Category O—Sleep in Psychiatric Disorders

individuals (37.2%) was Severe, of 18 (41.9%) was Moderate and of 9 (20.9%) was Mild.

Conclusion: The findings indicate that poor sleep is a common problem in refugees with PTSD. These findings highlight the importance of assessing sleep disturbance in individuals with PTSD symptoms. Further research is necessary to observe and evaluate sleep quality and PTSD developing process in people who escaped from war zone of Shida Kar-tli.

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ASSOCIATIONS BETWEEN SLEEP QUALITY AND ANXIETY AND DEPRESSION SYMPTOMS IN A SAMPLE OF YOUNG ADULT TWINS AND SIBLINGS

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Introduction: Associations between sleep quality, anxiety and depression are well-established. Multiple theories have been provided to explain these associations, but limited genetic research has been conducted to address this issue. The purpose of this study was to examine the associations between sleep quality, anxiety and depression symptoms in a sample of young adult twins.

Methods: 1586 twins and siblings aged 18-27 years (62% female) completed the Pittsburgh Sleep Quality Index; an age-adjusted version of the Revised Child Depression and Anxiety Scale; and the Mood and Feelings Questionnaire. Genetic, shared environmental (those making twins alike) and non-shared environmental (those making twins dissimilar) influences were estimated on traits and their associations. This was achieved by comparing the magnitude of associations between monozygotic twins (who are genetically identical) and dizygotic twins/ siblings (who share on average half of their segregating genes).

Results: Variance in sleep quality was mainly explained by genetic (36%) and non-shared environmental factors (58%) with smaller shared environmental influence (6%). Sleep quality was associated with anxiety ($r = .39$, 95% confidence interval [CI], .34 - .43) and depression ($r = .50$, 95% CI, .46 - .54). Results from a trivariate correlated factors model suggest substantial overlap between genes influencing sleep quality and anxiety ($r_A = .65$, 95% CI, .40 - 1); and those influencing sleep quality and depression ($r_A = .81$, 95% CI, .53 - 1). Genes accounted for much of the overlap between sleep and anxiety (74%) and sleep and depression (61%).

Conclusion: Results from this twin study suggest that sleep quality is genetically influenced and that the main environmental influence is non-shared. There was substantial overlap between genes influencing sleep quality, anxiety and depression which suggests that specific genes known to be associated with anxiety and depression symptoms may be worthwhile investigating with regards to sleep quality and vice versa.

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SLEEP MACROARCHITECTURE AND SLOW-WAVE ACTIVITY IN DEPRESSED PATIENTS

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Introduction: It has been shown that there are sex differences in the distribution of sleep delta activity throughout the night in depressed patients. This is a prospective and multicentric study in depressed patient which explores polysomnographic sleep characteristics in depressed patients

Methods: Depressed patients with a Hamilton depression score(HD-17 items) over 22 were recruited after an adaptation night during which other sleep pathologies were excluded (more than 10 PLMs with arousal or more than 10 apneas and hypopneas per hour of sleep). Patient were free of all psychotropic treatment for at least 15 days. A 4 channel EEG, two EOG, a CHIN EMG and the two tibialis EMG were recorded. Manual sleep scoring was performed by 30 seconds epochs seldom following Rechtschaffen and Kales rules. Spectral analysis by Fast Fourier transformation (FFT) was performed by the MEDATEC software. Patients were divided in two groups: young patients (20-40 years) and older patients (41-60 years). Statistical analysis was performed with the SAS statistical package. Comparisons between groups were performed by the Chi2 for qualitative variables and with an ANOVA for quantitative analysis. Descriptive analysis is given by mean ± standard deviation.

Results: 138 patients were included men and women. Mean age of 41 ± 12, mean Hamilton score of 26 ± 3. There were 89 women and 49 men. Comparisons of sleep analysis, whole night delta and delta ratio (delta 1st sleep cycle /delta 2nd sleep cycle) were similar for both sexes. Then comparison of ages groups showed a sex difference in delta distribution for the young population with a lower delta ratio in males (1.04 ± 0.04) than in females (1.14 ± 0.03).

