TRYING TO CATCH SOME ZZZ’S: MANAGEMENT OF INSOMNIA IN THE ELDERLY

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DISCLOSURES

I do not have a vested interest in or affiliation with any corporate organization offering financial support or grant money for this continuing education program, or any affiliation with an organization whose philosophy could potentially bias my presentation.

LEARNING OBJECTIVES

By the end of the presentation, pharmacists should be able to:

- Define insomnia disorder based on DSM-5 criteria
- Explain pharmacological and non-pharmacological treatment for insomnia in elderly patients
- Recall adverse effects, important drug interactions, and patient counseling pearls for medications used in treating insomnia
- Explain the role of the pharmacist in treating insomnia in elderly patients
LEARNING OBJECTIVES

By the end of the presentation, pharmacy technicians should be able to:

- Define insomnia disorder based on DSM-5 criteria
- Discuss the epidemiology and pathophysiology of insomnia in elderly population
- Recognize the pharmacological and non-pharmacological treatment for insomnia in elderly

OVERVIEW

- Review sleep/wake cycle (Normal Sleep)
- DSM-5 Sleep – wake disorders
- Definition of insomnia disorder
- insomnia disorder in the elderly
- Epidemiology
- Diagnosis
- Risk factors
- Treatment
- Role of the pharmacist

PATIENT CASE

- JT is a 69-year-old man who is referred to a sleep disorders clinic for evaluation of insomnia and daytime somnolence.
- JT reports that he has had insomnia for many years and that it has gotten worse in the past 10 years. He has trouble with sleep initiation and it often takes him more than an hour to get to sleep. Once he is asleep, he wakes up multiple times and then struggles to get back to sleep. He tosses and turns in bed until morning and gets up feeling exhausted.
- JT has also been recently diagnosed with depression.
Sleep is divided into two phases:
- Non-Rapid eye movement sleep (NREM)
- Rapid eye movement sleep (REM)

The two phases of sleep can occur 4 to 6 times per night.
Each phase last between 70 to 120 minutes.

Several hormone changes occur during normal sleep:
- Growth hormone
  - Releases during NREM stage
- Cortisol
  - Peaks shortly before awakening
- Melatonin
  - Significantly increases at sleep onset

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- Melatonin
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SLEEP WAKE DISORDERS

Changes in sleeping patterns or habits that can negatively affect health.

The Diagnostic and Statistical Manual of Mental Disorder, Fifth Edition (DSM-5) classifies sleep-wake disorders into 10 categories:

- Insomnia Disorder (most common)
- Hypersomnia Disorder
- Narcolepsy
- Breathing-Related Disorder
- Circadian Rhythm Sleep-Wake Disorders
- Non-REM Sleep Arousal Disorders
- Nightmare Disorder
- REM Sleep Behavior Disorder
- Restless Legs Syndrome
- Substance/Medication Induced Sleep Disorder

INSOMNIA

The DSM-5 broadly defines insomnia disorder as follows:

A. A predominant complaint of dissatisfaction with sleep quantity or quality, associated with one (or more) of the following symptoms:
   - Difficulty initiating sleep
   - Difficulty maintaining sleep
   - Early morning awakenings with inability to return to sleep

B. Sleep disturbance causes clinically significant distress or impairment in important area of functioning

C. Occurs at least 3 nights per week

D. Present for at least 3 months

E. Occurs despite adequate opportunity for sleep

F. Is not better explained by or does not occur exclusively while another sleep-wake disorder

G. Is not attributable to the physiological effects of a substance

H. Coexisting mental disorders and medical conditions do not adequately explain insomnia
INSOMNIA CONT.

- Based on the DMS-5, diagnosis of insomnia disorder must specify the following:
  - With non-sleep disorder mental comorbidity, including substance use disorders
  - With other medical comorbidity
  - With other sleep disorder
  - Episodic
    - Symptoms last at least 1 month but less than 3 months
  - Persistent
    - Symptoms last 3 months or longer
  - Recurrent
    - Two (or more) episodes within the space of 1 year

