent medication interactions; and (10) side effects.

4.6. Self-help resources

There is evidence that CBT-I self help resources such as books and online programs can achieve effective results. Particularly when access to face-to-face CBT-I is limited, CBT-I via self-help should be considered.

4.7. Stepped care models (e.g., Ref. [9])

For straightforward insomnia experienced by adults with good motivation, and literacy skills, self-help/internet-based CBT-I may be a highly accessible, cost effective first-line treatment. For patients with need for greater support (e.g., comorbid mental and/or physical disorders), face-to-face CBT-I where the treatment can be tailored to the individual may be preferable.

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Conflict of interest

None declared.

The ICMJE Uniform Disclosure Form for Potential Conflicts of Interest associated with this article can be viewed by clicking on the following link: http://dx.doi.org/10.1016/j.sleep.2017.03.017.

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