Insomnia - Management in Primary Care

Sujeet Rajan

Many people have suffered a poor night of sleep, but when it becomes recurrent and persistent for most days in the week, a diagnosis of insomnia is made. Earlier considered just a symptom in clinical practice, insomnia is now a full-fledged disorder. The general practitioner is often faced with the difficult task of prescribing a drug versus getting into more detail. The purpose of this article is to encourage primary care physicians to delve a bit deeper into underlying predisposing, precipitating and perpetuating factors of insomnia - to ensure better sleep for our patients, with less sedative use.

Definition

Insomnia consists of a predominant complaint of dissatisfaction with either duration or quality of sleep. Difficulties with sleep are recurrent, occur despite adequate opportunities to sleep, and are associated with impairment of daytime functioning.

Four types can be considered

1. DIS - difficulties initiating sleep
2. DMS - difficulties maintaining sleep
3. Awakening too early in the morning
4. NRS - non-restorative sleep - feeling unrefreshed after a sufficiently long and consolidated nocturnal sleep period is more a manifestation of insomnia and a poor quality of sleep.

Consultant Chest Physician, Bombay Hospital,12 New Marine Lines, Mumbai - 400 020.

The International Classification of Sleep Disorders (ICSD) defines chronic insomnia as having one of the following problems for at least 3 days a week for at least 3 months:

Difficulty initiating sleep (high sleep latency)

Difficulty maintaining sleep

Waking earlier than desired

Resistance going to bed on appropriate schedule

Difficulty sleeping without a patient or caregiver[1]

Patients with short-term insomnia have similar problems but for less than 3 months duration. Another way to classify insomnia is as follows:

Primary, Secondary and Comorbid Insomnia

Primary Insomnia is uncommon and when no demonstrable physical or mental illness can be found to be associated with it. It is then classified as an independent disorder.

Secondary Insomnia is due to an obvious cause. In this case, insomnia is a symptom rather than a condition. Sometimes insomnia here can actually make the underlying condition that causes it worse.

Co-morbid insomnia implies the entwined co-existence between disordered sleep and the associated disease manifestations. Insomnia here is both a

symptom and a disorder. Here one could call the condition 'insomnia disorder'. Insomnia can co-exist with other primary sleep disorders like obstructive sleep apnoea (OSA), narcolepsy and restless legs syndrome. The concern here is that treatment of the insomnia with hypnotics may have detrimental effects on breathing and (paradoxically) treatment of the OSA with CPAP itself can cause or aggravate insomnia.

Why Is Insomnia A Concern?

When using the ICSD-3 criteria, the prevalence of chronic insomnia is 9[2,4] to 12 %,[5,6] with transient symptoms reported in 22 - 35% of population. It is a costly disease to manage, both with respect to healthcare utilisation and absenteeism[7,8] and is associated with an increased risk of mortality (adjusted hazard ratio 1.58 - 2.74).[9,10] Disorders associated with an increased risk of insomnia include heart disease, depression, stroke, hypertension, dyslipidaemia, obesity, anxiety and an increased risk of car crashes. The most common comorbid conditions are psychiatric disorders, with up to 40 % of all insomnia patients having a co-existent anxiety or depression disorder.[11]

Check-list and History Elicitation for Insomnia History

Have you recurring difficulties falling asleep? How long do you take to fall asleep? (any sleep latency > 30 minutes is considered abnormal)

Are you having adequate opportunities for sleep? (living factors, undesirable sleeping environment)

Are you having impairment of daytime functioning?

Is the diabetes adequately controlled?

Are your hypertension or other comorbid conditions adequately controlled?

Do you snore and have excess daytime sleepiness? Obstructive sleep apnoea can present with insomnia.

Are you stressed? Work, relationships, bereavement

Do you spend a lot of time in your bedroom before sleeping (like TV in bed, eating in bed)?

Have you ever met a psychiatrist for anxiety or depression? (remember that 40% of all insomnia patients have a co-existent anxiety or depression disorder).

Have you been consuming alcohol or abusing any substance more often recently?

Have you been prescribed any new drugs recently?

Assessment of Insomnia (preferably have the bed partner present)

1. First assess the primary complaint - is it DIS, DMS, early awakening or NRS.
2. Look at sleep-incompatible activity like watching television, computer use, eating in bed, state of the mind at the time of going to bed with respect to being relaxed or aroused.
3. How variable is the insomnia from day to day and the extreme differences between good and bad days can be assessed, and important clues can be derived.
4. Check for relevant insomnia: Sleep

latency > 30 mins, number of awakenings, wakefulness after sleep onset > 30 mins, sleep efficiency < 85%, total sleep time < 6.5 hours, and daytime naps.

