

## Ackley: Nursing Diagnosis Handbook, 12th Edition

### Lecture Notes

### Problem-Based Learning/Critical Thinking

### Case Study—Restless Leg Syndrome

#### Case Scenario

Abdul Malek is a 21-year-old college student. He attends the local state university and is a junior studying graphic design. Three weeks into his fall semester, Abdul's professors notice that he is falling asleep in class and often looks restless. Abdul taps his foot and squirms around in his seat. Abdul, who is usually an excellent student, has failed his first test in his Graphic Design II course. His professor asks him to see his advisor because the fear is that Abdul has become chemically impaired. His advisor sends Abdul to the student health services and his case is reviewed by the nurse.

#### Nursing Assessment

Abdul is a well-developed 22-year-old male with a BMI of 20. His vital signs are blood pressure 104/78; temperature 98.4°F; heart rate—64 beats per minute; respiratory rate—16 breaths per minute. A nutritional history confirms a well-balanced diet with the exclusion of pork products. Abdul had been working out every day at the University gym but reports that he is currently "too tired" to do so. Abdul denies drug or alcohol use and this is confirmed by serum analysis. Abdul complains about sleeping poorly and feeling as if, "I am moving all night." He states that he often wakes up his dorm mate and feels bad about that. The nurse reclines Abdul on the examination table and checks his deep tendon reflexes (DTRs) which are all 2+. The nurse asks Abdul to relax and dims the lights while she consults with the primary care practitioner. While the nurse is out of the examination room Abdul dozes, and when the nurse returns, the nurse observes Abdul's right leg jerking several times before she arouses him.

#### A. ASSESS

1. Identify significant symptoms by underlining them in the assessment.
2. List those symptoms that indicate the client has a health problem (those you have underlined).
  - falling asleep in class
  - often looks restless
  - taps his foot
  - squirms around in his seat
  - failed his first test
  - "too tired"
  - complains about sleeping poorly

- “I am moving all night”
- often wakes up
- dozes
- right leg jerking several times

3. Group the symptoms that are similar.

- falling asleep in class
- often looks restless
- taps his foot
- squirms around in his seat
- failed his first test
- complains about sleeping poorly
- dozes

- “too tired”
- “I am moving all night”
- often wakes up
- right leg jerking several times

**B. DIAGNOSE**

1. Select possible nursing diagnoses for this client.

Do this by looking at the list of nursing diagnoses in, the book, Ackley/Ladwig *Nursing Diagnosis Handbook: An Evidence-Based Guide to Planning Care* or by accessing the care plan constructor at the [EVOLVE](#) SITE and viewing nursing diagnoses listed there.

**Possible nursing diagnoses:**

Sleep deprivation

Disturbed sleep pattern

Fatigue

Ineffective coping

Stress overload

2. Validate the possible nursing diagnoses.

Compare the signs and symptoms (defining characteristics) that you have identified from your client assessment with the defining characteristics for the nursing diagnosis that you have selected. Also read the definition and determine if this diagnosis fits this client.

**Validated nursing diagnoses include:**

(You can copy and paste the information from the EVOLVE SITE in the areas below.)

Sleep deprivation

3. Write/select a nursing diagnostic statement for one of the nursing diagnoses by combining the nursing diagnosis label with the related to (r/t) factors.
  - a. The label is the title of the nursing diagnosis as defined by NANDA-I.
  - b. A related to (r/t) statement describes factors that may be contributing to or causing the problem that resulted in the nursing diagnosis.

**NANDA-I label: Sleep deprivation****Definition**

Prolonged periods of time without sleep (sustained natural, periodic suspension of relative consciousness).

**Defining characteristics**

Agitation, alteration in concentration, anxiety, apathy, combativeness, confusion, decrease in functional ability, decrease in reaction time, drowsiness, fatigue, fleeting nystagmus, hallucinations, hand tremors, heightened sensitivity to pain, irritability, lethargy, listlessness, malaise, perceptual disorders, restlessness, transient paranoia.

**Related factors (r/t):** Age-related sleep stage shifts, average daily physical activity is less than recommended for gender and age, conditions with periodic limb movement (e.g., restless leg syndrome, nocturnal myoclonus), dementia, environmental barrier, familial sleep paralysis, idiopathic central nervous system hypersomnolence, narcolepsy, nightmares, non-restorative sleep pattern (i.e., due to caregiver responsibilities, parenting practices, sleep partner), overstimulating environment, prolonged discomfort (e.g., physical, psychological), sleep apnea, sleep terror, sleep walking, sleep-related enuresis, sleep-related painful erections, Sundowners syndrome, sustained circadian asynchrony, sustained inadequate sleep hygiene, treatment regimen.

