Sleep / Rest for Older Adults

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Objectives

• Describe the normal changes in sleep patterns associated with age.
• Identify the causes of sleep disturbance among older adults.
• Assess sleep in older adults.
• Provide nursing interventions to restore sleep quality among older adults.
Why do we need sleep?

- The complexity of daily life
- The organization of multiple sensory inputs
- Efficiency of brain function
Mechanism of Sleep

- Homeostatic Drive
  - Monitors Sleep Need
  - Neurochemical regulation
  - Adenosine insensitivity in old age
Review of sleep cycle

- Non Rapid Eye Movement (NREM) –
  - Stage 1 - period of drifting
  - Stage 2 - relaxation and light sleep
- Stages 3 and 4 - restorative
- Rapid Eye Movement (REM), sometimes called paradoxical sleep
  There are 4 stages in a REM cycle: 1, 2, 3, and 4.
- Each cycle is about 90 minutes
Significance

- 50-70 million with chronic sleep disorders
- 3-4 million with moderate to severe OSA
- 10% with chronic insomnia
- 5% with movement disorders

1995 direct costs of insomnia = $13.9 billion

Older adults have twice the risk of receiving Rx for sleep problems
Changes in sleep patterns

- Increased REM Stage 1 wakefulness
- Decreased NREM (Stage 3 and 4) slow wave deep sleep
- Increase in nighttime awakenings: nocturia, restless legs syndrome, periodic limb movements in sleep (PLMS), sleep apnea
## Typical Sleep Changes

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health conditions</td>
<td>Delayed sleep onset</td>
</tr>
<tr>
<td>Nocturnal urination</td>
<td>Early to bed &amp; to rise</td>
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<tr>
<td>Urinary frequency</td>
<td>Less restorative sleep</td>
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<tr>
<td>Medications</td>
<td>Less REM sleep</td>
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<tr>
<td>Increased sensitivity to caffeine</td>
<td>Lower arousal threshold</td>
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<tr>
<td>Alcohol use</td>
<td>Daytime napping</td>
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<tr>
<td>Environment</td>
<td>Fragmented sleep</td>
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<tr>
<td>Lifestyle changes</td>
<td>Less total asleep time</td>
</tr>
</tbody>
</table>
Factors affecting sleep in Nursing Home Residents

- Poor sleep in 73% of residents on Pitt Sleep Quality Index (PSQI>5)
- Most frequently cited reasons
  - Nocturia 71%
  - Noise or light 38%
  - Pain 33%
  - Feeling too hot 6%
  - Leg Cramps 6%
Most common causes of sleep disturbances

- Acute and Chronic Illness
- Commonly Occurring Problems
  - Nocturia
  - Dementia
  - Alcoholism
  - Depression
- Periodic limb movements in sleep (PLMS)
Effects of Hospitalization

- Medications
- Treatments
- Routine procedures
- Pain
- Environmental factors
- Psychological factors
Circadian rhythm

- Regular variation in physiologic parameters that occur over the course of a 24-hour day
  - Irregular Sleep/Wake Pattern
  - Irregular sleep/wake timing
- Daytime napping
  - Advanced Sleep Phase Syndrome
  - Intractable early evening sleepiness
  - Awakening between 2 and 4 a.m.
Primary Sleep Disorders

- Obstructive sleep apnea (OSA)
- Restless leg syndrome (RLS)
- Insomnia

*Less common disorders:*
- REM sleep behavior disorder
- Narcolepsy
- Snoring
Insomnia

Common causes of secondary insomnia
– Musculoskeletal disorders
– Nocturia
– CHF
– COPD
– Depression and anxiety disorders
– Dementia
– Parkinson’s disease
– Medication side effects
– Caffeine, nicotine, alcohol
Assess Sleep

- Sleep history
- Medical history
- Diet and drug history
- Psychosocial history
- The Pittsburgh Sleep Quality Index (PSQI).pdf
- PSQI Try This Assessment Series available on Hartford Institute website at www.hartfordign.org
Standardized Sleep Assessment Scales

**Pittsburgh Sleep Quality Index**
- Subjective quality
- Latency
- Duration
- Habitual efficiency
- Disturbances
- Medications
- Daytime dysfunction

**Epworth Sleepiness Scale**
- Sitting and reading
- Watching TV
- Sitting inactive
- As a car passenger
- Lying down in afternoon
- Sitting and talking
- After lunch
- Stopped in a car
Try This: Best Practices in Nursing Care to Older Adults

Pittsburgh Sleep Quality Index

Instructions: The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

During the past month,
1. When have you usually gone to bed? ________________
2. How long (in minutes) has it taken you to fall asleep each night? ________________
3. When have you usually gotten up in the morning? ________________
4. How many hours of actual sleep do you get at night? (This may be different than the number of hours you spend in bed) ________________
### Try This: Best Practices in Nursing Care

#### 5. During the past month, how often have you had trouble sleeping because you...

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not during the past month (0)</th>
<th>Less than once a week (1)</th>
<th>Once or twice a week (2)</th>
<th>Three or more times a week (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cannot get to sleep within 30 minutes</td>
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<tr>
<td>b. Wake up in the middle of the night or early morning</td>
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<td>c. Have to get up to use the bathroom</td>
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<tr>
<td>d. Cannot breathe comfortably</td>
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<td>e. Cough or snore loudly</td>
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<tr>
<td>f. Feel too cold</td>
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<tr>
<td>g. Feel too hot</td>
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<tr>
<td>h. Have had dreams</td>
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<tr>
<td>i. Have pain</td>
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<tr>
<td>j. Other reason(s), please describe, including how often you have had trouble sleeping because of this reason(s):</td>
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</tbody>
</table>