5. Check daytime functioning like fatigue, somnolence, naps, ability to cope with work and social life, mood and cognitive function.
6. Complement all this with a good medical, drug and psychiatric history
7. A 2 week sleep/wake diary - excellent way to supplement the oral history
8. Actigraphy - when information from the sleep/wake diary is incomplete or doubtful.
9. Laboratory testing and polysomnography only in appropriate patients where a comorbid sleep disorder is suspected. As mentioned on occasion, obstructive sleep apnoea can actually present with insomnia.

Management of Insomnia

The management of insomnia should be in the following order:

1. Treat and manage a secondary cause well.
2. Sleep hygiene measures
3. Behavioural therapies
4. Pharmacotherapy

Sadly, many patients are often prescribed pharmacotherapy much before the first 3 interventions. This can result in adverse consequences, and benzodiazepine abuse is a well-known adverse effect. Let us discuss the interventions in a bit more detail.

Treat and Manage The Underlying Disorder Well

Often controlling hypertension, diabetes, asthma or sleep apnoea well can result in improvement in insomnia, with actually nothing else to be done. In secondary insomnia, this should be the main focus of the management. Most often, nothing else is required.

Sleep Hygiene

For the primary care physician, insomnia management should start with a good history as detailed before, followed by a hand-out (attached) for sleep hygiene. Most of the simple measures detailed in the sleep hygiene hand-out can help your patient sleep better. And as you will realise most of the advice in sleep hygiene follow from many points that may have been elicited in the history and assessment itself.

Cognitive Behavioural Therapy (CBT)

Consistently and repeatedly across RCTs, it has been shown that CBT is superior to drugs in the treatment of chronic insomnia - both in its efficacy and the duration of its therapeutic effects.[12,17]

CBT-1 is the mainstay of non-pharmacological treatment of insomnia. It consists of sleep hygiene, stimulus control, sleep restriction, relaxation training and cognitive restructuring. It has been shown to increase the stages N2, N3 and REM sleep, and decrease wakefulness and stage N1. RCTs comparing CBT-1 with health education or no therapy have shown that CBT significantly improves insomnia that is comorbid, including that with chronic pain, arthritides, migraine,

depression, post-traumatic stress disorder, cancer and COPD.[18-29] But unfortunately CBT-1 needs local clinicians with specific training in this field and this is not always easily available.

Stimulus control is aimed at turning the negative feelings in going to bed into a positive anticipation, with an aim to break habits that are adverse to falling asleep.

Sleep restriction is based on curtailing time in bed, reducing opportunities to nap. This sort of intervention actually further increases sleep deprivation initially, but gradually increases the drive to sleep, and improves the quality of sleep and rest in the longer term.

Relaxation training - as insomnia is associated with increased muscle tension, several techniques have been described to alternately tense and relax muscle groups, often concentrating on abdominal breathing.

CBT is actually a combination of all the above with a psychologist trained in supervising the same. There is now an enormous amount of scientific evidence on the benefit of CBT in improving sleep quantity and quality. Identify a trained person in CBT (would usually be a psychologist, psychiatrist or a dedicated sleep specialist) in your area, and such a professional can be of immense help to your insomnia patients.

CBT can also be delivered via online modules cCBT-i and also as a group therapy - gCBT.

American College of Physicians (ACP) recommends that all adults receive CBT for insomnia as the initial treatment for chronic insomnia disorder. (Grade: strong recommendation, moderate quality evidence)[30]

Pharmacotherapy

Resist prescribing a hypnotic sedative drug to your patient as far as possible.

This is one message that all primary care physicians must take home. Nothing can be more devastating to some patients than being habituated to a sedative as they grow older. Memory losses, imbalance, falls, confusional arousals, a tendency towards developing depression, and increasing physical and psychological dependence and addiction to the drug are just some of the (almost) irreversible side effects of sedative dependence, whichever drug it may be.

Hypnotic sedatives decrease sleep latency (time to fall asleep), reduce the number of nocturnal awakenings, and increase total sleep time and sleep efficiency. Effects on REM sleep are however variable.

In acute insomnia (certain situations), a short course of sedative are very effective for ideally not longer than 2 weeks. In chronic insomnia use must be restricted as withdrawal symptoms with chronic use are significant and include anxiety, agitation, and rebound insomnia. At most 3 times a week may be considered, but even that (in the long-term) can be addictive.

