

INSOMNIA IN THE ELDERLY: EVALUATION AND MANAGEMENT

Dr Matthew Ng Joo Ming; Dr Ng Beng Yeong

ABSTRACT

Sleep disturbance is common in the elderly and is frequently undiagnosed. It has been estimated that 75 percent of adults >65 years of age has sleep disturbance and 30 percent of them has insomnia. The classification of insomnia has less significance in the older adults as the subtypes demonstrate significant overlap and usually treatment of the underlying disorder does not solve the problem or cure it. The elderly has multiple comorbidities and poly pharmacy with a myriad of cause for insomnia. A comprehensive medical and psychiatric history together with a complete physical examination and mental state examination should be done in the evaluation of the older patient. Behavioural therapy with sleep hygiene education should be the initial treatment together with the treatment of the contributing physical and psychiatric conditions. Referral to an expert for cognitive behavioural therapy or multicomponent therapy may be necessary if the initial therapy failed to produce any improvement. If medications are needed it can be combined with behavioural therapy. Medication used should be the lowest effective dose and prescribed for short-term use of not more than four weeks. Medications used need to be discontinued gradually and one needs to be mindful of rebound insomnia upon withdrawal. Whenever possible, it will be ideal to avoid benzodiazepines and other sedative hypnotics as first choice for insomnia. Over the counter sleep aids which usually contain antihistamines may not be good choices as they carry significant risk of adverse events and drug interactions. Currently the safest medications for use in the elderly includes the Z-drugs (zolpidem, zopiclone), melatonin and low dose tricyclic antidepressant Doxepin.

Keywords: Insomnia, Elderly, Behavioural therapy, Education

INTRODUCTION

In an observational study published in 2016 by Tan et al¹ on 350 individuals aged between 21 to 80 surveyed at SingHealth Polyclinics, 44 percent of them have inadequate sleep on weekdays and 26 percent of them have inadequate sleep on weekends. In fact, Singaporeans are the third most sleep deprived country after Japan and Korea. The amount of sleep varies between the age group, and adults need about seven to eight

hours. The prevalence of insomnia in the elderly (that is persons older than 65) has been estimated to be about 30 percent; the high prevalence is not surprising given the physiological related changes such as reduction of sleep efficiency and comorbidities associated with insomnia. FK Chui et al² surveyed 1034 elderly in Hong Kong and found that occasional or persistent sleep disturbance were reported by 75 percent and insomnia in 38.2 percent of elderly. Advancing age is associated with a higher rate of sleep disturbance while females had a high rate of insomnia. Women are twice likely than men to have insomnia and prevalence increases with hormonal changes such as pregnancy and menopause. Patients with comorbidities such as pulmonary disease, heart failure, and painful condition are at increased risk. Sleep disturbance in elderly are often undiagnosed and inadequately treated³. It has a significant impact on the quality of life; it leads to fatigue, cognitive impairment, mood disturbance, daytime sleepiness, behavioural problems, decreased motivation, increased errors of judgement and concerns about sleep. All these can lead to increased rate of accidental injuries and falls.

DEFINITION

Insomnia is defined as inability to fall asleep, the inability to stay asleep, or waking up earlier than desired. In order to make a correct diagnosis of insomnia the patient must have adequate opportunity to sleep and has an adequate and conducive place to sleep. Insomnia can be classified on the basis of the duration, acute (<four weeks) vs. chronic, severity (mild or severe), sleep components affected (impaired sleep onset, sleep maintenance or both), and cause (situational related to stress), primary or secondary to other medical or psychiatric disorders. However, these subtypes demonstrate considerable overlap and differentiation is no longer important in the elderly as treatment of the medical conditions that precipitate the insomnia may not necessarily provide a cure as there are perpetuating factors that need to be addressed as well. Most diagnosis can be made through careful history and focused physical examinations. Testing such as polysomnography and survey tools should be reserved for those whose history suggest a particular medical condition such as obstructive sleep apnoea syndrome, restless leg syndrome or narcolepsy etc. Treatment can be targeted at the underlying condition if any, in addition to applicable techniques involving sleep hygiene education, nonpharmacologic interventions and drug treatment if needed. It must be stressed that secondary insomnia can coexist with the primary sleep disorders and they must be addressed to optimise the treatment efforts. The two main diagnostic criteria used for the diagnosis of insomnia are the International Classification of Sleep Disorders (ICSD-3) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). (Table 1)

