Cognitive behavioural therapy for insomnia

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"A ruffled mind makes a restless pillow."
Charlotte Brontë

Insomnia is defined in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as difficulty getting to sleep, staying asleep, or having non-restorative sleep, despite having adequate opportunity for sleep, together with associated impairment of daytime functioning, with symptoms being present for at least 4 weeks. When insomnia persists for longer than a month, it is considered chronic.

Chronic insomnia is a frequent problem encountered in general practice and GPs are often under pressure to prescribe hypnotic medication which frequently leads to long-term use. Chronic insomnia can have an adverse impact on quality of life, work productivity, and psychological health. It is also associated with an increased risk of accidents and increased use of healthcare services. It routinely leads to daytime fatigue, decreased energy, mood disturbances, and problems with cognitive functions. This can result in significant distress and functional impairments at home, at work, or in social activities. Impairment in daytime functioning is often the main reason individuals with insomnia seek treatment.

Prevalence of insomnia

According to the US National Center for Sleep Disorders Research, about 30-40% of adults say they have some symptoms of insomnia within a given year, and about 10-15 percent of adults say they have chronic insomnia. More often, people suffer from chronic-intermittent insomnia, which means difficulty sleeping for a few nights, followed by a few nights of adequate sleep before the problem returns. The results of an Irish survey carried out in 2012 by TNS/MRBI, indicated that one-third of Irish adults have trouble sleeping. When asked about the reason for their sleep problems, 25 percent cited work stress as a primary factor and 9 percent attributed it to financial worries.

Age-specific rates for insomnia show a steady rise in prevalence across the lifespan, from 3-5% of those aged 18-25 years to 25-30% for those aged 65 and over. At all ages, women generally report higher rates of insomnia than men, particularly in the post-menopausal years.

The likelihood of insomnia developing is elevated among patients with long-term health conditions and those caring at home for a dependent relative or spouse.

Etiology of chronic insomnia
The Behavioural Model of Insomnia, which is often referred to as the '3 P model', is the most widely cited theory in relation to the aetiology of chronic insomnia. Briefly, this model posits that 3 types of factors play a role in the development of chronic insomnia. These are: • predisposing factors (individual variants)
• precipitating factors (stressors), and
• perpetuating factors (maladaptive behaviours) that are intended to manage or compensate for insomnia but inadvertently exacerbate it.

Predisposing factors include a genetic predisposition to mental hyperarousal, anxiety, depression or insomnia, learned habits, some psychological coping styles, the inability to relax, and age. With regard to precipitating factors, acute insomnia (that may subsequently becomes chronic) may be caused by a series of stressful events, a medical or psychiatric illness, environmental disturbances, or particular drugs that cause sleep disturbances as a side effect. In relation to perpetuating factors, mental conditioning is the primary cause that perpetuates insomnia. Other perpetuating factors are a chronically stressed lifestyle; poor sleep hygiene, excessive use of caffeine, alcohol, tobacco, or certain psychiatric disorders.

A wide range of medications can interfere with deep (or slow wave) sleep or rapid eye movement (REM) sleep. These include calcium channel blockers, tricyclic antidepressants, beta blockers, anticonvulsants, antiarrhythmics, statins, bronchodilators, and monoamine oxidase inhibitors, to name but a few.

Co-morbid insomnia
Most patients with insomnia are at increased risk for co-morbid medical disorders. These include cardiovascular disease, obesity, chronic pain, neurologic disorders, gastrointestinal disorders, diabetes, and cancer. However, the most common co-morbidity linked to insomnia is psychiatric illness, in particular, depression or anxiety. The conventional supposition that insomnia is secondary to psychiatric illness has been challenged by findings suggesting that insomnia more frequently precedes mood disorders and is likely to be a significant risk factor for them. Research suggests that patients with co-morbid insomnia have similar dysfunctional sleep beliefs and maladaptive sleep hygiene practices as do those with what was, until recently, called primary insomnia. DSM-5 replaced 'primary insomnia' with the diagnosis 'insomnia disorder', so as to avoid the primary/secondary designation when this disorder co-occurs with other conditions.

Sleep duration and mortality risk
Many studies have indicated that sleep duration is associated with mortality and that the relationship can be depicted by an inverted U shaped curve with the lowest risk being found with individuals who report sleep durations of 7 to 8 hours. However, a review published in June 2013 concluded that it was premature to conclude that a robust association exists between reported sleep duration and mortality. This review examined 42 prospective studies of sleep duration and mortality. A separate prospective study, also published in 2013, reported that among men, difficulty falling asleep and non-restorative sleep were both associated with a higher risk of mortality, especially mortality related to cardiovascular disease.

Insomnia management in general practice
A study on GPs' management strategies for patients with insomnia, reported in the February 2014 issue of the *British Journal of General Practice* found that GPs look for signs of depression and anxiety in patients, and if present, treat these first. 'Sleep hygiene' advice was provided by 88 percent of the GPs, but often seemed insufficient and they felt under pressure to prescribe. The study found that benzodiazepines and Z drugs are prescribed, often reluctantly, for short periods, because of known problems with dependence and tolerance. Many of the GPs were found to prescribe low-dose amitriptyline for insomnia although it is not licensed for this indication.

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The GPs reported a lack of knowledge in relation to psychological therapies such as cognitive behavioural therapy (CBT) in the management of insomnia. Also, patients were rarely offered CBT-I despite the very strong evidence for its effectiveness.

