Table 2. Children's and Parent's Answers

Children's Answers			Parent's Answers			Total
			He/she couldn't go because he/she felt unwell.	I didn't let them go.	He/she was worried about attending school. He/she was concerned about doing well in exams.	
Children's Answers	I was ill and felt unwell.	Count % within	159 92,4% within	9 5,2% within	4 2,3% within	172 100,0%
	My parents didn't let me go.	Count % within	2 66,7% within	1 33,3% within	0 0,0% within	3 100,0%
	I'm worried/scared about going to school. I can't go because I'm scared I won't do well in exams.	Count % within	6 100,0% within	0 0,0% within	0 0,0% within	6 100,0%
Total		Count % within	167 92,3% within	10 5,5% within	4 2,2% within	181 100,0%

Conclusion: Child's psychosocial adjustment is likely to be related with school attendance. When the attendance decreases, problems such as social functioning and isolation can occur. The fact that families and children agreed on the reasons about not to go to school but their functional and psychosocial status were good may have been due to different reasons. It was thought to normalize and encourage children to go to school. In addition, families should motivate their children with positive reinforcements.

REFERENCES:

- [1] C Sturge, M E Garraza, M Boissin, C J Doré, P Woo; School attendance and juvenile chronic arthritis., *Rheumatology*, Volume 36, Issue 11, 1 November 1997, Pages 1218–1223
- [2] Catherine Cant Peterson, Tonya Mizell Palermo; Parental Reinforcement of Recurrent Pain: The Moderating Impact of Child Depression and Anxiety on Functional Disability, *Journal of Pediatric Psychology*, Volume 29, Issue 5, 1 July 2004, Pages 331–341, <https://doi.org/10.1093/jpepsy/jsh037>
- [3] UNAL, Edibe, et al. A new biopsychosocial and clinical questionnaire to assess juvenile idiopathic arthritis: JAB-Q. *Rheumatology international*, 2018, 1-8.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.7379

OP0271-HPR

ASSESSMENT OF MUSCLE MASS RELATIVE TO FAT MASS AND ITS ASSOCIATION WITH DISEASE ACTIVITY STATUS AND PHYSICAL FUNCTIONING IN RHEUMATOID ARTHRITIS

Rafaela Cavalheiro do Espírito Santo¹, Jordana Miranda de Souza Silva¹, Joshua Baker², Vanessa Hax¹, Claiton Brenol¹, Lidiane Filippin³, Priscila Lora⁴, Ricardo Xavier¹. ¹Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; ²University of Pennsylvania, Philadelphia, United States of America; ³Universidade La Salle, Canoas, Brazil; ⁴Universidade do Vale do Rio dos Sinos, São Leopoldo, Brazil

Background: Rheumatoid arthritis (RA) is an autoimmune, chronic, progressive, inflammatory disease characterized by symmetrical, destructive polyarthritis and is accompanied by systemic manifestations. RA patients show low appendicular lean mass index (ALMI) and higher fat mass index. Impaired physical function is associated greater with fat mass and the adiposity is an important confounder that may mask true relationships between physical functioning and ALMI (1).

Objectives: To assess muscle mass relative to fat mass and verify associations this parameter with disease activity status, functional capacity and biologics treatments.

Methods: 90 RA patients, aged between 40 and 70 years, were recruited and followed for 12 months. Body composition was assessed by total body dual-energy x-ray absorptiometry for measurement of appendicular lean mass index (ALMI, kg/m²) and fat mass index (FMI, kg/m²). Age-, sex-, and race-specific Z- Scores and T-Scores were determined by comparison to published reference ranges. ALMI values were adjusted for FMI (ALMIZ/FMIZ) using a published method. Disease activity was assessed by Disease Activity Score-28 with erythrocyte sedimentation rate (DAS28). RA patients were divided in non-remission (DAS28<2.6) and in remission (DAS28>2.6). Physical functioning was assessed by Health

Assessment Questionnaire (HAQ). Pharmacological treatment used by patients were assessed in patient medical records and the RA were divided in RA patients treated with biologic disease modifying antirheumatic drugs (bDMARDs) and non-treated with bDMARDs. Frequency analysis, Pearson Correlations and GEE analyses were used and statistical significance was considered as p<0.05.

