

# Sleep and wakefulness in the military: effects on psychological and cognitive level: a systematic review

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## Background:

Sleep is a vital necessity needed to perform adequately in daily life. Certain occupations, such as the military, might be exposed to unconventional working hours leading to potentially less restorative sleep. However, in a military setting, a continuous state of high vigilance is needed, meaning soldiers might be challenged into receiving restorative sleep.

## Objectives:

This systematic review aims to form a critical analysis of the current literature on the effect of sleep (quantity and quality) and sleep deprivation on, on the one hand, the cognitive, through working memory, attention, marksmanship, and executive function, and on the other hand the psychological function, through in-depth analysis of PTSD, depression, anxiety and panic, mood, fatigue, and self-related health, of military personnel.

## Methods:

A systematic screening of PubMed, Web of Science, Embase, and Google Scholar using the keywords: 'military personnel', 'sleep deprivation', 'attention', 'sleep', 'circadian rhythm', 'psychological', 'decision making', 'emotions', 'cognition', was conducted. Articles categorizable as original research, reviews, meta-analyses, synthesis, systematic reviews, commentary on articles, questionnaires, consensus using Delphi method or letters to the editor, and published between January 1, 2010, and October 30, 2020, were included in this systematic review after assessment of methodological quality.

## Results:

Inadequate sleep (quality and quantity) seemed to be highly prevalent in both a deployed and non-deployed setting. The cause of this sleep impairment was attributed to several factors, including environmental disruptors (such as light, noise, temperature, and air quality), the implemented sleep regimen, and the load of operational training. More so, inadequate sleep was associated with potentially harmful effects on a psychological and cognitive level, such as exacerbation of mental health symptoms and faulty friend-foe discrimination. The consequences of inadequate sleep might jeopardize soldiers' and unit's safety and must be taken seriously.

## Conclusion:

This systematic review highlights the importance of a monitored sleep policy, covering the pre-, during, and post-deployment period, to enhance sleep efficiency and in doing so minimizing potential harmful effects on soldiers' overall health.

## Keywords:

Military personnel, Sleep deprivation, Attention, Sleep, Circadian rhythm,  
Psychological, Decision making, Emotions, Cognition