PATHOPHYSIOLOGY

- Insomnia disorder induces a state of hyperarousal during sleep and wakefulness
- Hyperarousal is manifested as:
  - Elevated whole-body metabolic rate during sleep and wakefulness
  - Elevated cortisol
  - Elevated adrenocorticotropic hormone
  - Reduced parasympathetic tone in heart rate
- Abnormalities in the levels and/or interaction of these following substances in the brain may lead to insomnia:
  - Molecules that promote wakefulness and suppress sleep
  - Molecules that promote sleep and suppress wakefulness
  
    | Molecules that promote wakefulness and suppress sleep | Molecules that promote sleep and suppress wakefulness |
    |-----------------------------------------------------|-----------------------------------------------------|
    | ↑ Catecholamines | ↓ GABA |
    | ↑ Orexin | ↓ Serotonin |
    | ↑ Histamine | ↓ Melatonin |

PATIENT CASE

- JT is a 69-year-old man who is referred to a sleep disorders clinic for evaluation of insomnia and daytime somnolence.
- JT reports that he has had insomnia for many years and that it has gotten worse in the past 10 years. He has trouble with sleep initiation and it often takes him more than an hour to get to sleep. Once he is asleep, he wakes up multiple times and then struggles to get back to sleep. He tosses and turns in bed until morning and gets up feeling exhausted.
- JT has also been recently diagnosed with depression.
ASSESSMENT QUESTION
Which of the following molecule(s) promotes sleep and suppress wakefulness?
A. Melatonin
B. Cortisol
C. Serotonin
D. A and C
E. All the above

ASSESSMENT QUESTION
Based on JT's symptoms and the DSM-5 criteria, which of the following describes JT's insomnia?
A. Difficulty initiating sleep
B. Early morning awakenings with inability to return to sleep
C. Difficulty maintaining sleep
D. A and C
E. All the above

INSOMNIA IN THE ELDERLY
EPIDEMIOLOGY
- More than 50% of the geriatric population complains about difficulty initiating or maintaining sleep.
- The prevalence of insomnia is higher in older individuals than younger.
- The overall prevalence of symptoms ranges from 30% to 48% in the elderly.
- Sleep maintenance symptoms is the most prevalent complaint, approximately 50% - 70%.
- Elderly patients with depressive symptoms are two to three times more likely to report complaints of insomnia.
- Elderly patients with respiratory symptoms are 40% more likely to report complaints of insomnia.

AGE-RELATED CHANGES
Insomnia remains one of the most common sleep disorders encountered in the geriatric population, frequently characterized by:
- Subjective complaints of difficulty falling asleep or maintaining sleep
- Nonrestorative sleep
- Mood disturbances

Age-Related Changes
- Total average sleep time decreases considerably from 7 hours to 5 hours a night
- Decreased sleep efficiency
- A tendency to fall asleep early in the evening
**OCCASIONAL SLEEP PROBLEMS**

- The following symptoms are not a part of the aging process:
  - Having trouble falling asleep even though he/she feels tired
  - Having trouble getting back to sleep when awakened
  - Not feeling refreshed after a night's sleep
  - Feeling irritable or sleepy during the day
  - Relying on sleeping pills or alcohol to fall asleep

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**INSOMNIA IN THE ELDERLY**

*Objective*
- To gather evidence in order to further explain the prevalence of insomnia in the elderly population compared to the general population

*Methods*
- Utilized psychiatric examinations to gather information regarding sleeping habits
- Sleeping habits were obtained from 834 community and 33 institutional residents

*Results*
- Insomnia was closely related to other comorbid conditions (pain, depression, and poor physical health)
- 16% of community dwelling and 12% institutional residents experienced insomnia

*Conclusions*
- Persistent insomnia in the elderly is strongly associated with depressed mood, as well as with physical disease

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**ASSESSMENT QUESTION**

More than _______ of the geriatric population complains about difficulty initiating or maintaining sleep.

