provide further understanding of mechanisms involved concerning the perception of tiredness in insomnia.
Support (If Any): n/a

0403

DREAM CONTENT AND CORTICAL ACTIVITY DURING REM SLEEP IN INSOMNIA INDIVIDUALS

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Introduction: Current models of insomnia suggest that cortical hyperarousal is one of its core feature. Greater activation in beta and alpha frequencies during the night and greater negative dream content in insomnia sufferers (INS) than in good sleeper (GS) have been found. However, it remains unknown if there is a relationship between cortical activation and oneiric content. Thus, we aim at: 1) comparing negative, positive and active elements in INS and GS' dreams, 2) measuring cortical activity in REM in both groups and 3) examining the link between cortical arousal and dream content across successive REM periods.
Methods: PSG was recorded in 12 INS (mean age 37.5 years, SD=4.3) and 12 GS (mean age 37.3 years, SD=4.7) for five consecutive nights (N1 to N5). On N3 and N5, participants were awoken in REM sleep for dream collection. The Hall & Van de Castle scale was used for dream content analysis. PSA was conducted on the 5 minutes period before the awakening for dream collection.
Results: Generalized linear mixed regression model showed no significant effect for group, REM periods and interaction on negative and positive elements of dream content ($p>0.05$). However, a significant interaction of group and REM periods on activity elements of dreams ($p=0.04$) was found, GS presenting more activity elements at the end of the night than INS. No significant group effects on cortical activation were found ($p\geq0.05$). Nonetheless, a significant effect of REM period was observed, both beta and alpha activity decreasing throughout the night ($p<0,001$). Finally, no link between cortical activity and dream content was observed.
Conclusion: The absence of beta and alpha increases in INS might suggest that spectral analysis is not optimal to study hyperarousal in INS during REM sleep. However, because cortical activation is already very high during REM, more activity in high frequencies can be linked to awakening or sleep fragmentation. Because a greater number of elements of activity is observed in dreams of GS, it might suggest that INS are more focused on negative elements in their dreams than GS.
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0404

DIURNAL PATTERNS OF INSOMNIA INTERNET SEARCH QUERIES: AN ANALYSIS OF GOOGLE TRENDS DATA

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Introduction: Patients frequently use the Internet as a source of information regarding their symptoms or health conditions. As a result, timing of search engine query data has been used to investigate patterns of illness symptomatology. Since insomnia typically occurs at night and may be exacerbated by environmental conditions such as light emitted from computing screens, search queries for insomnia may reflect both patterns of symptoms as well as a factor that perpetuates insomnia complaints.
Methods: Hourly normalized search volume (NSV) for the search term "insomnia" was acquired utilizing Google Trends over a one-week interval from 11/21/16 to 11/28/16, the largest output for which hourly NSV is available. Diurnal patterns in NSV were examined for the United States, as well as separately in highly populated states spanning different time zones. Diurnal patterns for insomnia search queries were also examined in other representative countries with high search volumes for convergent validity. ANOVA was utilized to examine effects of time (hour of day) for insomnia NSV. Timing of peak insomnia NSV (normalized to clock time for each location) was examined for each state/country. Additional data from 11/28/16 to 12/05/16 and 12/05/16 to 12/12/16 were utilized to confirm findings through replication.
Results: Highly significant differences in insomnia NSV times across the 24-hour day were observed for all countries and states examined (all $p<0.0001$). Insomnia NSV demonstrated a robust diurnal pattern, with peaks in search volumes occurring between 02:00 and 04:00 in all locations. Results were confirmed in replicative analyses.
Conclusion: Peaks in insomnia search queries during the middle of the night suggest patients are utilizing the Internet at the time they are experiencing symptoms. Future research that examines the impact of Internet use on insomnia symptoms, and how timing of Internet use may impact outcomes of Internet-based insomnia therapies are warranted.
Support (If Any): N/A

0405

WORK STRESS AND INSOMNIA: WORK-LIFE BALANCE AS A MEDIATOR

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Introduction: The 24-hour day in human beings is composed by three major elements: work, personal life and sleep. Increased work stress might disrupt the balance between work and life, and further interfere with nighttime sleep. The current study therefore aims to explore the mediating role of work-life balance on the association between work stress and insomnia.
Methods: Participants included 369 full-time employees (158 males and 184 females from age 23 to 62; Mean= 36.11, SD=7.34) recruited from technology and insurance industries in Taiwan. They completed a set of questionnaires, including Job Stress Questionnaire (JSQ), Insomnia Severity Inventory (ISI), and Work-Life Balance Questionnaire (WLBQ).
Results: The model that the Work Interference with Personal Life (WIPL) dimension of the WIPL as a mediator between work stress and sleep disturbances was examined using Bootstrap Method. After controlling age, sex and BMI, the results show that JSQ total score could predict ISI ($\beta=.206$, $t=6.131$, $p<.001$) and WIPL ($\beta=.497$, $t=13.718$, $p<.001$). Furthermore, WIPL could predict ISI score ($\beta=.180$, $t=3.72$, $p<.001$). After controlling the score of WIPL, the predictive power of JSQ total score toward ISI is decreased significantly but remains significant ($\beta=.117$, $t=2.860$, $p<.01$). The results suggest that WIPL has a partial mediating effect on the association between work stress and severity of insomnia.
Conclusion: The findings support that work stress could lead to insomnia partially through the disruption of work-life balance. Strategies to prevent work demand from interfere with personal life, such as setting clear work-life boundary, could probably decrease the risk of insomnia in employee who are under high work stress.
Support (If Any):