horizontal irradiance of the blue light at the height of eye was at 7.02*f*ÊW/cm^2. Sleep was recorded polysomnographically, and energy metabolism was measured with a whole body indirect calorimeter.

Results: There were no significant differences in sleep architecture and energy metabolism during the night. However, dozing (stages 1 and 2) was significantly higher (26.0 < 29.4 vs 6.3 < 8.1 min, $P < 0.05$), and energy expenditure, O_2 consumption, CO_2 production and the thermic effect of food (increase in energy expenditure after breakfast) were significantly lower the following morning in the blue light exposure subjects.

Conclusion: Contrary to our expectation, sleep architecture and energy metabolism during sleep were not affected by evening exposure to blue light. It might be due to our milder intervention by which subjects in a sitting position did not gaze at the light source set on the ceiling, while the subjects in previous studies directly received brighter light via custom built goggles (Cajochen, 2005; Münch, 2008) or gazed at a light source under the influence of mydriatic agents to dilate pupils (Brainard, 2001). New findings of the present study were that dozing (stages 1 and 2) was significantly increased, and energy metabolism was significantly lower the following morning in blue light exposed subjects. This suggests that modulation of the circadian rhythm is affected by nocturnal blue light exposure and the effect continues in the following daytime even if the intervention was mild.

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Kleine Levin syndrome presenting after HINI vaccine

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Introduction: A 13-fold higher risk of narcolepsy was found Irish children/adolescents vaccinated with Pandemrix compared with unvaccinated children/adolescents. Most vaccinations took place between week 42 of 2009 and week 15 of 2010. Median delay between vaccine and first symptom of narcolepsy was 2.2 months. We report a case of Klein Levine syndrome that presented in the same time frame. Objective of report is to see if other centres have experience of KlS post vaccine or post HINI.

Materials and methods: Case report: 15 y f patient received Pandemrix on 15/1/2010 and suddenly became very sleepy Case report: A 15 y female got HINi vaccine on 15/1/2010 and suddenly on 2/4/2010 developed severe hypersomnia with no precipitating factors, history of swine flu or other virus. Hypersomnolent phase lasted 10 days where she slept almost continuously. When awake was in trance – like state. No increase in appetite or sexual behaviour noted. A 2nd episode occured in 2010 and 3 in 2011. A trial of lithium was unsuccessful. Further less severe but more frequent episodes have occurred since. Apart from good lifestyle and the pill she is on no treatment.

Results: Nocturnal polysomnography, MSLT and EEG (carried out outside somnolent period) were normal. Brain MRI was normal CSF hypocretin level – 344 pg/ml Actigraphy was carried out during the last 4 days of a somnolent period and shows the contrast in daytime activity. Routine blood tests were normal.

Conclusion: No cases of Klein–Levine syndrome have been reported in the literature following HINI vaccine. Viral etiology is postulated at least for first episode of sleepiness. We propose that onset of KLS in this case is related to vaccine as it occurred in the middle of the Irish epidemic of narcolepsy. A second case is currently under investigation.

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Restless legs syndrome during pregnancy in czech women

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Introduction: The objective of this study was to identify the prevalence of restless legs syndrome (RLS) among pregnant Czech women, with questionnaire based survey during the third trimester of pregnancy, and to determine risk factors.

Materials and methods: It was a cross-sectional study. We surveyed 776 pregnant women (18–49 years old) who came to the prenatal outpatient clinic to consult an obstetrician at the third trimester (36th-38th week of pregnancy). We used the 3 minimal set epidemiological questions to assign RLS status, disease course and frequency of symptoms. Further, we asked for previous pregnancies and comorbidities.

Results: The prevalence of RLS during pregnancy was 28.0% (95% confidence interval from 24.9% to 31.2%) in our sample, among which 63% of the cases started with their symptoms during the current pregnancy. On the other hand 16.6% reported positive family history of RLS. More than two thirds of the patients (71.0%) presented symptoms more than once per week and the largest proportion of them (49.3%) reported onset or major worsening of previous symptoms in the third trimester. There were no demographic differences between these groups. We did not observe any differences in prevalence of screened comorbidities between RLS positive and RLS negative pregnant women, only leg cramps were marginally more frequent in the RLS group (23% vs. 16%, $p = 0{,}022$) and also hypothyreosis (13% vs. 8%, $p = 0{,}033$). We also could not confirm higher prevalence of RLS among multiparous women.

Conclusion: RLS during pregnancy is more frequent than in the general population. Moreover, about two thirds of the pregnant women with RLS suffer from the symptoms frequently. It occurs especially in the third trimester. Despite relatively young age of the patients, family history is positive relatively rarely.