Results: Of the 90 patients analyzed, most were women (86.7%,78/91), with mean age of 56.5±7.3 and median disease duration time of 8.5 (3-18) years. At baseline, the mean±SD DAS28 score was 3.7±1.4 and thirty percent of the RA patients (27/90) were treated with bDMARDs. After 12 months, the use of bDMARD did not change (p>0.05), however, mean DAS28 increased over time (mean and SD of 4.0±1.3; p<0.05). Eleven RA patients (12.2%) showed low ALMI/FMI for age (Z-score ≤-1) at baseline, and 13 (16.0%) after 12 months. After 12 months, ALMIZ/FMIZ was inversely associated with HAQ (r=-0.3; p<0.05). At baseline, women in remission had higher ALMIZ, lower FMIZ and higher ALMIZ/FMIZ, while men had lower ALMIZ, lower FMIZ and higher ALMIZ/FMIZ. In men, remission was associated with decreases in FMIZ (p<0.05). The use of bDMARDs was not related with alterations in ALMIZ, FMIZ and ALMIZ/FMIZ (p>0.05).

Conclusion: Low skeletal muscle mass relative to adiposity was common in RA patients. This condition was associated with low physical functioning and its changes over time are associated with disease activity status. The observations that skeletal muscle mass relative to adiposity was affected by remission state stresses and that associated negatively with poor physical functioning demonstrate the importance of adequate control of disease activity in RA established. In addition, from our results, further studies are necessary to elucidate the direct impact of bDMARDs on body composition in RA patients.

REFERENCES:

- [1] Weber D, Long J, Leonard MB, Zemel B, Baker JF. *PLoS One*. 2016; 10;11(10):e0164385

Acknowledgement: We thank the Coordination for the Improvement of Higher Level Personnel (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior—CAPES) institution, the Foundation for Research Support of the Rio Grande do Sul State (Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul—FAPERGS), the Research and Events Incentive Fund (Fundo de Incentivo à Pesquisa e Eventos—FIPE) of HCPA and Technological Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico—CNPq).

Disclosure of Interests: Rafaela Cavalheiro do Espírito Santo: None declared, Jordana Miranda de Souza Silva: None declared, Joshua Baker: None declared, Vanessa Hax: None declared, Claiton Brenol Shareholder of: Has participated in clinical and/or experimental studies related to this work and sponsored by AbbVie, BMS, Janssen, Pfizer and Roche; has received personal or institutional support from AbbVie, BMS, Janssen, Pfizer and Roche; has delivered speeches at events related to this work and sponsored by AbbVie, Janssen, Pfizer and Roche, Grant/ research support from: Has participated in clinical and/or experimental studies related to this work and sponsored by AbbVie, BMS, Janssen, Pfizer and Roche; has received personal or institutional support from AbbVie, BMS, Janssen, Pfizer and Roche; has delivered speeches at events related to this work and sponsored by AbbVie, Janssen, Pfizer and Roche, Consultant for: Has participated in clinical and/or experimental studies related to this work and sponsored by AbbVie, BMS, Janssen, Pfizer and Roche; has received personal or institutional support from AbbVie, BMS, Janssen, Pfizer and Roche; has delivered speeches at events related to this work and sponsored by AbbVie, Janssen, Pfizer and Roche, Paid instructor for: Has participated in clinical and/or experimental studies related to this work and sponsored by AbbVie, BMS, Janssen, Pfizer and Roche; has received personal or institutional support from AbbVie, BMS, Janssen, Pfizer and Roche; has delivered speeches at events related to this work and sponsored by AbbVie, Janssen, Pfizer and Roche, Speakers bureau: Has delivered speeches at events sponsored by AbbVie, Janssen, Pfizer and Roche, Lidiane Filippin: None declared, Priscila Lora: None declared, Ricardo Xavier Consultant for: Abbvie, Pfizer, Novartis, Janssen, Lilly, Roche