In certain conditions like OSA, hepatic failure, pregnancy and lactation, hypnotic sedatives are relatively contra-indicated.

I would recommend the following main points to be remembered whenever prescribing a sedative drug to a patient:

1. As a rule of thumb remember to use the lowest effective dose of a single hypnotic drug, for the shortest amount of time.
2. The hypnotic sedative is always to achieve symptom control - it fails to address the causative mechanisms of insomnia, including precipitating factors, dysfunctional beliefs and maladaptive behaviour.
3. The hypnotic sedative should always be considered as an adjuvant to other types of interventions.
4. ACP recommends that clinicians always adopt a shared-decision making process, including the benefits, harms, costs of short-term use of medications to decide whether to add pharmacotherapy in adults with chronic insomnia disorder in whom CBT alone has been unsuccessful.[30]
5. Hypnotic sedatives are classified into 2 basic classes: BZD (benzodiazepine) - receptor ligands and non-BZD sedative drugs.
6. BZDs are best used for situational insomnia and on an intermittent prescription basis for chronic insomnia.
7. Non-BZDs are also called the 'Z' drugs because their generic names all begin with Z. Zopiclone, zolpidem and zaleplon are examples. These drugs are safe, extensively studied, and cause less rebound insomnia. these drugs are more expensive, can also cause anterograde amnesia, confusional nocturnal behaviour and dependence in susceptible patients.
8. Certain psychotropic drugs (not BZD receptor agonists) have potent sedating side effects. However the dose needed to improve sleep is usually much lower than the dose required to observe a treatment effect on the disease for which the drug has been prescribed. Many of these drugs are used empirically to treat insomnia - this practice should not ideally be encouraged. However, they do not cause tolerance the way the BZDs do.
9. Medications should ideally be prescribed for not longer than 4 to 5 weeks, and if further doses are required, this should be a shared decision with the patient, explaining the potential harm.
10. Older adults can be more sensitive to medications and their adverse effects, and should be monitored closely when treated with pharmacologic agents.

Hypnotic Sedatives

BZDs

Diazepam, lorazepam, nitrazepam, temazepam. All Long-acting;

ADR - generic of BZDs which include daytime drowsiness, dizziness or light-headedness, anterograde amnesia, risk of falls, fractures, and mobility problems, dementia. Temazepam associated with an increase in incident cancer cases.

Hypnotic Sedatives

Non-BZDs

Zopiclone 7.5 mg/day; intermediate-acting; ADR - as for BZDs

Zolpidem 10 mg/day; short-acting; ADR - as for BZDs

Psychotropic Drugs with sedative effects

Quitiapine 25 - 50 mg/day; intermediate-acting; ADR - sedation, aggravation of restless legs syndrome (RLS)

Mirtazipine 15 - 30 mg/day; long-acting; ADR - residual morning effects, weight gain, aggravation of RLS

Amitryptiline 25 - 100 mg/day; long-acting; ADR - cardiac arrhythmias, anticholinergic and antihistamine effects, aggravation of RLS

Newer Drugs and Advances in Insomnia

1. **Suvorexant** - 5 - 20 mg/day. Approved in the US in 2014. Reversible dual orexin (hypocretin) receptor antagonist; effective in patients with DIS and DMS.
   a. ADR: Daytime sleepiness, headaches, dizziness, abnormal dreams; contra-indicated in narcolepsy; care (reduce dose to 5 mg) with patients taking CYP3A4 inhibitors- azole antifungals and macrolides, grapefruit juice consumption
2. **Doxepin** - 3 - 6 mg/day. Selective histamine receptor antagonist. More than 70% of patients with insomnia have DMS.
   a. ADR - overall well tolerated; slightly more dizziness than placebo; mild daytime sleepiness
3. **Immediate-release zolpidem** 3.5 mg sublingual. 1.75 mg for women and adults > 65 years. Hypnotic activity lasts for 2.5 to 4 hours. Should be taken only if the patient has at least 4 remaining hours in bed before getting ready for the day. Less morning sleepiness and better alertness.
   ADR - headache, nausea and fatigue.

