



The National Veteran Sleep Disorder Study: Descriptive Epidemiology and Secular Trends, 2000–2010

PUBLICATION

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ABSTRACT

“Study Objectives: A large proportion of individuals affected by sleep disorders are untreated and susceptible to accidents, injuries, long-term sequelae (e.g., risk of cardiovascular disease, cancer, psychiatric disorders), and increased mortality risk. Few studies have examined the scope and magnitude of sleep disorder diagnoses in the United States (US) or factors influencing them. Veterans are particularly vulnerable to factors that elicit or exacerbate sleep disorders. **Methods:** This serial cross-sectional study characterized secular trends in diagnosed sleep disorders among veterans seeking care in US Veterans Health Administration facilities over an eleven-year span (FY2000–2010, n = 9,786,778). Electronic medical records from the national Veterans Administration Informatics and Computing Infrastructure database were accessed. Cases were defined using diagnostic codes specified by the American Academy of Sleep Medicine. Age-adjusted annual prevalence was summarized by sex, race, combat exposure, body mass index, and comorbid diagnoses (cardiovascular disease, cancer, mental disorders). **Results:** Sleep apnea (47%) and insomnia (26%) were the most common diagnoses among patients with any sleep disorder. There was a six-fold relative increase in total sleep disorder prevalence over the study period. Posttraumatic stress disorder, which tripled over the same time period, was associated with the highest prevalence of sleep disorders (16%) among the comorbid conditions evaluated. **Conclusions:** The results indicate a growing need for integration of sleep disorder

management with patient care and health care planning among US veterans. **Commentary:** A commentary on this article appears in this issue on page 1331. **Significance:** Trends in diagnosed sleep disorders were characterized among United States veterans seeking care in Veterans Health Administration facilities between FY2000 and FY2010 (n = 9,786,778). A six-fold relative increase in the age-adjusted prevalence of any sleep disorder diagnosis was observed during the study period. The largest increases were observed among those with posttraumatic stress disorder, other mental health disorders, or combat experience. Veterans with cardiovascular disease, cancer, or other chronic diseases also experienced higher rates of sleep disorder diagnoses relative to those without such conditions. This study identified a growing need for integration of sleep disorder management with veteran care and health care planning.”

RESEARCH HIGHLIGHTS

- Veterans have higher rates of sleep disorders than their nonveteran counterparts. However, there is limited to no national data on sleep disorders among veterans. Since service members and veterans are vulnerable to sleep disturbances and irregularities, through a review of surveillance and evaluation data, this study examines sleep disorder trends among veterans.
- The authors examined the medical records of U.S. veterans who sought care at the Veterans Health Administration (VHA) between 2001 and 2010. Analysis of the medical records indicated that sleep disorder diagnoses were almost six times greater in 2010 than 2001, with diagnoses of sleep apnea and sleep insomnia seeing the largest increases.
- Sleep disorder diagnoses were more common in veterans with a cardiovascular disease, cancer, and mental health disorder. Among those with a mental health disorder, rates of sleep disorders were higher when veterans suffered from post-traumatic stress disorder (PTSD).
- More research is needed on trends in diagnosed sleep disorders among veterans. Future researchers should study whether differences in sleep disorder symptoms exist by factors that affect service experience, such as military branch.



IMPLICATIONS

FOR PRACTICE

Upon separation from the military, veterans should try to maintain a regular sleep schedule. Considering the severe conditions many combat veterans endure during their military service, recently separated veterans should consider discussing the quality of their sleep with their primary care physician (PCP). Veterans with other morbidities or conditions, such as post-traumatic stress disorder (PTSD), cancer, and cardiovascular disease, should talk with their doctor about managing all conditions, including any sleep-related issues. PCPs caring for veterans with sleep disorders should familiarize themselves with the signs of sleep disorders and screenings for sleep disorders. PCPs should also be aware of the impact of sleep related conditions on veterans' reintegration process. PCPs should discuss strategies and treatments for sleep disorders with their veteran patients and together decide on an individualized plan. PCPs should also discuss with their veterans factors that can negatively affect quality of sleep, such as consuming alcohol. Since improvements for veterans with sleep disorders can take a while, family members continue remaining supportive and patient. When needed, PCPs should refer veterans with sleep disorders to a sleep specialist. PCPs and sleep specialist should prioritize preventive and early intervention treatments.

FOR POLICY

The Department of Defense (DoD) and the Department of Veterans Affairs (VA) might continue studying how to reduce sleep disorders in service members and veterans. The VA might continue informing veterans of the benefits and services offered, especially for sleep disorders. Veterans Health Administration (VHA) might continue administering and recommending policies that prioritize timely recognizing and treating sleep related issues. Through such policies, the VHA might continue focusing on preventing sleep disturbances in recently separated veterans. The VHA might create a database on sleep related issues in veterans. The creation and utilization of a database on sleep disorders among veterans could result in more information on the causes of sleep disorders in veterans. The VHA might use this information to continue reducing the short- and long-term consequences of sleep disorders, especially among veterans with other morbidities, such as cardiovascular disease. To reduce sleep disorders among veterans, policymakers might fund early intervention programs that help veterans learn how to cope with reintegration before sleep difficulties develop. The Department of Health and Human Services might recommend trainings to help providers detect possible sleep difficulties in veterans before disorders develop.

FOR FUTURE RESEARCH

This study on sleep disturbances in veterans across the U.S. has many research implications. A limitation of this study is that only veterans diagnosed with sleep disturbances and sleep related conditions were included in the study. Thus, some veterans who experienced sleep difficulties between 2001 and 2010 might have been excluded from the analysis. To capture a broader spectrum of sleep related difficulties in veterans, future researchers should include varying levels of sleep disturbances. Another limitation of this study is that veterans who sought care outside of the VHA might not have included in the sample. Future researchers should include veterans who have sought care outside of the VHA. Studies on veterans who have sought treatment for sleep disorders outside of the VHA might explore differences in treatment by providers and organization. Exploring differences in treatment could identify which techniques and services best treat sleep disorders in veterans. Future researchers should also study the relationship between sleep disorders and chronic health conditions, such as PTSD. Future researchers should study whether differences in sleep disorder symptoms exist by period of service, exposure to combat zones, and military branch.

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