

بسمه تعالی

بیمار آقای ۶۵ ساله با شکایت مشکل خواب به درمانگاه پزشکی خانواده مراجعه کرده است. از ۶ ماه قبل هر شب در به خواب رفتن مشکل دارد و ساعت ها در تخت خواب بیدار می ماند. گاهی اوقات صبح زود از خواب بیدار می شود و دیگر نمی تواند بخوابد. در طول روز خواب آلود است به طوری که هنگام رانندگی دچار مشکل می شود. هنگام خواب خور و پف می کند. طول مدت خواب شبانه وی کوتاه می باشد و نمی تواند حداقل ۶ ساعت مداوم بخوابد. هر شب چند بار برای رفتن به توالت و ادرار کردن باید از خواب بیدار شود. شبها فیلم نگاه می کند و با موبایل در فضای مجازی مشغول می شود. به دلیل نداشتن خواب مناسب دچار اختلال در تمرکز و نداشتن انرژی کافی برای انجام کارهای روزانه شده است. این مشکلات باعث شده هیچ پرستاری تمایل به ماندن در منزل ایشان نداشته باشد.

از ۴ سال قبل مبتلا به فشار خون شده است و درمان دارویی دریافت میکند و هر ماه جهت مراقبت به مرکز جامع سلامت مراجعه میکند. تحت نظر متخصص قلب می باشد و سالانه ویزیت می شود. در مدارکی که به همراه دارد دچار فیبریلاسیون دهلیزی و نارسایی قلبی هم می باشد.

DH=LOSATEN-H(50,12.5)PO/BD,AMLODIPIN 5 MG PO/BD,SUSTAC 2.6 MG/BD,ASA 80 MG /PO
DAILY,APIXABAN 2.5 MG /PO/BD , gloripa /po/daily,

PH/E

BP=145/85,PR=90,RR=17,T=36.5,W=90 KG,L=168 CM ,BMI=31.91

در معاینه سمع قلب و ریه ها نرمال می باشد. ویزیا کاهش صدای ریوی ندارد. شکم نرم است و اندام ها ادم ۲ پلاس گوده گذار دارند.

لیست مشکلات

1. مشکل در به خواب رفتن
2. نداشتن خواب مداوم شبانه حد اقل 6 ساعت
3. زود بیدار شدن از خواب
4. نداشتن انرژی در طول روز و مشکل تمرکز
5. به دلیل مصرف دیورتیک چند بار در طول شب مجبور به بیدار شدن از خواب و رفتن به توالت می شود.
6. بیماری قلبی
7. چاقی و خرو پف شبانه
8. تعویض پرستاران مختلف به دلیل مشکلات خواب ایشان

Common Sleep Disorders Affecting Older Adults

استاد راهنما:

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ارایه دهنده:

رسول اسمی

دستیار سال دوم پزشکی خانواده

Table 6 The Physical Examination in the Sleep Patient

- I. Basic measurements
 - Blood pressure
 - Height and weight
 - Neck circumference
 - Pulse oximetry
 - II. Upper airway exam
 - Craniofacial features (retrognathia, micrognathia, high-arched hard palate)
 - Oropharynx (tongue, soft palate, tonsils, posterior lateral diameter)
 - Nasal (nasoseptal deviation, turbinate hypertrophy, secretions)
 - III. Cardiopulmonary exam
 - Auscultation of the heart and lungs
 - Evaluation of jugular venous pressure and lower extremity edema
 - IV. Neurological examination
 - Complete exam necessary in evaluation of parasomnias
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Introduction

- prevalence may increase with age

Substance abuse, chronic medical illnesses , psychiatric conditions, reduced physical activit

-Non-REM sleep has 3 stages(N1,N2,N3)

-Chronic Insomnia

DEFINITION

difficulty initiating or maintaining sleep

EPIDEMIOLOGY

50% of the elderly, more prevalent in females, Sleep maintenance 50% to 70%

DIAGNOSIS

often chronic

NONPHARMACOLOGICAL MANAGEMENT

- cognitive behavioral therapy, sleep hygiene education, relaxation therapy,
- imagery, sleep restriction, and stimulus control therapy

• PHARMACOLOGICAL MANAGEMENT

- limited to ≤ 5 weeks(TABLE-4)

Table 5 The Sleep History in the Sleep Patient

I. Sleep complaints

- Onset
- Frequency
- Severity
- Progression

II. Sleep timing, continuity, duration, and restorative nature

- What time do you go to bed on weekdays/weekends?
- How long does it take for you to fall asleep?
- What time do you awaken on weekdays/weekends?
- Do you feel refreshed upon awakening?
- How many times do you awaken on a typical night? Do you have trouble falling back to sleep?
- What causes awakenings?
- Do you nap? When, how often, and how long?

