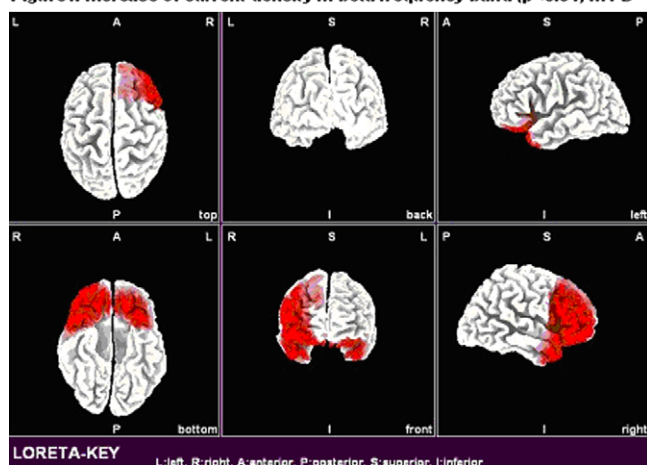


Also bilateral decrease in the alpha band over the occipital cortex including precuneus and posterior cingulate ( $p < 0.02$ ) was found.

**Conclusions:** The findings of our study confirmed hypothesis of frontal brain asymmetry with higher level of right hemisphere activation in panic disorder patients. These data are the first evidence of applying LORETA method to panic disorder studying.

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**Figure 1: Increase of current density in beta frequency band ( $p < 0.01$ ) in PD**



## P0192

Reduced hippocampal N-Acetylaspartate in patients with panic disorder

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**Background and Aims:** Panic disorder (PD) is a common and debilitating anxiety disorder. Recent neuroanatomical theories of PD propose an extensive involvement of limbic system in pathophysiology of this condition. In fact, several structural and functional neuroimaging studies have shown changes in limbic structures, such as hippocampus in PD patients. Despite this, no prior studies have examined hippocampal neurochemistry in this disorder. The current study used proton magnetic resonance spectroscopy imaging (1H-MRSI) to examine possible neurochemical abnormalities in hippocampus in PD patients.

**Methods:** Twenty-five patients meeting the DSM-IV criteria for PD and eighteen psychiatrically healthy controls were investigated. The subjects were paired based on gender, age, years of education, handedness, and socioeconomic level. N-acetylaspartate (NAA, a putative marker of neuronal viability) and choline (Cho, involved in the synthesis and degradation of cell membranes) levels were quantified relative to creatine (Cr, which is thought to be relatively stable among individuals and in most brain areas) in both right and left hippocampus.

**Results:** Compared with controls, panic patients demonstrated significantly lower NAA/Cr in the left hippocampus. No other difference was detected.

**Conclusions:** This result is consistent with the previous findings of hippocampal alterations in PD and provides the first neurochemical suggesting of involvement of this structure in the disorder.

## Poster Session III: Sleep Disorders

### P0193

The relation between insomnia and chronic fatigue syndrome

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The current study investigated the possible association between Chronic Fatigue Syndrome (CFS) and insomnia. A non-clinical sample of 450 volunteer Kuwaiti male and female college students was recruited. Their ages ranged from 18 to 39 years. They completed the Arabic Scale of CFS (ASCFS) and the Arabic Scale of Insomnia (ASI). Both have good reliability and validity. Women had significantly a higher mean score on the ASCFS than did their male counterparts. All the correlations between the total scores of the ASCFS and the ASI, consisting of 12 items and the total scores were statistically significant ( $p < 0.01$ ) in men and women. However, the correlations between the ASI items belonging to the factor of “Consequences of insomnia” were higher than those with the items belonging to the factor “Difficulty initiating and maintaining sleep”. The multiple stepwise regression indicated that the best insomnia complaint to predict CFS was the item “My interrupted sleep affects my work performance”. This item explained approximately 25% of variance in CFS scores. It was concluded that CFS and insomnia share specific common elements.

**Keywords:** Insomnia, Arabic Scale of Chronic Fatigue Syndrome (ASCFS), Arabic Scale of Insomnia (ASI), Kuwait.

### P0194

Sleep pattern in nurses with different shifts

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Sleep is a complex biological rhythm which is complex related to other biologicals rhythm and functions. The cycle of sleep and wakefulness might be the most apparent biological rhythm. Nightwork and alteration of working hours are two great stress producing factors which cause disharmony of biological rhythms. Insomnic breaking of social relations and illnesses.

**Method:** To get the necessary information we used of a questionnaire contain 21 question. To get the demographic and sleeping pattern information, two kinds of questions have been considered. 12 questions were about demographic characteristics, 13 questions were about sleep disorders and pattern of personnel in different shifts. The samples were 764 nurses personnel.

**Results:** The research results showed that there is a meaningful difference between the rate of sleep disorders of those who have fixed alternative shifts (one month in the morning, one month in the afternoon, one month at night) with those who have inverse alternative shifts (night and morning).

**Conclusion:** We suggest to hospital directors to review their schedules and consider the following points as much as possible.

- use the fast alternative system (2 morning shifts, 2 afternoon shifts, 2 night shifts and 2 days off).

- night work hours should be reduced from 12 hours to 8 hours to reduce the stress and sideeffects of work.
- the shifts should be clockwise(morning-afternoon-night) and not anticlockwise (morning-night-afternoon).

