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Awareness of Sleep Health in a Military Treatment Facility

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Executive Summary: Staff Education Project

Awareness of Sleep Health in a Military Treatment Facility

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Summary

Sleep disturbances are reported in almost one-third of military personnel deployed in support of Overseas Contingency Operations (OCO), resulting in approximately 600,000 military personnel and veterans with clinically relevant sleep conditions (Mysliwiec et al., 2013). Nearly half of soldiers in the military present with sleep-related disorders were not profiled, which is a limitation for medical readiness (Devine et al., 2020). The project involved expanding staff knowledge and increasing patient awareness of sleep health through staff education in a military treatment facility (MTF) in Stuttgart, Germany.

This DNP project question was: Will the addition of new education increase staff awareness of the importance and impact of sleep health for patients in an overseas military treatment facility? Due to the high turnover rate of staff, mission effectiveness of the military community, and lack of behavioral healthcare providers, there is a knowledge deficit among primary care nursing staff regarding sleep health. The project is necessary to identify current service members for sleep health concerns, directly impacting personnel's medical readiness for actual world missions.

The educational initiative consisted of multiple sessions accompanied by pre- and postsurveys to assess effectiveness of training. Data collected from surveys were analyzed using descriptive statistics. A comparative analysis of quantitative data revealed the average score on the pretest, which was 58%, rose to 91% after the posttest, reflecting a 33% improvement in both knowledge and confidence among staff. This project significantly enhanced awareness of sleep health by bolstering competence of nursing staff through evidence-based education.

Background

Sleep health is “a multidimensional pattern of sleep-wakefulness, adapted to individual, social and environmental demands, promoting physical and mental well-being” (Buysee, 2014, p. 12). Due to military life’s demanding and unpredictable nature, sleep health often becomes a neglected yet critical factor for overall performance and wellbeing. According to Albakri et al. (2021), sleep health must be appropriately calibrated and carefully considered during nearly every aspect of military careers. It is imperative to prioritize enhancing health, wellbeing, and overall performance (Maleček et al., 2023). Service members are notorious for sleeping at any given opportunity and often fall asleep quickly in nontraditional and noisy environments. Achieving adequate amounts of restorative sleep is an ongoing problem that is critical for personal safety, unit performance, and national security (Good et al., 2020). Poor sleep hygiene can cause long-term effects such as cardiometabolic disorders, mental health concerns, substance abuse, and posttraumatic stress disorder (PTSD).

Military leaders are addressing the critical importance of sleep in terms of next-day performance as well as long-term physical and mental health across military careers and emphasizing the significance of sleep and recommendations for implementing strategies to minimize sleep disturbances. Lack of behavioral health providers at the local MTF leads to a gap in identifying these patients. The divide in screening is a problem and gap in nursing practice because it is at this stage where nurses can quickly identify sleep disturbances. Good sleep hygiene supports cognitive functioning, reduces risks of mental health issues such as PTSD, and enhances overall performance (Albakri et al., 2021; Good et al., 2020). However, military personnel are at heightened risk for sleep disorders

due to stress of deployment, irregular hours, and environmental factors like noise and light (Mysliwiec et al., 2013). As a result, primary care is the designated unit to address sleep health due to its central role in terms of delivering ongoing and comprehensive care to military personnel. Primary care providers (PCPs) act to advise military leaders on managing and mitigating effects of inadequate or disrupted sleep caused by operational demands using evidence-based treatment approaches. Buysse (2014) noted PCPs are the first point of contact with service members seeking healthcare, making them ideal for early identification of sleep disturbances. As such, primary care teams are uniquely situated to integrate sleep assessments into routine health evaluations, which enhances early detection and facilitates referrals for further care when necessary (Albakri et al., 2021). Therefore, structured education programs that increase awareness of sleep health and screening strategies help improve treatment in military facilities while enhancing overall performance and quality of life.

However, gaps in knowledge regarding sleep health among nursing staff hinder provision of comprehensive sleep treatment. Limited training for PCPs regarding sleep health, stigma associated with sleep disorders, and lack of time during routine visits are among the barriers that affect PCP effectiveness (Alger et al., 2024; Petrofsky et al., 2024). Devine et al. (2020) argued a significant challenge in terms of addressing sleep health is underreporting and underdiagnosis of sleep disorders, particularly among active-duty personnel. Mysliwiec et al. (2013) stated many service members are unaware of sleep issues or fail to recognize the impact on their wellbeing, which is exacerbated by the stigma involving mental health and sleep problems. As a result, military healthcare systems struggle to identify and intervene to address sleep-related concerns until they

affect mission readiness or lead to other health problems (Petrofsky et al., 2024). Such cases highlight gaps in training and knowledge to screen patients and offer interventions for managing sleep disorders among military members. Moreover, the fast-paced nature of military healthcare settings adds another challenge for providers to prioritize sleep health screening. Thus, targeted training focusing on sleep health will help nurses identify sleep disturbance patterns and prevent adverse psychological issues and other health problems among military members.

This DNP project involved expanding staff knowledge and increasing patient awareness of sleep health through staff education in a MTF. Pretest/posttest surveys were collected from nursing staff to evaluate their knowledge of sleep health.