Dr Matthew Ng Joo Ming

Head and Senior Consultant,
Family Medicine Continuing Care, Singapore General
Hospital

Dr Ng Beng Yeong

Consultant Psychiatrist,
Ng Beng Yeong Psych Medicine Clinic,
Mount Elizabeth Medical Centre

Table 1: Diagnostic Criteria for Insomnia

ICSD-3	DMS-5
<p>Criteria A-F must be met</p> <p>A. Patients' report, or patients' parent or caregiver observes, one or more of the following:</p> <ol style="list-style-type: none"> 1. Difficulty initiating sleep 2. Difficulty maintaining sleep 3. Waking up earlier than desired 4. Resistance to going to bed on appropriate schedule 5. Difficulty sleeping without parent or caregiver intervention <p>B. Patients' report, or the patients' parent or caregiver observes, one or more of the following related to night time sleep difficulty:</p> <ol style="list-style-type: none"> 1. Fatigue/malaise 2. Attention, concentration, or memory impairment 3. Impaired social, family, occupational, or academic performance 4. Mood disturbances/irritability 5. Daytime sleepiness 6. Behavioural problems (e.g. Hyperreactivity, impulsivity, aggression) 7. Reduced motivation/energy/initiative 8. Proneness to errors/accidents 9. Concerns about or dissatisfaction with sleep <p>C. The reported sleep/wake complaints cannot be explained purely by inadequate opportunity (enough time allotted for sleep) or inadequate circumstances (environment is quiet, dark, comfortable and safe) for sleep.</p> <p>D. The sleep disturbance and associated daytime symptoms occur at least three times per week</p> <p>E. The sleep disturbance and associated daytime symptoms have been present for at least three months</p> <p>F. The sleep/wake difficulty is not explained more clearly by another sleep disorder</p>	<p>A. There is a predominant complaint of dissatisfaction with sleep quantity or quality, associated with one (or more) of the following symptoms:</p> <ol style="list-style-type: none"> 1. Difficulty initiating sleep 2. Difficulty maintaining sleep, characterised by frequent awakenings or problems returning to sleep after awakenings 3. Early morning awakening with inability to return to sleep <p>B. The sleep disturbance causes clinically significant distress or impairment in social, occupational, educational, academic, behavioural, or other important areas of functioning</p> <p>C. The sleep difficulty occurs at least three nights per week</p> <p>D. The sleep difficulty is present at least three months</p> <p>E. The sleep difficulty occurs despite adequate opportunity for sleep</p> <p>F. The insomnia is not better explained by and does not occur exclusively during the course of another sleep-wake disorder (e.g. narcolepsy, a breathing related sleep disorder, a circadian rhythm sleep wake disorder, a parasomnia)</p> <p>G. The insomnia is not attributable to the physiologic effects of a substance (e.g. a drug of abuse, a medication)</p> <p>H. Coexisting mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia</p> <p>Specify if</p> <ul style="list-style-type: none"> - Episodic: symptoms last at least one month but <three months - Persistent: symptoms last three months or longer - Recurrent: two (or more) episodes within the space of one year