DOI: 10.1136/annrheumdis-2019-eular.4446

OP0272-HPR

FITNESS STATUS OF PEOPLE WITH AXIAL SPONDYLOARTHRITIS (AXSPA): FIRST RESULTS AFTER IMPLEMENTATION OF FITNESS ASSESSMENTS IN AXSPA EXERCISE GROUPS

Karin Niedermann¹, Anne-Kathrin Rausch¹, André Meichtry¹, Béatrice Walker², René Braem², Adrian Ciurea³. ¹Zurich University of Applied Sciences, School of Health Professions, Winterthur, Switzerland; ²Ankylosing Spondylitis Association of Switzerland, Zurich, Switzerland; ³University Hospital, Rheumatology, Zurich, Switzerland

Background: Public health recommendations for physical activity (PA) advice that exercise programs include all four fitness dimensions, i.e. cardiorespiratory, muscle strength, flexibility and neuromotor exercise training at well-defined

frequency, intensity and duration/repetitions, and regular evaluations (1). The 2018 EULAR recommendations for PA (2) state that this is also effective, feasible and safe for people with rheumatic diseases. Therefore, the Ankylosing Spondylitis Association of Switzerland (SVMB) has started to implement assessments of all four fitness dimensions in their exercise groups (n=68). Criteria for selection of an assessment were its psychometric properties and feasibility for group setting, i.e. low costs and material requirements: Chester step test (CST) for cardiorespiratory fitness (3); adapted Core Strength Endurance test battery (CSE) for muscle strength (4); Bath AS Metrology Index (BASMI) for flexibility (5); Single-Leg-Stance test (SLS) for balance (as proxy for neuromotor activities) (6). For all assessments, except CSE, norm values for healthy people are available.

Objectives: To assess the fitness status of people with axSpA across four volunteering pilot groups and evaluate if between-subject variables of interest are associated with fitness status.

Methods: Participants were assessed at baseline and after 6 months on all four fitness dimensions. For each dimension, a linear mixed model with random intercept was fitted to the data with the within-subject variables time and measurement condition and the between-subject variables age, disease duration, disease activity (Bath AS Disease Activity Index, BASDAI) and PA level (weekly Metabolic Equivalent of Task MET) as explanatory variables.

Results: Of 30 patients assessed, 10 (33%) were women, mean age was 58.8 (SD 9.68) years, mean disease duration was 32.6 (SD 9.68) years, mean disease activity was 3.1. (SD 2.36) and mean PA per week was 5013 (SD 3479.77) METs. Mean estimated VO₂max for cardiorespiratory fitness was 35.2 (SD 6.59). Disease activity was negatively (slope=-1.49, p=0.01) and PA level positively (slope=3.28, p=0.01) associated with cardiorespiratory fitness. Mean core muscle strength endurance was 78.8 (SD 51.98) seconds. PA level was positively associated with core muscle strength (slope= 8.62, p=0.05). Mean flexibility score was 3.1 (SD 2.36), with age being positively associated with flexibility (slope=0.100, p=0.04). Mean balance was 43.1 (SD 21.09) and 7.7 (SD 5.84) seconds with open and closed eyes respectively. Age was negatively associated with balance (slope = -0.84 (p=0.00)).

Conclusion: The SVMB has made an important step by implementing regular fitness evaluations in their axSpA exercise groups. The test scores of the assessed people with axSpA were lower than in healthy people but within the norms. PA level was positively associated with cardiorespiratory fitness and core muscle strength. Disease duration and disease activity were negatively associated with cardiorespiratory fitness only, but not with the other fitness dimensions, which may be different from what is usually assumed.