A. 20%
B. 30%
C. 40%
D. 50%
E. 60%
RISK FACTORS/ DIAGNOSIS

RISK FACTORS FOR INSOMNIA

Psychiatric Conditions
- Depression
- Anxiety
- Substance Use Disorders
- Posttraumatic Stress Disorder

Medical Conditions
- Pulmonary (COPD/Asthma)
- Rheumatologic (Arthritis, Fibromyalgia, Chronic Pain)
- Cardiovascular (CHF)
- Endocrinologic (Diabetes and Hyperthyroidism)
- Gastrointestinal (GERD, PUD, IBS)
- Cancer

MEDICATION/SUBSTANCE INDUCED INSOMNIA

<table>
<thead>
<tr>
<th>Medications/Substances</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNS Depressants (BZDs, Opioids)</td>
<td>Chronic use can cause rebound insomnia</td>
</tr>
<tr>
<td>CNS Stimulants</td>
<td>Increase alertness and brain function, stimulating</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Affect sleep cycle, specifically REM</td>
</tr>
<tr>
<td>Diuretics</td>
<td>Nighttime awakenings</td>
</tr>
<tr>
<td>Glucocorticoids</td>
<td>Increase stress on the adrenal gland</td>
</tr>
<tr>
<td>Caffeine</td>
<td>Similar to CNS stimulants</td>
</tr>
<tr>
<td>Nicotine</td>
<td>Similar to CNS stimulants</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Interferes with circadian rhythm</td>
</tr>
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</table>
MORBIDITY ASSOCIATED WITH INSOMNIA DISORDER

- Older individuals with insomnia have a 23% increase risk of developing depressive symptoms.
- Insomnia increases risk for suicidal tendencies.
- Sleep loss and insomnia symptoms display an association with heart disease and other cardiovascular risk factors, including the following:
  - Hypertension
  - Myocardial Infarction
  - Stroke
- Individuals with insomnia are at a greater risk for metabolic syndrome.

IDENTIFYING UNDERLYING PROBLEMS

- By identifying all possible causes, clinicians can tailor diagnosis and treatment accordingly by asking the following:
  - Are you under a lot of stress?
  - Are you depressed? Do you feel emotional?
  - Do you struggle with chronic anxiety or worry?
  - Have you recently gone through a traumatic experience?
  - Do you have any health problems? Are you taking any medications?
- If yes, further questions about each specific condition/medication will be asked.

PATIENT CASE

- JT’s wife reports that he snores and there have been occasions when he stopped breathing while sleeping. He has type 2 diabetes mellitus, hypertension, depression, and gastroesophageal reflux disease.
ASSESSMENT QUESTION
Which of the following risk factors for insomnia disorder does JT have?
A. GERD
B. Cancer
C. Type 2 Diabetes Mellitus
D. A and C
E. All the above

TREATMENT

GOALS OF THERAPY
- Identify/assess potential cause(s) of sleep issues
- Correct the underlying sleep complaint
- Enhance sleep
- Improve daytime functioning and reduce daytime sleepiness
- Avoid adverse effects from selected therapies
- Use the lowest possible dose for the shortest possible time
MANAGEMENT OF INSOMNIA

- Treatment can be divided into nonpharmacological and pharmacological options as follows:
  - Nonpharmacological therapy
  - Sleep hygiene
  - Psychological and behavioral therapies
  - Cognitive Behavioral Therapy for Insomnia (CBT-I)
  - Pharmacotherapy

Management of insomnia disorder requires a stepwise approach
- Treatment should begin with eliminating or at least minimizing contributing factors.
- Older adults should be treated with nonpharmacological options prior to pharmacotherapy.
- Pharmacotherapy alone or with CBT-I is commonly utilized.

