$p < 0.01$), and between the 6MWT distance and quality of life ($R = 0.62$, $p < 0.01$), and between DASH and quality of life ($R = -0.48$, $p = 0.03$).

Conclusions: AHSCT enhances the functional status of SSc patients, significantly improving skin involvement, hand function, physical capacity and quality of life. These results can be interpreted as positive outcomes of AHSCT for SSc.

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SAT0727-HPR CRITERION VALIDITY AND RELIABILITY OF A SUBMAXIMAL TREADMILL TEST IN JUVENILE IDIOPATHIC ARTHRITIS PATIENTS

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Background: For both research purposes and daily clinical practice, a feasible exercise test with acceptable measurement properties is needed to measure exercise capacity in juvenile idiopathic arthritis (JIA) patients.

Objectives: To evaluate the criterion-validity, test-retest reliability and inter-rater reliability of an eight-minute submaximal treadmill test, which can be used to estimate VO_{2peak} , in JIA patients.

Methods: 59 patients with oligo- ($n=30$) and polyarticular ($n=29$) JIA (mean age (SD) 13.6 (2.2), 50 girls) participated in this study. They performed a maximal treadmill test until exhaustion to measure the VO_{2peak} directly and the eight-minute submaximal treadmill test to estimate the VO_{2peak} . A standardised formula was used to estimate the VO_{2peak} . To evaluate the reliability, 37 patients also performed the submaximal treadmill test twice on the same day 1–4 weeks after the initial test. Paired t-tests were used to test potential differences between the tests. Criterion validity and reliability were evaluated with two ways mixed interclass correlation coefficient (ICC). Limits of agreement (LoA) (Bland and Altman method), standard error of measurement ($SEM_{agreement}$) and smallest detectable change (SDC_{95}) were calculated to evaluate the measurement error of the submaximal treadmill test.

Results: No significant difference was found between the observed and estimated VO_{2peak} ($mL \cdot kg^{-1} \cdot min^{-1}$), 44.8 (8.8) vs 43.2 (10.3) respectively, $p=0.18$. The single ICC (95% CI) value at individual level between the estimated and measured VO_{2peak} was moderate; ICC 0.55 (0.34–0.70) while the ICC at group level was good; 0.71 (0.51–0.82). The measurement errors were large (SEM 6.5 and SDC_{95} 18.0). The single ICC value for test-retest reliability and interrater reliability were good to excellent, 0.84 (0.71–0.91) and 0.92 (0.83–0.96), respectively. The ICC value at group level for test-retest reliability and interrater reliability were excellent, 0.91 (0.83–0.96) and 0.96 (0.91–0.98), respectively. There were no significant differences between estimated VO_{2peak} ($mL \cdot kg^{-1} \cdot min^{-1}$) when comparing the results from the three performed submaximal treadmill tests. The measurement errors were moderate/large for both test-retest reliability and interrater reliability (table 1). The Bland Altman plots showed no systematic differences, but confirmed the large variability for both the validity and reliability (figure 1).

Table. Reliability and measurement error of the submaximal treadmill test

	Test*	Retest*	Difference*	$SEM_{agreement}$	LoA	SDC_{95}
Est VO_{2peak} ($mL \cdot kg^{-1} \cdot min^{-1}$)	44.9 (9.4)	44.3 (11.0)	0.6 (5.9)	4.1	–11.0–12.0	11.4
	Tester 1*	Tester 2*	Difference*	$SEM_{agreement}$	LoA	SDC_{95}
Est VO_{2peak} ($mL \cdot kg^{-1} \cdot min^{-1}$)	44.3 (11.0)	42.7 (10.5)	1.6 (4.1)	3.1	–6.4–9.7	8.6

*Values are mean (SD).

Abstract SAT0727HPR – Figure 1. Limits of agreement for VO_{2peak} ($mL/kg/min$) for criterion validity (A), test-retest (B) and interrater reliability (C).

Conclusions: The submaximal treadmill test is valid for use in JIA patients on group level, but showed only moderate validity on an individual level. The test-retest and intra-rater reliability is good to excellent; however, the measurement errors are large. Our findings indicate that the submaximal treadmill test is not optimal for use in daily clinical practice to estimate VO_{2peak} in individual patients and it is important to be aware of the large measurement errors.

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SAT0728-HPR EVALUATION OF THE EFFECTIVENESS OF AN EDUCATIONAL PROGRAM IN PATIENTS WITH OSTEOARTHRITIS OF THE KNEES

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Background: Osteoarthritis (OA) is the most common chronic joint disease, affecting about 50% of the population aged 65 or over, its incidence tends to increase according to the age.

Educational intervention is considered an important part of treatments for chronic diseases. However, in the literature, for OA there is still no standard of educational program to be followed.

Objectives: To evaluate the effectiveness of the educational intervention in patients with knee osteoarthritis regarding to pain, function, anxiety and quality of life

Methods: Sixty patients with knee OA, both genders and age between 40 to 80 years, were included. The patients were randomised into 2 groups: Experimental Group (EG) received an educational intervention, composed of 5 consecutive sessions held once a week, with a duration of 60 min each session. At the end of the last class, a booklet was given to each patient with all the content of the classes. In addition to the educational program, this EG also received a TENS (Transcutaneous Nerve Electrical Stimulation) treatment performed twice a week for 5 weeks for 40 min each session. Control group (CG) received the same TENS treatment as EG group.

The evaluations were performed at baseline, 4 and 12 weeks after baseline with the following instruments: numerical pain scale (NPS) for pain; WOMAC questionnaire and 6 min walk test for function; IDATE questionnaire for anxiety and SF-36 questionnaire for quality of life.

Results: Regarding the variables pain, function, anxiety and quality of life, no statistically significant difference was found between groups over time. (table 1)

The intragroup comparisons show no improvement in both groups between T0 and T4 and T0 and T12 for: pain; function total and pain score of WOMAC and domains physical role functioning and social role functioning of SF-36 (table 1)