



ESSENTIALS IN THE MANAGEMENT OF INSOMNIA

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Sleep problems must be one of the most reported problems in general medical practice. For this reason it's important that insomnia be understood and adequately assessed as well as managed. This article will deal with some of the practical aspects of insomnia and give the general practitioner easy to use tools and references. For further study of insomnia the Colleges of Medicine of South Africa has an accredited diploma course in Sleep Medicine.

WHAT IS NORMAL SLEEP?

During the night normal sleep goes into cycles. Five cycles have been identified:

- Stage 1 - Sleep is light and a person can easily drift in and out and be easily awakened.
- Stage 2 - A person moves into a medium sleep area. Eye movements stop and brain waves becomes slower.
- Stage 3 - Delta brain waves begin to appear which is extremely slow. A person should now be fast asleep.
- Stage 4 - The brain produces only sluggish delta waves. This is known as deep sleep which is the valuable, restorative type of sleep. These first four stages are referred to as Non-REM Sleep.
- Stage 5 - Is known as REM (Rapid eye movement sleep). In this stage breathing becomes more irregular and shallow, eyes moves rapidly and the heart rate and blood pressure increase. This is also the stage where a person dreams. REM sleep also stimulates the brain regions used for learning and memory. As the night progresses, REM sleep increases and deep sleep decreases.

Sleep serves an essential physiological homeostatic function in the body including restoration and recovery reversing and/or restoring biochemical and/or physiological processes, energy conservation, memory consolidation, thermoregulation and homeostasis.

According to the American Sleep Association, in the western world transient insomnia has been reported by 48%-73% of adults producing sleepiness

and impairment in psychomotor performance. Chronic insomnia in adults has been reported to be between 20%-30% with at least one third being severely affected with absenteeism, frequent accidents, memory impairment, greater health care utilisation and a high risk of major depression and other psychiatric illness.

Several CNS Neurotransmitters are involved in sleep. These are for promoting wakefulness/ arousal: Acetylcholine (cholinergic), Noradrenalin (adrenergic), Histamine, Glutamate (excitatory amino acid NT), Dopamine (catecholamine), Serotonin (indolamine), Hypocretin (Orexin) (peptide NTs). The sleep promoting CNS Neurotransmitters are GABA (inhibitory amino acid) & Galanin (peptide) as well as Melatonin (hormone of darkness).

Often the GP will be asked: how much sleep do I need? As we age our sleep patterns and needs change. There is no magic 'number' that works for everyone of the same age. According to the sleep data from the National Institute of Neurological Disorders and Stroke babies initially sleep as much as 16 to 18 hours per day, which may boost growth and development

(especially of the brain). School-age children and teens on average need about 9.5 hours of sleep per night. Most adults need 7-9 hours of sleep a night, but after age 60, night time sleep tends to be shorter, lighter, and interrupted by multiple awakenings. Elderly people are also more likely to take medications that interfere with sleep.

WHAT IS INSOMNIA?

The DSM-5 describes criteria for Insomnia Disorder.