STEPWISE APPROACH TO TREATMENT

- Collect thorough clinical history of sleep problems
- Evaluate present challenges
  - May occur as a primary disorder or result from comorbid conditions
  - Evaluate the nature, frequency, evolution, and duration of symptoms, as well as response to treatment
- Modalities that assist in evaluation of insomnia include:
  - Wrist actigraphy
  - Insomnia Severity Index
  - The Pittsburgh Sleep Quality Index
- Consensus sleep diary that includes detailed questions can help assist in obtaining additional sleep history

NONPHARMACOLOGICAL/PHARMACOLOGICAL TREATMENT
NONPHARMACOLOGICAL: SLEEP HYGIENE PRACTICES

Sleep Hygiene Education
- Promote stable sleep practices such as:
  - Decreasing environmental disruption
  - Turning off all electronic devices at least 30 minutes before bedtime
  - Having a comfortable bed in a cool, dark quiet room
  - Removing the clock from the room for those who clock-watch
  - Limiting use of alcohol, nicotine, or caffeine before bed
  - Trying not to exercise too close to bedtime
  - Avoiding naps if possible
  - Limiting nap time to less than one hour

NONPHARMACOLOGICAL: BEHAVIORAL

Cognitive behavioral therapy
- Identifying and changing the thoughts and behaviors that affect the ability of a person to sleep or sleep well

Stimulus control therapy
- Reassociate bed with sleep

Sleep restriction therapy
- Decrease time spent in bed

Relaxation therapy
- Helps reduce muscle tension and stress

PHARMACOLOGICAL THERAPY

Over-the-Counter Medications
- Antihistamines
- Melatonin

Antidepressants
- Mirtazapine (Remeron®, Remeron® Sol-Tabs)
- Trazodone (Desyrel®)
- Doxepin (Silenor®)

Benzodiazepines
- Temazepam (Restoril®)
- Triazolam (Halcion®)
- Quazepam (Doral®)
- Estazolam (ProSom®)
- Flurazepam (Dalmane®)
PHARMACOLOGICAL THERAPY CONT.

Non-Benzodiazepine Receptor Agonists
- Eszopiclone (Lunesta®)
- Zaleplon (Sonata®)
- Zolpidem (Ambien®)
- Zolpidem (Ambien CR®) Extended Release
- Zolpidem (Intermezzo®) Sublingual
- Zolpidem (Edluar®) Sublingual
- Zolpidem (Zolpimist®) Oral Spray

Orexin Receptor Antagonists
- Suvorexant (Belsomra®)

Melatonin Receptor Agonists
- Ramelteon (Rozerem®)

PHARMACOLOGICAL TREATMENT:

SPECIAL CONSIDERATIONS
- Beers Criteria
  - List of medications designed to reduce geriatric drug-related problems
  - Geriatric population is more likely to be more sensitive to all sedative-hypnotic and sleep aid medications and experience more side effects
  - These medications can cause confusion and memory problems that cause the following:
    - Double the risk of falls and hip fractures
    - Increase risk of car accidents
  - Over-the-counter antihistamines or “sleep aids” as well as herbal/natural products are not recommended in the treatment of chronic insomnia
  - Due to lack of efficacy and safety data
  - Utilize cough/cold and pain combination products only in patients experiencing pain or have a cough/cold
  - Combination products that contain diphenhydramine (Advil PM®, Tylenol PM®, NyQuil® etc.)

PHARMACOLOGICAL TREATMENT:

POLYPHARMACY
- Polypharmacy is the use of multiple medications by a patient
- Minimum number generally ranges from five medication or more
- A concern in the geriatric population because they tend to have more disease conditions for which therapies are prescribed
- Approximately 20% of Medicare beneficiaries have five or more chronic conditions
- Approximately 50% receive five or more medications
- Older individuals are at greater risk for ADEs due to metabolic changes and decreased drug clearance associated with aging
- Polypharmacy increases the potential for drug-drug interactions and for prescription of potentially inappropriate medications
**ANTIHistamines**

**Sominex®, Simply Sleep®, Nytol®**
- **Dose:** Oral 25 to 50 mg at bedtime occasionally
- **Unisom®**
- Oral 25 mg once daily 30 minutes before bedtime occasionally
- **Side effects:**
  - Dry mouth, somnolence
  - Patients should avoid activities requiring mental alertness or coordination
  - Tolerance develops when used as a hypnotic
  - Risk of confusion
  - Contain anticholinergic effects
  - Elderly population more susceptible to these effects

**MELATONIN**

**Recommended dose:**
- Sustained release 1 to 2 mg orally, 2 hours before bedtime for up to 2 months
- Use not recommended in patients with hepatic impairment
- Chewable and ODT formulation available
- **Side effects:**
  - Somnolence, fatigue, hypothermia

