screening for secondary causes and commencement/switching of anti-resorptive therapy accordingly) for patients with VFF.

Methods: We conducted a retrospective cross sectional study involving all patients (n=199) who attended our specialist rheumatology outpatient clinics at University Hospital Kerry during the month of November 2018. Patients who previously had undergone plain radiography of the spine (PRS) in the previous 5 years were identified and reassessed for evidence of VFFs. Basic demographic, drug history, clarification of fragility fracture and previous related trauma, investigations for secondary causes of osteoporosis, and treatment received for osteoporosis were documented.

Results: 73 of the 199 patients had undergone previous PRS, 9 of which had evidence for VFFs. Only two patients (22.2%) were reported as having vertebral ‘fractures’, while 7 others had different terms used to describe the fracture(s)-2 patients with ‘wedging’, 1 with ‘compression’, 2 with ‘loss of height’ and 2 with ‘collapse’. All 2 patients (100%) with VFF reported as ‘fracture’ had complete clarification of VFF, secondary osteoporotic work-up and treated with anti-resorptive therapy accordingly. Among the other 7 patients with VFFs but not reported as having ‘fracture’, 1 patient had concomitant report of “osteoporotic” bones and had complete management for osteoporosis; while only 50% (1 patient) of the 2 remaining patients without further distinction of bone density received appropriate management. Further 6 patients with non-VFF were reported to have reduced bone density (1 reported as “osteoporotic” bones; 5 as “osteopenic” bones). Only one of them (16.7%) had further work-up, evaluation and management for osteoporosis.

Conclusion: Clear radiological report of PRS with VFFs using the word “fracture” is a strong predictor for appropriate management of bone health. It is essential that other terms used to describe VFFs such as ‘wedging’, ‘compression’, ‘loss of height’ and ‘collapse’ not to be used alone without the concomitant use of the word ‘fracture’.

Disclosure of Interests: None declared


SAT0716-HPR

SYSTEMATIC REVIEW OF THE PSYCHOMETRIC PROPERTIES OF PATIENT-REPORTED OUTCOME MEASURES FOR FOOT AND ANKLE IN RHEUMATOID ARTHRITIS

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Background: Foot problems and pain are common in patients with rheumatoid arthritis. Patient-reported outcome measures provide a standardized method of capturing patients’ perspectives of their functional status and wellbeing. There are many instruments specific to people with feet affected by rheumatoid arthritis but knowledge of their psychometric validation or methodological quality is lacking.

Objectives: To identify patient-reported outcome measures specific to the foot and ankle and rheumatoid arthritis and investigate their methodological quality and psychometric properties.

Methods: Design: Systematic review. Data source: A search was conducted for psychometric or validation studies on patient-reported outcomes in Rheumatoid Arthritis published in different languages, by examining the Pubmed; Scopus, CINAHL; PEDro and Google Scholar databases.

Review methods: The systematic review performed was based on the following inclusion criteria: psychometric or clinimetric validation studies on patient-reported outcomes specific to the foot and ankle that included patients with Rheumatoid arthritis. Two authors independently assessed the quality of the studies and extracted data.

Results: Of the initial 431 studies, fourteen instruments met the inclusion criteria. Significant methodological flaws were detected in most with only SEFAS met the COSMIN quality criteria.

Conclusion: SEFAS had the best quality and was ranked most appropriate for use with patients living with Rheumatoid Arthritis.

REFERENCES


Review registration number: PROSPERO (CRD42018090594).

Disclosure of Interests: None declared


Table 1. Detailed COSMIN ratings

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Rating: +: Positive rating; -: Indeterminate rating; -: Negative rating;
CONSTRUCT VALIDITY AND RELIABILITY OF A PORTUGUESE VERSION OF THE ANIMATED ACTIVITY QUESTIONNAIRE (AAQ)

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Background: The AAQ assesses activity limitations in individuals with hip/knee osteoarthritis (HKOA), and consists video animations of 17 basic daily activities performed with different levels of difficulty (www.myaaq.com). The individuals choose the animation that best matches their own performance. The AAQ was developed in the Netherlands, and showed a good overall cross-cultural validity in 6 other languages.

