12.3: Applying the Nursing Process

Assessment

Begin a focused assessment on a patient’s sleep patterns by asking an open-ended question such as, “Do you feel rested upon awakening?” From there, five key sleep characteristics should be assessed: sleep duration, sleep quality, sleep timing, daytime alertness, and the presence of a sleep disorder. Examples of focused interview questions are included in Table 12.3a. These questions have been selected from sleep health questionnaires from the National Sleep Foundation’s Sleep Health Index and the National Healthy Sleep Awareness Project.  

Table 12.3a Focused Interview Questions Regarding Sleep

<table>
<thead>
<tr>
<th>Questions</th>
<th>Desired Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many hours do you sleep on an average night?</td>
<td>7-8 hours for adults (See Table 12.3b for recommended sleep by age range.)</td>
</tr>
<tr>
<td>During the past month, how would you rate your sleep quality overall?</td>
<td>Very good or fairly good</td>
</tr>
<tr>
<td>Do you go to bed and wake up at the same time every day, even on weekends?</td>
<td>Yes, maintain a consistent sleep schedule in general</td>
</tr>
<tr>
<td>How likely is it for you to fall asleep during the daytime without intending to struggle to stay awake while you are doing things?</td>
<td>Unlikely</td>
</tr>
<tr>
<td>How often do you have trouble going to sleep or staying asleep?</td>
<td>Never, rarely, or sometimes</td>
</tr>
</tbody>
</table>
During the past 2 weeks, how many days did you have loud snoring?

Note: It is helpful to ask the patient’s sleep partner this question.

It is also helpful to determine the effects of caffeine intake and medications on a patient’s sleep pattern. If a patient provides information causing a concern for impaired sleep patterns or a sleep disorder, it is helpful to encourage them to create a sleep diary to share with a health care provider. Use the following hyperlink to view a sample sleep diary.

Note

Download a [Sleep Diary](https://med.libretexts.org/Bookshelves/Nursing/Nursing_Fundamentals_(OpenRN)/12%3A_Sleep_and_Rest/12.03%3A_Applications_of_Sleep_Research/12.03.03_Sleep_Disorders) from the National Heart, Lung, and Blood Institute.

Additional subjective assessment questions can be used to gather information about a patient’s typical sleep routine so that it can be mirrored during inpatient care, when feasible.

Nurses also perform objective assessments of a patient’s sleep patterns during inpatient care. The number of hours slept, wakefulness during the night, and episodes of loud snoring or apnea should be documented. Note physical (e.g., sleep apnea, pain, and urinary frequency) or psychological (e.g., fear or anxiety) circumstances that interrupt sleep, as well as sleepiness and napping during the day. [3][4]

Concerns about signs of sleep disorders should be communicated to the health care provider for follow-up.

### Life Span Considerations

The amount of sleep needed changes over the course of a person’s lifetime. Although sleep needs vary from person to person, Table 12.3b shows general recommendations for different age groups based on recommendations from the American Academy of Sleep Medicine (AASM) and the American Academy of Pediatrics (AAP). [5]

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommended Amount of Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants aged 4-12 months</td>
<td>12-16 hours a day (including naps)</td>
</tr>
<tr>
<td>Children aged 1-2 years</td>
<td>11-14 hours a day (including naps)</td>
</tr>
<tr>
<td>Children aged 3-5 years</td>
<td>10-13 hours a day (including naps)</td>
</tr>
<tr>
<td>Children aged 6-12 years</td>
<td>9-12 hours a day</td>
</tr>
<tr>
<td>Teens aged 13-18 years</td>
<td>8-10 hours a day</td>
</tr>
<tr>
<td>Adults aged 18 years or older</td>
<td>7–8 hours a day</td>
</tr>
</tbody>
</table>

