Addressing Sleep Challenges for Service Women

Information for Patients

1. Why is Sleep Hygiene Important?

Getting consistent restful sleep is important for overall wellness and health. During sleep, your body is maintaining homeostasis, supporting healthy brain function and maintaining physical health. **Consistent inadequate sleep can increase risk for chronic health problems.**

Sleep hygiene is especially important for service members, who despite typically being healthier than the average civilian, often struggle with chronic lack of sleep. Research has found that **nearly 50% of military members experience poor sleep quality**, compared to 33% in the general population.

2. Female Specific Factors for Sleep Disturbances

Women are at a higher risk for sleep difficulties and insomnia compared to men as **hormones that regulate reproductive health also influence sleep**. Below are some key points of hormone fluctuation that may contribute to sleep disturbances for women:

- **Menstrual Cycles:** Many women experience sleep disruption related symptoms during the last few days of the menstrual cycle as progesterone and estrogen levels decline.
    - Those with Premenstrual Dysphoric Disorder and Premenstrual Syndrome commonly report poor sleep quality, insomnia, nightmares, and decreased concentration.
- **Pregnancy and Postpartum:** During pregnancy there are significant hormone fluctuations that affect the sleep-wake-cycle and cause physiological changes that may lead to sleep disturbance. Insufficient sleep during pregnancy can increase inflammation and may result in adverse pregnancy outcomes.
    - During postpartum, sleep disturbance can be hormonal and/or related to mother-infant reactions. The first six months postpartum can be associated with an increase in wakeups and poor sleep quality.
- **Menopause:** During the menopausal transition women report an increase of sleep symptoms such as night sweats, mood changes, and excessive daytime sleepiness. Some women will have nocturnal hot flashes or may experience frequent awakenings without hot flashes.

3. Consequences of Prolonged Inadequate Sleep

Inadequate sleep among military personnel has far-reaching effects on health, cognition, and operational readiness. Restful sleep is one of the most significant factors that can determine a service member's readiness and health. **Ensuring quality sleep is important to maintain mission readiness and military performance.**

Consequences of inadequate sleep include:

- **Cognitive impairments:** Poor sleep disrupts brain regions, like the prefrontal cortex, leading to reduced decision-making speed, impaired judgment, and memory deficits.
- **Physical health impairments:** Poor sleep correlates with weight gain, hypertension, hyperlipidemia, and musculoskeletal injuries.
    - The effects from continued lack of sleep can be equal to that of alcohol intoxication, increasing the risk for injury during operations, training, or in combat environments

4. Common Sleep Disorders in Service Members

1 Sleep Deprivation

- Sleep deprivation is the **lack of sleep.** Chronic sleep deprivation **impairs physical performance, cognitive function, and decision-making**.
- Military schedules often demand long hours for training, deployments, and 24-hour operations, leading to **increased risk of sleep deprivation**.

2 Obstructive Sleep Apnea (OSA)

- OSA is **common among service members** and is characterized by **repeated interruptions in breathing during sleep.**
- Symptoms include loud snoring, gasping for air, and excessive daytime sleepiness.

3 Circadian Rhythm Misalignment (CRM)

- CRM occurs when **sleep/wake schedules conflict with the body's internal clock**.
- **CRM is common in military personnel** due to 24-hour operations and rotating shifts.

4 Insomnia

- Insomnia is **difficulty falling or staying asleep**.
- Insomnia is **often linked to stress, trauma, or environmental factors** such as noise and light during deployment.

5 Parasomnias

- Parasomnias include **disorders such as night terrors, sleepwalking, and nightmares**.
- Parasomnias are often **exacerbated by trauma or mental health conditions** like Posttraumatic Stress Disorder (PTSD).

6 Mental Health Comorbidities

- **Mental health conditions** such as PTSD, anxiety, and depression **can impact sleep and lead to sleep disturbances.**
- Not only can **mental health conditions worsen sleep**, but **sleep disturbances can also exacerbate mental health conditions**, creating a negative cycle.

5. Military Specific Factors for Sleep Disturbances

Service members face unique challenges that contribute to reduced sleep quality and quantity, including:

- ✓ Occupational stressors include prolonged operations, irregular shifts, and high workload demands.
- ✓ Psychosocial pressures stemming from trauma, deployment, and relocation.
- ✓ Cultural norms within the military environment may deprioritize rest.