**The complete nursing diagnostic statement is:**

Sleep deprivation r/t conditions with periodic limb movement

**C. PLAN**

1. Select appropriate NOC outcome from Ackley/Ladwig text or from the [EVOLVE](#) Care Plan constructor.

**NOC outcome: sleep**

Fill out the grid with NOC indicators and the appropriate Likert scale.

Select the appropriate point on the Likert scale to measure the client's current status.

| INDICATOR                             | 1 =<br>Severely<br>compromis<br>ed | 2 =<br>Substantiall<br>y<br>compromise<br>d | 3 =<br>Moderately<br>compromise<br>d | 4 = Mildly<br>compromise<br>d | 5 = Not<br>compromise<br>d |
|---------------------------------------|------------------------------------|---------------------------------------------|--------------------------------------|-------------------------------|----------------------------|
| Hours of sleep                        | 1*                                 | 2                                           | 3                                    | 4                             | 5                          |
| Sleep pattern                         | 1*                                 | 2                                           | 3                                    | 4                             | 5                          |
| Sleep quality                         | 1*                                 | 2                                           | 3                                    | 4                             | 5                          |
| Sleep efficiency                      | 1*                                 | 2                                           | 3                                    | 4                             | 5                          |
| Feels rejuvenated after sleep         | 1*                                 | 2                                           | 3                                    | 4                             | 5                          |
| Sleeps through the night consistently | 1*                                 | 2                                           | 3                                    | 4                             | 5                          |

2. Or write outcomes to help resolve the symptoms (defining characteristics). Refer to Section III of the Ackley/Ladwig text for the nursing diagnosis care plan or the [EVOLVE](#) Care Plan constructor.

**C. Outcomes:****Client will within a week:**

- Verbalize a plan that provides adequate time for sleep.
- Identify actions that can be taken to ensure adequate sleep time.
- Awaken refreshed once adequate time is spent sleeping.
- Be less sleepy during the day once adequate time is spent sleeping.

3. Select appropriate NIC interventions from Ackley/Ladwig text or care plan constructor.

**NIC intervention: sleep enhancement**

4. Select appropriate NIC activities.

- a. Monitor/record the client's sleep pattern and number of sleep hours.
- b. Encourage the client to establish a schedule that allows age-appropriate hours of sleep with minimal environmental and personal disruptions

Note: The Ackley/Ladwig text and the care plan constructor give sample NIC activities.

5. Select interventions from Section III care plan or the care plan constructor that will enable the client to attain acceptable outcomes.

**Nursing Interventions and Rationales:**

- Assess the amount of sleep obtained each night compared with the amount of sleep needed. **Evidence-based (EB):** *A national survey of 444,306 American adults found that more than one-third (34.8%) slept less than 7 hours per night, an amount at which physiological and neurobehavioral deficits manifest and become progressively worse under chronic conditions (Liu et al, 2016).*
- Assess the extent to which patients can be provided three to four consecutive hours of sleep time that is free from disturbance. **Classic evidence-based (CEB):** *A meta-analysis using data from 159 studies found the deepest stages of sleep occurred during the first 3 to 4 hours of the sleep period followed by several 90- to 110-minute sleep cycles that consisted of increasingly lower percentages of deep sleep (Floyd, 2002).* **EB:** *Sleep hygiene education focuses on teaching healthy sleep habits such as avoiding caffeine, exercising regularly, eliminating noise from the sleeping environment, and maintaining a regular sleep schedule. However, research exploring direct links to these actions and subsequent sleep as a treatment for insomnia has been limited and inconclusive (Irish et al, 2015).*
- Minimize environmental factors that deprive clients of sleep. See Nursing Interventions and Rationales for Disturbed Sleep pattern.
- Minimize personal factors that deprive clients of sleep. See Nursing Interventions and Rationales for Insomnia.
- When required nighttime care leaves patients sleep deprived, schedule a specific time for rest and sleep during the day. **Evidence-based nursing (EBN):** *An action research study based on an evidence review, plus experiences of 22 intensive care unit (ICU) patients,*

*and suggestions from approximately 250 health-setting personnel led to the development of an ICU clinical practice guideline that included planned daytime rest/sleep periods (Elliot & McKinley, 2014).*