If an older adult has Alzheimer’s disease, it often changes their sleeping habits. Some people with Alzheimer’s disease...
sleep too much; others don’t sleep enough. Some people wake up many times during the night; others wander or yell at night. The person with Alzheimer’s disease isn’t the only one who loses sleep. Caregivers may have sleepless nights, leaving them tired for the challenges they face. Educate caregivers about these steps to promote safety for their loved one, and help them and the patient sleep better at night:

- Make sure the floor is clear of objects.
- Lock up any medications.
- Attach grab bars in the bathroom.
- Place a gate across the stairs. [7]

**Diagnostic Tests**

A sleep study may be ordered for a patient suspected of having a sleep disorder. A sleep study monitors and records data during a patient’s full night of sleep. A sleep study may be performed at a sleep center or at home with a portable diagnostic device. If done at a sleep center, the patient will sleep in a bed at the sleep center for the duration of the study. Removable sensors are placed on the person’s scalp, face, eyelids, chest, limbs, and a finger to record brain waves, heart rate, breathing effort and rate, oxygen levels, and muscle movements before, during, and after sleep. There is a small risk of irritation from the sensors, but this will resolve after they are removed. [8] See Figure 12.10 [9] of an image of a patient with sensors in place for a sleep study.
NANDA-I nursing diagnoses related to sleep include Disturbed Sleep Pattern, Insomnia, Readiness for Enhanced Sleep, and Sleep Deprivation. When creating a nursing care plan for a patient, review a nursing care planning source for current NANDA-I approved nursing diagnoses and interventions related to sleep. See Table 12.3c for the definition and selected defining characteristics of Sleep Deprivation.

<table>
<thead>
<tr>
<th>NANDA-I Diagnosis</th>
<th>Definition</th>
<th>Selected Defining Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep Deprivation</td>
<td>Prolonged periods of time without sustained natural, periodic suspension of relative consciousness that provides rest.</td>
<td>Agitation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alteration in concentration</td>
</tr>
</tbody>
</table>
Anxiety
Apathy
Combativeness
Decrease in functional ability
Decrease in reaction time
Drowsiness
Fatigue
Hallucinations
Heightened sensitivity to pain
Irritability
Restlessness

A sample PES statement is, “Sleep Deprivation related to an overstimulating environment as evidenced by irritability, difficulty concentrating, and drowsiness.”

Outcome Identification

An overall goal related to sleep is, “The patient will awaken refreshed once adequate time is spent sleeping.”[13]

A sample SMART outcome is, “The patient will identify preferred actions to ensure adequate sleep by discharge.”[14]

Planning Interventions

Since the days of Florence Nightingale, sleep has been recognized as beneficial to health and of great importance during nursing care due to its restorative function. It is common for sleep disturbances and changes in sleep pattern to occur in connection with hospitalization, especially among surgical patients. Patients in medical and surgical units often report disrupted sleep, not feeling refreshed by sleep, wakeful periods during the night, and increased sleepiness during the day. Illness and the stress of being hospitalized are causative factors, but other reasons for insufficient sleep in hospitals may be due to an uncomfortable bed, being too warm or too cold, environmental noise such as IV pump alarms, disturbance from health care personnel and other patients, and pain. The presence of intravenous catheters, a
urinary catheter, and drainage tubes can also impair sleep. Increased daytime sleepiness, a consequence of poor quality sleep at night, can cause decreased mobility and slower recovery from surgery. Research indicates that postoperative sleep disturbances can last for months. Therefore, it is important to provide effective nursing interventions to promote sleep.\[15\]

A literature review found evidence for effective nursing interventions including massage, acupuncture, and music or natural sounds. Because massage requires trained personnel and can be somewhat time-consuming, it might only be feasible in particular environments. However, as a promoter of sleep, massage is effective in severely ill patients.\[16\]

Nurses nationwide have been looking at innovative and common sense ways to transform hospitals into more restful environments. As reported in the American Nurse, strategies include using red lights at night, reducing environmental noise, bundling care, offering sleep aids, and providing patient education.\[17\]

