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0776 Differences in Well-Being in Dayworkers Compared to Shift Workers: A Study of United States Navy Sailors

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EFFECTS OF STRESS, SLEEP AND DEPRESSION ON RESILIENCE OF FEMALE NURSES WORKING IN SHIFT AND FIXED WORK SCHEDULES IN GENERAL HOSPITAL

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Introduction: Healthy sleep is important and can have a positive effect on resilience. The aim of the present study was to compare the differences in resilience between two group nurses in rotating shift and daytime fixed work schedules and to investigate stress perception, coping factors, social and psychological health, and sleep factors that may affect resilience.

Methods: A total of 400 female nurses having rotating shift and daytime fixed work schedules at two hospital were surveyed from June 12, 2017 to June 12, 2018. Perceived stress scale(PSS), stress coping short form(Brief COPE), psycho-social wellbeing Index short form(PWI-SF) or general health questionnaire-18(GHQ-18), center for epidemiologic studies depression scale(CES-D), STAI-X-1 in state-trait anxiety inventory(STAI), Pittsburgh sleep quality index(PSQI), Epworth sleepiness scale(ESS), insomnia severity index(ISI), Conner Davidson resilience scale(CD-RISC) applied. Independent t-test, paired t-test, Pearson correlation analysis, and multiple regression analysis were applied to the results of the final 373 questionnaires of 400 nurses in two general hospitals.

Results: As a result of comparing the variable statistics between the two groups of rotating shift and daytime fixed work nurses, there were statistically significant differences in all variables except perceived stress, sleep quality, and daytime sleepiness. Factors that had a significant correlation with resilience were stress coping strategies, depression, and insomnia severity(p<0.001). In multiple regression analysis, the larger positive reframing1(β=0.206, p<0.001), the less depression (β= -3.45, p<0.001), and the higher psychosocial health level(β=0.193, p <0.001). As acceptance coping2 increases(β=0.129, p<0.05), as daytime sleepiness decreases(β=-1.17, p<0.05), and as active coping2 increases(β=0.118, p<0.05), as the positive reframing2 increases(β=0.110, p<0.05), the resilience increased.

Conclusion: In this study, it was found that resilience was higher in daytime fixed workers than in shift workers. In addition, specific stress coping strategies and sleep, depression, and anxiety factors were found to be associated with resilience.

Support: Key words: Shift work · Female nurse · Resilience · Sleep · Stress · Depression

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DIFFERENCES IN WELL-BEING IN DAYWORKERS COMPARED TO SHIFT WORKERS: A STUDY OF UNITED STATES NAVY SAILORS

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Introduction: On United States Navy (USN) ships, most sailors are shift workers, required to support 24/7 operations. However, ~15% of the ship's company are solely dayworkers who do not work in shifts. It is often assumed that the quality of life for dayworkers is better than that of shift workers. This study compared the well-being of dayworkers with that of shift workers.

Methods: Longitudinal, naturalistic observations were made of sailors (N=926; 18-59 years of age, ~80% males, ~84% enlisted personnel) on seven US Navy ships while performing their normal underway duties. Sleep-related attributes (actigraphy, Epworth Sleepiness Scale, Pittsburgh Sleep Quality Index, Insomnia Severity Index), mood (Profile of Mood States), and work/rest patterns were assessed.

Results: Dayworkers (DW; n=98) were on average older (p=0.001) and more senior (p=0.001) than shift workers (SW). Of the dayworkers, 31% reported elevated daytime sleepiness (SW:45.5%; p=0.008), 64.2% were poor sleepers (SW:82.6%; p<0.001), and 26.3% had ISI score≥15 (SW:24.8%; p=0.782). Also, 13.8% of the dayworkers had ESS>10 and ISI≥15 (SW:16.8%; p=0.626). Dayworkers had better mood (Total Mood Disturbance, anger/hostility, vigor, fatigue; all p<0.050), slept more (7.03±0.74hrs sleep/day; SW:6.52±1.03hrs; p<0.001) and had more consolidated sleep (1.1±0.3 sleep episodes/day; SW:1.4±0.6; p<0.001). Yet, split sleep was commonplace for both groups (DW:~62%; SW:~92%). The two groups do not differ (all p>0.300) in their use of caffeinated beverages (82%-86%), use of nicotine products (30%-36%), or having a regular exercise routine (69%-75%). In both groups, ~9% of sailors drank caffeinated beverages, used nicotine products and did not have an exercise routine (p=0.999). Dayworkers worked 10.1 hours/day, i.e., 1.7 hours/day less than watchstanders (p<0.001).

Conclusion: Quality of life of dayworkers is a bit better when compared to shift workers, but sleep-related issues are evident in almost all US Navy sailors. Living and working on a naval vessel takes a toll on almost everyone aboard. A culture change is required!

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VARIATIONS IN VIGILANCE AND SLEEP AMONG UNDERGROUND MINE WORKERS DURING 14 CONSECUTIVE NIGHT SHIFTS

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Introduction: Adverse effects of night shift work are well known but there is scarce data on how vigilance and sleep vary across a large number of consecutive night shifts.

Methods: In summer, 38 underground miners (mean age (SD): 36.8 (13.9) years) wore an actigraph, filled out the Morningness-Eveningness questionnaire, and completed a Visual Analog Scale capturing subjective vigilance (very sleepy to very alert) 4 times per shift (19:00, 22:00, 02:00, and 05:30) for 14 consecutive night shifts. Mixed effects linear regression models were used to account for repeated measures.

Results: Mean vigilance level is lower at 22:00, 02:00 and 05:30 than at the beginning of the shift at 19:00 (p<0.001). Also, a more pronounced decrease in vigilance during the night was observed among older workers compared to younger workers (p<0.05). Moreover, workers with greater eveningness have higher vigilance at the beginning of the first night shift at 19:00 (p<0.001), but their decline in vigilance level during the night is faster than that observed in workers with greater morningness (p<0.01). Interestingly, the mean vigilance decline observed at 02:00 and 05:30 (compared to 19:00) is slowed down for each additional night shift (p<0.001). Furthermore, mean sleep efficiency is negatively associated with morningness and gradually decreases across consecutive night