III. The impact of poor sleep on daytime function

- Do you feel sleepy or fatigued during the day?
- Do you fall asleep unintentionally? In what situations and what time of the day?
- Do you have trouble concentrating or thinking?

IV. Identification of specific sleep disorders

- Obstructive sleep apnea—snoring, witnessed apneas, choking, dry mouth, nocturia

IV. Identification of specific sleep disorders

- Obstructive sleep apnea—snoring, witnessed apneas, choking, dry mouth, nocturia
- Narcolepsy—cataplexy, sleep attacks, hallucinations, sleep paralysis
- Restless legs syndrome—motor restlessness, discomfort in the legs worse in the evening and relieved with movement

V. Identification of chronic conditions and medications that may impact sleep and alertness

- Chronic painful conditions
- Chronic conditions that produce fatigue (hypothyroidism, iron deficiency)
- Cardiopulmonary disorders that cause awakening with dyspnea
- Nocturnal gastroesophageal reflux
- Renal failure (restless legs syndrome)
- Rhinitis
- Depression/anxiety
- Neurological conditions (Parkinson's disease, spinal cord injury, closed head injury)
- Medications that cause sleepiness or disrupt sleep (glucocorticoids, antidepressants, narcotics, hypnotics)

VI. Habits that impact sleep quality

- Substance use (caffeine, alcohol)
- Poor sleep hygiene

VII. Family history

- Obstructive sleep apnea, restless legs syndrome, narcolepsy
-

Sleep stages	Hallmark changes in sleep stages
Daytime napping	Increased
Nighttime awakenings	Increased
Sleep latency (time to fall asleep)	Increased or no change
Stage N1 (transition between awake and sleep)	Increased
Stage N2 (throughout the sleep)	Increased
Percentage REM sleep	Decreased
Sleep efficiency (time asleep over time in bed)	Decreased
Stage N3 (slow-wave sleep)	Decreased
Total sleep time	Decreased

Table 1: Sleep changes with aging^{2,5}

N = stage of non-REM sleep; REM = rapid eye movement.

Successful practices for a healthy sleep

Be consistent—wake up at the same time during the weekdays, weekends, and vacations.

Sleep 7–8 h every night.

Use the bed only for sleep and sex.

Avoid staying in bed if not asleep after 15–20 min.

Make the bedroom a comfortable and quiet place with a cool temperature.

Limit bright and blue light exposure in the evenings.

Stop using electronic devices 30–60 min before bedtime.

Cut back screen time 2 h before bedtime.

Avoid alcohol or a large dinner before bedtime.

Refrain from consuming caffeine 6–8 h before bedtime.

Exercise regularly during the day.

Decrease fluid intake before bedtime.

Adjust the air conditioning to reduce body temperature by 1°C (1.8°F) 2–3 h before bedtime to help fall asleep within 20 min.

The best sleeping temperature is between 15.6 and 20°C (60 and 68°F).

Eat a low-fat and low-added-sugar supper before bedtime.

If unable to fall asleep, leave the bed and do a quiet activity with low-light levels.

Try to avoid going to bed if you are not sleepy.

Manage stressors by writing them in a journal before bed.

Meditate to handle anxiety.

Try non-blue light creative activities such as puzzles, find-a-word, and coloring books to avoid overthinking.

Hum a favorite song because it calms the brain and vagus nerve. Humming doesn't even need to be out loud to get this benefit.

Table 2: Sleep hygiene education^{2,11-13}

Intervention	Description
CBT-I	First-line treatment. Frequently involves 6-10 sessions of therapy focused on cognitive beliefs and behaviors associated with sleep disorders.
Sleep restriction therapy	Limit time in bed until sleep efficiency improves. Determine the average total sleep time (ATST) and add 30 min. Set up a wake-up and bedtime. For example, if the ATST is 6 h and the wake-up time is 6 AM, the bedtime will be midnight. It may be increased by 15 min weekly if feeling tired until sleeping better—no naps during the daytime.
Stimulus control therapy	Use the bed only to sleep. If not asleep, get out of bed and return only if sleepy—no reading or watching TV in bed. Avoid exceeding > 15 min in bed if not asleep.
Relaxation Techniques	Breathing exercises, paced diaphragmatic breathing (belly breathing), mediation, biofeedback, and progressive muscle relaxation. In addition, nose breathing, such as slow breathing with prolonged expiration and tiny breaths, has been shown to help with anxiety by decreasing psychological and physiological arousal.
Brief behavioral therapy for insomnia	A shorter form of CBT-I focused on improving circadian sleep regulation in fewer sessions.
Light therapy	Exposure to sunlight or a lightbox/visor with light intensity from 2000 to 10,000 lux. Use early morning light therapy for the delayed sleep phase and evening light therapy for the advanced sleep phase.