### P0195

Recurrent hypersomnia – Diagnostic difficulties

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Recurrent hypersomnia represents a rare pathology, with an etiology difficult to identify. This paper presents a female teenager's case, in the 5th hypersomnia episode, which lasts for one week, being awakened by her parents to eat and go to the toilet. The first episode occurred in December, when she was diagnosed with "Encephalitic reaction with cerebral edema and confusive syndrome. Psychoorganic syndrome. Respiratory virosis" and she was treated with cerebral depletive drugs. The following episodes of hypersomnia occurred at regulate periods of time of 3 weeks, remitted without medication; between the episodes the teenager's condition was without any somatic, cognitive alteration.

All the investigations, including cerebral RMN, were normal, except for EEG, indicating a slow course in all the derivations. The anamnesis information indicating that the hypersomnia episodes were followed by the menstrual cycle, together with the ecography discovery of a right ovarian cyst of 4/4 cm, determined us to introduce oral contraceptives treatment, which lead to the disappearance of the hypersomnia episodes.

### P0196

Sleep quality in adolescents with insulin dependent diabetes mellitus

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**Background and Aims:** The incidence of IDDM is increasing in the world. In regard to increasing prevalence of IDDM and probable introduction between IDDM and sleep quality, it was designed this study to evaluate the sleep quality in adolescents.

**Methods:** This case-control study was done in Isfahan Behavioral Sciences Research Center and Endocrine Research Center. The 120 cases were selected from adolescents (11-18 year old) with IDDM referral to Isfahan Endocrine Research Center. Control group were 120 and matched with cases. The criteria for diagnosing diabetes were Classification and Diagnose Committee Criteria. PSQI was used to evaluate the quality of sleep. Data was analyzed with t-test, Pierson coefficient and ANOVA.

**Results:** The mean age in cases and controls was 14.5±2.2 and 14.3±2.3. 46.7% of cases had family history of diabetes, whereas, it was 5.8% in controls. The mean of FBS in cases was 159±68 mg/dl. The mean of HbA1c was 8.8±1.99. 75.8% of diabetic adolescents were PSQI score over 5 (cases=7.3±2.3 & controls=5.7±2.6. p<0.001). Some sleep disturbances: sleep onset latency, poor sleep efficiency and daytime dysfunction are significantly more in diabetic adolescents than controls. There is not any relation between PSQI and BMI. But there was a direct relation between PSQI and HbA1c by regression analysis.

**Discussion:** There is poor sleep in adolescents with IDDM. IDDM causes sleep disturbances probably by some different ways. So, it is very important to consider the quality of sleep in IDDM and manage probable sleep problem.

### P0197

Correlation of insomnia with Cytokine removal in patients undergoing chronic hemodialysis

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Sleep disturbances are usually the outcome of a complex interplay between intrinsic factors and environmental influences. Cytokines are essential in the coordination of central nervous and immune system communication. Interleukin-1 $\beta$  and interleukin-6 in particular play crucial role in sleep regulation. In vitro studies have demonstrated that high-flux membranes avidly remove cytokines. Aim of this study was to investigate the correlation of insomnia with the aforementioned cytokines and the influence of mode of haemodialysis on sleep disorders in dialysis patients. Using Athens Insomnia Scale (AIS), sleeping profile of 35 subjects (23 male, 12 female, mean age 56.2±13.6 years) was evaluated. Twenty five patients underwent hemodialysis (HD) and the rest hemofiltration (HF) using high-flux membrane. No significant difference was observed between the two groups with respect to age, sex, family status, education, self-esteem, coffee and alcohol consumption, psychiatric history, hemodialysis time and laboratory parameters. HF group demonstrated significantly higher AIS scores compared to HD (12.4±6.5 and 4.3±4.7 respectively, p<0.001). The acute effect of hemodialysis on serum cytokine concentrations revealed a slight increase of post-dialysis cytokine levels in HD group (9.8±2.52 to 9.92±6.06 for IL1 $\beta$  and 11.02±4.83 to 11.3±3.78pg/dl for IL6 respectively), but a significant decrease in HF group (from 11.88±3.57 to 8.89±2.07 for IL1 $\beta$  and from 11.66±5.97 to 6.58±4.44pg/dl for IL6 respectively, p<0.05). Moreover, significant correlation has been found between AIS score and IL1 $\beta$  levels of all patients (r=0.42, p<0.01). In conclusion, it seems that the mode of hemodialysis, by affecting cytokine kinetics, could influence sleep quality and quantity in such patients.

### P0198

Comparison of the effects of Eszopiclone and Zolpidem on delta power and NREM sleep in the adult guinea pig

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**Background and Aims:** The guinea pig is a naturally-occurring animal model of insomnia. Therefore, it was of interest to determine, in this species, the effects on sleep and waking states of different hypnotic substances.

**Methods:** Accordingly, in the chronically-implanted adult and aged guinea pigs, we examined changes in NREM sleep, REM sleep, and wakefulness following the administration of eszopiclone and zolpidem.

**Results:** Compared with naturally occurring sleep and wakefulness, the effects of eszopiclone were characterized by the induction of NREM sleep that occurred with a short latency, as well as long duration episodes of NREM sleep that were accompanied by an increase