FN-II (UNIT One)

REST AND SLEEP

REST &SLEEP CONT----

- Rest and sleep are fundamental components of well-being.
- All individuals require certain periods of calm and lesser activity so that their bodies can regain energy and rebuild stamina.
- The need for rest and sleep varies with age, developmental level, health status, activity level, and cultural norms.
- Pain and impaired sleep are closely related in most people.

REST &SLEEP CONT----

- According to Doghramji and Fredman (1999), 50–70% of clients experiencing pain also suffer sleep disturbance.
- On the other hand, sleep deprivation can decrease pain tolerance and, thus, may exacerbate pain (especially headaches).

CTD----

- **Rest refers** to a state of relaxation and calmness, both mental and physical.
- Activity during rest periods can range from lying down to reading a book to taking a quiet walk.
- When discussing a client's rest patterns, the nurse should try to understand what activities and environments the client defines as restful.

Ctd--

- Sleep refers to a state of altered consciousness during which an individual experiences minimal physical activity and a general slowing of the body’s physiological processes.
- Sleep generally occurs in a periodic cycle and usually lasts for several hours at a time; disruptions in the usual sleep routine can be distressing to clients and will most likely impair sleep further.

Ctd--

- As a restorative function, sleep is necessary for physiological and psychological healing to occur.
- It is important for clients, their significant others, and health care providers to understand the normal sleep-wake cycle and how sleep affects mood and healing.

Physiology of Rest and Sleep

- The cycles of wakefulness and sleep are controlled by centers in the brain and influenced by routines and environmental factors.
- An individual’s biological clock also helps determine the specific cycles that will be followed for wakefulness and sleep.

Stages of Sleep

- Electroencephalograph (EEG) patterns, eye movements, and muscle activity are used to identify stages of sleep.
- The stages of sleep are classified in two categories: non-rapid eye movement (NREM) and rapid eye movement (REM) sleep.

NREM Sleep

- With the onset of sleep, the heart rate and respiratory rate slow slightly and remain regular.
- This first phase of sleep is referred to as non-rapid eye movement, or NREM, sleep.
- NREM sleep consists of four different stages.

NREM ctd--

- As the client enters stage 1 sleep, there is a general slowing of EEG frequency but an appearance of wave spikes; the eyes tend to roll slowly from side to side, and muscle tension remains absent except in the facial and neck muscles.
- In adult clients with normal sleep patterns, stage 1 sleep usually lasts only 10 minutes or so.
- Stage 1 NREM sleep is of a very light quality, which means that during this stage a sleeper can be easily awakened.

Ctd--

- **Stage 2 sleep** is still fairly light sleep, with a further slowing of EEG patterns and loss of slow rolling eye movements.
- Fifty percent of normal adult sleep may be spent in stage 2.
- After an initial 20 minutes or so of stage 2 sleep, a deep form of sleep called stage 3 to 4 is entered.

Ctd--

- Stage 3 and stage 4 sleep are frequently discussed together because of the difficulty of identifying and separating the two.
- Stage 3 refers to medium-depth sleep, and stage 4 signals the deepest sleep.
- During these stages, all cortical brain cells appear to be firing at the same time, resulting in large slow waves on the EEG.
- When roused from stage 3 to 4 sleep, an adult can take 15 seconds or so to become fully awake.

Ctd--

- This difficulty in awakening is even more pronounced in children.
- Stage 3 to 4 sleep is where most sleep walking, sleep talking, enuresis, and night terrors occur.
- **Night Terrors**
- Unlike nightmares, which occur during REM sleep, night terrors occur during NREM stage 3 to 4 sleep and are most common during childhood and adolescence.
- They are identified by an abrupt awakening, generally within the first hour of sleep, and the child appears to be in a panic state.
- The child may be only partially coherent and by the following morning typically has no memory of the event.

Ctd--

- Stage 3 to 4 sleep is felt to have restorative value, necessary for physical recovery.
- After sleep deprivation studies, stage 3 to 4 sleep is the first to be regained.
- The majority of growth hormone is secreted at night, peaking during stage 3 to 4 sleep near the beginning of asleep period.
- Growth hormone is required not only for growth but also for normal tissue repair in clients of all ages.