RISK FACTORS FOR INSOMNIA

Insomnia can occur alone or as a symptom complex associated with a comorbid condition. Multiple factors increase the risk for insomnia in the older adults. They include environmental, behavioural, medical, and social factors (Table 2). As people age, they tend to have multiple co-morbidities and will be on multiple medications from different specialists that increases their risk of developing insomnia. As the older adults retire, they may change their usual bedtime and wake time to suit their new lifestyle, putting them at risk of developing insomnia. Patients with movement disorders (e.g. restless leg syndrome, periodic limb movement disorder), circadian rhythm disorders or breathing disorders (e.g. obstructive sleep apnoea) may present

with insomnia⁴. Therefore, these conditions need to be identified and treated. Treatment of these conditions alone may not always resolve the insomnia. Pulmonary disease, chronic pain, heart failure, gastrointestinal reflux and prostate problems are common in the elderly and often times associated with insomnia. Illicit drug use, cigarette smoking, alcohol consumption can also cause insomnia. Insomnia is a strong predictor for the development of depression, anxiety and drug or alcohol abuse. It is also highly predictive of relapse of these condition. Depression usually improves more rapidly in a patient with insomnia if both conditions are treated concomitantly^{5,6}.

Case illustration:

A 69-year-old Chinese lady lives alone with a Filipino helper. She is independent in her daily activities of living. She has been on follow-up at the family medicine clinic for the past five years for the following medical problems: Atrial fibrillation, ischemic heart disease, hyperlipidaemia and hypertension. She has a history of nasopharyngeal carcinoma treated by radiation therapy in 1994, thyroidectomy for multi nodular goitre in 1993 and laparoscopic cystectomy for ovarian cysts. She also has Syndrome of Inappropriate Antidiuretic Hormone (SIADH) diagnosed in 2014 and is put on fluid restriction. In December 2018 she was admitted to the restructured hospital for right ankle swelling and redness which was diagnosed as cellulitis and treated with a course of clindamycin. Incidentally during admission, she was found to have persistently low serum sodium level despite fluid restriction for SIADH. A synacthen test administered diagnosed adrenal insufficiency and she is started on hydrocortisone replacement. She is currently on the following medications: warfarin 2.5 mg om; Levothyroxine 50mcg om; simvastatin 10mg on; bisoprolol 1.25mg om; omeprazole 20mg om and hydrocortisone 10mg om and hydrocortisone 5 mg at 4 pm.

Upon discharge from the ward, she was reviewed by the endocrinologist at the specialist outpatient clinic and continued on the same dosage of hydrocortisone and thyroxine. She returned to the family medicine clinic three months (March 2019) after discharge for review and for topping up of the rest of her medication. During consultation, she complained that she had not been able to sleep for the past three months and instinctively she stopped one of her medications and she had been able to sleep blissfully. This put the clinician at a dilemma as the medication is essential to treat her underlying medical condition.

Question:

Which medication did she stop?

Table 2: Comorbidities, Conditions, and Substances associated with Insomnia

Environment Excessive noise, too hot or cold, new home or hospitalisation Chronic medical conditions Breathing disorders (OSD, Interstitial lung disease) Heart Failure, ischemic heart disease GERD Chronic pain Rheumatic disease (arthritis) Restless leg syndrome Benign prostatic hypertrophy, nocturia Dermatological condition (pruritus) Cancer Thyroid disorders	Medications Antidepressants, antihypertensives Appetite suppressants Beta agonist Caffeine Diuretics Glucocorticoids Theophylline, salbutamol Sedative and hypnotics Antihistamines, cough medications Psychiatric conditions Anxiety, depression Post-traumatic stress disorder Substance abuse Alcohol, Illicit drugs, tobacco
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EVALUATION

Insomnia is a clinical diagnosis. In addition to the usual medical and psychiatric history, a detailed sleep history should also be obtained from the patient, partner or carer. The sleep history should include details such as the timing of the insomnia, the daytime effects and symptoms, the sleep schedule, the sleep environment and the patient's sleeping habits. The 3 P's of insomnia: predisposing, precipitating and perpetuating factors should be included in the history taking (Table 3). Relevant personal and social factors such as isolation, loneliness, bereavement, change in residence and financial concerns, are key factors in the history and may indicate a temporary situational insomnia. Further, a complete physical examination, including neurological and mental state assessment should be conducted to look for possible underlying medical conditions e.g. a raised jugular venous pressure (JVP) and lung crackles and oedema of heart failure. Referral to a psychogeriatrician and other specialist may be needed when the history and physical suggest sleep apnoea, restless leg syndrome, narcolepsy and REM sleep behaviour disorder.

