analyses to search for baseline factors of work impact at 1–2 years (including a medium/high ASWIS score, gender, age, schooling level, BASDAI, BASFI).
Results: Among the 188 patients who answered the first questionnaire, 144 were currently working and were asked to answer the second questionnaire. A total of 101 patients answered both questionnaires. Mean age at inclusion was 45 (SD 9) years, 52% were male, disease duration was 14 (SD 8) years and 62% had an education level equivalent to more than high school. The BASDAI and the BASFI were respectively 34 (SD 21) and 23 (SD 23). At baseline, median ASWIS was 10, a low-risk score was found in 55 patients (54%), and a medium/high risk score in 46 (46%).
1 -2 years later, 37 patients (36%) had work impact: 25 patients (25%) a short-term sick leave, and 12 patients (12%) a significant work impact (long-term disability or unemployment due to Ax-SpA).
Among patients with a low ASWIS score at baseline (n=55), only 13 (24%) had a work impact (including only 2 with a significant impact). Among patients with a medium/high ASWIS score (n=46), 24 (52%) had a work impact (including 10 patients of a significant impact).
In univariate analysis, baseline factors associated with work impact (moderate or significant) were a medium/high ASWIS score, a high BASFI and a shorter disease duration. In multivariate analysis, medium/high ASWIS (odds ratio, OR 2.71 (1.04–7.22)) and a lower disease duration (0.94 (0.89–0.99)) were independent predictive factors of work impact.
Conclusions: In patients with axSpA, a medium/high ASWIS score was followed by a work impact in 50% of cases within 2 years in this well-controlled population. This short questionnaire can be helpful to screen for future difficulties at work, whatever the stage of disease.
References:
[1] Gilworth G, et al. Reducing work disability in ankylosing spondylitis: development of a work instability scale for AS. BMC Muskuloskelet Disorders 2009 Jun 16;10:68.
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THU0685 ASAS HEALTH INDEX FOR PATIENTS WITH SPONDYLOARTHRITIS: TRANSLATION INTO PORTUGUESE, VALIDATION, AND RELIABILITY

S. Rodrigues Manica[1,2], E. Cruz[3], S. Ramiro[4], S. Sousa[5], R. Aguiar[6], A. Sepriano[1,4], P.M. Machado[7], U. Kiltz[8], J.C. Branco[1,2], F.M. Pimentel-Santos[1,2]. *[1]CEDOC - NOVA Medical School | Faculdade de Ciências Médicas, NOVA University of Lisbon; [2]Rheumatology Department, Hospital Egas Moniz, Centro Hospitalar de Lisboa Ocidental, Lisbon, Lisbon; [3]Escola Superior de Saúde de Setúbal, Instituto Politecnico de Setúbal, Setúbal, Portugal; [4]Rheumatology, Leiden University Medical Center, Leiden, Netherlands; [5]Hospital Garcia de Orta, Almada; [6]Centro Hospitalar Baixo Vouga, Hospital de Aveiro, Aveiro, Portugal; [7]Centre for Rheumatology Research & MRC Centre for Neuromuscular Diseases, University College London, London, United Kingdom; [8]Rheumazentrum Ruhrgebiet, Herne, Germany*