Ctd--

- Stage 3 to 4 sleep accounts for approximately 25% of sleep in children, declines slightly in young adult-hood, then gradually declines in middle age and may be absent in elderly clients.

REM Sleep

- After the initial 90 minutes or so of NREM sleep in adults, the client enters rapid eye movement, or REM, sleep.
- The EEG pattern resembles that of the awake state; there are rapid conjugate eye movements; heart rate and respiratory rate are irregular and often higher than when awake; and muscles, including those of the face and neck, are flaccid, leaving the body immobilized. Dreams occur 80% of the time clients are in REM sleep.

Ctd---

- Unlike stage 3 to 4 sleep, which is most abundant during the early portion of a sleep period, REM sleep periods become longer as the night progresses and the individual becomes more rested.
- An adult typically has four to six REM sleep periods through the night, accounting for 20% to 25% of sleep.
- REM sleep makes up 50% of sleep in the newborn, then gradually declines to 20% to 25% of sleep by early childhood and remains fairly constant throughout the remainder of the life span.

Sleep Cycle

- refers to the sequence of sleep that begins with the four stages of NREM sleep in order, with a return to stage 3, then 2, then passage into the first REM stage .
- The duration of a sleep cycle is generally between 70 and 90 minutes, and the typical sleeper will pass through four to six sleep cycles during an average sleep period of 7 to 8 hours.
- The length of the NREM and REM periods of sleep will change as the overall sleep period progresses and the person becomes more relaxed and re-energized.

Ctd--

- there is less need for stage 3 to 4 sleep and more need for REM sleep as the sleep period progresses, and dreams during the REM phases of later sleep may become more vivid and intense. If the sleep cycle is broken at any point, a new sleep cycle will start, beginning again at stage 1 of NREM sleep and progressing through all the stages to REM sleep.