Case illustration

In the patient above she correctly diagnosed herself that her inability to sleep properly for the past three months was due to her medications. The only new medications that had been started for her was hydrocortisone for adrenal insufficiency. The two medications in her drug regime that can disrupt sleep are thyroxine and hydrocortisone. However, she had been taking thyroxine replacement for a number of years and there had been no prior problem with it. She stopped the hydrocortisone on her own and slept blissfully. However, this created a therapeutic dilemma as the hydrocortisone is for treatment of her adrenal insufficiency. Not having enough glucocorticoids in the body will predispose her to electrolytes abnormalities, hypotension, and inability to handle stress and mount an effective response during an infection.

Not all patient diagnosis is as straightforward as the patient in the case illustration. In the elderly, insomnia can occur alone or as a symptom complex associated with multiple comorbidities. In such situation, keeping a two-week sleep diary (Table 4) provides information regarding patient's activities, bedtime routine, sleep quality, daytime symptoms and the use of causative substances. The information can confirm insomnia and allow the physician to provide specific behavioural guidance. The ultimate treatment goal is to improve sleep qualitatively and quantitatively, decrease related stress, and improve functioning in the day.

Table 3: 3P's of insomnia

Predisposing factors <ul style="list-style-type: none"> • Age • Easy arousability • Female • Living alone • Psychological disorders: anxiety, depression, substances abuse • Smoking 	Precipitating factors <ul style="list-style-type: none"> • Alcoholism • Chronic pain • Comorbid condition: Diabetes, pulmonary disease, ischemic heart disease, thyroid disease, heart failure • Divorce, separation, loss of spouse • Lower social economic status • Shift work • Snoring • Stressful life events • Substance abuse • Unemployment
Perpetuating factors <ul style="list-style-type: none"> • Behavioural issues: excessive time spent in bed, napping, chronic medication use • Psychological issues: worry about sleep loss 	

Table 4: Sleep diary

Activity/day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Daytime activity and Pre-sleep ritual							
Naps (Number)							
Exercise (type/duration)							
Alcohol/caffeine (amount)							
Food and drink							
Feelings	Very tired	Somewhat tired	Fairly alert	Wide awake			
Stress irritability before bedtime	none	some	moderate	high			
Medications/sleep aids							
Activities hour before bedtime							
Bed time (lights out)							
Sleeping and getting back to sleep							
Wake up time							
Time to fall asleep							
Sleep breaks							
Quality of sleep	0 = worst	10 = best ever					
Total sleep time							

MANAGEMENT

The goal of treatment of the insomnia is the improvement of sleep quality and or quantity, and the reduction in insomnia related daytime impairments. The treatment should be a shared decision between the physician and patient. They should be involved in the formulation of the plan about the treatment goals and choice of treatment. The therapy will depend on the patient's willingness to engage in the behaviour therapies and the possibility of side effects from the medications use. Therefore, co-operation from patient is crucial for success. In the elderly, behavioural interventions are effective and recommended as an initial treatment of insomnia. Behavioural therapy and non-pharmacologic interventions appear to have better long-term efficacy with fewer side effects than pharmacologic interventions. Short term medical therapy is considered when non-pharmacologic interventions are not effective. It is best not to use or select benzodiazepines or other sedative hypnotics as a first choice in the management of insomnia in older adults. Hypnotics have benefits of improving sleep quality, total sleep time, and frequency of night time awakening. However these short-term gains are small compared to the risk of cognitive and psycho motor adverse events.

Non-pharmacological Treatment

Cognitive-behavioural therapy for insomnia (CBT-I) is a multi-component-based intervention involving cognitive and behavioural techniques like stimulus control therapy, sleep restriction therapy, relaxation training, cognitive restructuring, and sleep hygiene education. CBT-I improves sleep based on constant, good quality patient orientated evidence⁷. Most of these behavioural interventions overlap and has certain similarities (Table 5). The goal is to change patient's misconceptions, beliefs, and attitude that hinder sleep. CBT-I involves several sessions and can be delivered in various modes, in person face to face, in groups, through an app, via telephone or through self-help videos. Most of the behavioural interventions can be used in the family physician office but this is not commonly done as many lack the training and expertise. It is also time consuming and lack financial reimbursement.