Background: The Assessment of SpondyloArthritis international Society Health Index (ASAS HI), is a unidimensional questionnaire, that includes 17 items, measuring functioning and health in patients with spondyloarthritis (SpA) (1). At the beginning of this project, only an English version of the instrument existed.
Objectives: The aim of this study was to conduct the cross-cultural adaptation of the ASAS-HI into European Portuguese language and investigate its reliability and validity in a sample of Portuguese patients with SpA.
Methods: The ASAS-HI has a range from 0 (best health state) to 17 (worst health state). The questionnaire was first translated and then back translated following published guidelines. Patients fulfilling ASAS classification criteria for either axial (axSpA) or peripheral SpA (pSpA) were included. Reliability was assessed through internal consistency coefficient, and internal consistency was assessed using Cronbach's alpha. Construct validity was assessed through Spearman's correlation analyses between the ASAS-HI and the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), Bath Ankylosing Spondylitis Functional Index (BASFI), Ankylosing Spondylitis Disease Activity Score-CRP (ASDAS-CRP), and the Short Form (36) Health Survey (SF-36) (physical) SF-36 (physical) for convergent validity and between the ASAS-HI and the HAD-S Anxiety/Depression, and SF-36 (mental) for divergent validity. Discriminative validity was tested comparing the ASAS-HI across ASDAS-CRP disease activity states using the Kruskal–Wallis test.
Results: In total, 86 patients were included: 65% male, mean (SD) age 47.1 (12.9) years, symptom duration 11.4 (11.0) years, BASDAI 3.1 (2.1), BASFI 2.2 (2.6), ASDAS-CRP 2.2 (0.8). The diagnosis of axSpA was established in 58 patients (AS =45, nr-axSpA =13) and of pSpA in 28 patients. The forward backward translation was successful and qualitative interviews raised no further comments of the patients. The total mean score of the ASAS-HI was 4.6 (3.8). The ASAS- HI showed an excellent test-retest reliability (n=72) (ICC=0.93: 95% CI=0.89;0.96, $p<0.001$) and a good internal consistency (Cronbachs-α of 0.87). According to the predefined hypothesis, the ASAS-HI correlated strongly with the BASDAI (0.76, $p<0.001$), SF-36 (physical) (-0.75, $p<0.001$), moderately well with the HAD-S Anxiety (0.41, $p<0.001$), and SF-36 (mental) (-0.44, $p<0.001$) (Table 1), and showed a good discriminatory capacity across the different levels of disease activity ($p<0.001$) (Table 2).

Table1 – Correlation between ASAS-HI at baseline and other health outcomes

Characteristics		R	P value
BASDAI	(0-10)	0.76	<0.001
BASFI	(0-10)	0.63	<0.001
ASDAS-CRP		0.64	<0.001
SF-36 (physical)	(0-100)	-0.75	<0.001
SF-36 (mental)	(0-100)	-0.44	<0.001
HAD-S Anxiety		0.41	<0.001
HAD-S Depression		-0.05	0.660

Table 2 - Discriminant ability of ASAS-HI (at baseline) stratified by disease activity (mean±SD)

	ASDAS-CRP				
	Inactive (N=9)	Moderate (N=30)	High (N=32)	Very high (N=6)	p-value
ASAS-HI	1.6 (1.5)	2.3 (2.0)	6.2 (4.1)	8.1 (3.3)	<0.001

Conclusions: The findings of this study showed that the Portuguese version of the ASAS –HI is a comprehensible questionnaire that is reliable and valid. Therefore, its use can be recommended, both for clinical practice and research purposes, to assess the state of health and functioning in Portuguese SpA patients. Future research is needed to evaluate the responsiveness of the ASAS-HI in SpA patients.
References:
[1] Kiltz U et al. Ann Rheum Dis. 2015;74(5):830–5.
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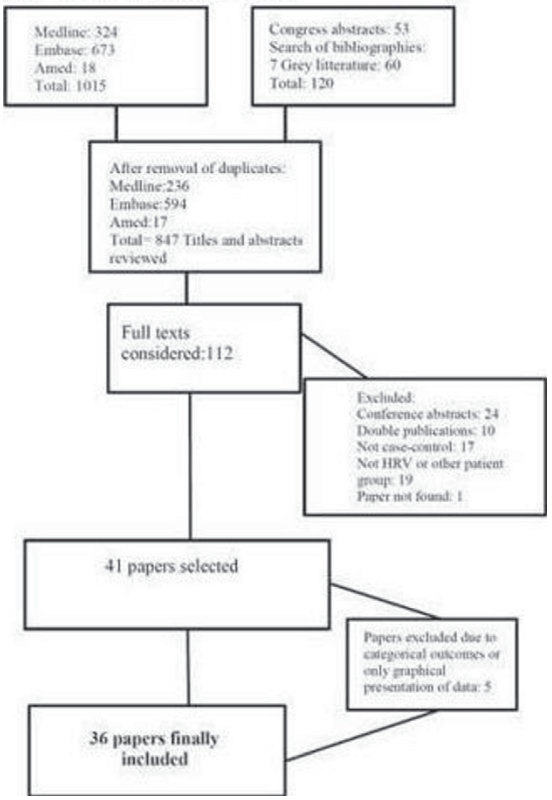
THU0686 HEART RATE VARIABILITY IN INFLAMMATORY JOINT DISEASE. A META-ANALYSIS