Table 3: Behavioral interventions^{2,8,14}

CBT-I = cognitive behavioral therapy for insomnia.

Medication	Dosage (mg)	Mechanism of action	Possible interactions	Side effects	Literature regarding use in the elderly
Antidepressants					
Doxepin	3–6 ⁶	Highly selective H1 antagonist. Resynchronization of the circadian cycle. ⁶	Acetylcholinesterase inhibitors, CNS depressants, alosetron, alpha-1, alpha-2 agonists, aspirin, beta-2 agonists, and haloperidol. ¹⁶	Nephrotoxicity, GI upset, urinary retention, cardiac arrhythmia, orthostatic hypotension, bone marrow depression. ¹⁶	In a study with 76 elderly patients, dosages at 1 mg, 3 mg, and 6 mg were all equally safe, but patients had increased success at 6 mg. ⁶
Mirtazapine	7.5–30 ⁶	Blocks 5-HT _{2A} , 5-HT _{2C} , and alpha ₂ -adrenergic receptors; decreases neurotransmission at 5-HT ₂ synapses; increases norepinephrine neurotransmission. ¹⁶	Monoamine-oxidase inhibitors. ¹⁶	Seizures, agranulocytosis, neuroleptic malignant syndrome, somnolence, increased appetite, weight gain, constipation, dizziness, xerostomia. ¹⁶	Some small studies have shown that patients with Alzheimer's benefit from mirtazapine. ⁶ It may exacerbate hyponatremia or cause SIADH in the elderly. Monitor sodium closely. ¹⁷
Trazodone	25–100 ⁶	Modulates effect on 5-HTA receptors. ⁶	Monoamine-oxidase inhibitors, saquinavir or ritonavir. ¹⁶	Cardiac arrhythmia, priapism, hypotension, serotonin syndrome. ¹⁶	Although evidence is limited, a small randomized, double-blind trial showed subjective improvement in sleep. Another trial with AD patients showed safety at 50 mg dosage. ¹⁸
Benzodiazepine					
Temazepam	7.5–20 ¹⁹	A positive allosteric modulator of the GABA-A receptor. ¹⁹	CNS depressants.	GI upset, headaches, dreams, nightmares. ¹⁹	A systematic review of 24 articles found that this medication was optimal for sleep maintenance insomnia in older adults. ¹⁹
Non-benzodiazepines					
Eszopiclone	1–2 ⁶	Target the α -1 subunit of GABA-A receptor complexes to increase activation. ⁶	CNS depressants, CYP3A4 inducers. ²⁰	Hepatotoxicity, dizziness, headache, excessive somnolence. ¹⁶	In a meta-analysis with older adults, Eszopiclone and low-dose doxepin were superior for total subjective and objective sleep time compared to placebo. ¹⁹
Zaleplon	5–10 ^{41,42}	Target the α -1 subunit of GABA-A receptor complexes to increase activation. ⁶	CNS depressants, CYP3A4 inducers. ²¹	Hepatotoxicity, dizziness, headache, excessive somnolence. ¹⁶	Not recommended due to increased falls, confusion, increased ED visits, hospitalizations, manual vacuum aspiration, and minimal improvement in sleep latency and duration. ¹⁷