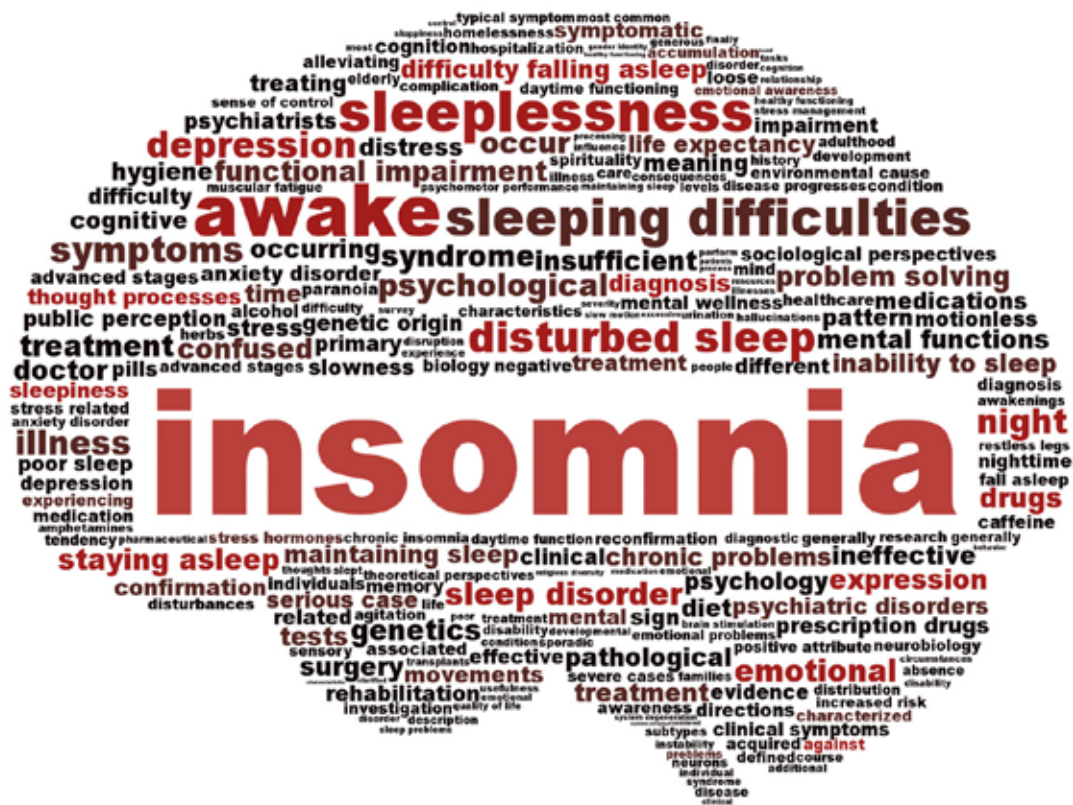
- 1) Difficulty initiating sleep
- 2) Difficulty maintaining sleep
- 3) Early-morning awakening with inability to return to sleep

WHAT CAUSES INSOMNIA?

Some of the common causes of short-term insomnia are conditions like illness and pain, adjustment to a new time zone or work schedule, specific life stress, a new sleeping environment and medications. The management of short-term insomnia usually doesn't involve any medication.

There are numerous medications that can affect sleep. Examples of these are the antidepressants (including the SSRI's), Antihypertensives,





Sympathomimetics (e.g. bronchodilators and decongestants), Anticonvulsants and Antineoplastics. Not to forget caffeine, energy drinks, chocolate, alcohol and nicotine.

HOW CAN INSOMNIA BE TREATED?

The evaluation of sleep disorders in a patient is important. Some of the issues to look at are:

- Is the sleep disturbance a symptom of something else or is it a primary sleep disorder?
- Interviewing the bed-partner often gives further invaluable information (e.g. snoring, movements and behaviours during sleep).
- A thorough sleep, medical and psychiatric history and physical examination.

Psychiatric screening scales (e.g. Beck Depression Inventory and Hamilton Anxiety Rating Scale) and sleep inventories (e.g. Stanford sleepiness scale and the Epworth sleepiness scale) can also be useful. The use of patient sleep logs/diaries can also be requested. In some cases a patient can also be referred to a sleep clinic for a formal assessment and possible polysomnogram.

Although several questionnaires exist to measure insomnia the

Insomnia Severity Index (ISI) (see Appendix 1) might be the most practical for general practice.

MEDICAL TREATMENTS

Several pharmacological agents have been available in South Africa for the management of insomnia for many years. The original hypnotics were part of the benzodiazepine group e.g. triazolam, midazolam, nitrazepam, temazepam, flurazepam, and loprozepam. The non-benzodiazepine (Z-Drugs) hypnotics available are zolpidem and zopiclone. The off-label use of drugs such as antidepressants, antihistamines and antipsychotics has become popular due to the non-addictive properties of these agents. Over the counter and herbal medications like melatonin might also be useful as a first option. Complementary and alternative approaches, including acupuncture and Chinese herbal medicine, have also been used to treat insomnia.