S.A. Provan[1], D.S. Olstad[2], E.E. Solberg[3], G. Smedslund[2], H. Dagfinrud[2]. *[1]Rheumatology, Diakonhjemmet Hospital; [2]Rheumatology, National Resource Centre for Rehabilitation in Rheumatology, Diakonhjemmet Hospital; [3]Medicine, Diakonhjemmet Hospital, Oslo, Norway*

Background: Autonomic dysfunction is an established predictor of all-cause mortality and post-myocardial infarction mortality. It has been suggested to be a pathogenic factor for the development of cardiovascular disease (CVD) in the general population, possibly acting through the impact of the autonomic nervous system on inflammation [1]. Heart rate variability (HRV) is a marker of cardiac autonomic function and is increased in many conditions including chronic widespread pain. HRV is responsive to physical exercise. Inflammatory joint diseases (IJD) are characterised by joint inflammation and symptoms include pain, functional decline and restricted movement. Patients with IJD have an increased risk of premature death due to CVD.
Objectives: To compare HRV between adult patients with IJD and healthy controls, using the "Preferred Reporting Items for Systematic Reviews and Meta-Analyses" (PRISMA) methodology, and to describe the associations between IJD disease activity, pain and physical activity, and HRV.

Figure 1 Flow chart literature search



Methods: A research librarian conducted systematic searches in Medline, Embase and Amed from earliest date until August 2016. Inclusion criteria were adult human case-control studies published in English or a Scandinavian language, presenting data on HRV in patients with IJD (Rheumatoid Arthritis (RA) or Spondyloarthritis (SpA)). Included under the SpA diagnosis were patients with psoriatic arthritis or ankylosing spondylitis. Six established measures of HRV were selected: the Square root of mean squared difference of successive R-R interval (rMSSD), high frequency (HF), total power (TP), Ewing protocol standing (E-S), breathing (E-B) and Valsalva (E-V). Patients with RA, SpA and healthy controls were compared separately using random-effects meta-analyses of standardized mean differences (SMD).
Results: 847 titles and abstracts were reviewed, 36 papers were eligible for inclusion (Figure 1). For rMSSD the pooled SMD (95% CI) RA vs. controls was -0.90 (-1.35 to -0.44), for SpA vs. controls; -0.34 (-0.73 to 0.06). For HF, the pooled SMD RA vs. controls was -0.78 (-0.99 to -0.57), for SpA vs. controls; -0.04 (-0.22 to 0.13). For TP the pooled SMD RA vs. controls was -0.60 (-1.26 to 0.06), SpA vs. controls; -0.27 (-0.51 to -0.03). All pooled Ewing parameters were significantly lower in cases compared to controls, except for E-V which was comparable between cases and controls in patients with RA. 18/36 papers examined the relationship of IJD disease activity to HRV, of which the majority, 13, describe an inverse association between the parameters. The impact of pain on HRV was not explored in any study, and only one study explored the impact of physical activity on HRV, finding no cross-sectional association.
Conclusions: Patients with IJD have lower cardiac parasympathetic modulation compared to healthy controls and this may be a risk factor for CVD. There is an inverse relationship between IJD disease activity and HRV. The relationship between pain, physical activity and HRV should be further explored.
References:
[1] Kosek E, Altawil R, Kadetoff D, et al. Evidence of different mediators of central inflammation in dysfunctional and inflammatory pain–interleukin-8 in fibromyalgia and interleukin-1 beta in rheumatoid arthritis. J Neuroimmunol. 2015; 280:49–55.
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THU0687 FEASIBILITY AND VALIDITY OF PROMIS® GLOBAL HEALTH SHORT FORM (PROMIS10) IN OUTPATIENTS WITH SLE

