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May 2nd, 12:00 AM

The Effects of Sleep Quality, Covariates and a Possible Intervention

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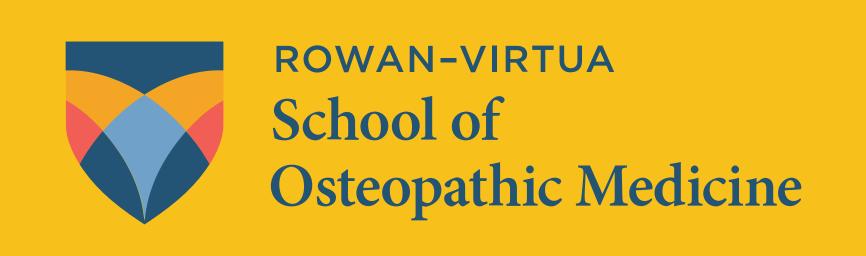
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Reddy, Pranav S.; Tarditi, Mia; Gupta, Adarsh; Jermyn, Richard; and Venkataraman, Venkat, "The Effects of Sleep Quality, Covariates and a Possible Intervention" (2024). *Rowan-Virtua Research Day*. 209. https://rdw.rowan.edu/stratford_research_day/2024/may2/209

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The Effects of Sleep Quality, Co-variates and a Possible Intervention

Pranav Reddy oms II, Mia Tarditi, Dr. Adarsh Gupta, Dr. Richard Jermyn, Dr. Venkat Venkataraman

ABSTRACT

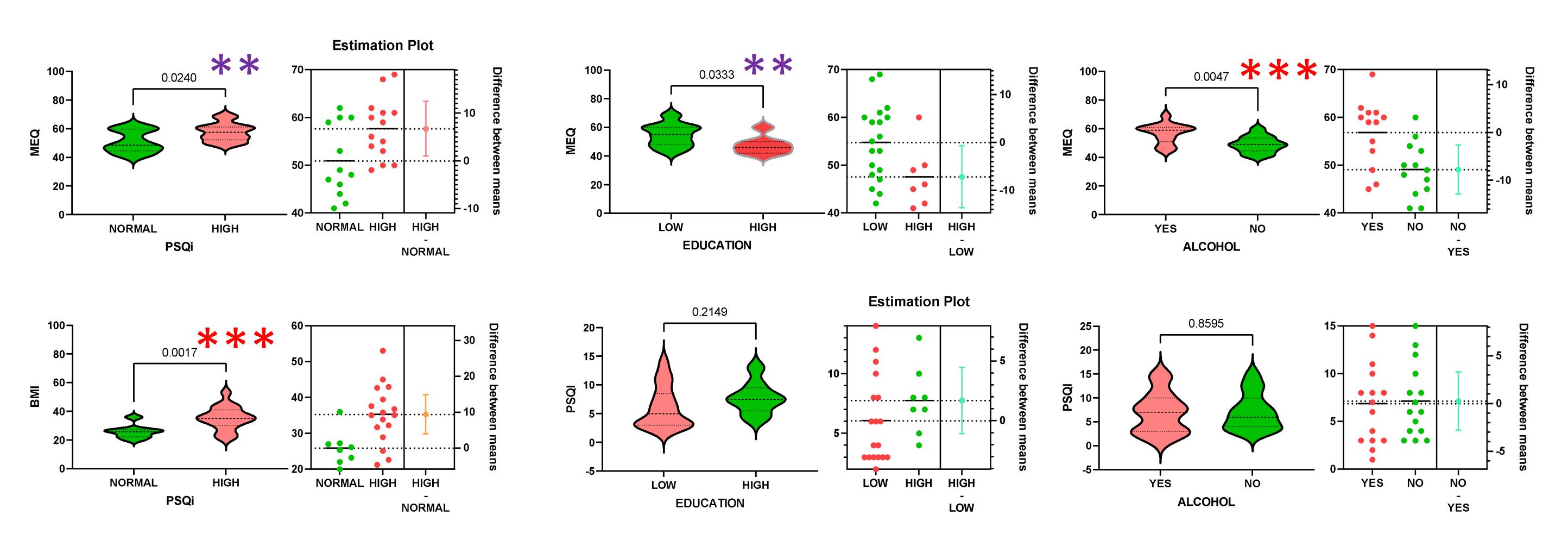
Sleep is an essential biological process needed to maintain adequate physiologic function. Research has provided growing evidence that chronic failure to get enough sleep is associated with increased risk for obesity, depression, diabetes, hypertension, stroke, cardiovascular disease, and mortality. Sleep deprivation is threatening the health of up to 45% of the world's population. Furthermore, sleep disorders were found to be associated with significantly higher rates of health care utilization and cost, accounting for \$94.9 billion in costs each year in the United States. Earlier data from this project demonstrated a correlation between sleep quality and pain. METHODS: Patients were recruited from Family Medicine and NMI. For a pilot study on intervention, student volunteers were recruited. Data was collected and statistical analyses were carried out with IBM SPSS v29.0 and Prism 12.0. **RESULTS**: Several covariates exhibited correlations with sleep quality. The sleep quality was surprisingly poor even in patients seen for well visits or annual examinations. IT was also poor in student volunteers **CONCLUSIONS**: The analyses revealed correlations between covariates (that are associated with the Body Mass Index (BMI), education levels) and sleep and circadian rhythms. Preliminary findings suggest a very short intervention was useful for students.

