246 Comparing Caffeine Usage and Sleep Amongst Emergency Medicine Residents Based on Shift Times

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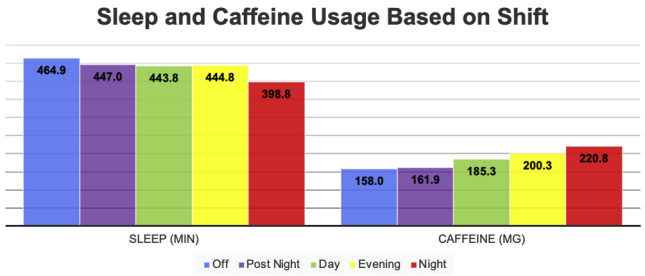
Study Objectives: Shift work is one of the many stressors that emergency physicians need to solve as they strive to find a proper work-life balance. One of the way that shift workers combat shift work is by using caffeine or other stimulants. Finding the right balance means that shift workers must adjust their sleep schedule often. The goal of this study was to evaluate the amount of sleep that EM residents believe they're getting based on shift times.

Methods: This was an IRB-approved, prospective, observational study wherein EM residents wrote in individual sleep logs their sleep time, caffeine usage, and sleep aids for up to 6 months. 25/34 eligible EM residents completed some of their sleep logs and 14/34 completed their entire sleep log with decreased participation attributed to COVID-19. These logs were blinded to researchers and then compared based on shift (day, evening, night, off, post-nights). Shifts were 8-10 hours long and coded as either day (starting between 6a-10a), evening (starting between 11a-4p), night shift (starting between 9p-12a), post-night (day after night shift), or off. One way ANOVA tests were used to compare sleep and caffeine recorded by shift. Post hoc analysis using Bonferroni correction were performed to determine differences between groups.

Results: There were statistical differences between the sleep recorded and caffeine use by emergency medicine residents based on shift. Sleep time was highest during days off while caffeine usage was the lowest. On the contrary, sleep time was lowest after night shifts while caffeine usage was the highest. One way ANOVA for sleep time based on shifts was F (4, 1884)=15.61, p=1.45E-12. There was a significant difference between sleep time on days off (M=464.9, SD=106.6) compared to day shift (M=443.8, SD=90.1), p=0.004, evening shift (M=444.8, SD=89.1), p=0.0003, and night shift (M=398.8, SD=122.2, p=1.92E-13. There were also significant differences between day shift and night shift (p=8.14E-06) and evening shift and night shift (p=3.41E-08). The one way ANOVA for caffeine usage amongst shifts was significant at F (4, 1626)=11.91, p=1.55E-09. Statical differences were found between days off (M=158.0, SD=126.7) as compared to evening shifts (M=200.3, SD=138.3), p=5.49E-08 and also night shifts (M=220.9, SD=145.5), p=3.86E-08.

Conclusion: Night shifts resulted in the lowest sleep and highest caffeine usage for emergency medicine residents. Days off and day shifts resulted in highest amount of sleep and lowest amounts of caffeine usage. Shift work remains a significant stressor on emergency residents' work-life balance. Residents should attempt to make adjustments to their sleeping arrangements at home to improve their night shift sleep.



247 Identifying Factors that Contribute to Joy and Gratitude for Emergency Medicine Healthcare Workers Amidst the COVID-19 Pandemic

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Study Objective: During COVID-19, emergency medicine (EM) providers have labored to protect the health of their patients, often at the expense of their own well-being. Increased demands imposed on providers without intentional efforts to evaluate and improve wellness can lead to burnout, attrition, and compromise patient care. Practices that promote mindfulness, reflection and gratitude have been shown to reduce burnout. The *Institute for Healthcare Improvement (IHI) Framework for Improving Joy In Work* provides an approach to restore joy and engagement by first identifying elements that "matter most" to healthcare workers. The objective of this study was to identify common themes and associations that contribute to EM provider and staff (1) joy in work, (2) gratitude, and (3) personal wellness.

Methods: This descriptive study used an electronic survey tool with open-ended questions adapted from the IHI framework to assess what matters most. Q1: What brings you joy in your work? Q2: Thinking back to what matters most, what are you grateful for? Q3: What do you do to maintain your personal wellness? In Nov. 2020, email listservs were used to recruit a voluntary sample of emergency physicians, advanced practice providers (APPs), residents, fellows, nurses and staff from 10 academic and community hospitals. Data were managed in Qualtrics and Excel. Qualitative analysis used inductive thematic coding by two authors independently, with verification by a third. Information redundancy signaled saturation for common themes. Pivot tables examined themes across demographics, and associations were analyzed with 2x2 contingency tables using chi-square, Fisher's exact tests, and odds ratios (95% CI).

Results: Of 254 respondents, 63% were female and 89% identified as White. Roles were 32% physicians, 8% APPs, 16% residents/fellows, and 44% nurses/staff. Response rates were 39-54% for providers. Common themes for joy in work were *patient care* (47%) and *teamwork/camaraderie* (43%), followed by *feeling valued/appreciated* (13%), *making a difference* (13%), and *teaching/mentoring* (9%). EM providers at academic sites were more likely to find joy in *teaching/mentoring* than those in the community (p=0.01; OR 10.5, 95% CI 1.3-82.6). For gratitude, themes were *teamwork/ camaraderie* (13%), *family* (12%), *health* (7%), and *supportive work environment* (7%). Themes for maintaining personal wellness were *physical exercise* (46%), *time with family and friends* (32%), *hobbies* (15%), and *self-care* (13%).

Conclusions: Results of this study reveal common themes for EM providers and staff surrounding joy, gratitude, and wellness. By identifying elements that matter most, systems can take the next steps in the IHI framework to support and rejuvenate their healthcare team. Implications from our findings suggest that practices and future research to remove barriers and encourage meaningful provider-patient interactions, team camaraderie, teaching/mentoring, physical activity, and time with family/friends could increase joy and fulfillment for frontline healthcare workers.

248 Analysis of Albuterol Prescriptions Written by Emergency Medical Providers for the Treatment of Pediatric Patients With Acute Asthma Exacerbation

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Study Objective: The most recent guidelines for the treatment of acute asthma exacerbation in children, including those from the American Academy of Pediatrics, emphasize weight-based dosing of rescue albuterol for optimal symptom relief. The objective of this study is to assess the adherence of emergency medical providers who care for children in a tertiary pediatric emergency department to these guidelines. We also assess whether level of training or primary training background affects adherence to these guidelines.

Methods: A single center, retrospective, cross-sectional review of electronic medical records from 2016-2018 of children under the age of 19 years who were prescribed albuterol inhaler on discharge from a tertiary pediatric emergency department was undertaken. Prescriptions were assessed for accuracy as compared to a weight-based standard, and subsequently analyzed based on provider level of training and primary training background. Secondary analysis assessed emergency department bounce-back rates. Statistical analysis was performed by a professional statistician.

Results: 307 children met inclusion criteria, with mean age of 8 years, mean weight 38.7 kg, and slight male predominance (53.4%). The majority of prescriptions were written by residents (73.9%), followed by attendings (16.7%), advanced practice providers (APPs) (7.8%), and fellows (1.6%). Prescribers were primarily trained in pediatrics (54.7%) or emergency medicine (35.5%), less frequently APPs (7.8%) or combined pediatric and emergency