Periods of **sleep disruption often align with key career events, including training, deployment cycles, permanent change of station, and reintegration post-deployment**. The prevalence of chronic insomnia and other sleep disorders often persists beyond combat zones and deployment, with **many service members experiencing long-term difficulties initiating and maintaining sleep.**

6. Myths and Facts About Sleep

Myth **"I need 8 hours of sleep."**

Fact

- Research has not established what the optimal amount of sleep adults need is. **The amount of sleep needed is different for everyone**, but the average amount of sleep needed is likely less than eight hours. Eight hours may be an unrealistic sleep goal for many adults, and instead **adults should prioritize the quality of their sleep**.

Myth **"Staying in bed with my eyes closed is just as good as sleeping."**

Fact

- Research has shown that good sleepers begin to experience insomnia if they try to sleep longer. This means that **spending more time in bed without sleep might worsen your sleep quality, mood, and exacerbate the risk of sleep disorders.** Hitting the snooze often upon waking disrupts your natural sleep-wake cycle.

Myth **"If I wake up feeling unrefreshed, I must need more sleep."**

Fact

- **The experience of feeling groggy immediately after waking up is typical and defined as sleep inertia.** Sleep inertia does not necessarily mean you need more sleep and is often experienced for up to 30 minutes after waking but may last longer. The duration of sleep inertia may depend on the sleep stage from which a person wakes up.

Myth **"Good sleep means not waking up in the middle of the night."**

Fact

- **Normal sleep includes brief awakenings** and there is no reason to be concerned about 1-3 awakenings. It is not unusual for good sleepers to spend 30 minutes in bed awake during the period they allocate for sleep. Most of the time, the awakenings are not remembered.

Myth **"Insomnia is to be expected when we get older."**

Fact

- While it is true that there are increases in **the number of awakenings from sleep with aging, not all older adults have insomnia.**

Myth **"Being able to fall asleep easily anywhere at any time means an individual has a healthy sleep system."**

Fact

- Excessive daytime sleepiness, or **the ability to fall asleep "anytime, anywhere," can result from sleep deficiency**. The natural circadian rhythm dictates that we sleep at night and rise in the morning.

7. Sleep Strategies for Operational Environments

Planned Naps

- **Planned naps can be effective for maintaining performance during periods of more than 24 hours of total sleep deprivation.**
- An optimal nap would occur about two thirds of the way through the period of deprivation with the nap lasting about 20 minutes.
- After naps, consumption of approximately 100mg of caffeine can help minimize grogginess.

Travel-Related Strategies

- **Use strategies specific to travel-related circadian rhythm disturbances like:**
  - ✓ Hydrating prior to travel
  - ✓ Shifting to destination time zone in advance
  - ✓ Limiting naps to 20-30 minutes
  - ✓ Aligning exposure to light with travel direction
  - ✓ Taking melatonin one to two hours before sleep

SLANT

- **Use the operational tool SLANT for optimal sleep on the ground:**
  - **S**urface – Ensure the surface soft but firm
  - **L**ight – Block light while sleeping with darkening shades or eye covers
  - **A**ir Quality – Use air filters if possible and sleep away from chemicals, smells, and burning waste
  - **N**oise – Use white noise machines, fans, or earplugs to reduce noise exposure
  - **T**emperature – Ensure temperature when sleeping is optimal (65-67 degrees Fahrenheit) by using blankets, insulation, or air conditioning

8. General Sleep Strategies

Sleep Hygiene

- ➢ Maintain optimal bedroom environment (e.g., ensuring comfortable temperature, minimal light, and minimal noise)
- ➢ Reduce habits that can impact sleep (e.g., avoiding alcohol, tobacco, and caffeine and having a consistent sleep routine).

Sleep Restriction and Stimulus Control

- ➢ Limit amount of time in bed to time spent asleep, avoiding prolonged periods of wakefulness and wakeful activities (e.g., working in bed, watching TV, etc.) in bed.

8. General Sleep Strategies (Cont.)

Relaxation

- ➢ Utilize relaxation techniques to reduce pre-sleep arousal.
- ➢ Some relaxation techniques include:
  - Breathing techniques e.g., "belly breathing" and "4-7-8" breathing
  - Body scanning, or slow, focused attention on different body parts
  - Guided imagery, using external directions for sensory experiences

Exercise

- ➢ Exercise regularly to improve sleep quality and increase deep sleep.
- ➢ Exercise in the morning or afternoon to avoid nighttime alertness.
- ➢ Exercise can aid with:
  - Reduction in insomnia symptoms
  - Increased sleep duration
  - Increased sleep latency and efficiency
  - Decreased anxiety and stress levels

9. Complementary Therapies for Sleep Improvement

Yoga

- Yoga focuses on respecting the body, breathing practices, mantras, meditation, and body movement.
- Yoga can be used to assist with insomnia and can increase melatonin levels, improve immune response, and decrease anxiety and depression.