Ctd--

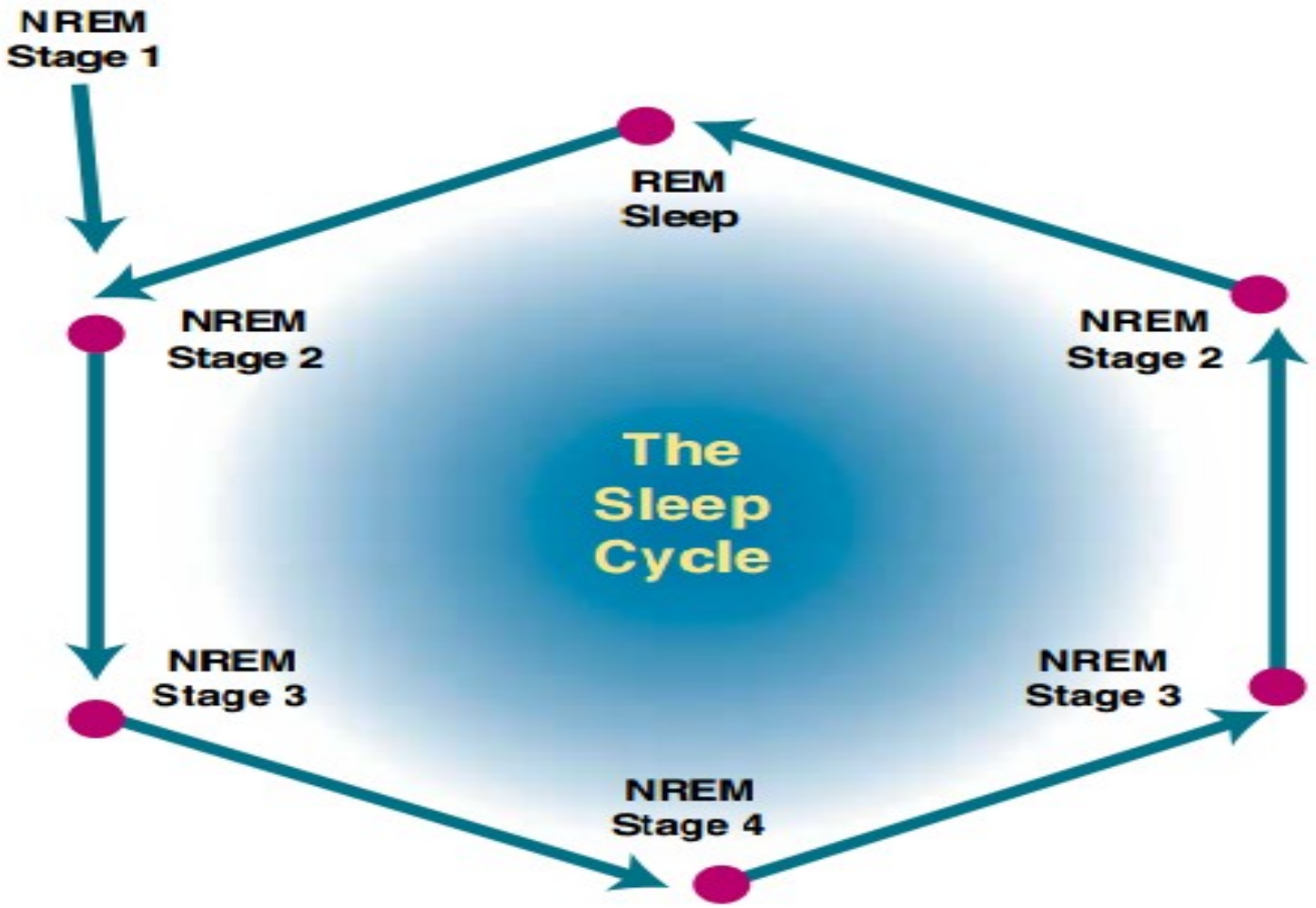

Figure 33-9 The Sleep Cycle

Factors Affecting Rest and Sleep

- Several factors can influence the quality and quantity of both sleep and rest.

a)Degree of Comfort

- **is a highly subjective experience.**
- **Whenever basic needs are unmet, the person experiences discomfort which leads to physiological tension, resultant anxiety, and potential impairments in sleep/rest.**

Ctd--

b)Anxiety:-

- **A restless body and mind interfere with the ability to sleep.**
- **intrusive thoughts or muscular tension, which interfere with rest and sleep.**
- **Anxiety related to**
- **work pressures, family demands, and other stressors does not automatically cease when an individual attempts to go to sleep.**
- **Anxiety often results in difficulty falling or staying asleep.**

Ctd---

c)Environment:-

- **Environmental factors can either enhance or impair sleep.**
- **Lighting, temperature, odors, ventilation, and noise level can all interrupt the sleep process when they differ from the norms of the client's usual sleep environment.**

Ctd--

d)Lifestyle:-

- **A fast-paced life filled with multiple stressors can result in the person's inability to relax easily or to fall asleep quickly.**

e)Diet:-

- Foods high in caffeine, such as coffee, colas, and chocolate, serve as stimulants and often disrupt the normal sleep cycle.
- consuming a large, heavy, or spicy meal just before bedtime may cause indigestion, which will likely interfere with sleep.
- going to bed when hungry can also result in sleep problems .

Ctd--

f)Drugs and Other Substances

- **Alcohol and nicotine use can impair sleep.**
- **Small amounts of alcohol may help some people fall asleep**
- **in others alcohol may interfere with REM sleep, causing very restless and nonrefreshing sleep.**
- **Nicotine which is a stimulant impair the sleep cycle by stimulating the body, resulting in difficulty falling and staying asleep.**
- **Many medications**

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g)Cultural Norms:

h)Life Span Considerations

- **A person’s need for sleep changes with age in a fairly predictable pattern.**
- **Although sleep and rest patterns are closely tied to lifestyle and other variables, there are some common variation:-**

Ctd--

- The neonate(birth to 1 month) sleeps in 3- to 4-hour intervals for a total of about 16 to 20 hours per day.
- The infant averages about 12 to 16 hours of sleep per day.
- As the infant ages, the amount of sleep needed decreases.
- At approximately 2 months of age, infants can begin to sleep through the night and will typically nap two or three times during the day.