Staff Education Project Development

An education program was implemented to augment competence in terms of sleep health and increase patient awareness among nursing staff. Project participants included five registered nurses, 12 licensed practical nurses, and five Army medics. All current nursing staff were stationed at the local military treatment facility; any deployed personnel were excluded. Participants' identities remained anonymous; each was allocated an alphabetic name as participant A1, B1, C1, and so on. All participants completed pre- and post-knowledge surveys. The learning initiative was optional, and the nursing team took part voluntarily. Participants were integrated into project development and execution to minimize opposition. This meant participants were not part of development of education, but were only informed about how education was developed so they could understand processes of the project. In doing so, their views on education development could be considered, and the project could be adjusted accordingly where

necessary to minimize opposition from participants. Clinic leadership assisted in providing necessary accommodations and schedules to complete the project.

The education program lasted 1 month on the first and third Thursday during MTF mandatory training days. The training program was presented in the education and training conference room for 1 hour on each corresponding date. Nursing staff completed presurveys before the presentation. Once collected, a PowerPoint presentation was presented to the staff. Staff members rated their self-perceived competence on a 5-point Likert scale after the presentation which was then collected.

Likert-type scales are commonly used in medical education programs for more straightforward interpretation and analysis (Sullivan & Artino, 2013). Likert scale responses ranged from one to five, where 1 meant to disagree, 2 somewhat disagree, 3 neither agree nor disagree, 4 somewhat agree, and 5 agree. At the end of implementation, data were collected to determine effectiveness of increased staff awareness and importance of sleep health in a MTF. Mean scores for each survey question were calculated for pre- and posttests, with averages converted into cumulative percentages to facilitate a comparative analysis of results.

Results

Results regarding increased staff awareness of sleep health were obtained from nursing personnel surveys. Results indicated a low variability of knowledge among the group, with 2-3 on the Likert scale during the pretest (see Table 1).

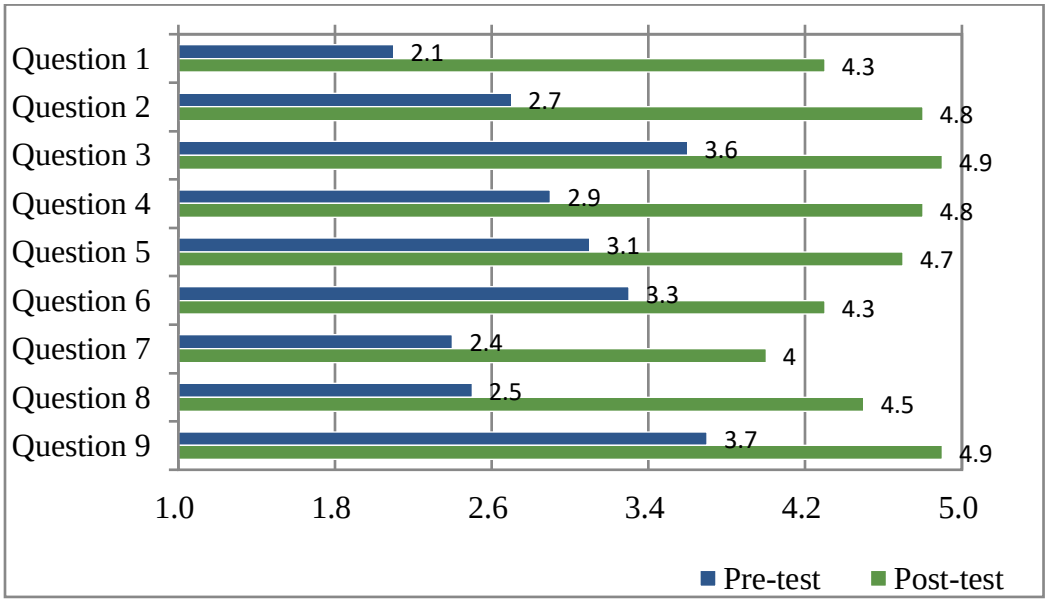
Table 1

Table Pretest/Posttest Mean Results

Measures	Pre-test average	Post-test average
Question 1: Do you feel confident about your knowledge of sleep health?	2.1	4.3
Question 2: Do you feel you have adequate education regarding sleep health?	2.7	4.8
Question 3: Can you identify sleep-related concerns that the patient has not voiced?	3.6	4.9
Question 4: Are you familiar with sleep health screenings?	2.9	4.8
Question 5: Are you capable of completing sleep health screening forms with patients?	3.1	4.7
Question 6: Do you feel confident educating patients/families regarding basic sleep health?	3.3	4.3
Question 7: Do you feel confident identifying and referring a patient with sleep-related concerns?	2.4	4.0
Question 8: Do you know what education is for patients with sleep-related concerns?	2.5	4.5
Question 9: Are you capable of implementing this in your daily practice with patients?	3.7	4.9