Objectives: The aim of this study was to assess the construct validity and reliability of the Portuguese version of the AAQ.

Methods: In Diamantina, Brazil, men and women (≥ 45 years) with clinical HKOA were included in the study. The exclusion criteria were: cognitive impairment, visual/auditory deficit, or any medical condition other than HKOA that could hamper activity. This study was approved by the UFVJM Ethics Committee. All participants completed the Portuguese version of the AAQ. Illiterate or functional illiterate participants were assisted by the researchers. The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), to assesses pain, stiffness and function was administered to the participants. Performance-based tests were applied to a subgroup of 71 participants: Timed Up and Go (TUG) and Short Physical Performance Battery (SPPB). The first 53 participants completed the AAQ twice. To validate the AAQ, Spearman’s rho coefficients were calculated between the AAQ score, each score of the WOMAC, the SPPB score, and TUG score. To evaluate the influence of education in completing the AAQ, the participants were divided in two groups, 0-3 years of education and >4 years of education. To evaluate internal consistency and test–retest reliability of the AAQ, we calculated the Cronbach’s alpha coefficient and the intraclass correlation coefficient (ICC), respectively.

Results: 200 individuals, 85% female, mean age of 64.4 (SD 11.2) years, and a mean of 5.8 (SD 4.4) years of education, participated in the study. 72% of the participants had OA in both joints, 9% had hip OA, and 19% had both joints affected. The mean values on the different measures were as follow: AAQ = 72.7 (SD 16.1), WOMAC pain = 36.5 (SD 19.3), WOMAC stiffness = 37.1 (SD 26.2), WOMAC function = 39.1 (SD 19.6), SPPB = 8.0 (SD 2.1), and TUG = 16.2 (SD 12.7) seconds. The AAQ showed high internal consistency (Cronbach’s alpha = 0.94) and good test-retest reliability (ICC = 0.98). The AAQ showed a moderate correlation with WOMAC pain (r = -0.51, 95%CI = -0.61 to -0.39), and WOMAC stiffness (r = -0.46, 95%CI = -0.56 to -0.33), and a high correlation with WOMAC function (r = -0.77, 95%CI = -0.82 to -0.71), SPPB (r = 0.65, 95%CI = 0.48 to 0.77), and TUG (r = -0.71, 95%CI = -0.81 to -0.56). Regarding the level of education, the correlations between the AAQ score and the three domains of WOMAC were similar when the participants with 0-3 years of education (n = 62) were compared to the participants with >4 years of education (n=138) (pain: r = -0.51, 95%CI = -0.68 to -0.29 vs -0.52, 95%CI = -0.64 to -0.39; stiffness: r = -0.54, 95%CI = -0.70 to -0.32 vs -0.41, 95%CI = -0.54 to -0.25; function: r = -0.80, 95%CI = -0.88 to -0.68 vs -0.75, 95%CI = -0.82 to -0.66).

Conclusion: The Portuguese version of the AAQ showed good construct validity and reliability, and also seems to be applicable for patients with low literacy.

REFERENCE


Disclosure of Interests: None declared


VALIDATION OF THE DANISH VERSION OF THE BRISTOL RHEUMATOID ARTHRITIS FATIGUE QUESTIONNAIRES

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Background: The revised Bristol Rheumatoid Arthritis Fatigue Multidimensional Questionnaire (BRAF-MDQ) and the revised BRAF numerical rating scales (BRAF-NRSv2) are available in 33 languages and are validated in six countries (1), but not yet in Danish.

Objectives: To validate the Danish version of the BRAFs.