**MELATONIN TREATMENT**

**Objective:**
- To study the relationship between insomnia in older individuals as it relates to low nocturnal melatonin levels

**Method:**
- Double blind, placebo controlled
- Received placebo on odd weeks and received doses of melatonin (0.1 mg, 0.3 mg, or 3 mg) on even weeks

**Results:**
- 0.3 mg of melatonin restored sleep efficiency and elevated plasma melatonin levels to normal
- 0.1 mg and 3 mg improved sleep; 3 mg dose was associated with induced hypothermia and elevated levels of melatonin during the day

**Conclusion:**
- Using the lowest dose possible has been effective in increasing sleep efficiency and plasma melatonin levels to normal
MISCELLANEOUS ANTIDEPRESSANT: MIRTAZAPINE (REMERON®, REMERON® SOL-TAB)

**Dose**
- 15 mg daily at bedtime, may increase dose every week to two weeks; MAX dose 45 mg/day

**Side effects**
- Increased appetite
- Raise serum triglycerides
- Weight gain
- Dry mouth

**Contraindications**
- Coadministration with or within two weeks of a MAO inhibitors

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MISCELLANEOUS ANTIDEPRESSANT: MIRTAZAPINE (REMERON®, REMERON® SOL-TAB)

- Beneficial for patients with depression and insomnia who need to gain weight or increase their appetite
- Triglyceride levels should be monitored
- Gradual reduction of the dose, rather than abrupt discontinuation
- Abrupt discontinuation has led to symptoms of:
  - Dizziness
  - Nausea
  - Headache
  - Irritability/anxiety

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ASSESSMENT QUESTION

Which of the following is considered first-line therapy in the treatment of insomnia in the geriatric population?

A. Mirtazapine
B. Cognitive Behavioral Therapy (CBT-I)
C. Temazepam
D. Doxepin
E. Trazodone
MISCELLANEOUS ANTIDEPRESSANT: TRAZODONE (DESYREL®)

**Dose**
- 50 to 100 mg one hour prior to bedtime

**Side effects**
- Dry mouth
- QT prolongation
- Priapism
- Orthostasis

**Contraindications**
- Coadministration with or within 2 weeks of MAO inhibitors
- Coadministration with medications with serotonin activity
- Increased risk for serotonin syndrome

Advise male patients to report symptoms of priapism (medical emergency)
- Erection that lasts longer than 4 hours
- Beneficial for patients who are experiencing insomnia and depression
- Inform patient of possible fall risk due to orthostasis
- Avoid sudden discontinuation of drug
- Taper dose gradually
- Warn patient of signs and symptoms of serotonin syndrome
- Confusion
- Rapid heart rate/high blood pressure
- Increased sweating

TRICYCLIC ANTIDEPRESSANT: DOXEPIN (SILENOR®)

**Dose**
- 3 to 6 mg within 30 minutes of bedtime

**Contraindications**
- Coadministration with or within 2 weeks of a MAO inhibitors

**Side effects**
- QT prolongation
- Cognitive impairment
- Orthostasis
- Dry mouth
- Blurred vision
- Urinary retention
TRICYCLIC ANTIDEPRESSANT: DOXEPIN (SILENOR®) CONT.

- Listed on the Beers Criteria (use with caution)
- Anticholinergic and sedating effects
- Risk of orthostatic hypotension
- Narrow therapeutic window
- Increase QT prolongation
- Avoid in older adults with a history of falls or fractures
- Impaired psychomotor function, syncope, and additional falls may occur
- Use caution as SIADH or hyponatremia may occur or be exacerbated
- Monitor sodium levels

PATIENT CASE

JT’s primary care physician decided to prescribe him mirtazapine for his insomnia and depression, but it caused weight gain and was discontinued.

ASSESSMENT QUESTION

What would be the next best pharmacological treatment option to initiate in JT?

