

(NDI), and 2) using aggregated prospective reports of daily nightmare frequency across 2 weeks (nurses who reported any nightmares in the past 2 weeks were classified as having nightmares).

**Results:** Nurses experiencing nightmares as determined by the NDI ( $n = 236$ ; 51%) were younger, more likely to be female, less likely to have children, more likely to be an intermediate chronotype, less likely to be a morning chronotype, and had higher mean levels of PTSD, anxiety, depression, and perceived stress than nurses without nightmares. Nurses experiencing nightmares as determined by daily surveys ( $n = 191$ ; 41%) were not different in terms of any demographic characteristics, but had higher levels of PTSD, anxiety, depression, and perceived stress than those nurses without nightmares.

**Conclusion:** Demographic and psychosocial differences in nightmare prevalence may differ based on how nightmares are assessed (i.e., retrospective vs. prospective measures). Overall, nurses with higher stress, PTSD, depression, and anxiety may be at greatest risk of having nightmares. Future studies should examine if targeting these factors results in improvements in sleep and well-being among nurses.

**Support (if any):** NIH/NIAID R01AI128359-01

## 732

### A DAILY DIARY STUDY OF NIGHTMARE REPORTS AMONG COMBAT-EXPOSED VETERANS

Katherine Miller,<sup>1</sup> Elly Goldstein,<sup>2</sup> Holly Barilla,<sup>2</sup> Rain Carroll,<sup>3</sup> Richard Ross,<sup>2</sup> Mitchel Kling,<sup>3</sup> Seema Bhatnagar,<sup>4</sup> Philip Gehrman<sup>5</sup>

<sup>1</sup>Cpl Michael J. Crescenzo VAMC, <sup>2</sup>University of Pennsylvania,

<sup>3</sup>Corporal Michael J. Crescenzo VAMC, <sup>4</sup>Children's Hospital of Philadelphia, <sup>5</sup>Department of Psychiatry, Perelman School of Medicine of the University of Pennsylvania

**Introduction:** Nightmare occurrences may, in part, result from prior-day arousal (e.g., the continuity hypothesis), and that they then influence next-day symptoms. Recent ecological momentary assessment (EMA) studies in samples of civilian trauma survivors found that elevated PTSD symptoms, pre-sleep cognitive arousal, and greater sleep onset latency predicted nightmare reports. This study adds to these works by using EMA in a sample of combat-exposed Veterans.

**Methods:** Data were analyzed from a study examining neurobiological and neuropsychological factors associated with PTSD in a sample of 27 combat-exposed OEF/OIF Veterans, with and without PTSD. Participants engaged in EMA for 6 days, with assessments across the day inquiring about mood, activity, and stressful events. Morning reports also included the consensus sleep diary and prompts on nightmare experiences. Those reporting nightmares were asked about nightmare disturbance and the level of replicability to a traumatic event (replays or symbolic/unrelated). Multi-level modeling analyses were used.

**Results:** A total of 113 morning reports were acquired, in which 40 included a report of having a nightmare and 73 did not. Main effects were found for baseline PTSD symptom severity ( $OR=1.13$ ,  $p=0.02$ ), prior day time spent alone ( $OR=0.01$ ,  $p=0.01$ ) and prior day level of distraction ( $OR=0.25$ ,  $p=0.02$ ) on morning reports of nightmares. However, when accounting for the previous night's nightmare report ( $OR=15.9$ ,  $p<0.001$ ), these effects were no longer significant. No other effects on nightmare reports were observed. Additionally, no factors predicted replicability of nightmare content or level of nightmare disturbance. Regarding daytime impact, nightmare reports were associated with greater levels of stress associated with events later that day ( $OR=2.48$ ,  $p=0.04$ ).

**Conclusion:** Greater baseline PTSD symptom severity, less daytime spent alone, and greater daytime attentiveness were significant predictors of nightmare reports. While daily social interactions and attentiveness may be beneficial, these factors also may be associated with

hypervigilance, a known risk for sleep disruption. However, these data also suggest that day-to-day levels of stress may have less influence when a chronic nightmare pattern is present.

**Support (if any):** Defense Advanced Research Projects Agency under a grant from the U.S. Army Research Office (W911NF1010093). U.S. Department of Veterans Affairs, Veterans Health Administration (CSR&D- IK2 CX001874).

## 733

### PTSD AND SLEEP DISORDERS IN MEDICAL LEARNERS AND HEALTHCARE PROVIDERS

Meagan Tinsley,<sup>1</sup> Grace Hunt,<sup>1</sup> Mark Alvarez,<sup>1</sup> Rachel Gremillion,<sup>1</sup> Allison Jumonville,<sup>1</sup> Yahya Ghaffar,<sup>1</sup> Kristin Champagne,<sup>1</sup> Alyssa Derouen,<sup>1</sup> Brianne Knox,<sup>1</sup> Kevin Bokun,<sup>1</sup> Mariah Allen,<sup>1</sup> Michael Ninh,<sup>1</sup> Daniel Harper,<sup>2</sup> Oleg Chernyshev<sup>3</sup>

<sup>1</sup>LSUHSC Shreveport School of Medicine, <sup>2</sup>University of Arkansas for Medical Sciences College of Medicine, <sup>3</sup>LSU Health Shreveport

**Introduction:** Medical student mental health and wellness has been an increasingly hot topic over the past decade. Much of the research, however, has remained focused more on anxiety and depression and less on other less common but just as detrimental mental health disorders such as PTSD, bipolar disorder, OCD and others. In addition to the more traditional psychological stresses medical students experience, they also experience physical consequences of their training, often with sleep patterns suffering most initially.

**Methods:** The questionnaire consists of thirty-five questions, comprising of demographic questions, questions relating to USMLE exams and education, the STOP-Bang Questionnaire, Epworth Sleepiness Scale, Fatigue Severity Scale and PTSD DSM-V Questionnaire. This survey was sent out between March and April of 2020 and was distributed to all medical students and residents with an LSU Health Shreveport email address via RedCAP, an encrypted electronic survey tool.

**Results:** A total of 78 participants responded to our survey, with 91.1% identifying as medical students and the rest as residents. 64.1%, identified as female, 34.6% identified as male and 1.3% declined to answer. While 43% of our participants found their educational experience emotionally traumatizing, 75% of them felt that preparing and/or taking USMLE exams was emotionally traumatizing. In regards the portions of our questionnaire that served as sleep disorder screening questions, the average score for the STOP-Bang was 1.48 (SD +/- 1.15) the average score for the ESS was 6.85 (SD +/- 4.72) and the average score for the FSS was 32.04 (SD +/- 11.99). It should be noted that, while the average score of the PTSD screening portion was 20.34 (SD +/- 17.47), 18 participants scored above 38, the minimum score needed to qualify for a PTSD diagnosis.

**Conclusion:** These results suggest some correlations that warrant further future study. It is worrisome that while less than half of our participants stated their educational experience as harrowing, 75% stated preparing for and/or taking these required exams was emotionally traumatizing. The possible connections suggested here between USMLE exams and an increase in fatigue, lack of motivation and PTSD symptoms urge us to look more closely at the impact of the USMLE.

**Support (if any):**

## 734

### PREVALENCE AND CORRELATES OF INSOMNIA IN VETERANS WITH AND WITHOUT MILITARY SEXUAL TRAUMA RECEIVING CARE WITHIN A VA MED CENTER

Karen Makar,<sup>1</sup> Louis Rivera,<sup>2</sup> Rena Mazur,<sup>1</sup> Taylor Aguiar,<sup>3</sup> Ryan Krouse,<sup>1</sup> Subhajit Chakravorty<sup>2</sup>