Medication	Dosage (mg)	Mechanism of action	Possible interactions	Side effects	Literature regarding use in the elderly
Tasimelteon	20 ²²	Synthetic melatonin receptor agonist at melatonin type 1 and 2 receptors. ²²	CNS depressants, CYP1A2, CYP2C9 inhibitors, and inducers. ²²	Daytime somnolence, fatigue, dizziness, headache, nightmares. ²²	Approved for non-24-h sleep-wake cycle disorders in adults; however, insufficient data regarding safety in the elderly. ²²
Orexin receptor antagonists					
Lemborexant	5-10 ⁴⁴	Orexin Receptor antagonist at OX1R and OX2R. ²⁴	CYP3A4 inhibitors and inducers. ²⁴	Daytime sleepiness, fatigue, dizziness, headaches, nightmares. ²⁴	In a study of 1006 participants ≥ 55 years old, lemborexant significantly improved sleep onset and maintenance compared with placebo and zolpidem. ²⁴
Suvorexant	5-20 ⁶	Orexin receptor antagonist at OX1R and OX2R. ²⁵	CYP3A4 inhibitors. ²⁵	Daytime somnolence, sleep paralysis, cataplexy, hypnagogic hallucinations. ²⁵	Insufficient evidence in the elderly due to its being a newer medication. ²⁵

AD = Alzheimer's disease; CNS = central nervous system; ED = emergency department; GABA = gamma-aminobutyric acid; GI = gastrointestinal; H1 = histamine H1 receptor; 5-HT = serotonin; OX1R = orexin 1 receptor; OX2R = orexin 2 receptor; SIADH = syndrom of inappropriate antidiuretic hormone secretion.