#### 6. During the past month, how often have you taken medicine (prescribed or “over the counter”) to help you sleep?

#### 7. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?

#### 8. During the past month, how much of a problem has it been for you to keep up enthusiasm to get things done?

<table>
<thead>
<tr>
<th>Quality</th>
<th>Very good (0)</th>
<th>Fairly good (1)</th>
<th>Fairly bad (2)</th>
<th>Very bad (3)</th>
</tr>
</thead>
</table>

#### 9. During the past month, how would you rate your sleep quality overall?

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#### Component Scores Calculation

**Component 1**: #8 Score

**Component 2**: 
- #2 Score ($\leq 15\text{min} = 0; 16-30\text{ min} = 1; 31-60\text{ min} = 2; >60\text{ min} = 3$) + #5a Score

**Component 3**: 
- #4 Score ($>7$) + #6 Score ($6-7$) + #5b Score ($5-6$) + #5c Score ($<5$)

**Component 4**: 
- (total # of hours asleep)/(total # of hours in bed) x 100

**Component 5**: 
- Sum of Scores #5b to #5j ($0-0; 1-9=1; 10-18=2; 19-27=3$)

**Component 6**: 
- #6 Score

**Component 7**: 
- #7 Score + #8 Score ($6-0; 1-2=1; 3-4=2; 5-6=3$)

Add the seven component scores together: **Global PSQI Score**
Nursing Interventions

• Refer for sleep-related disorders with PLMS or other medical psychological and other symptoms
  – Nonpharmacologic Option
  – Remove contributing factors
  – Educate the patient; implement Sleep Hygiene Measures; expose to light upon awakening
  – CPAP
  – Cognitive behavior therapy
Nursing Strategies for Sleep

• Identify, screen and refer patients with sleep disorders
• Implement sleep hygiene measures
• Incorporate treatment for known sleep disorders into individualized care plans
• Promote communication
Implement Sleep Hygiene Measures

• **Maintain usual bedtime**
  – Schedule activities to provide uninterrupted periods of sleep for at least 2-3 hrs at night
  – Balance daytime activity and rest
  – Avoid naps or limit to 10-15 minutes in duration
  – Promote social interaction

• **Support bedtime routines**
  – Offer bedtime snack or beverage
  – Enable bedtime reading or music
  – Assist with personal hygiene at bedtime
  – Encourage prayer or meditation
Implement Sleep Hygiene Measures

• Minimize/avoid foods that disturb sleep
  – Discourage use of beverages containing stimulants in afternoon and evening
  – Encourage use of warm milk or herbal tea

• Create environment for sleep
  – Keep noise to minimum
  – Set room temperature to patient preference
  – Offer warmed blanket
  – Use night light as needed
  – Provide soft music or white noise to mask hospital activity
Nursing Interventions

- Pharmacologic Option
  - Ativan
  - Ambien
- Benzodiazepines, behavioral approaches
  - short term
- Close monitoring and reassessment
Incorporate treatment into individualized care plans

- Management of medical conditions, psychological disorders, and symptoms
- Review and if necessary, adjustment of medications that affect sleep
- Management of patients with OSA when sedatives or anesthesia are given
Implement Sleep Hygiene Measures

• **Promote physiologic stability and comfort**
  – Elevate head of bed as required
  – Provide extra pillows per patient preference
  – Administer pain medications as needed 30 minutes before bedtime
  – Massage back or feet to promote relaxation
  – Apply warm/cool compresses to painful areas as indicated
  – Assist with progressive relaxation or guided imagery
  – Encourage patient to urinate before going to bed
  – Keep bathroom path clear or provide bedside commode
Research

- Randomized Trial of Exercise & Noise/Light Reduction in NH Residents
  - 29 NH residents randomized to daytime physical activity + nighttime noise reduction program vs. nighttime program alone
  - Daytime intervention group had increased sleep efficiency (51% to 62.5%) plus less agitation; nighttime alone had no change
  - Found very hard to reduce noise
Case Study

• Mrs. Ambien
  – 72 y/o female with 20 year hx of sleep difficulty that became worse 5 years ago. C/O difficulty falling asleep and waking frequently when she is able to sleep. Recently she has noticed increased daytime drowsiness and has had to adjust her daytime activities. However, her CC is memory loss, difficulty focusing, and mood swings. PmHx of Breast CA in remission and HTN. She is only on Atenolol and OTC sleep aides. Physical Hx significant for BMI 27, otherwise unremarkable
Case Study Cont.

• During the role play some notables:
  – Time in bed: Older adults are often unable to accurately perceive the amount of time sleeping.
  – Fatigue: what is its etiology
  – Onset at Menopause and the snowballing effect of not addressing early trouble
  – Establishment of Pt. definition of adequate sleep
Case Study Cont

• Notice cont
  – Differentiating between Alzheimer’s and Sleep Deprivation
  – Progression of Tx
  – Responding to “I’ve already done that and it doesn’t work for me.”
  – Follow up and Polysomnographic (Sleep) study
  – Initiation of CPAP and overcoming common complaints.
Summary

- Normal changes in sleep patterns
- Causes of sleep disturbances
- Assessment of sleep
- Nursing interventions: pharmacologic and no pharmacologic; sleep hygiene measures
QUESTIONS?