A. Doxepin 10 mg PO HS PRN
B. Trazodone 50 mg PO HS daily
C. Fluoxetine 20 mg PO HS daily
D. Zoloft® 100 mg PO QAM daily
E. Parnate® 10 mg PO HS PRN
ASSESSMENT QUESTION
Which of the following is/are appropriate counseling point(s) a pharmacist should relay to a patient picking up a new prescription for trazodone?
A. Look out for signs and symptoms of serotonin syndrome, i.e. rapid heart rate, high blood pressure
B. Triglyceride levels should be monitored
C. Report to the emergency department immediately if you experience an erection longer than 4 hours
D. A and C
E. All the above

BENZODIAZEPINES (BZDS)

Black Box Warning
- Profound sedation, respiratory depression, coma, and death risks increase from concomitant use with opioids

Controlled Substance
- Schedule 4, risk of dependence

Renal/Hepatic Dose Adjustment
- None of the agents FDA-approved for insomnia require adjustment

Side effects
- Drowsiness/sedation
- Paradoxical reactions (hyperactive or aggressive behavior)

BENZODIAZEPINES (BZDS)

<table>
<thead>
<tr>
<th>Agents</th>
<th>Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temazepam (Restoril®)</td>
<td>7.5-15 mg PO HS</td>
</tr>
<tr>
<td>Triazolam (Halcion®)</td>
<td>0.125-0.5 mg PO HS</td>
</tr>
<tr>
<td>Quazepam (Doral®)</td>
<td>7.5 mg PO HS</td>
</tr>
<tr>
<td>Estazolam (Prosom®)</td>
<td>0.5-1 mg PO HS</td>
</tr>
<tr>
<td>Flurazepam (Dalmane®)</td>
<td>15 mg PO HS</td>
</tr>
</tbody>
</table>
BENZODIAZEPINES (BZDS) CONT.  
- Listed on the Beers Criteria (use with caution)  
- Increased risk of impaired cognition, delirium, falls, and fractures  
- Older adults have changes in the GABA neurotransmitter system and may experience increased sensitivity to the side effects  
- Long-acting BZDs should be particularly avoided  
- Flurasepam  
- Quazepam  
- Avoid in patients with history of substance/alcohol abuse  
- If truly needed, consider the lowest effective dose for the shortest duration  
- Temazepam is the recommended BZD choice in the elderly population  
- Short-acting  
- Doesn’t have an active metabolite  
- Gradual tapering should be considered to avoid withdrawal symptoms after long-term use

NON-BZD RECEPTOR AGONISTS

<table>
<thead>
<tr>
<th>Agent</th>
<th>Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eszopiclone (Lunesta®)</td>
<td>1 mg; MAX 2 mg PO before bedtime</td>
</tr>
<tr>
<td>Zaleplon (Sonata®)</td>
<td>5 mg; MAX 10 mg PO before bedtime</td>
</tr>
<tr>
<td>Zolpidem (Ambien®)</td>
<td>5 mg PO before bedtime</td>
</tr>
<tr>
<td>Zolpidem (Ambien CR®)</td>
<td>6.25 mg PO before bedtime</td>
</tr>
<tr>
<td>Zolpidem (Intermezzo®)</td>
<td>1.75 mg PO before bedtime</td>
</tr>
<tr>
<td>Zolpidem (Edluar®)</td>
<td>5 mg PO before bedtime</td>
</tr>
<tr>
<td>Zolpidem (Zolpimist®)</td>
<td>5 mg PO before bedtime</td>
</tr>
</tbody>
</table>

NON-BZD RECEPTOR AGONISTS  
- Black Box Warning  
  - Complex sleep behaviors  
  - Sleepwalking  
  - Sleep-driving  
  - Engaging in other activities while not fully awake  
- Controlled Substance  
  - Schedule 4, risk of dependence  
- Renal/Hepatic Dose Adjustment  
  - None of the agents FDA approved for insomnia require renal adjustment  
  - All the agents require hepatic dose adjustment  
- Side effects  
  - Associated with less withdrawal effects, tolerance, abuse, and respiratory depression than BZDs  
  - Drowsiness/sedation
NON-BZD RECEPTOR AGONISTS CONT.12-4547