Aromatherapy

- Smells can influence overall sleep quantity, quality, and initiation.
- Some scents may promote relaxation and an inviting sleep environment.
- Common essential oils used for sleep are lavender, rose, chamomile, jasmine, and cedar extract.

Acupressure

- Acupressure, a traditional technique that involves applying pressure to points on the body to relieve pain, may also be beneficial for sleep.
- At the guidance of a provider, an individual can massage specific areas for 30 seconds a few times daily.

Nicotine Reduction

- *Nicotine reduction can also be helpful to improve sleep.*
- *Nicotine significantly impacts sleep, increasing alertness and delaying sleep onset, leading to shorter sleep duration and poor sleep quality.*
- *Nicotine is also associated with sleep apnea and other respiratory issues.*

10. Improving Nutrition for Better Sleep

1 Maintain a Balanced Diet

- A **balanced diet provides the necessary nutrients to support** the body's functions, including **sleep regulation**.
- Patients should target increasing the following to assist with sleep:
  - Magnesium (found in nuts and leafy greens)
  - Vitamin B6 (found in bananas, fish, and poultry)
  - Tryptophan (found in turkey, eggs, and dairy)
  - Calcium (found in dairy and fortified plant-based milk)

2 Time Meals Wisely

- The **timing of meals influences circadian rhythms and digestion.**
- Patients should avoid heavy meals close to bedtime to reduce digestive discomfort.

3 Limit Caffeine and Alcohol Intake

- **Caffeine can disrupt sleep** by delaying sleep onset and reducing deep sleep. Patients should **avoid caffeine at least 6 hours before bedtime**.
- While alcohol initially promotes sleepiness, it **decreases the amount of quality sleep and disrupts sleep patterns**. Patients should **limit alcohol intake**, especially in the evening.

4 Hydrate Consistently

- **Dehydration can lead to nighttime leg cramps**, while **excess fluids can increase nighttime awakenings** to urinate.
- Patients should **stay hydrated throughout the day** but **reduce fluid intake one to two hours** before bed to avoid overhydration.

5 Include Sleep-Promoting Foods

- Including **foods like cherries, kiwi, and fatty fish** may **improve sleep quality, decrease sleep latency, and improve insomnia** by increasing melatonin, vitamins D, C, and E, and omega-3s.

6 Avoid Sleep Disrupting Foods

- Consumption of **high-sugar and high-fat meals** can lead to fragmented sleep. Additionally, **spicy foods** may cause heartburn or discomfort, affecting sleep.
- Patients should **limit intake of these foods**, especially prior to sleep.

7 Monitor Micronutrient Needs

- **Deficiencies in magnesium, zinc, and vitamins D and B can impair sleep.**
- Consult a healthcare provider if you suspect deficiencies and **consider taking supplements and vitamins.**

11. Patient Resources to Improve Sleep

Mobile Applications

Virtual Hope Box

- A Defense Health Agency (DHA) sponsored app with stress management resources.

Headspace

- Meditation app that teaches mindfulness skills daily. This app has a special focus to support veterans and families.

Chill Drill

- A military community app with mindfulness exercises that can help manage stress.

Sleep Cycle

- App to improve sleep cycle with an intelligent alarm clock and tracker that can analyze patterns.

Mindfulness Coach

- App with gradual, self-guided training to help one understand and adopt simple mindfulness practices.

CBT-I Coach

- App to guide one through learning about sleep while developing positive sleep routines and environments.

12. Service Specific Resources to Improve Sleep

Please find service specific resources below:

- Veterans Affairs (VA) Whole Health
- Warfighter Wellness 30 Day Sleep Challenge
- Navy and Marine Corps Public Health Center Sleep Resources
- Veterans Affairs Path to Better Sleep Resource
- Walter Reed Army Institute of Research (WRAIR) Fatigue Management for Shift Workers Fact Sheet
- WRAIR Fatigue Management During Nocturnal Operations Fact Sheet

13. Other Resources to Improve Sleep

Please find relaxation specific resources below:

- Comeback Yoga – A non-profit organization offering free trauma-informed yoga.
- Sky Resilience – A resource with breath-based training and tools to decrease anxiety and stress.
- Connected Warriors – A resource for trauma conscious yoga and meditation resources.

14. References

Please find references and citations for clinical information contained in this guide.

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