IN ADOLESCENT PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS, ANXIETY AND MOOD PREDICTS FUNCTION WHEREAS LIFE EVENT STRESSORS IN THE OLDER ADOLESCENT PREDICTS INFLAMMATION

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Background: It is often reported by patients and clinicians that during times of stress patients with inflammatory arthritis experience flares of disease. This is particularly prevalent during adolescence, a time of high stress for many. There is increasing scientific evidence emerging that shows how stress, anxiety and depression can trigger changes to the immune system such as increased susceptibility to inflammation. Several studies have shown an association between psychological distress and worsened disease in RA in adults, yet this association has never been explored in detail for patients with JIA or in a purely adolescent population.

Methods: 106 patients with JIA between the ages of 13 and 18 years were recruited from University College Hospital, London, and gave informed consent (median age 17 (interquartile range 2), 50% male). Each patient completed a questionnaire pack assessing chronic stress (Coddington Life Event Scale – Adolescent Version), anxiety (State–Trait Anxiety Inventory) and depression (Short Mood and Feelings Questionnaire – Child Version). Disease activity measures explored were the Childhood HAQ (CHAQ), ESR, CRP and swollen and limited joint counts. Data were analysed using the Spearman’s rank correlation coefficient and the Mann–Whitney U test.

Results: We found that 55% of adolescents with JIA have anxiety, depression or life event scores over the upper limits as defined from the population upon which these scales were validated. Increased anxiety (elevated state, trait and total anxiety scores) associated with increased CHAQ score (P = 0.0149, r = 0.2803). Lower mood associated with increased disability, particularly in older adolescents.
Increased life event scores associated with increased ESR, particularly in older adolescents ($P=0.0045, r=0.2831$) who had significantly higher life event scores ($P=0.0041$). There was no association with CRP or other core variables. There were no associations between subtype and disease activity or psychological parameters.

**Conclusion:** Adolescents with JIA have a high risk of mental health problems. This psychological risk also impacts on physical disease activity. Here we show that mood predicts level of disability, particularly in older adolescents and anxiety also predicts level of disability. Higher CHAQ scores could be due to patients over reporting to express their distress or patients could be more anxious or depressed because of level of disability. We also show that life event stressors predict inflammation but only in older adolescents. This age group experience a greater number of more stressful life events than younger adolescents making them more susceptible to stress induced inflammation. Overall, this study underlines the relevance of the assessment of psychological health and the importance of psychological support fully integrated into routine care of adolescents with JIA.

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