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Treatment of paradoxical insomnia with atypical antipsychotic drugs: a comparison of olanzapine and risperidone

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Introduction: To compare the efficacy of 2 atypical antipsychotic drugs, olanzapine and risperidone, in the treatment of paradoxical insomnia.

Materials and methods: In this cross-sectional study over a 2-year period patients with paradoxical insomnia, diagnosed in Kermanshah, Iran by both psychiatric interview and actigraphy, were randomly assigned to 2 groups. For 8 weeks, the first group ($n = 14$) was treated with 10 mg olanzapine daily, and the second group ($n = 15$) was treated with 4 mg risperidone daily. All participants completed the Pittsburgh Sleep Quality Inventory (PSQI) at baseline and at the end of the study.

Results: As expected, a baseline actigraphy analysis showed that total sleep time was not significantly different between the 2 treatment groups ($p < 0.3$). In both groups, sleep quality was improved ($p < 0.001$) with treatment. When comparing the 2 treatments directions, a significant difference emerged (9.21 ± 2.35, 6.07 ± 4.46) among the 2 treatment groups based on data from the PSQI. Patients who were treated with olanzapine showed greater improvement than patients who were treated by risperidone ($p < 0.04$).

Conclusion: Atypical anti-psychotic drugs such as olanzapine and risperidone may be beneficial options for treatment of paradoxical insomnia. Larger clinical trials with longer periods of follow-up are needed for further investigation.

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Prevalence of symptoms and risk of obstructive sleep apnea syndrome in the general population

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Introduction: Obstructive sleep apnea (OSA) syndrome is one of the most common sleep breathing disorders with significant consequences. The present study aims to determine prevalence of symptoms and risk of OSA in the general population of Kermanshah, Iran.

Materials and methods: 527 adult subjects were selected from the urban region of Kermanshah. The age range of the sample was from 20 to 87 years. Assessment was carried-out using the Berlin questionnaire, a valid scale that determined those at "high risk" and "low risk" for OSA symptoms. Common symptoms were later de ned.

Results: There were 144 (27.3%) out of the 527 subjects with a mean age of 48.6 ± 16.6 years and a body mass index (BMI) of 25.1 ± 3.3 at high risk for OSA (men 19%; women 8.3%); 261 (49.5%) suffered from snoring with a higher frequency among women (51.5%). From those who snored during sleep, 51 (10%) reported a breathing pause more than once per week. Subjects considered at high risk had a clinical history of diabetes (15.3%) and heart failure (16.7%).

Conclusion: Prevalence of symptoms, risk of OSA and associated factors in Kermanshah are noticeable. Considering the adverse effects of this condition on quality of life, further research in an effort for early diagnosis and treatment are recommended.

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Evaluation of dream content among patients with schizophrenia, their siblings, patients with psychiatric diagnoses other than schizophrenia, and healthy control

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Introduction: Schizophrenia is a chronic psychotic disorder with unknown etiology that causes cognitive impairment, affecting thinking, behavior, social function, sleep and dream content. This study considered the dream content of patients with schizophrenia, siblings of patients with schizophrenia, patients with psychiatric diagnoses other than schizophrenia, and a group of healthy controls. The aim of this study was to compare the dream content of patients with schizophrenia with dream content of individuals with other mental disorders, first degree relatives of patients with schizophrenia, and community controls.

Materials and methods: Seventy-two patients were selected and placed in 4 groups. The first group consisted of 18 inpatients with schizophrenia whose medications were stable for at least four weeks; the second group consisted of 16 nonpsychotic mentally ill inpatients; the third group consisted of 18 individuals who were siblings of patients with schizophrenia; and the fourth group consisted of 20 healthy individuals in the community with no family history of mental or somatic disorders. The four groups were matched by age and gender. A 14-item dream content questionnaire was administered for all the participants, and the Positive and Negative Symptoms Scale (PANSS) was also administered for the two groups of hospitalized patients.

Results: There were significant differences in dream content among groups included friends acquaintances, females and colorful components. No significant differences were found between the positive and negative subscales of PANSS and any of the dream questionnaire subscales.

Conclusion: Our results suggest that there were a few changes in the dream content of the patients with schizophrenia compare to other groups.

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Reduced nitric oxide production in monocytes is associated with abnormal endothelial dysfunciton in children with OSA

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Introduction: Obstructive sleep apnea (OSA) has been associated with an increased risk for cardiovascular morbidity in children manifecting as elevated systemic blood pressure and endothelial dysfunction. Indeed, children with OSA are at higher risk to exhibit delayed endothelial post- occlusive hyperemic responses, which are primarily mediated by endothelial nitric oxide synthase (eNOS) activity. We hypothesized that reduced eNOS activity in circulating monocytes may provide a reliable correlate of the vascular phenotype in pediatric OSA.