References

1. American Academy of Sleep Medicine. International classification of sleep disorders.3rd ed. American Academy of Sleep Medicine, 2014
2. Chung KF, Yeung WF, Ho FY, Yung KP, Yu YM, Kwok CW. Cross-cultural and comparative epidemiology of insomnia: the Diagnostic and statistical manual (DSM), International classification of diseases (ICD) and International classification of sleep disorders (ICSD). Sleep Med 2015;16:477-82. doi:10.1016/j.sleep.2014.10.018 pmid:25761665.
3. Ford ES, Cunningham TJ, Giles WH, Croft JB. Trends in insomnia and excessive daytime sleepiness among U.S. adults from 2002 to 2012. *Sleep Med* 2015;16:372-8. doi:10.1016/j.sleep. 2014.12.008 pmid:25747141.
4. Kronholm E, Partonen T, Härmä M, et al. Prevalence of insomnia-related symptoms continues to increase in the Finnish working-age population. *J Sleep Res* 2016. doi:10.1111/jsr.12398 pmid:26868677.
5. Amaral O, Garrido A, Pereira C, Veiga N, Serpa C, Sakellarides C. Sleep patterns and insomnia among portuguese adolescents: a cross-sectional study. *Aten Primaria* 2014;46(Suppl 5):191-4. doi:10.1016/S0212- 6567(14)70090-3 pmid:25476060.
6. Benbir G, Demir AU, Aksu M, et al. Prevalence of insomnia and its clinical correlates in a general population in Turkey. *Psychiatry Clin Neurosci* 2015;69:543-52.pmid:25384688.
7. Godet-Cayré V, Pelletier-Fleury N, Le Vaillant M, Dinet J, Massuel MA, Léger D. Insomnia and

absenteeism at work. Who pays the cost? *Sleep* 2006;29:179-84.pmid:16494085.
8. Sarsour K, Kalsekar A, Swindle R, Foley K, Walsh JK. The association between insomnia severity and healthcare and productivity costs in a health plan sample. *Sleep* 2011;34:443-50.pmid:21461322.
9. Parthasarathy S, Vasquez MM, Halonen M, et al. Persistent insomnia is associated with mortality risk. *Am J Med* 2015;128:268-75.e2, e2. doi:10.1016/j.amjmed.2014.10.015 pmid:25447616.
10. Sivertsen B, Pallesen S, Glozier N, et al. Midlife insomnia and subsequent mortality: the Hordaland health study. BMC Public Health 2014;14:720. doi:10.1186/1471-2458-14-720 pmid:25024049.
11. Pevernagie D. Insomnia. Non-Respiratory Conditions Chapter 3, Respiratory Sleep Medicine ERS Handbook. Editors: Simonds AK and DeBacker W. 2012, European Respiratory Society.
12. Sivertsen B, Omvik S, Pallesen S, et al. Cognitive behavioral therapy vs zopiclone for treatment of chronic primary insomnia in older adults: a randomized controlled trial. *JAMA* 2006;295:2851-8. doi:10.1001/jama.295.24.2851 pmid:16804151.
13. Wu R, Bao J, Zhang C, Deng J, Long C. Comparison of sleep condition and sleep-related psychological activity after cognitive-behavior and pharmacological therapy for chronic insomnia. *Psychother Psychosom* 2006;75:220-8. doi:10.1159/000092892 pmid:16785771.
14. Jacobs GD, Pace-Schott EF, Stickgold R, Otto MW. Cognitive behavior therapy and pharmacotherapy for insomnia: a randomized controlled trial and direct comparison. *Arch Intern Med* 2004;164:1888-96. doi:10.1001/archinte.164.17.1888 pmid:15451764.
15. Omvik S, Sivertsen B, Pallesen S, Bjorvatn B, Havik OE, Nordhus IH. Daytime functioning in older patients suffering from chronic insomnia: treatment outcome in a randomized controlled trial comparing CBT with zopiclone. *Behav Res Ther* 2008;46:623-41. doi:10.1016/j. brat. 2008. 02.013 pmid:18417099.
16. Morin CM, Colecchi C, Stone J, Sood R, Brink D. Behavioral and pharmacological therapies for late-life insomnia: a randomized controlled trial. *JAMA* 1999;281:991-9. doi:10.1001/ jama. 281.11.991 pmid:10086433.
17. McClusky HY, Milby JB, Switzer PK, Williams V, Wooten V. Efficacy of behavioral versus triazolam treatment in persistent sleeponset insomnia. *Am J Psychiatry* 1991;148:121-6. doi:10.1176/ ajp.148.1.121 pmid:1888345.
18. Finan PH, Buenaver LF, Coryell VT, Smith MT. Cognitive-behavioral therapy for comorbid insomnia and chronic pain. *Sleep Med Clin* 2014;9:261-74. doi:10.1016/j.jsmc.2014.02.007 pmid:25477769.
19. Vitiello MV, McCurry SM, Shortreed SM, et al. Cognitive-behavioral treatment for comorbid insomnia and osteoarthritis pain in primary care: the lifestyles randomized controlled trial. *J Am Geriatr Soc* 2013;61:947-56. doi:10.1111/jgs.12275 pmid:23711168.
20. Smith MT, Finan PH, Buenaver LF, et al. Cognitive-behavioral therapy for insomnia in knee osteoarthritis: a randomized, double-blind, active placebo-controlled clinical trial. *Arthritis Rheumatol* 2015;67:1221-33. doi:10.1002/art.39048 pmid:25623343.
21. Smitherman TA, Walters AB, Davis RE, et al. Randomized controlled pilot trial of behavioral insomnia treatment for chronic migraine with comorbid insomnia. *Headache* 2016;56:276-91. doi:10.1111/ head.12760 pmid:26813845.
22. Clarke G, McGlinchey EL, Hein K, et al. Cognitive-behavioral treatment of insomnia and depression in adolescents: A pilot randomized trial. *Behav Res Ther* 2015;69:111-8. doi:10.1016/j. brat.2015.04.009 pmid:25917009.
23. Wu JQ, Appleman ER, Salazar RD, Ong JC. Cognitive behavioral therapy for insomnia comorbid with psychiatric and medical conditions: a meta-analysis. *JAMA Intern Med* 2015;175:1461-72. doi:10.1001/jamainternmed.2015.3006 pmid:26147487.
24. Hsu HM, Chou KR, Lin KC, Chen KY, Su SF, Chung MH. Effects of cognitive behavioral therapy in patients with depressive disorder and comorbid insomnia: A propensity score-