S. Kasturi[1], J. Szymonifka[1], J. Burket[2], J. Berman[1], K. Kirou[1], A. Levine[1], L. Sammaritano[1], L.A. Mandl[1]. *[1]Medicine; [2]Healthcare Research Institute, Hospital for Special Surgery, New York, United States*

Background: Routine measurement of patient reported outcomes (PROs) is a priority for improving quality of care and outcomes in chronic rheumatic conditions including systemic lupus erythematosus (SLE). Measuring PROs at the point of care requires validated instruments with minimal responder burden. PROMIS10 is a 10 question universal (non-disease specific) PRO instrument measuring physical and mental health domains with T-scores normalized to the general population (mean score =50). The feasibility and validity of PROMIS10 have not been demonstrated in SLE.
Objectives: To evaluate: 1) feasibility and 2) validity of PROMIS10 in outpatients with SLE.
Methods: Adults meeting 1997 ACR SLE classification criteria were recruited from an SLE Center of Excellence. Subjects completed SF-36, LupusQoL-US, selected PROMIS Computerized Adaptive Tests (CATs), and PROMIS10. Construct validity was evaluated using Spearman's correlations comparing PROMIS10 physical and mental health scores with PROMIS CATs and legacy instruments. Test-retest reliability was evaluated in subjects reporting stable SLE activity at 2 assessments a week apart with intraclass correlation coefficients (ICCs). Focus groups of participants evaluated the relevance and utility of PROMIS10.

Table 1. Spearman's Correlations of PROMIS10 with PROMIS CATs, SF-36, and LupusQOL

	PROMIS10 Physical Health (n=199)	PROMIS10 Mental Health (n=187)
PROMIS CAT- Physical Function	**0.77**	0.54
PROMIS CAT- Pain Interference	**-0.80**	-0.59
PROMIS CAT- Fatigue	-0.65	-0.60
PROMIS CAT- Anxiety	-0.41	-0.61
PROMIS CAT- Depression	-0.48	**-0.73**
PROMIS CAT- Ability to Participate in Social Roles	**0.74**	0.65
SF-36- Physical Function	**0.76**	0.47
SF-36- Role Physical	0.60	0.46
SF-36- Physical Component Summary	**0.77**	0.41
SF-36- Mental Health	0.42	**0.72**
SF-36- Role Emotional	0.49	0.61
SF-36- Mental Component Summary	0.41	0.72
SF-36- Bodily Pain	**0.79**	0.56
SF-36- Social Function	**0.70**	0.66
LupusQoL-US- Physical Health	**0.77**	0.59
LupusQoL-US- Emotional Health	0.52	**0.70**
LupusQoL-US- Pain	**0.74**	0.56
LupusQoL-US- Fatigue	0.62	0.62
LupusQoL-US- Planning	0.69	0.62

$p<0.01$.

Results: 204 (86%) of 238 patients approached, enrolled. There were no statistically significant differences in demographic characteristics between participants and non-participants. SLE patients scored worse than the general population in PROMIS10 physical health (mean T-score 41.6 +/- SD 8.8; range 19.9 - 67.7) and mental health (mean T-score 43.7 +/- SD 8.7; range 25.1 - 67.6). PROMIS10 physical health scores correlated strongly with physical function, pain, and social health domains in PROMIS CATs, SF-36, and LupusQoL, while PROMIS10 mental health scores correlated strongly with PROMIS depression CAT and SF-36 and LupusQoL mental health domains (Table 1). Test-retest reliability for both PROMIS10 physical and mental health scores was high with ICCs of 0.89 and 0.85 respectively. Median time to complete PROMIS10 was <2 minutes. Focus group participants found PROMIS10 relevant and useful.
Conclusions: PROMIS10 is feasible to administer to outpatients with SLE and valid compared to legacy instruments. PROMIS10 can be used to quickly, accurately, and reliably screen for impaired physical function, pain, and depression and could be an important tool in the measurement of patient centered outcomes and improvement of quality of care in SLE.
Disclosure of Interest: None declared
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THU0688 DISEASE FLARES, DAMAGE ACCRUAL AND SURVIVAL IN ANCA-ASSOCIATED VASCULITIS