A. Sleep Hygiene Education

Education is key in all virtually sleep disorders and it can be easily performed by the family physician in the consultation room. However, time needs to be invested as some of the behavioural interventions might be difficult for patients to accept or understand without careful explanation. Sleep hygiene education is recommended as an initial intervention for all adults with insomnia so that personal habits and environmental factors that negatively impact sleep can be identified and corrected⁸. Patients are advised to exercise regularly (but not within four hours of bedtime); avoid eating large meals and limit intake of fluid in the evening; avoid caffeinated drinks, tobacco, and alcohol intake four to six hours before bedtime. The bedroom should be used for sleep and sex only. One needs to maintain a regular sleep wake routine and avoid day time naps. The room should be comfortable with a cool temperature and there should not be noises that can disrupt the sleep (Table 6).

B. Stimulus Control Therapy

Stimulus control helps to establish a regular sleep-wake cycle and associate the bedroom with sleep. Specific instructions given to patients include the following: to lie down to sleep only if you feel sleepy; use the bed for sleeping and sex only; do not watch TV in bed or eat in bed; leave the bed if unable to fall asleep within 20 minutes and return to bed only when sleepy. It is also essential to establish a regular sleep-wake routine by setting the alarm at the same time every morning regardless of how many hours of sleep occurs^{9,10}.

C. Sleep Restriction Therapy

This method is beneficial for patients who spent lots of time in bed trying to fall asleep. The idea is to limit the amount of time spent in bed to only the number of hours that the patient spends sleeping only. This time should not be less than five hours and it is gradually increased as sleep efficiency improves. This method has a risk of causing sleep deprivation and excessive daytime sleepiness.

D. Cognitive Restructuring Therapy

This aims to reduce the worrying and change misconceptions associated with sleep and insomnia using Socratic questioning. It changes how the older adult perceive the effect of sleep on their lives by challenging inaccurate patterns of thinking. The patient also uses a journal to record down troubling thoughts and worries before bedtime, the transfer of thoughts to paper may help the patient clear his or her mind making it easier to fall asleep.

E. Relaxation Therapy

The relaxation techniques used include deep breathing exercises, progressive muscle relaxation, biofeedback, and guided imagery. This aims to reduce tension and reduce intrusive thoughts that interfere with the ability to fall asleep. Mindfulness-based stress reduction techniques is a form of relaxation therapy aim to change reactions to stress by teaching purposeful awareness and acceptance of the present state. It includes breathing, body scan, meditations, and yoga^{11,12}.

Life style and complementary approaches have some benefits. Regular moderate intensity exercise improves the quality of sleep in older adults. A randomised controlled trial showed that low impact exercise like Tai-Chi reduces daytime sleepiness and improve sleep quality in older adults with moderate sleep problems¹³. Bright light therapy may be used to restore the normal circadian rhythm by providing time-exposure to bright light source, which helps to delay sleep. Family Physician can recommend white light sources with a bluish tint during the time exposure during the time interval patients tend to be more tired¹⁴. A study demonstrated that just two four-hour evening sessions of exposure to bright light can improve early morning awakenings for up to one month following the treatment¹⁵. Acupuncture at specific points to stimulate the body has been shown to improve insomnia symptoms in older adults¹⁶.