- Assess for hypersensitivity to pain. **EB:** In a laboratory experiment using 14 healthy adults, sleep restriction protocols altered processes of pain habituation and sensitization, which may help explain why chronic pain conditions often accompany insufficient sleep (Simpson et al, 2017). **EB:** *In an observational study of postoperative orthopedic surgery patients (N = 50), a significant correlation was found between increased self-reported pain scores and decreased total sleep time (Miller et al, 2015).*
- When daytime drowsiness occurs despite long, undisturbed periods of sleep, consider sleep apnea as a possible cause. **EB:** *In a household survey of over 7000 adults, unexplained excessive daytime sleepiness was identified as a predictor of undiagnosed sleep apnea (Dosman et al., 2014).*
- Monitor caffeine intake in clients who may use caffeinated drinks to overcome sleep deficiency. **EB:** *An experimental study of 12 participants found that caffeine (400 mg), even when consumed 6 hours before bedtime, had a disruptive effect on both objective and subjective sleep measures (Drake et al, 2013).*
- If evidenced-based interventions are inadequate, consider and carefully evaluate unstudied countermeasures—but commonly used—for fighting drowsiness. **EB:** *A descriptive study of 77 middle-aged adults identified the following unstudied strategies as possibly effective interrupters of drowsiness: (a) change physical position; (b) change ventilation (e.g., get fresh air, turn on fan, open window); (c) reduce air temperature (e.g., turn on air conditioning, turn on fan); (d) increase auditory stimulation (e.g., play music, sing, engage in conversation, listen to debate); (e) engage in interesting visual activity (e.g., board games, watching TV sports events, watching serial TV dramas) (Davidsson, 2012).*

### Multicultural

- Be aware of racial and ethnic disparities in sleep deprivation. **EB:** A national survey of 444,306 American adults found that non-Hispanic black, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, and multiracial populations reported a higher prevalence of sleeping less than 7 hours sleep compared with the rest of the US adult population (Liu et al, 2016).

### Home care

- Teach family members about the short-term and long-term consequences of inadequate amounts of sleep for both clients and family caregivers. **CEB:** *In an integrative review of 10 studies, insufficient sleep was associated with poor attention, decreased performance, increased mortality and morbidity, and cardiovascular risk factors including hypertension, insulin resistance, hormonal deregulation, and inflammation (Mullington, Haack, Toth, Serrador, & Meier-Ewert, 2009).*
- Teach client/family caregivers about the need for those with chronic conditions to avoid schedules and commitments that interfere with obtaining adequate amounts of sleep. **EB:** *Critical appraisal of 22 studies provided evidence that sleep disturbance was common in critically ill patients up to 12 months after hospital discharge (Altman, Knauert, & Pisani, 2017). **EBN:** In a study of 21 subjects with left-ventricular assist devices, clients obtained inadequate sleep persisting up to 6 months after surgery (Casida, Davis, Brewer, Smith, & Yarandi, 2011).*

- Promote adoption of behaviors that ensure adequate amounts of sleep for all family members. See Nursing Interventions and Rationales for readiness for enhanced sleep.
- Teach family members ways to avoid chronic sleep loss. See Nursing Interventions and Rationales for disturbed sleep pattern.
- Advise against the sleep deprived client's chronic use of caffeinated drinks to overcome daytime fatigue and or drowsiness; focus on elimination of factors that lead to chronic sleep loss. **CEB:** *In an integrative review of 26 controlled laboratory studies, caffeine was found helpful in the temporary management of sleepiness, but overuse and late-day use contributed to subsequent sleep disruption and caffeine habituation (Roehrs & Roth, 2008).*

## D. IMPLEMENT

The next step in the nursing process is to give the nursing care utilizing the nursing interventions.

## E. EVALUATE

After putting into effect the nursing interventions, the results of the care should be evaluated by determining if the outcomes were met. If the outcomes are acceptable, the care plan is resolved. If the outcomes are not acceptable, further assessment should be done to answer the following questions:

| NOC indicator                         | Rating at admission | Rating 4 days later | Rating 1 week later |
|---------------------------------------|---------------------|---------------------|---------------------|
| Hours of sleep                        | 1                   | 2                   | 4                   |
| Sleep pattern                         | 1                   | 2                   | 3                   |
| Sleep quality                         | 1                   | 2                   | 3                   |
| Sleep efficiency                      | 1                   | 2                   | 4                   |
| Feels rejuvenated after sleep         | 1                   | 3                   | 4                   |
| Sleeps through the night consistently | 1                   | 2                   | 3                   |

- Was the correct nursing diagnosis chosen?  
*Yes, Abdul is suffering from sleep deprivation and his learning was being affected.*
- Was the outcome appropriate?  
*Yes, the outcome is to promote better sleep quality and pattern.*
- Were the interventions appropriate in this situation?  
*Yes, along with medication for his restless leg syndrome, the sleep deprivation interventions effectively reversed his poor sleeping habits.*
- What other interventions might have been helpful?  
*Referral to a relaxation class such as yoga or meditation.*

Changes in the nursing diagnosis, outcomes, and interventions should be made as needed. This is continued use of critical thinking to ensure appropriate nursing care.

Click here to access the Ackley, Ladwig Care Plan Constructor to assist you in formulating your care plan. [EVOLVE](#)