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SLEEP IN PACIFIC OCEAN POPULATIONS: A SCOPING REVIEW

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Introduction: Sleep research focused on individuals categorized as Native Hawaiian/Pacific Islander suggests that sleep deficiencies(short sleep, insomnia symptoms) are highly prevalent among adults. Given the large degree of diversity related to family origin of Pacific ocean populations and assimilation, a more robust understanding of unique risk factors related to sleep challenges for these heterogenous communities is warranted. We are conducting a scoping review of studies that examine associations of health, practice, sociodemographic, and influential mechanisms with sleep in Pacific ocean populations.
Methods: A literature search conducted in Medline, Embase, Psychinfo, and Cochrane encompassed three domains: sleep-related and sleep-disorder terms, oceanic island and ancestry names, and sub-population names inclusive of the geographic regions of Polynesia, Micronesia, and Melanesia. The primary search retrieved 2364 articles. Studies were selected by abstract and full text analysis by one reviewer, followed by independent data extraction by four reviewers. Using a standardized form, synthesis of results and assessment of sample demographics, sampling strategy, sleep data source and findings, theoretical framework, and covariates was conducted per article. Inclusion criteria included articles with at least one quantitative sleep-related finding for a Pacific island population. We excluded non-primary research articles. Studies that categorically combined other racial/ethnic groups with Pacific ocean populations(Asian/Pacific Islander) or geographic regions(Asian-Pacific region) in reporting findings were excluded.
Results: Of the 99 articles included in the review, 18 included children/adolescents, 56 included adults, 13 included multiple age groups, and 12 reported no or only mean participant age. Seventy-two studies allowed participants to self-identify their major ethnic group as a single race(e.g., Tongan, Kirbati). Seventeen studies included objective methods(e.g., actigraphy). The most common sleep-related factors were issues of sleep patterns(n=51), physical health(n=43), mental health(n=28), socioeconomic deprivation(n=26), daytime sleepiness/fatigue(n=20), sleep disorders or symptoms (snoring)(n=17), sleep-supporting practices(n=9), and integration into main culture/born in US(n=3).
Conclusion: Preliminary results suggest that few studies have examined identifiable factors that may impact sleep within diverse Pacific ocean communities, with most studies focused on adults, self-reporting, and sleep pattern problems. Future studies should examine underlying mechanisms related to sleep deficiencies in both children and adults to better understand variability in risk across the lifespan.
Support (If Any):

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THE DIFFERENTIAL RELATIONSHIP BETWEEN BERTHING HABITABILITY, JOB STRESS, AND WORKLOAD ON SELF-REPORTED SLEEP DEFICIENCY IN A REPRESENTATIVE SAMPLE OF SAILORS ATTACHED TO U.S. NAVY WARSHIPS

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Introduction: Berthing habitability factors (e.g., noise, temperature, lighting) and workload are known to negatively impact sleep for Sailors serving onboard United States (U.S.) Navy warships. However, it is unknown what factors have the strongest relationship with sleep outcomes. Using data from a representative sample of warships, the relationships between berthing habitability, job stress, and workload on sleep were explored.
Methods: Participants (N = 3,313; 84% ≤ 35 yrs, 55% white) from 33 warships voluntarily completed an online survey. Using structural equation modeling, latent factors of workload, job stress, and berthing habitability were modeled to test relationships with self-reported sleep deficiency. Sleep deficiency was calculated by dividing the sleep obtained on their ship ("How many hours of sleep (to include naps) per day do you get when sleeping onboard your current ship?") by their required sleep amount ("How many hours of sleep do you require to feel well-rested?"). Job stress was modeled with three scores from questions related to job stress (1=strongly disagree, 5=strongly agree). Habitability was modeled by the degree in which environmental factors disturbed sleep (1=not at all, 5=extremely). Workload was modeled by the hours completed performing job-related tasks (e.g., work center, watch team, training, meetings).
Results: On average, participants reported shorter sleep durations on their ship than they require (Ship: 5.2±1.4 hrs; Required: 7.0±1.3 hrs, mean±SD). Overall, habitability, job stress, and workload were negatively related to sleep deficiency (standardized βs=-0.16 to -0.26, ps < 0.001, CFI/TLI > 0.90, RMSEA=0.056). Among all latent constructs, larger coefficients were found for the direct path from workload to sleep deficiency than those from habitability (β1=-0.16 vs β2=-0.12). Additionally, watch team duties loaded most heavily onto the construct of workload, suggesting that it contributed most to the relationship of workload with sleep deficiency.
Conclusion: These results confirm that workload and berthing habitability are related to sleep deficiency in Sailors while serving onboard U.S. Navy Ships. Additionally, greater workload may have a stronger relationship with sleep deficiency than other factors such as habitability. Future research should utilize objective measures of sleep and workload to better estimate their relationships with sleep.
Support (If Any): Military Operational Medicine Research Program (MOMRP) under work unit no. N2010.