Figure 1

Figure Pretest/Posttest Mean Scores



Note. x-axis: Average mean scores. y-axis: Questions

Findings of this education program revealed its implementation led to a significant improvement in terms of knowledge and confidence of nursing staff regarding identifying and managing sleep health concerns among military personnel. Before project implementation, pretest results revealed most nurses had limited awareness of sleep health and effective screening approaches and were less confident using screening forms, with average scores ranging from 2.1 to 3.7 on the scale. Specifically, most participants reported they were least confident with understanding sleep health (2.1), identifying and referring patients with sleep-related concerns (2.4), and familiarity with patient education materials (2.5). Additionally, their confidence in educating patients and families about basic sleep health was 3.3, while familiarity with completing sleep health screening forms was 3.1. The highest pretest score, at 3.7, was for implementing knowledge into daily

practice. However, there was a comparable difference following implementation of the intervention, where posttest scores showed consistent improvements across all measures, with averages increasing to a range of 4.0 to 4.9. Providing staff resulted in significant improvements, where a higher mean score was observed regarding familiarity with identifying unvoiced patient concerns (an increase from 3.6 to 4.9) and implementing sleep health practices in daily care (from 3.7 to 4.9). In addition, confidence in knowledge of sleep health improved from 2.1 to 4.3, while familiarity with completing screening forms increased from 2.9 to 4.8, demonstrating the intervention's effectiveness in terms of this measure. Overall, the mean pretest score of 58% rose to 91% during the posttest, representing a 33% improvement in staff knowledge and confidence.

These findings emphasize the effectiveness of the educational program in terms of addressing gaps in awareness and equipping nursing staff with necessary skills to identify and manage sleep health concerns. Such improvements are critical for enhancing patient outcomes and ensuring medical readiness of military personnel. Improving nursing staff knowledge and confidence in identifying, screening, and managing sleep health concerns indicates the intervention helped address critical gaps in care that directly affect service members' medical readiness. As a result, this proactive approach contributes to reducing the long-term impact of sleep-related conditions such as PTSD, cardiovascular issues, and other mental health disorders, which are prevalent among military personnel. Furthermore, integrating such educational initiatives into regular staff training fosters a culture of ongoing professional development and readiness, which helps healthcare organizations mitigate challenges such as staff turnover and knowledge gaps. Thus, improvement in staff knowledge is essential since it translates into enhanced patient care

quality, greater mission readiness, and a healthier workforce, thereby supporting broader objectives of military organizations to ensure wellbeing and operational efficiency of their personnel.

Nevertheless, this study had several limitations that could affect its applicability. One notable challenge was the need to postpone the educational intervention since the facility was implementing a new electronic medical record (EMR) system, which resulted in temporarily shifting organizational priorities and constrained available resources. Additionally, the study was conducted in an environment that is characterized by fast turnover of civilian and active-duty staff, which limited participant continuity and may have affected retention of knowledge and skills over time. Moreover, scheduling education sessions exclusively on clinic training days further restricted flexibility, potentially excluding participants with conflicting duties or responsibilities. In addition, the small sample size, drawn from a single MTF, limited generalizability of findings to other military healthcare settings. Furthermore, reliance on self-reported measures through Likert-scale surveys may have led to bias, as participants could overestimate or underestimate their competence and confidence.

Conclusions

According to the U.S. Government Accountability Office (GAO, 2024), service members obtain less than 6 hours of sleep, and about half report having low sleep quality regardless of the quantity. An education initiative enhanced nursing staff’s understanding of sleep health, resulting in increased competence in terms of recognizing service members with sleep-related issues. The initial staff percentage average was 58%, which increased to 91% after implementation. As knowledge regarding sleep health expands,

nursing staff are prepared to address the significance and influence of service members' sleep and performance. This contributes to mitigating mental health issues, cardiometabolic disorders, PTSD, and mortality rates. Integrating this project as a quarterly permanent education plan is crucial for staff awareness and populations they serve. Petrofsky et al. (2024) reported sleep is a top priority and military leaders are responsible for their subordinates' sleep health. There is a positive correlation between leader promotion of healthy sleep and improved sleep quality (Alger et al., 2024). Further recommendations that might be considered in order to address the problem of sleep health include enhancing awareness of the significance of the problem. This may include social media, posters, and memos in healthcare organizations. Additionally, the MTF can benefit from implementing this project into their quarterly education agenda to sustain knowledge of the significance of sleep health for all staff members. Future suitability of this program hinges on current and future leadership of the MTF.

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Appendix A: Staff Education Pre/Post Survey

1	2	3	4	5
Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree

1.	You feel confident about the knowledge of sleep health.	1	2	3	4	5
2.	Do you feel you have adequate education regarding sleep health?	1	2	3	4	5
3.	Can you identify sleep related concerns not voiced by the patient.	1	2	3	4	5
4.	Are you familiar with sleep health screenings?	1	2	3	4	5
5.	Are you capable completing sleep health screening forms with patients.	1	2	3	4	5
6.	Do you feel confident educating patient/family regarding basic sleep health.	1	2	3	4	5
7.	Do you feel confident identifying and referring a patient with sleep related concerns.	1	2	3	4	5
8.	Do you know what education is for patient with sleep related concerns.	1	2	3	4	5
9.	Are you capable to implement this in your daily practice with patients.	1	2	3	4	5