Identifying chronic insomnia in general practice
Chronic insomnia is often unrecognised and untreated. It tends not to resolve by itself and many people endure it for years without effective help. Routinely asking patients about their sleep and any problems they have with it, is a good way to identify sleep problems in the early stages. Patients may be reluctant to report insomnia for a variety of reasons e.g. the notion that the practice nurse or doctor would not attribute importance to it or that they would merely be prescribed sleeping pills.

In trying to identify insomnia, try to make sure that the sleep difficulty is in fact insomnia and not another condition presenting as insomnia. Similar sleep complaints can occur with medications, a medical condition or another sleep disorder (e.g. sleep apnoea, periodic limb movement disorder, or restless legs syndrome). Insomnia is usually accompanied by fatigue, not sleepiness. Patients who are sleepy are more likely to have a sleep disorder other than insomnia.

Nurse administered CBT-I in general practice
A few studies have demonstrated promising results for nurse administered CBT-I in general practice. In a 2013 study published in the *Journal of Sleep Research,* a research team from Uppsala University sought to investigate whether CBT-I delivered by nurses and social workers can improve sleep in general practice patients. Sixty-six primary care patients were randomised to a small group given CBT-I, over five biweekly sessions, or to a waiting list control group. CBT-I was delivered using standardised manuals, by nurses and social workers, who had no specific previous training in CBT-I, but had attended a 2-day workshop on insomnia management. The main findings were that, post-treatment, patients in the CBT-I group had significantly reduced insomnia severity, sleep latency and wakefulness during the night, relative to waiting list controls. Almost half of the CBT-I group evidenced a clinically-relevant improvement in sleep versus just 6% of the waiting list control group.

CBT-I: an effective first line therapy
CBT-I is an effective treatment for chronic insomnia, but it remains underutilised. Lack of appropriately trained CBT-I pro-

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viders is a major reason. More than three decades of research support its use in treating chronic insomnia, with several meta-analyses showing both short term and long term efficacy. In 2008, the American Academy of Sleep Medicine published practice guidelines for the treatment of chronic insomnia that confirmed CBT-I as a first line therapy for chronic insomnia.

CBT-I is directed at changing sleep habits and scheduling factors, as well as misconceptions about sleep and insomnia. It targets maladaptive behaviour and thoughts that may have developed during insomnia or have contributed to its development. The main techniques used are: stimulus control, sleep hygiene, sleep restriction therapy, cognitive restructuring and reducing sleep interfering mental arousal.

Stimulus control involves the therapist looking at the client's sleep habits and pinpointing different actions that may be prohibiting sleep e.g. spending time in their bedroom when unable to sleep, instead of leaving the bedroom after 15-20 minutes and not returning until they are ready to sleep. Stimulus control involves viewing the bedroom as being reserved for sleep, sex, and undressing/dressing only. It also involves removing all stimuli from the bedroom that are potentially sleep-incompatible (e.g. watching television, reading, and using computers). For the poor sleeper, the bedroom triggers associations with being awake and mental arousal.

Sleep hygiene refers to various behavioural and environmental recommendations that promote healthy sleep. These include:

- minimising the amount of light, noise, and temperature change in the bedroom,
- limiting the quantity of stimulants consumed during the day, especially close to bedtime, • avoiding vigorous exercise during the two hours before bedtime,
- avoiding eating large meals close to bedtime, and • regulating one's sleep-wake schedule. Sleep hygiene education is most effective when tailored to an analysis of a patient's sleep/wake behaviours.

Sleep restriction therapy limits the amount of time spent in bed to increase the biological need for sleep at night. This process usually starts by restricting the time spent in bed to the amount of time estimated that one should spend sleeping. For example, a person stays in bed for about 9 hours but only sleeps for about 6, will initially restrict time in bed to 6 hours. This initially causes mild sleep deprivation but the sleepiness it creates trains the body to fall asleep more quickly. As sleep becomes more consolidated, the length of time in bed can be gradually titrated upwards in 15 minute increments.

Cognitive restructuring involves using the cognitive aspect of CBT-I to reduce mental arousal by helping patients shift from 'trying hard to sleep' to 'allowing sleep to happen.' In using cognitive restructuring clients identify, challenge, and replace dysfunctional sleep related thoughts with more functional sleep related thoughts. Examples of typical dysfunctional sleep related thoughts are: "I will have an awful day if I don't sleep well" or "I should fall asleep quickly."

Reducing sleep interfering mental arousal involves the use of a variety of relaxation techniques to reduce sympathetic nervous system activity and enhance parasympathetic activity. Relaxation techniques include breathing exercises, progressive muscular relaxation, guided imagery, mindfulness meditation and self-hypnosis. The technique/s used should be matched to the patient, depending on their preferences.

Self help CBT-I resources for patients

In Ireland, professionals trained in CBT-I, are very few in number. Fortunately, there is sufficient evidence to indicate that self help bibliotherapy and web based CBT-I programmes are effective. Some patients will manage well with bibliotherapy and/or a web based programme, while others may need more personal treatment and guidance.

If you would like to be able to suggest bibliotherapy to a patient, I would recommend the following book: 'Say Good Night to Insomnia' (2009 edition) by Dr Gregg D Jacobs. This book instructs readers on how to follow a 6 week CBT-I programme developed at Harvard Medical School.

If you would like to be able to suggest an online CBT-I programme, I would recommend 'Go! to Sleep'. This is a 6 week online CBT-I programme developed by experts at the world-renowned Cleveland Clinic. The cost is $40 and more information may be accessed at: www.clevelandclinicwellness.com

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