REFERENCES:

- [1] Garber CE, et al. *MedSciSportsExerc* 2011;43:1334–59.
- [2] Rausch AK, et al. *AnnRheumDis* 2018; 9(77): 1251-1260.
- [3] Buckley JP. *B J Sports Med*, 2004;38(2):197-205
- [4] Rausch AK, et al. Intra-rater reliability and construct validity of a core strength-endurance test battery in people with axial Spondyloarthritis (manuscript in preparation)
- [5] Jenkinson TR. 1994;21(9):1694-8. Epub 1994/09/01
- [6] Springer BA. *J Ger Phys Ther*. 2007;30(1):8-15

Disclosure of Interests: Karin Niedermann Speakers bureau: Novartis, Anne-Kathrin Rausch: None declared, André Meichtry: None declared, Béatrice Walker: None declared, René Braem: None declared, Adrian Ciurea Consultant for: AbbVie, Celgene, Janssen-Cilag, MSD, Eli Lilly, Novartis, Pfizer, UCB, Speakers bureau: Abbvie, Celgene, Janssen-Cilag, MSD, Eli Lilly, Novartis, Pfizer, UCB
DOI: 10.1136/annrheumdis-2019-eular.6924

OP0273-HPR FUNCTIONAL EXERCISE FOR ADULTS WITH CHRONIC NON-SPECIFIC LOW BACK PAIN: A RANDOMIZED CONTROLLED TRIAL

Emilia Moreira, Anamaria Jones, Eider Da Silva Lima, Fabio Jennings, Jamil Natour. *Universidade Federal de Sao Paulo, Rheumatology Division, Sao Paulo, Brazil*

Background: Exercise therapy is part of the recommendation for the treatment of chronic non-specific low back pain (LBP). Functional exercise may be an alternative for the treatment, no studies assessing its effectiveness were found.

Objectives: To assess the effectiveness of the functional exercise program for pain, functional capacity, general health, kinesiophobia and perceived exertion in adults with chronic nonspecific LBP.

Methods: A randomized controlled clinical trial with intention-to-treat analysis and 24-week follow-up was performed. Eighty-four patients were randomly assigned to an experimental group (EG) or control group (CG). The EG participated in the functional exercises program performed twice a week for twelve weeks. The functional exercise program was composed by global exercise that worked the group of muscles of the trunk and lower and upper limbs with

progression every 4 weeks. The two groups received an informative class on the disease and were advised to use analgesic if necessary. Primary outcome was LBP measured by numeric rating scale (NRS). Secondary outcomes included was functional capacity by Oswestry and Roland Morris questionnaires, 6-minute walk and TUG tests, kinesiophobia (FABQ), general health (SF-36), perceived exertion (BORG). Evaluations were performed at baseline, after 6, 12 (end of intervention) and 24 weeks by a blind evaluator.

Results: The groups were homogeneous for all parameters at baseline. Compared with the CG, the EG statistically improved pain, functional capacity, kinesiophobia, some domains of general health and perceived exertion - Table 1.

Conclusion: The functional exercise program was effective to improve pain, functional capacity, kinesiophobia, general health and perceived exertion in adults with chronic nonspecific LBP.

REFERENCES:

- [1] Hoy D, Bain C, Williams G, March L, Brooks P, Blyth F, et al. A systematic review of the global prevalence of low back pain. *Arthritis and Rheumatism*. 2012.
- [2] Hartvigsen J, Hancock MJ, Kongsted A, Louw Q, Ferreira ML, Genevay S, et al. What low back pain is and why we need to pay attention. *The Lancet*. 2018.