- Listed on the Beers Criteria (Use with caution)
- Increased risk of impaired cognition, delirium, falls, and fractures
- If truly needed, use the lowest effective dose and the shortest duration
- Four to five weeks only
- Sublingual formulation/oral spray are beneficial for individuals that have difficulty swallowing pills
- Do not take sublingual with water
- Ambien® CR do not crush/chew
- Zolpidem tablets should not be taken with or immediately following meals
- Intermezzo® is used for “as needed” middle-of-the-night awakening followed by difficulty returning to sleep
- Eszopiclone has the longest half-life among all agents in this drug class
- Zolpimist® must be primed the first time using it
- Spray 5 times away from face to prime
- If not used for 14 days prime again

TRENDS IN PRESCRIBING OF SEDATIVE

Objective
- To examine the BZD and nBZRA prescribing trends from 1993–2010
Methods
- Examined 516,118 patient visits using a survey that allowed for participants to be categorized based on the medications they were prescribed during their visit
Results
- BZD and nBZRA prescribing increased proportionally, with a decline in BZD prescribing and an increase in nBZRA in patients with sleep disorders
- 30.8% of any sedative hypnotic visits were for adults aged 65+
Conclusion
- The introduction of nBZRAs likely resulted in declines in BZD prescribing among sleep disorder patients, but not other groups

ASSESSMENT QUESTION

What is the best way to avoid tolerance and dependence in a patient?
A. Use high-dose BZDRA therapy for as long as possible.
B. Use high-dose BZDRA therapy for as short a time as possible.
C. Use low-dose BZDRA therapy for as long as possible.
D. Use low-dose BZDRA therapy for as short a time as possible.
E. Initiate with low-dose BZDRA and titrate to high-dose.
ASSESSMENT QUESTION

JT mentioned to his PCP when he was first diagnosed with insomnia that another physician prescribed him a medication that caused him to sleepwalk. Which of the following medications would cause this adverse effect?

A. Ternazezem
B. Silenor®
C. Remeron®
D. Ambien® CR
E. Desyrel®

OREXIN-RECEPTOR ANTAGONIST
SUVOREXANT (BELSOMRA®)

Dosing
- 10 mg within 30 minutes of bedtime; MAX 20 mg
- Hepatic impairment: Use is not recommended with severe impairment

Side effects
- Drowsiness
- Abnormal dreams
- Cough
- CNS depression

Administration
- Onset is quicker if drug is not taken with a meal

MELATONIN RECEPTOR AGONISTS
RAMELTEON (ROZEREM®)

Dosing
- 8 mg within 30 minutes of bedtime
- Safe when used short term ≤ 3 months

Side effects
- Dizziness
- CNS depression
- Hyperprolactinemia
- Decreased testosterone

Administration
- Take within 30 min of bedtime
- Avoid taking with or immediately after a high fat meal
ROLE OF THE PHARMACIST
- Consider certain factors when choosing the most appropriate agent:
  - Symptom patterns
  - Past treatment responses
  - Patient preference
  - Treatment cost/availability
  - Comorbid conditions
- Closely monitor for impaired cognitive and/or motor performance, confusion, and potential for falling.
- Recommend dose adjustments when appropriate
- Manage polypharmacy that may cause drug-induced insomnia, adverse reactions, and interactions.
- Minimize drug withdrawal symptoms by gradually tapering the dosage of hypnotics.
- Educate patients about signs of symptoms of withdrawal or adverse reactions from medication therapy.

SUMMARY
- Insomnia is common among older adults and results from multiple factors
- Treatment plans should always include sleep hygiene practices
- Nonpharmacologic approaches are desired before initiating drug therapy
- BZDs and Non-BZDs are potentially inappropriate and should be used with caution
- Older adults have increased sensitivity to BZDs and non-BZDs, therefore increasing risks of cognitive impairment, delirium, and falls
- Minimize drug withdrawal symptoms by gradually tapering the dosage of hypnotics and closely monitoring for rebound insomnia
- Drug choices for insomnia should be guided by patient-specific factors

QUESTIONS?

THANK YOU!
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MALORY ALEXIS, PHARMD
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