Table 5: Overview of Behavioural Therapies for Insomnia

<u>Sleep Hygiene</u> <ul style="list-style-type: none"> Exercise regularly but not four hours before bedtime No large meals, limit fluid intake in evening No caffeinated and alcoholic drinks No smoking Maintain regular sleep-wake cycle Avoid distracting stimuli at bedtime 	<u>Stimulus Control</u> <ul style="list-style-type: none"> Lie down to sleep only if sleepy Use bedroom for sleep and sex only Avoid watching TV, use of handphone Leave bed if unable to sleep within 20 minutes Maintain a consistent sleep-wake cycle by setting an alarm 	<u>Sleep Restriction</u> <ul style="list-style-type: none"> Limit time in bed to the time actually spent sleeping, gradually increase as sleep efficiency improves
<u>Paradoxical Intention</u> <ul style="list-style-type: none"> Advise to remain awake to alleviate the anxiety associated with the pressure to sleep 	<u>Relaxation Training</u> <ul style="list-style-type: none"> Autogenic training: imagine a calm environment Imagery training: focus on pleasant image Hypnosis, meditation, yoga, breathing exercise, progressive muscle relaxation Visual or auditory feedback 	<u>Cognitive therapy</u> <ul style="list-style-type: none"> Counselling Identify and replace dysfunctional belief regarding sleep Use journal to write down thoughts
<u>Cognitive behaviour therapy for insomnia (CBT-I) and multicomponent therapy</u> <ul style="list-style-type: none"> Combination of stimulus control, relaxation therapy, sleep hygiene education and cognitive therapy 		

Table 6: Sleep Hygiene Education: Instructions for patients

Behavioural Patterns <ul style="list-style-type: none"> Keep a regular sleep-wake schedule Do not go to bed unless sleepy Decrease or get rid of day time naps Exercise regularly (But not four hours before sleep) Increase exposure to natural light and bright light during the day and early evening. Avoid exposure to light close to bed time and during awakening at night No heavy meals within three hours of bedtime Eliminate alcohol, caffeine and nicotine especially before bedtime Keep a relaxing routine (warm bath, wind down) Wear comfortable clothing Avoid distressing talk with bed partners Do not use the bed for watching TV and reading Get out of bed once awake 	Sleep Environment <ul style="list-style-type: none"> Identify snoring or disruptive bed partners Keep bedroom cool and dark Eliminate as much noise as possible in the sleeping room Place clocks out of sight Can consider soft soothing music To consider keeping pets outside of the room if they interfere with sleep
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Pharmacological Treatment

Medications may be used early in the treatment for relief of temporary/ situational insomnia when an immediate response is required. More often it is reserved for patients demonstrating significant consequences of insomnia refractory to other treatments. As with all medications prescribed to the elderly, lowest doses and shortest duration of administration are preferred. Medication use should be tapered gradually to prevent rebound or withdrawal symptoms when treatment is completed. If higher doses are used it is important to monitor for dependency and abuse especially in those who are resistant to tapering and those requesting for higher doses of the medications^{17,18,19}.

A. Benzodiazepines

Benzodiazepine decreases sleep latency and nocturnal awakenings. However, benzodiazepines such as lorazepam, diazepam etc. may increase the risk of memory impairment, falls,

fracture, vehicular accidents, increase emergency department visits and unnecessary hospitalisations. Long term usage can lead to psychological dependence and there is an increased risk of addiction and abuse. Tolerance can also develop over time requiring higher dosages to be effective. Therefore, whenever possible, its use should be minimised in the elderly.

B. Non-benzodiazepine Hypnotics

This class of drugs is commonly known as the z-drugs (zolpidem, zopiclone) with similar actions to benzodiazepines. It reduces sleep latency. In the elderly it should be used for short term (not more than three months) as it causes confusion and increases the risk of falls and fractures in adults with dementia and cognitive impairment. There is also potential for abuse, in higher dosages the medication can cause stimulation, euphoria and anxiolysis in some patients. Uncommon complex sleep related behaviours (sleep driving, sleep eating) have been reported in patients taking higher dosages.

C. Melatonin and Melatonin receptor agonist

Melatonin receptor agonists (Ramelteon) and melatonin reduce sleep latency and increase sleep duration. Their side effects are usually mild such as gastrointestinal disturbances and neurological such as giddiness and headache. They are relatively safe and there are no documented rebound insomnia or withdrawal side effects. Melatonin is a health supplement that is not regulated by the Health Science Authority and is available as an over the counter product in Singapore. Melatonin receptor agonists are not approved for sale in Singapore and hence not available. Circadin (Melatonin prolong release tablets) is available in Singapore for the short-term treatment of primary insomnia characterised by poor quality of sleep in the older patients.