Conclusion: This multicentric study with a large sample of depressed patients replicates the results of other smaller studies (1) and showed that depression impairs slow wave activity regulation in younger men from 20 to 40 years old but not in women.


PERSISTENCE OF SLEEP DISTURBANCES FOLLOWING COGNITIVE-BEHAVIOR THERAPY AMONG REMITTED INDIVIDUALS WITH POST-TRAUMATIC STRESS DISORDER

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Introduction: Individuals with Post-Traumatic Stress Disorder (PTSD) report a wide array of sleep disturbances, including insomnia, restless sleep, nightmares, anxious dreams, and nocturnal panic attacks. Although cognitive-behavior therapy (CBT) has been shown efficient to decrease symptomatology and increase functioning among individuals with PTSD, its impact on associated sleep disturbances is unclear. This study was designed to assess the impact of CBT for PTSD on concomitant sleep disturbances.

Methods: Fifty-five individuals with PTSD (38 women; mean age = 41, SD = 13) received a mean of 19 individual CBT sessions (SD = 3) focusing on psychoeducation, anxiety management, imaginal and in vivo exposure, and cognitive restructuring. Traumas preceding current PTSD included physical aggression (40%), motor vehicle accident (26%), or witnessing a traumatic event (18%). PTSD diagnosis, sleep, anxiety, de-
press, and health-related quality of life were assessed before and after treatment, and again six months later.

Results: All participants reported sleep disturbances (Pittsburgh Sleep Quality Index > 5) at baseline. Improvement of sleep was moderately correlated with improvement of PTSD symptomatology (r = 0.61). Further analyses were executed on a restricted sample of individuals who no longer met the diagnostic criteria for PTSD at post-treatment (n = 40). Persistence of sleep disturbances in remitted individuals with PTSD was observed in 55% of the sample (22/40), and was associated with greater severity of anxious and depressive symptoms, poorer self-perception of mental and physical health, and a greater number of residual symptoms of arousal immediately and six months after treatment.

Conclusion: While PTSD symptomatology has been demonstrated to remit following CBT, sleep disturbances do not necessarily follow the same course. For many individuals, sleep problems persist after successful treatment for PTSD. Furthermore, persistence of sleep disturbances is associated with poorer physical and mental health. These results suggest a need to include interventions focusing on sleep to PTSD treatment.

1106
AN EMPIRICAL EXAMINATION OF DIFFERENTIAL RELATIONS WITH SLEEP PROBLEMS AND SPECIFIC PTSD SYMPTOM CLUSTERS
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Introduction: Research has identified a relation between posttraumatic stress disorder (PTSD) and self-reported sleep problems. The current study sought to uniquely extend this literature by investigating the relation between PTSD symptom clusters (i.e., reexperiencing, hyperarousal, avoidance) and self-reported sleep problems. It was expected, based on previous laboratory and naturalistic research linking hyperarousal and avoidance) and self-reported sleep problems. It was expected, based on previous laboratory and naturalistic research linking hyperarousal to sleep problems, that the hyperarousal symptoms of PTSD would be most strongly linked to sleep problems.

Methods: Participants included a community sample of 44 adults (M age = 34.39 years) with PTSD who were recruited from a semi-rural southern city. The Clinician Administered PTSD Scale was used to index PTSD diagnoses. Participants were asked to complete a battery of self-report questionnaires including the PSQI and smoking measures. Participants were debriefed and compensated with a $130 gift card.

Results: After controlling for gender and smoking status, subjective sleep quality was positively associated with hyperarousal symptoms [F (1, 40) = 4.99, p < .05], subjective daytime sleepiness [F (1, 40) = 4.39, p > .05], and subjective insomnia symptoms [F (1, 40) = 6.16, p > .05]. Coefficients for the global model did not account for significant variance in subjective sleep quality (R2 = .01, ns). Hyperarousal symptoms at level 2 significantly contributed to the overall model (R2 = .10, p < .05). Steps 1 and 2 combined to account for 12.5% of the total variance. Further analyses supported the specificity of this relation, such that alternatively entering main effects of reexperiencing and avoidance symptoms into level 2 produced non-significant regression models [F (1, 40) = 2.19, p > .05], and [F (1, 40) = 1.6, p > .05], respectively.

