Pediatric Rheumatology

Oral presentation

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3.4 Physical activity in adolescents with juvenile idiopathic arthritis

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Background
The beneficial effects of physical activity (PA) on normal growth and development of children and adolescents have been widely recognised. We explore physical activity (PA) in adolescents with JIA in comparison with a healthy population.

Materials and methods
Patients eligible for this study were patients attending an adolescent JIA outpatient clinic. Total energy expenditure (TEE), Activity-related energy expenditure (AEE), Physical activity level (PAL) and Physical activity pattern (PAP) were assessed with a 3-day activity diary. Reference data were collected from healthy Dutch Secondary School Children.

Results
Thirty patients and 106 controls were included; mean (± SD) age in years was 17.0 (± 0.6) and 16.7 (± 0.9), respectively. TEE, AEE and PAL were significantly lower in the JIA group (Table 1) compared to the normal population. The JIA group spent more time in bed and less time on moderate to vigorous PA. 23% of the JIA patients met public health recommendations to perform daily one hour or more of moderate to vigorous PA, compared to 66% in the reference group.

Conclusion
Adolescents with JIA have low PA levels and are therefore at risk of losing the benefits of PA. Interventions by paediatric rheumatologists are needed to increase PA levels in patients with JIA.

Table 1:

	JIA (mean ± SD)	Controls (mean ± SD)	p value
TEE (mega joule.day^{-1})	12.17 (± 3.38)	14.48 (± 3.38)	<0.01
AEE (mega joule.day^{-1})	3.99 (± 2.20)	6.12 (± 2.58)	<0.01
PAL (TEE/BMRp)	1.74 (± 0.29)	2.09 (± 0.39)	<0.01