matched outcome study. *Behav Res Ther* 2015;73:143-50. doi:10.1016/j.brat.2015.07.016 pmid: 26313621.
25. Talbot LS, Maguen S, Metzler TJ, et al. Cognitive behavioral therapy for insomnia in posttraumatic stress disorder: a randomized controlled trial. *Sleep* 2014;37:327-41. pmid:24497661.
26. Heckler CE, Garland SN, Peoples AR, et al. Cognitive behavioral therapy for insomnia, but not armodafinil, improves fatigue in cancer survivors with insomnia: a randomized placebo-controlled trial. *Support Care Cancer* 2016; 24:2059-66. doi:10.1007/s00520-015-2996-y pmid:26542272.
27. Johnson JA, Rash JA, Campbell TS, et al. A systematic review and metaanalysis of randomized controlled trials of cognitive behavior therapy for insomnia (CBT-I) in cancer survivors. *Sleep Med Rev* 2016;27:20-8. doi:10.1016/j.smrv.2015.07.001 pmid:26434673.
28. Garland SN, Rouleau CR, Campbell T, Samuels C, Carlson LE. The comparative impact of mindfulness-based cancer recovery (MBCR) and cognitive behavior therapy for insomnia (CBT-I) on sleep and mindfulness in cancer patients. Explore (NY) 2015;11:445-54. doi:10.1016/j.explore.2015.08.004 pmid:26386748.
29. Kapella MC, Herdegen JJ, Perlis ML, et al. Cognitive behavioral therapy for insomnia comorbid with COPD is feasible with preliminary evidence of positive sleep and fatigue effects. *Int J Chron Obstruct Pulmon Dis* 2011;6:625-35. doi:10.2147/COPD.S24858 pmid:22162648.
30. Qaseeem A, Kansagara D, Forciea M et al. Management of chronic insomnia disorder in adults: A clinical practice guideline from the American College of Physicians. *Ann Intern Med* 2016; 165:125-133. doi:10.7326/M15-2175

Advances in the diagnosis and management of neck pain

Most episodes of acute neck pain resolve within two months, although about half of patients continue to have low grade symptoms or recurrences for more than one year.

Among complementary and alternative treatments, the strongest evidence is for exercise, with weaker evidence supporting massage, acupuncture, yoga, and spinal manipulation in different contexts.

Steven P Cohen, W Michael Hooten, The BMJ, 2017, Vol 359, 161-162

Regular, physical exercise: the 'miracle cure' to ageing

The attitude that exercise is for the young while older people should be encouraged to relax needs to be challenged.

The good news is that at any age and with any combination of health problems, exercise provides, in the words of an important report from the Academy of Medical Royal Colleges, "the miracle cure". Exercise may reverse the decline and keep a person above the threshold for needing increased care.

The BMJ, 2017, 110-111