S. Paramalingam[1], G. Dogra[2], A. Mclean-Tooke[3], J. Nossent[1,4]. *[1]Rheumatology; [2]Renal Medicine; [3]Immunology, Sir Charles Gairdner Hospital; [4]School of Medicine, University of Western Australia, Perth, Australia*

Background: ANCA- associated vasculitis (AAV) is a potentially life threatening condition requiring careful monitoring and balancing of treatment options to minimize morbidity and mortality.
Objectives: To investigate the influence of baseline disease characteristics and induction therapy on the disease course and outcome in ANCA- associated vasculitis.
Methods: Single centre longitudinal cohort study of all adult patients with an EMEA algorithm based diagnosis of AAV followed up to August 2016. Clinical data including disease activity (BVAS), ANCA type and level, treatment, relapses (BVAS >3) and organ damage (VDI) and other complications (e.g. infections) during the disease course were recorded. Predictors for ESRD, death, cancer and damage accrual were analysed by multivariate logistic regression presented as Odds Ratios (OR).
Results: A total of 63 patients (59% male) (mean age at diagnosis 57 years, 59% with GPA, 24% MPA and 16% EGPA) were included. Fluorescence ANCA was positive in 92%, while 47% had MPO-ANCA and 43% PR3-ANCA. Induction therapy included corticosteroids (92%), Cyclophosphamide (57%), Rituximab (35%) and Plasmapheresis (6%). During 46 months of follow-up 34 patients (54%) experienced 71 relapses (rate 2.5/100 months) and 55 serious complications occurred (rate 2/100 months). Mean VDI at last follow-up was 2.1 with only 11 patients (17.4%) not developing organ damage. Averaged BVAS correlated with last VDI scores (Rs 0.25,p=0.012). Overall, 4 patients (6.3%) died, 19 (27%) developed renal insufficiency of which 2 (3.1%) required chronic dialysis, while 6 (9.5%) developed a new cancer. Age was an independent predictor (OR 1.09, p=0.05) for patient survival (95% and 91% at 1 and 5 years), but no effect was seen for baseline BVAS, gender, AAV or ANCA subtype (all $p>0.1$).
Conclusions: While current treatment reduces the risk of death, AAV is still associated with a high rate of disease relapse, organ damage accrual and serious complications.
Disclosure of Interest: None declared
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THU0689 MODERATE TO GOOD CONSTRUCT VALIDITY OF GLOBAL PRESENTEEISM MEASURES WITH MULTI-ITEM PRESENTEEISM MEASURE AND PATIENT REPORTED HEALTH OUTCOMES: EULAR-PRO WORKER PRODUCTIVITY STUDY

S. Leggett[1], A. Boonen[2], D. Lacaille[3], S. Talli[4], M. Bojinca[5], J. Karlson[6], D. Beaton[7], B. Fautrel[8], J. Canas da Silva[9], C. Hoffstetter[10], S. Verstappen[1,11] on behalf of EULAR-PRO at-work productivity co-investigators. *[1]Arthritis Research UK Centre for Epidemiology, University of Manchester, Manchester, United Kingdom; [2]Department of Internal Medicine, Division of Rheumatology, Maastricht University Medical Centre, and Caphri Research Institute, Maastricht University, Maastricht, Netherlands; [3]Arthritis Research Centre of Canada, University of British Columbia, Vancouver, Canada; [4]Rheumatology, East Tallinn Central Hospital, Tallinn, Estonia; [5]Internal Medicine and Rheumatology Clinic, Dr. Ion Cantacuzino Hospital, Bucharest, Romania; [6]Section of Rheumatology, Lund University and Skane University hospital, Lund, Sweden; [7]St. Michael's Hospital, Mobility Program Clinical Research Unit, Toronto, Canada; [8]All - APHP Pitie-Salpetriere Hospital, Department of Rheumatology, Paris, France; [9]Hospital Garcia de Orta, Almada, Portugal; [10]OMERACT, Toronto, Canada; [11]NIHR Manchester Musculoskeletal BRU, Central Manchester Univ. Hospitals NHS Foundation Trust, Manchester, United Kingdom*

Background: Inflammatory arthritis (IA) and osteoarthritis (OA) often impact on