One strategy included reducing patients’ light exposure by switching to red lights during the night while using Actiwatches to measure specific light color exposure, sleep, and activity. Both adult and pediatric patients were found to sleep better with reduced white lights, and the red light met the visual needs of nurses while providing care at night.\[18\]

In addition to reducing light, nurses also sought to reduce environmental noise. Patients were surveyed regarding factors that affected their ability to sleep, and results indicated bed noises, alarms, squeaking equipment, and sounds from other patients. The nurses’ efforts led to a number of changes, including replacing the wheels on the trash cans and squeaky wheels on chairs, repairing malfunctioning motors on beds, switching automatic paper towel machines in the hallways with manual ones, and altering the times floors were buffed. Nursing staff also developed visitor rules, such as no overnight stays in semiprivate rooms. Overnight visitors in private rooms were asked to honor the quiet environment by not using their cell phones, turning on TVs, or using bright lights at night.\[19\]

In addition to addressing light and noise, nurses also reinforced the importance of bundling care by interdisciplinary team members to reduce sleep interruptions. One interdisciplinary effort is called “Quiet Time” that occurs from 2 p.m. to 4 p.m. and from midnight to 5 a.m. Quiet Time includes dimming lights, closing patient room doors, and talking in lower voices. To bolster this intervention, project team members used a staff intervention called “Hushpuppies.” The aim of the intervention was to build staff awareness and accountability around noise they generate during these Quiet Times, often without realizing it. At the beginning of the shift, everyone, including physicians, is given a clothespin. If someone hears one of their peers talking too loudly, for example, they take away that person’s clothespin. Whoever has the most clothespins at the end of the shift receives a gift card for coffee. The project team felt that Hushpuppies worked well because it allowed staff to address loud conversations and other noise and hold each other accountable in a nonconfrontational way.\[20\]

Other pro-sleep strategies included asking patients about what aids they use at home to help them sleep, such as extra pillows or listening to music. On admission, patients were given small hospitality kits that included ear plugs and eye masks, along with the offer to use a white noise machine. After dinnertime, warm washcloths were offered to patients. Patients and families were also provided with printed materials on the benefits of sleep and rest, such as decreased length of stay, the prevention of delirium, and the ability of patients to participate in more educational activities and cardiac rehabilitation.\[21\]
See a summary of other evidence-based nursing interventions used to promote sleep in the following box.

**Sleep Enhancement Interventions** [22] [23]

- Adjust the environment (e.g., light, noise, temperature, mattress, and bed) to promote sleep
- Encourage the patient to establish a bedtime routine to facilitate wakefulness to sleep
- Facilitate maintenance of the patient’s usual bedtime routines during inpatient care
- Encourage elimination of stressful situations before bedtime
- Instruct the patient to avoid bedtime foods and beverages that interfere with sleep
- Encourage the patient to limit daytime sleep and participate in activity, as appropriate
- Bundle care activities to minimize the number of awakenings by staff to allow for sleep cycles of at least 90 minutes
- Consider sleep apnea as a possible cause and notify the provider for a possible referral for a sleep study when daytime drowsiness occurs despite adequate periods of undisturbed night sleep
- Educate the patient regarding sleep-enhancing techniques

**Pharmacological Interventions**

See specific information about medications used to facilitate sleep in the previous “Sleep Disorders” section of this chapter.

**Implementing Interventions**

When implementing interventions to promote sleep, it is important to customize them according to the specific patient’s needs and concerns. If medications are administered to promote sleep, fall precautions should be implemented, and the nurse should monitor for potential side effects, such as dizziness, drowsiness, worsening of depression or suicidal thoughts, or unintentionally walking or eating while asleep.

**Evaluation**

When evaluating the effectiveness of interventions, start by asking the patient how rested they feel upon awakening. Determine the effectiveness of interventions based on the established SMART outcomes customized for each patient situation.


9. "Wired_up_for_a_sleep_study_02A.jpg" by Joe Mabel is licensed under CC BY-SA 3.0