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- During toddlerhood the daily average amount of sleep is 12 to 14 hours, which is usually broken down into 10 to 12 hours at night with one or two daytime naps.
- The preschool child sleeps approximately 10 to 12 hours per day.
- A school-age child also averages about 10 to 12 hours of sleep daily.
- Adolescents sleep about 8 to 10 hours per day and often decide themselves their bedtime routines and hours.

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- The young adult averages about 8 hours of sleep per day.
- The middle-aged adult sleeps about 6 to 8 hours a day.
- The sleep requirements for the older adult decrease to 5 to 7 hours per day, and often include a daytime nap.

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i) **Illness or Hospitalization**

- **stress imposed by illness usually disrupts sleep**
- **disrupted when a person is hospitalized.**
- **Some factors associated with hospitalization that lead to sleep impairment include:**

- **Physical or emotional pain**
- **Loss of familiar surroundings**
- **Loss of routine**
- **Fear of the unknown**
- **Timing of procedures and treatments**
- **Noise level (especially unfamiliar noises)**
- **Loss of privacy**

Alteration in Sleep Patterns

- Sleep disturbances can take many forms and are quite common.
- The state in which an individual experiences or is at risk of experiencing a change in the quantity or quality of his or her rest pattern as related to the person's biological and emotional needs.
- Can **primary sleep** disorders (those in which the sleep alteration is the fundamental problem) or **secondary** sleep disorders (those in which the alteration has a medical or clinical cause that results in or contributes to the sleep alteration).

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- the most common sleep alterations include insomnia, hypersomnia or narcolepsy, sleep apnea, sleep deprivation, and parasomnias.
- **problems associated with sleep disturbances are:-**
- Decreased work productivity (more missed days of work)
- Increased utilization of health care services
- Greater risk of accidents
- Short-term memory problems
- Cognitive and motor performance impairments

Insomnia

- refers to the chronic inability to sleep or inadequate quality of sleep due to sleep prematurely ended or interrupted by periods of wakefulness.
- Is nota disease, but it may be a manifestation of many illnesses.

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- Insomnia and excessive daytime sleepiness are primary complaints regardless of the stage of the disease
- Insomnia includes difficulty falling asleep, difficulty staying asleep, and early morning awakening
- Insomnia is not defined by the number of hours of sleep, but rather, by an individual‘s ability to sleep long enough to feel healthy and alert during the day.
- The normal requirement for sleep ranges between 4 and 10 hours
- Insomnia is a symptom, not a disorder by itself.

Insomnia - assessment

- Determine the pattern of sleep problem (frequency, associated events, how long it takes to go to sleep, and how long the patient can stay asleep)
- Include a full history of alcohol and caffeine intake and other factors that might affect sleep
- Review current medications that patient is taking to eliminate these as possible causes
- Take a history to rule out physical cause and/or psychosocial cause

Possible causes of insomnia

- Headache
- Bad or vivid dreams
- Problems of breathing
- Chest pain/heartburn
- Need to pass urine or move bowels
- Abdominal pains
- Fever/night sweats
- Leg cramps
- Fear/anxiety
- Depression

Insomnia – associated features

At least one (or more) of the following

- Fatigue or malaise
- Attention, concentration impairment
- Social/ vocational dysfunction/ poor work
- Mood disturbance or irritability
- Daytime sleepiness

Insomnia – resultant problems

- Reduction in motivation, energy or initiative
- Proneness for errors or accidents at work or while driving
- Tension, headaches or gastrointestinal symptoms in response to sleep loss
- Concerns or worries about sleep
- Secondary psychiatric problems

Management of insomnia

- Good Sleep History
- Rule out primary psychiatric disorders
- Rule out adverse effects of medications
- Sleep Diary
- Good Sleep Hygiene Measures
- Interventions – CB therapy, medications