The question is always asked when to prescribe a sleeping tablet? Hypnotics are usually indicated when daytime function is impaired, when insomnia is associated with a medical condition and behavioural approaches are ineffective. Furthermore the correct use should be to prescribe hypnotics initially nightly for 3-4 weeks. In

the longer-term they should be used intermittently and ideally coupled with behavioural therapy/ sleep hygiene.

PSYCHOLOGICAL TREATMENTS

In recent years cognitive behavioural therapy (CBT) has been found to be an effective alternative in individuals with insomnia. CBT for insomnia (CBTi) has been shown to be a safe and effective therapy in the hands of a trained psychologist.

CBTi follows a structured treatment programme which includes sleep hygiene (behavioural interventions designed to educate patients about health and environmental factors they can change to improve sleep), stimulus control (behavioural intervention designed to alter habits associated with bed/bedroom and promote consistency in sleep patterns), sleep restriction (behavioural intervention designed to limit time in bed to sleep only), cognitive therapy (intervention to change thought patterns regarding sleep by identifying, dispelling, and replacing dysfunctional beliefs and perspectives) and relaxation training (training to control thought patterns and somatic tension that interfere with sleep). Appendix 2 provides an example of Good Sleep Hygiene. **MHM**

References available on request

APPENDIX 1 : THE INSOMNIA SEVERITY INDEX

The Insomnia Severity Index has 7 questions. The 7 answers are added up to get a total score. When you have your total score, look at the 'Guidelines for Scoring/Interpretation' below to see where your sleep difficulty fits.

For each question, please CIRCLE the number that best describes your answer.

Please rate the CURRENT (i.e., LAST 2 WEEKS) SEVERITY of your insomnia problem(s).

Insomnia Problem	None	Mild	Moderate	Severe	Very Severe
1. Difficulty falling asleep	0	1	2	3	4
2. Difficulty staying asleep	0	1	2	3	4
3. Problems waking up too early	0	1	2	3	4

4. How SATISFIED/DISSATISFIED are you with your CURRENT sleep pattern?				
Very Satisfied	Satisfied	Moderately Satisfied	Dissatisfied	Very Dissatisfied
0	1	2	3	4
5. How NOTICEABLE to others do you think your sleep problem is in terms of impairing the quality of your life?				
Not at All Noticeable	A Little	Somewhat	Much	Very Much Noticeable
0	1	2	3	4
6. How WORRIED / DISTRESSED are you about your current sleep problem?				
Not at All Worried	A Little	Somewhat	Much	Very Much Worried
0	1	2	3	4
7. To what extent do you consider your sleep problem to INTERFERE with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood) CURRENTLY?				
Not at All Interfering	A Little	Somewhat	Much	Very Much Interfering
0	1	2	3	4

Guidelines for Scoring/Interpretation:

Add the scores for all 7 items (Questions 1+2+3+4+5+6+7) = _____ your total score

Total score categories:

0-7= No clinically significant Insomnia

8-14= Subthreshold insomnia

15-21 = Clinical insomnia (moderate severity)

22-28 = Clinical insomnia (severe)

APPENDIX 2 : PRINCIPLES OF GOOD SLEEP HYGIENE

- Maintain regular sleep/wake schedule whenever possible (even on weekends and vacations)
- Exposure to light in the morning hours
- Avoid caffeine and nicotine, especially 4 to 6 hours before bedtime (after lunch). These substances can disrupt sleep
- Avoid alcohol and heavy large meals before sleep
- Exercise regularly; avoid vigorous exercise within 3 to 4 hours of sleep (regular exercise can help sleep)
- Limit time in bed to time spent sleeping (and sex)
- Establish a regular, relaxing (stop worries) bed time routine. Get comfortable (comfortable sleep environment) and relaxed before bedtime. Also follow a regular daytime routine.
- Avoid napping during the day, especially after 3pm. Limit naps to < 1 hour