Circadian Rhythms and Sleep Shift Work Jet Lag Altered Light/Sleep Patterns Stress Metabolic Rhythms

. 1: Sleep, circadian rhythm & impact

METHODS DATA SUBJECTS Protocol for patient Charts ANALYSES data analyses Medicine Questionnaire PSQI & Protocol for Opinion Volunteers nterventio volunteer pilot study analyses

RESULTS



ig. 4: Statistical Analyses of paired variables (on X and Y axes) presented as violin plots. The difference between the means is presented in the estimation plot. Significance of < 0.05 is indicated by two purple asterisks (**); p, 0.005 is indicated by three red asterisks (***). N = 82.

Age		PSQI	
Mean	21.3125	Mean	8.466667
Standard Error	1.06348	Standard Error	0.98012
Median	20	Median	8
Mode	19	Mode	12
Standard Deviation	4.25392	Standard Deviation	3.795988
Sample Variance	18.09583	Sample Variance	14.40952
Kurtosis	3.076958	Kurtosis	-0.74572
Skewness	1.985511	Skewness	-0.15512
Range	14	Range	13
Minimum	18	Minimum	
Maximum	32	Maximum	15
Sum	341	Sum	127
Count	16	Count	15
Confidence Level (95.0%)	2.266754	Confidence Level (95.0%)	2.102148

Table 1: Descriptive Statistics for Student Group. Separate tables are presented for two parameters: *Age* and score on PSQI. All three central tendency measures (mean, median and mode) on PSQI all skew towards higher values indicating poor sleep quality. N = 15.

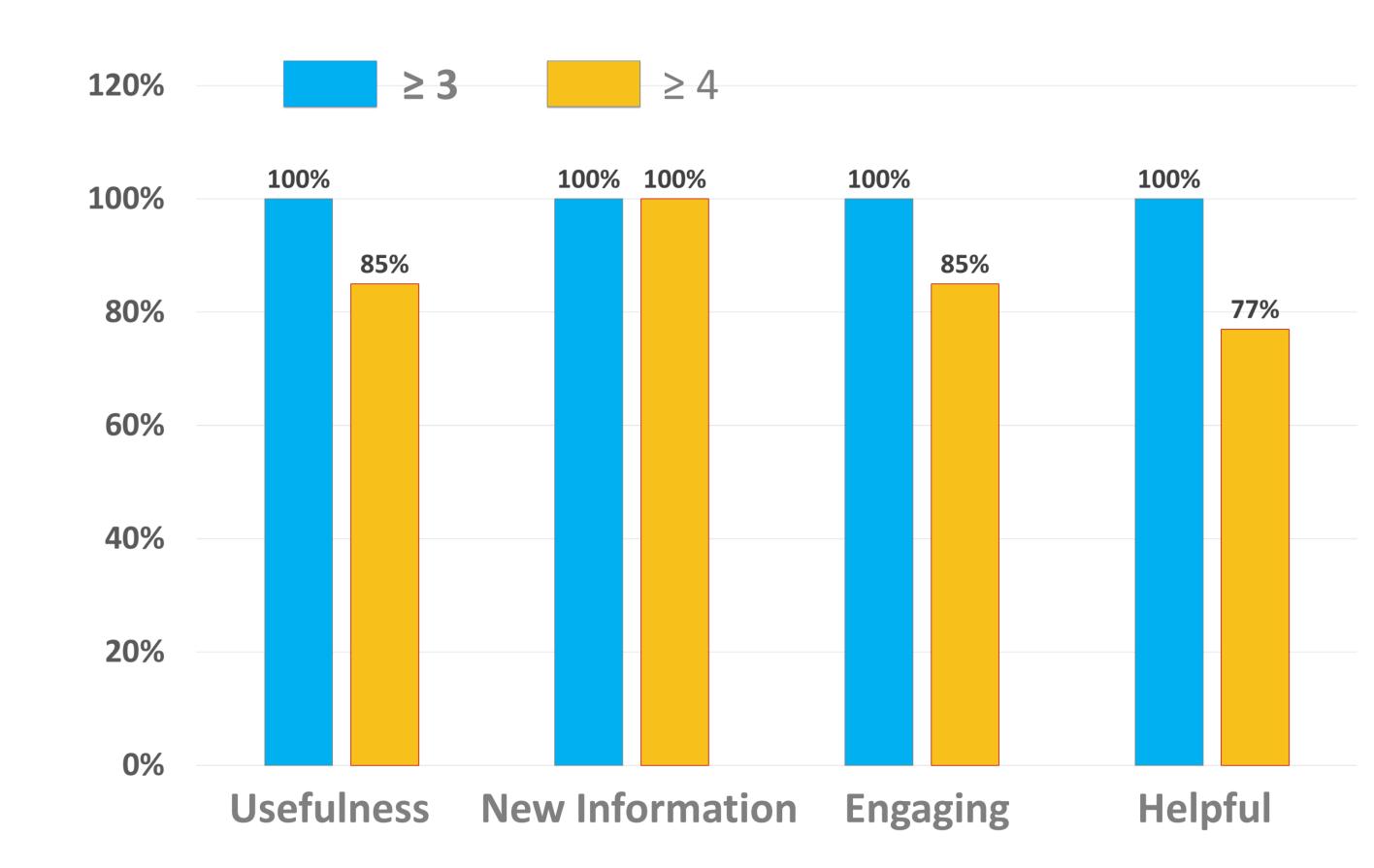


Fig. 5: Opinion on the short intervention. Questions were presented on four different aspects of the intervention. Answers were on a Likert Scale with 5 being "excellent" and 3 being "good." N=13 (86.6% response).

FUTURE DIRECTIONS

- ✓ Develop Intervention further
- ✓ Plan a more detailed study
- ✓ Analyze impact/improvement, if any

ACKNOWLEDGMENTS

Osteopathic Heritage Foundation

Student Doctor Bijan Roganchi

