POSTER SESSION 1

29) Abstract 1039

THE IMPACT OF HATHA YOGA ON CORTISOL LEVELS IN PREGNANCY

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Pregnancy-induced changes in the activity and reactivity of the hypothalamic pituitary adrenal (HPA) axis have been associated with the development of postpartum depression (PPD). However, little is known about the effectiveness of relaxation techniques on cortisol trajectories during pregnancy. The current pilot study investigated whether the practice of Hatha yoga during pregnancy is associated with a reduction in cortisol levels and an improvement in mood. Twenty-four pregnant women (mean age = 33.67, SD = 4.75) were recruited from prenatal yoga classes. All women were assessed twice, once at a mean of 15.13 (SD = 1.30) and again at a mean of 26.72 (SD = 2.08) weeks' gestational age (GA). At each GA, participants were assessed twice, on a yoga day and a comparison home day two days after the yoga day. A saliva sample was collected and mood was assessed (DABS; Derogatis, 1975) before and after the 90-minute yoga session and at identical time points on the comparison day. Cortisol was significantly lower on yoga than on home days, both at 15 weeks' GA, $F(1,22) = 5.15$, $p = 0.03$, $\cdot 2 = .19$, and at 27 weeks' GA, $F(1,15) = 15.66$, $p = 0.001$, $\cdot 2 = .51$. In addition, cortisol decreased significantly in response to the yoga session at both time points; 15 wks, $t (22) = 2.13$, $p = 0.04$, $\cdot 2 = .17$; 27 wks, $t (17) = 2.95$, $p < 0.01$, $\cdot 2 = .34$. On the comparison days, a significant decrease in cortisol was only observed at 15 weeks' GA, $t (23) = 3.77$, $p = 0.001$, but not at 27 week' GA, $t (16) = 1.73$, $p = 0.10$. Furthermore, the yoga session resulted in a significant decrease in negative mood, at 15 weeks; GA, $t (20) = 4.47$, $p < 0.001$ and at 27 weeks' GA, $t (18) = 4.41$, $p < 0.001$. An increase in positive mood was only observed at 27 weeks' GA, $t (18) = 3.46$, $p = .003$. Ongoing data collection includes a postpartum assessment of depressive symptoms (n = 13), but results are not yet available. The present study suggests that a yoga intervention can reduce cortisol, while also decreasing negative mood and augmenting positive mood. Given the previously observed association between HPA axis activity during pregnancy and postpartum depressive symptoms, these findings may have implications for the prevention of PPD.

30) Abstract 1727

ARE OBJECTIVE AND SUBJECTIVE MESURES OF HEART FAILURE SEVERITY BOTH RELATED WITH SYMPTOMS OF DEPRESSION?

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Clinically significant depression was describe in about 1/5 of heart failure (HF) patients, and varied by the use of questionnaires versus diagnostic interview and New York Heart Association (NYHA) defined HF severity. More objective mesures of HF severity were less frequently related to depressive symptoms. The purpose of this study was to examine how the different measures of severity of HF influence the symptoms of depression in a sample of Portuguese patients with HF. Population and Methods: 51 patients, male 66,6%, mean age 72,94 years, with HF, were included. We analysed the perception of several symptoms and concerns in four dimensions (i.e. physical, psychological, social and existential) with the Structured Interview of symptoms and Concerns (SISC). The depression was categorized in two groups, non-depressed (72.6%) and depressed (27,5%) patients by BDI-II. Low jection fraction (FEVE) < 50%, NT-proBNP level, high heart rate and hiponatremia, were used as objectives parameters of HF severity and NYHA functional class as a subjective one. We analysed the relation betweeen depression and objective and subjective above mentioned mesures of HF severity. Results: NYHA functional classes (p=0.05), high NT-pro-BNP (p=0.03) high heart rate (p=0.04) and hiponatremia (p=0.02) were associated with depression. FEVE (p=0.712) was not. In addition, the severity of HF measured by NYHA class was also associated with resilience (p=0.026). Conclusion: Both subjective and objective parameters of HF severity were associated with depression in this sample of Portuguese HF patients.

31) Abstract 1210

THE INFLUENCE OF CHRONIC WORK STRESS ON CHANGES IN LYMPHOCYTE SUBSETS AND LYMPHOCYTE PRODUCTION OF CYTOKINES IN RESPONSE TO ACUTE PSYCHOSOCIAL STRESS IN A SAMPLE OF HEALTHY WORKING SCHOOL TEACHERS

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To test whether chronic work stress is accompanied by altered immune functioning, changes in lymphocyte subsets and in lymphocyte production of cytokines were examined in reaction to acute psychosocial stress. Work stress was measured according to Siegrist's effort-reward-imbalance (ERI) model. ERI reflects stress due to a lack of reciprocity between costs and gains at work, whereas overcommitment (OC) is conceptualized as a dysfunctional coping pattern mainly characterized by the inability to withdraw from work obligations. Fifty-five healthy teachers (34 women, 21 men, 29-63 yrs., mean age 50.0±8.47 yrs.) were exposed to the Trier Social Stress Test (TSST), a standardized laboratory stressor. Lymphocyte subset counts and lymphocyte production of tumor-necrosis-factor (TNF)-alpha, interferon (INF)-gamma, interleukin (IL)-2, IL-4, IL-6 and IL-10 were measured before and after challenge. High levels of ERI were associated with lower natural killer (NK) cell (CD 16+/56+) increases (p=0.01) whereas high levels of OC were related to lower NK cell numbers at both time points (p=0.02) and to a lower increase in T-helper cells (CD4+) after TSST exposure (p=0.04). Furthermore, subjects with higher ERI showed an overall increased pro-inflammatory activity, with higher TNF-alpha levels at both time points (p=0.03) and elevated pre-stress IL-6 levels (p=0.04). IL-10 levels decreased with higher ERI after stress (p=0.02). The ratios of TNF-alpha/IL-10 (p=0.003) and IL-6/IL-10 (p=0.002) were significantly increased in subjects high on ERI. Finally, OC was associated with higher IL-2 levels post stress (p=0.03). The present findings suggest a dampened innate immune defence, reflected in lower NK cell numbers together with an increased pro-inflammatory activity in teachers high on ERI/OC. Such pathways could partly be responsible for the increased vulnerability for stress-related diseases in individuals suffering from chronic work stress.

32) Abstract 1699

ASSESSMENT OF TRACKING COEFFICIENTS FOR THE DEVELOPMENT OF INTERLEUKIN 6 WITH STRESS AND DEPRESSION AS PREDICTORS

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While inflammatory markers like Interleukin 6 (IL6) have been implicated as emerging risk factors for cardiovascular disease, little is known about how IL6 tracks over time or how psychological factors influence the longitudinal development of IL6. The aims of this research were to determine if IL6 tracked over time (time 1 value predicting the development over times 2-4) and if perceived stress and depression predicted the development of IL6. Participants were 98 college students who entered the study as freshman (40% male, 18 yrs. old) and returned for at least 1 additional visit. Data was collected yearly for 4 years. The Center for Epidemiologic Studies Depression Scale (CES-D) and the Perceived Stress Scale (PSS) were used to assess depression and stress. Tracking coefficients for IL6 were