Abstract OP0273HPR Table 1. Between-groups evaluations

	T0		T6		T12		T24		p Value (GLM)
	EG	CG	EG	CG	EG	CG	EG	CG	
NSR	6.2 (1.3)	6.0 (1.7)	3.1 (1.8)	5.5 (1.7)	2.3 (1.9)	5.5 (1.8)	2.3 (1.8)	5.5 (1.6)	<0.001*
ODI	20.7 (10.8)	25.5 (11.3)	12.0 (7.0)	22.1 (10.3)	9.5 (6.3)	22.5 (10.5)	8.9 (6.4)	22.8 (10.9)	<0.001*
RMDQ	6.9 (5.0)	8.4 (5.3)	4.1 (3.3)	7.6 (4.7)	2.8 (2.6)	7.3 (4.7)	2.6 (2.4)	8.1 (5.2)	<0.001*
TUG	8.3 (1.1)	8.7 (2.6)	8.27 (1.94)	8.69 (1.90)	7.84 (1.08)	8.99 (2.14)	7.86 (0.83)	9.08 (2.49)	0.005*
FABQ work	18.6 (15.7)	17.6 (12.0)	12.4 (9.0)	16.8 (12.0)	10.5 (9.3)	16.6 (11.1)	7.5 (7.4)	17.6 (11.4)	<0.001*
FABQ phys	11.9 (6.2)	13.0 (6.3)	7.1 (6.5)	13.0 (7.1)	7.0 (6.0)	13.2 (7.3)	6.9 (6.1)	13.0 (7.5)	<0.001*
SF-36									
Physical functioning	66.1 (21.3)	60.1 (25.7)	77.7 (16.5)	61.8 (24.2)	83.8 (13.8)	58.2 (26.4)	82.4 (14.3)	60.1 (26.7)	<0.001*
Role physical	55.4 (40.8)	45.8 (39.8)	78.1 (31.2)	48.8 (38.2)	86.3 (24.8)	49.4 (42.9)	87.7 (17.6)	47.0 (39.9)	0.046*
Bodily pain	45.8 (17.0)	40.0 (14.9)	65.1 (19.8)	55.7 (20.4)	76.7 (16.0)	62.0 (21.7)	66.7 (21.6)	61.1 (24.7)	<0.001*
General health	64.8 (21.3)	62.0 (20.1)	68.3 (18.9)	65.6 (17.2)	77.2 (15.6)	62.0 (17.2)	76.0 (15.2)	62.0 (17.4)	<0.001*
Vitality	46.4 (19.1)	48.0 (22.3)	58.8 (17.2)	46.5 (21.2)	64.1 (15.4)	48.6 (18.9)	62.7 (17.6)	47.6 (19.9)	<0.001*
Social functioning	68.6 (24.7)	65.7 (41.8)	80.2 (18.6)	64.8 (25.0)	87.5 (17.0)	69.6 (26.9)	87.4 (17.1)	68.3 (27.1)	<0.001*
Role emotional	55.4 (41.5)	61.7 (41.8)	72.1 (36.8)	55.5 (42.1)	82.4 (29.8)	56.3 (46.3)	82.2 (27.0)	64.2 (43.2)	<0.001*
Borg (0-10)	2.4 (0.9)	2.4 (1.5)	2.17 (1.06)	2.38 (1.01)	1.9 (0.76)	2.60 (1.40)	1.88 (0.77)	2.62 (1.96)	0.012*

Data expressed as mean (standard deviation); GLM, Generalized Linear Models;

*Statistically significant p value (<0.05).

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.5218

OP0274-HPR DEVELOPMENT OF GENERIC CORE COMPETENCES OF HEALTH PROFESSIONALS IN RHEUMATOLOGY: A SYSTEMATIC LITERATURE REVIEW INFORMING THE 2018 EULAR RECOMMENDATIONS

George E. Fragoulis¹, Lisa Edelaar^{2,3}, Valentin Schäfer⁴, Jan Schoones³, Annamaria Iagnocco⁵, Thea Vliet Vlieland⁶, Elena Nikiforou⁷. ¹University of Glasgow, Institute of infection, immunity and inflammation, Glasgow, United Kingdom; ²Amsterdam Rehabilitation Research Center, Amsterdam, Netherlands; ³Leiden University Medical Center, Walaues Library, Leiden, Netherlands; ⁴University Hospital Bonn, III. Medical Clinic, Department of Oncology, Hematology and Rheumatology, Bonn, Germany; ⁵Academic Rheumatology Centre, Dipartimento di Scienze Cliniche e Biologiche, Turin, Italy; ⁶Leiden University Medical Center, department of Orthopaedics, Rehabilitation and Physical Therapy, Leiden, Netherlands; ⁷King's College, Department of Inflammation Biology, London, United Kingdom

Background: Acquisition and maintenance of competences by Health Professionals in Rheumatology (HPRs) is important to ensure the best care for people with