D. Over the counter sleep aid and antihistamines

These medications decrease sleep latency but they produce rapid tolerance and are highly anticholinergic. The side effects include dry mouth, constipation, blurring of visions and acute retention of urine. They should be avoided in the elderly as it increases the risk of cognitive decline and impairment.

E. Antidepressants

Many antidepressants (Mirtazapine, fluvoxamine, amitriptyline and nortriptyline) have sedative side effects and are sometimes used to treat insomnia especially in those with concurrent depressions. However, most are also highly anticholinergic and increases the risk of falls and accidents in the elderly. The only drug that has been approved for the treatment of insomnia by the Food and Drug Administration (FDA) is tricyclic antidepressant Doxepin. Its mechanism is unknown but compared to placebo, doxepin at 3mg to 6mg improves sleep efficiency and latency²⁰. The side effect profile at these dosages is favourable in the elderly. In Singapore it is available as an inexpensive 10mg dosage.

It must be emphasised that the management of insomnia in elderly is behavioural therapy as first line and combination with medications if the intervention is ineffective. All medication increases the risk of falls and the use of over the counter sleeping aid should be avoided in the elderly. It is recommended that medications should be avoided or be used only for the shortest period of time in the elderly. Currently, the medications considered the safest and most effective prescription sleeping aids for geriatric patients are zolpidem, zopiclone, melatonin and agonist, Ramelteon (not available in Singapore) and low dose tricyclic antidepressant, Doxepin. For sleep-onset insomnia, one can consider prescribing a shorter acting agent such as zolpidem. For sleep maintenance insomnia, a longer acting agent such as zolpidem CR, zopiclone and doxepin, can be used. In patients with concomitant anxiety, consider a selective serotonin reuptake inhibitors (SSRI).

Herbal therapy or folk remedies usage is not uncommon as a form of treatment in traditional Singapore. Common herbal therapy includes St John's wort, Chamomile, kava, etc. Most are untested and has no known efficacy or safety profile and may even be toxic and generally, advice should be given to avoid them.

CONCLUSION

In the elderly, insomnia can affect personal well-being and lead to significant morbidity. Many elderly experience difficulties with falling asleep, or waking up too early, which leads to daytime impairment. Sleep assessment should be considered as an integral part of a comprehensive geriatric assessment. Identification and treatment of the many potentially contributing factors are essential to effective therapy. For most patients, behavioural therapy should be the initial treatment. Avoid benzodiazepines and other sedative hypnotics as first choice for treatment. If medications are needed, they should always be used in combination with behavioural therapy and at the lowest effective dose.

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LEARNING POINTS

- Incidence of insomnia increases with age. It can include difficulty falling asleep at the start of the sleep period, waking up and difficulty falling back asleep, and waking up early and unable to get back to sleep. Difficulty staying asleep and early morning awakening are common in the elderly. Waking up early can also be due to advanced sleep phase syndrome.
 - A thorough history (both medical and psychiatric) and physical examination are required when diagnosing insomnia.
 - Behavioural therapy should be the first line of therapy and sleep hygiene education can be conducted by the family physician in the clinic. If there is little improvement, referral should be considered to a specialist geriatrician or psychiatrist for Cognitive Behavioural Therapy for Insomnia (CBT-I) or multicomponent therapy.
 - CBT-I has been shown to be more effective than medications for long term management of insomnia in the older adults.
 - Medications should be used sparingly and when possible be discontinued. If medications are needed, it should be used in conjunction with behavioural interventions.
 - Wherever possible, it is wise to avoid using benzodiazepines or other sedative hypnotics in older adults as a first choice for insomnia, agitation, or delirium.
 - Currently, the appropriate drugs to use in the elderly are zolpidem, melatonin, zopiclone and doxepin.
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