Conclusion: Results suggest sleep problems among individuals with PTSD may be associated with hyperarousal symptoms to a greater degree than other aspects of the posttraumatic stress syndrome. Experimental and longitudinal tests of this relation are now needed in order to better understand this relation.

1107
EFFECTIVENESS OF IMAGERY REHEARSAL THERAPY FOR THE TREATMENT OF COMBAT-RELATED NIGHTMARES IN VETERANS
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Introduction: Chronic nightmares are commonly reported by veterans with Posttraumatic Stress Disorder (PTSD). Imagery Rehearsal Therapy (IRT) has been shown efficacious in reducing chronic, trauma-related nightmares, but is not well-studied in veterans. We aimed to determine feasibility, acceptability, and effectiveness of IRT among veterans. We hypothesized IRT would be associated with reductions in nightmare frequency/intensity, insomnia, and daytime PTSD symptoms.

Methods: Data were extracted retrospectively from medical records of 91 consecutive veterans who were referred for IRT treatment. We compared demographic, medical, and psychiatric variables between: a) referred veterans who did and did not participate in treatment and b) participants who did and did not complete treatment. Groups were also compared on baseline treatment-related variables. For treatment completers, we used paired samples t-tests to assess changes in treatment-related variables estimated from daily nightmare logs, Insomnia Severity Index, Pittsburgh Sleep Quality Index, and PTSD Checklist.

Results: Fifty-eight veterans initiated treatment. Those completing a full course of treatment for PTSD in the past year were more likely to initiate IRT treatment. However, completion of IRT was not related to previous treatment, demographic variables, or baseline nightmare severity. Treatment completers (n=35) reported significant reductions in nightmare frequency (33%) and intensity (36%), severity of insomnia (27%), and subjective daytime PTSD symptoms (28%). Insomnia and PTSD symptoms, on average, were below clinical cut-offs following treatment, and 23% of patients showed a complete treatment response (< 2 nightmares/week). Veterans completing individual IRT demonstrated greater reductions in insomnia than those completing group IRT.

Conclusion: Findings suggest IRT is an effective, short-term treatment for nighttime and daytime PTSD symptoms in a clinic-based sample of trauma-exposed veterans. Furthermore, data indicate veterans who report persisting sleep difficulties following treatment for PTSD may be more likely to engage in a nightmare treatment. Thus, IRT may be a suitable adjunct to treatment as usual for PTSD.

1108
ASSOCIATION OF MATERNAL SLEEP CHANGES DURING THE PERINATAL PERIOD TO DEPRESSIVE AND HYPOMANIC SYMPTOMS: PRELIMINARY RESULTS
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Introduction: Sleep changes in women during pregnancy and the postpartum period. No studies have elucidated clear associations between alterations in sleep duration, timing, or quality and postpartum depressive symptoms, and hypomanic symptoms have not been examined with regard to sleep. This ongoing study begins to address this gap.

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Methods: Six women (ages 31.1±4.6 yrs) enrolled from May-August 2008. Participants wore wrist actigraphs and kept daily sleep diaries for 1 week during the 3rd trimester (3rdT) and postpartum weeks 1, 2, 6, and 12. Sleep onset (SleepOn), sleep offset (SleepOff), total sleep time (TST), sleep efficiency (SLEF), and sleep period time (SPT) were estimated from actigraphy data using the Sadeh algorithm (1994) in ActOn-W software (AMI, Aardsley, NY). We gave the Center for Epidemiologic Studies Depression Scale (CES-D) for depressive symptoms and the Altman Self-Rating Mania Scale (Altman) for hypomanic symp-