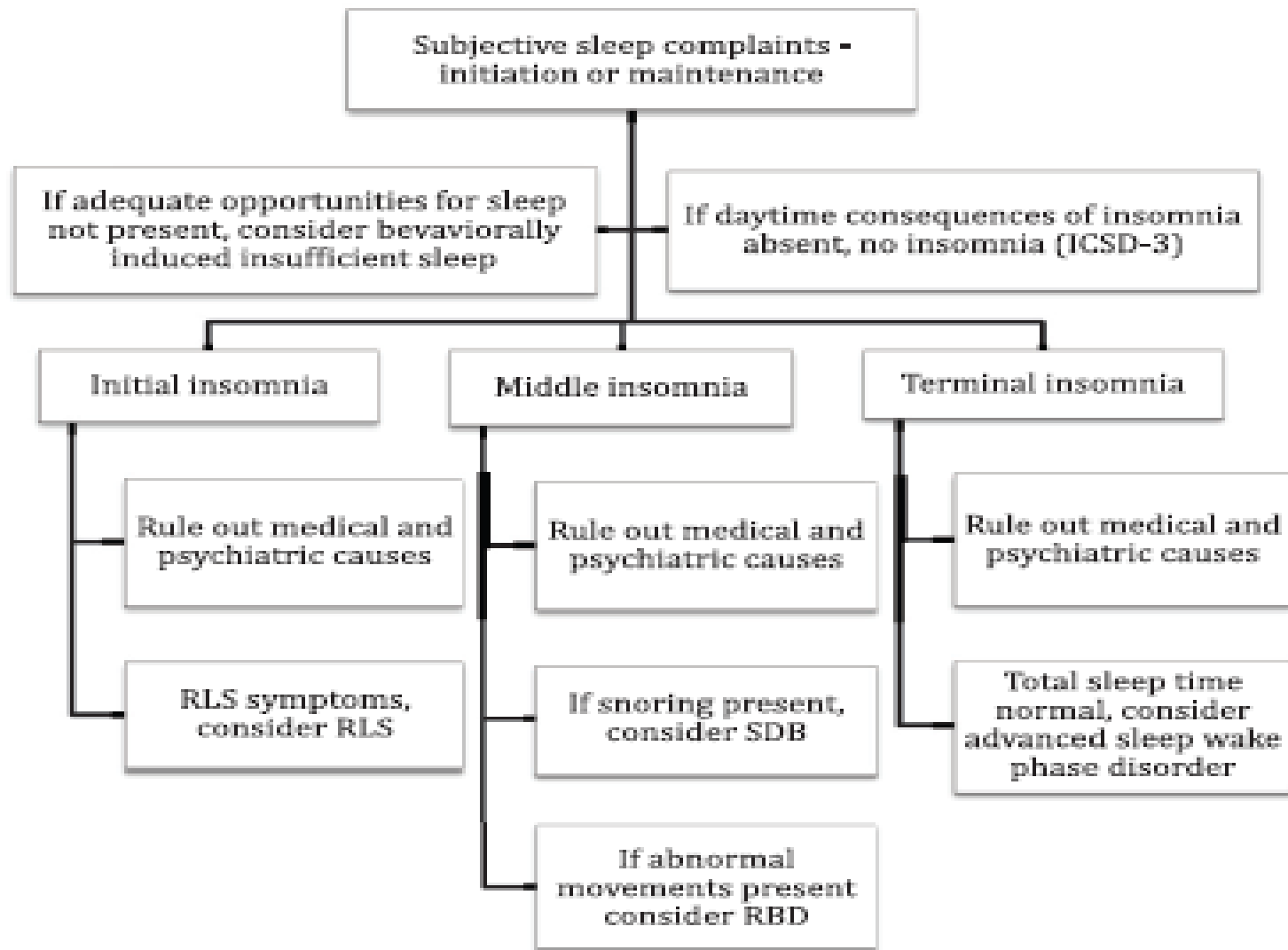


Figure 1: Algorithm for diagnosis of insomnia disorder

Circadian Rhythm Sleep–Wake Disorders

DEFINITION

- endogenous circadian rhythm and the external environment

EPIDEMIOLOGY

20% of the elderly

DIAGNOSIS

work shift disorder , jet lag disorder

NONPHARMACOLOGICAL MANAGEMENT

- Light therapy and behavior therapy

PHARMACOLOGICAL MANAGEMENT

- Melatonin receptors

• Sleep-Related Movement Disorders

• RESTLESS LEG SYNDROME

- **Epidemiology**(10% to 35% in patients < 65 years old)

• **Nonpharmacological management**

- Lifestyle changes and dietary modifications

- **Pharmacological management**(non–ergot-based dopamine agonists (ropinirole, pramipexole, and rotigotine)

- **PERIODIC LIMB MOVEMENT DISORDER**
- **Epidemiology**(4% to 11% in the older adult), up to 80% in patients with RLS
- **Diagnosis**(Babinski sign), elevated blood pressure and heart rate.
- **Nonpharmacological management**(avoid certain medications)
- **Pharmacological management**(Dopaminergic medications)
- **REM SLEEP BEHAVIOR DISORDER**
- **Epidemiology**(5% to 7% in the elderly population)
- **Nonpharmacological management**(environmental modification to prevent harm and injuries)
- **Pharmacological management**(Low-dose clonazepam (0.5–1 mg/d))
- **Sleep-Breathing Disorders**
- **EPIDEMIOLOGY**(up to 34% in 30- to 70-year-old men, 17% in 30- to 70-year-old females, and 23.9% in 65- to 100-year-old)
- **NONPHARMACOLOGICAL MANAGEMENT**(positional therapy (sleep on the lateral side))
- **PHARMACOLOGICAL MANAGEMENT**(Nocturnal oxygen supplementation and theophylline)
- **Conclusion**

Primordial Prevention

Primary Prevention

Secondary Prevention

Tertiary Prevention

Quaternary Prevention

• PRIMORDIAL PREVENTION

1. تهیه و تنظیم بوکلت مراقبت از سالمندان در وزارت بهداشت

2. تهیه برنامه های آموزشی در رسانه ملی

3. توزیع بوکلت های خود مراقبتی در بین سالمندان توسط مراقبین سلامت

PRIMARY PREVENTION

1. انجام مراقبتهای ویژه دوران سالمندی در مراکز جامع سلامت توسط مراقبان سلامت و پزشکان

2. انجام غربالگری مشکلات خواب در بین سالمندان

3. شناسایی افراد پر خطر توسط مراقبان سلامت و ارجاع به پزشک مرکز و کارشناس بهداشت روان

• SECONDARY PREVENTION

1. ارجاع افراد دچار اختلالات خواب به کارشناسان بهداشت روان

2. درمان بیماریهای زمینه ای توسط پزشک خانواده

3. ارجاع به متخصصان مربوطه توسط پزشک خانواده جهت درمان بیماریهای همراه

4. ارجاع به کلینیک های درمان اختلال خواب

5. ارجاع به کارشناس تغذیه جهت کمک به کاهش وزن

- TERTIARY PREVENTION

1. درمان اختلال خواب توسط متخصص مربوطه بر اساس آخرین و بروزترین مطالعات

2. درمان مشکلات زمینه ای بیماران

3. مراقبت و مونیٹورینگ به موقع بیماران

4. تهیه ابزار مخصوص درمان اختلال خواب از منابع معتبر

5. پیگیری هر سه ماه یکبار بیماران جهت بررسی پیشرفت درمان

Quaternary Prevention

- 1- مونیٹورینگ و فالو اپ بموقع بیمار ان و ارایہ خدمات درمانی مقتضی
- 2- عدم انجام اقدامات پاراکلینیکی و دارویی کہ تاثیر خاصی بر پیش آگهی و عوارض بیماری ندارد