- Treat underlying causes whenever possible
- Advise patient to avoid exercise, heavy meals, alcohol, or conflict situations just before bed
- Plain aspirin or paracetamol in low doses may be helpful; or give short-acting hypnotics or a sedative
- Treat underlying depression

- Treat underlying Medical Condition
- Treat underlying Psychiatric Condition
- Improve sleep hygiene
- Change environment
- CBT: ‘primary insomnias’, transient insomnia
- Pharmacological
- Light, melatonin, or ‘chronotherapy’ for circadian disorders

Medications and insomnia

Type of medication	Example
CNS stimulants	D-amphetamine, Methyphenindrate
Blood pressure drugs	α - blockers, β - blockers
Respiratory medicines	Albuterol, Theophylline
Decongestants	Phenylephine, Pseudoephedrine
Hormones	Thyroxin, Corticosteroids
Other substances	Alcohol, Nocotine, Caffeine

Cognitive Behaviour Therapy (CBT)

Technique	Patient Symptoms
Stimulus control	Delayed sleep onset
Sleep restriction	Excessive time spent in bed; fragmented or poor quality sleep
Relaxation	High physiologic, cognitive, or emotional arousal
Cognitive	Racing or obsessive thoughts around bedtime
Sleep hygiene education	Any of the above or general poor sleep hygiene

Bed room

- Temperature
- Fresh air
- S&S
- Comfortable bed

Stimulus control

- Go to bed when sleepy
- Only S & S in bedroom
- Get up the same time every morning
- Get up when sleep onset does not occur in 20 min, and go to another room
- No daytime napping

Hypersomnia or Narcolepsy

- is an alteration in sleep pattern characterized by excessive sleep, especially in the daytime.
- Person with this d/s feel that they cannot get enough sleep at night, and therefore they sleep very late into the morning and nap several times throughout the day.
- Causes of hypersomnia can be physical or psychological; treatment depends on addressing the underlying cause.

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- Narcolepsy, another sleep alteration, manifests as sudden uncontrollable urges to fall asleep during the day-time.
- often achieve adequate sleep at night but are overwhelmed by sleepiness at unexpected and unpredictable periods during the day,
- avoiding substances or activities that cause sleepiness, taking short day-time naps, or taking prescribed stimulant medications are rx.

Sleep Apnea

- **refers to periods of sleep during which air-flow stops for 10 seconds or more.**
- **gives rise to complications as a result of oxygen desaturation and carbon dioxide retention**
- **Short-term consequences may include cognitive impairment (including memory changes), personality changes, and impotence**

- **If untreated, sleep apnea can result in the following:-**
- **Hypertension**
- **Cardiac arrhythmias**
- **Right-sided congestive heart failure**
- **Cerebral vascular accident (stroke)**
- **Cognitive dysfunction**
- **Death**
- The first line of defense against apnea is treating its cause (emotional, cardiac, or respiratory alteration)

Deprivation

- **is a term used to describe prolonged inadequate quality and quantity of sleep, either of the REM or the NREM type.**
- **Sleep deprivation can result from age, prolonged hospitalization, drug and sub-stance use, illness, and frequent changes in lifestyle patterns.**
- **Sleep and dreaming have a restorative value necessary for mental and emotional recovery, and enhance the ability to cope with emotional problems.**

- **sleep deprivation can cause symptoms ranging from irritability, hypersensitivity, and confusion to apathy, sleepiness, and diminished reflexes.**
- **Treating or minimizing the factors that cause the sleep deprivation is the most effective resolution.**

Parasomnia

- **refer to sleep alterations resulting from “an activation of physiological systems at inappropriate times during the sleep-wake cycle.**
- **Somnambulism (sleepwalking), sleep talking, bed wetting, and bruxism (teeth grinding) are the most common parasomnias. Treatment for parasomnias varies, and care should be focused on helping the client and family understand the disorder and its potential safety risks.**

Nursing process

- **Assessment**
- **DX**
- **Planning**
- **Implementation and**
- **Evaluation**

10Q U wish you best sleep!!!