Methods: We surveyed patients with Rheumatoid Arthritis (RA) visiting one of three Danish outpatient clinics. The four-factor structure and internal consistency were explored by factor analysis and Chronbach’s alpha. The fatigue construct validity was tested by Spearman correlations with the SF-36 vitality subscale and the VAS-fatigue. Wider construct validity was tested by correlations with VAS-pain, VAS-fatigue, VAS-global, Hospital Anxiety and Depression Subscales (HADS) and the Health Assessment Questionnaire (HAQ). We asked 120 of the patients to complete the BRAFs before and after their visit in order to be able to explore reliability.

Results: A total of 225 patients participated, 69.9% were female, mean (SD) age 59.3(8.7), disease duration 11.1(6.3) years, HAQ 0.71(0.5) and DAS28-CRP 2.55(0.08). The four-factor structure of the BRAF-MDQ and the uni-dimensionality of each of the four subscales were confirmed. Internal consistency for the BRAF-MDQ total was a Chronbach’s alpha of 0.94 and 0.79-0.92 for the four subscales. The correlation coefficients between the BRAF-MDQ and the SF-36 vitality subscale were r=0.75, r=0.65 and r=0.74 for the anxiety and depression subscales of the HADS, respectively and r=0.62, r=0.73 and r=0.62 to VAS-pain, VAS-global and HAQ, respectively. Intra Class Coefficient for agreement was 0.995. The Bland-Altman plot showed a mean difference of 1.9 and a variance of 9.8 (-6.8 to 3.0) for BRAF-MDQ with 95% confidence interval. The correlation coefficients for the BRAF-NRS subscales and the subscales of the BRAF-MDQ, the SF-36 vitality subscale and the VAS-fatigue ranged between 0.57-0.93, 0.54-0.68 and 0.66-0.82, respectively.

Conclusion: The Danish version of the BRAF-MDQ identifies the same four aspects of fatigue as the original version, showed good internal consistency, moderate-good construct validity reflected by similar correlations to the SF-36 vitality subscale, HADS, HAQ and VAS for pain, fatigue and global health as the original UK-version and good reliability. The BRAF-NRS had moderate construct validity. The Danish BRAFs are considered valid and reliable for identifying aspects of fatigue among Danish patients with RA.

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Disclosure of Interests: Jette Primdahl: None declared. Bente Appel Esbensen Speakers bureau: For Pfizer, Bianca Bech: None declared, Andreas Kristian Pedersen: None declared, Annette de Thurah: None declared

FOOT PRESSURE DISTRIBUTION AND FUNCTIONAL LEVELS: ANKYLOSING SPONDYLITIS VS CONTROLS

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Background: Ankylosing spondylitis (AS) is a chronic rheumatic disease characterized by the inflammation of the pelvis and spine with a tendency to bony ankylosis. The most common AS-related alterations in posture are the limitation of spinal mobility, head protration, loss of lumbar lordosis, increased dorsal kyphosis, flexion contracture of the hip and consequent flexion of the knee.

Objectives: The purpose of this study was to investigate the foot pressure distribution and functional levels differences in ankylosing spondylitis and also compare with healthy individuals.

Methods: Eighteen patients with ankylosing spondylitis (median age= 42.2 ±2.4 years, median BMI=25.27±1.27 kg/m²) and 17 controls (median age= 43.1±2.4 years, median BMI=26.78±0.65 kg/m²) were included in the study. Plantar pressure distribution was recorded by Digital Biometry Scanning System and Milletrix software (DIASU, Italy). The static test was used to determine the maximum foot pressure (N/cm²) of the foot, forefoot weight ratio, rarefoot weight ratio, total load and foot angle axis (FAA). When evaluating spinal mobility; lumbar flexion, lateral flexion and tragus to wall distance were used in Bath Ankylosing Spondylitis Mobility Index (BASMI) sub-parameters. The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) was used to determine the disease activity; The Bath Ankylosing Spondylitis Functional Index (BASFI) was used to measure functional impairment; The Ankylosing Spondylitis Quality of Life (ASQoL) Questionnaire was filled out by the patients in an attempt to understand the impact of the disease on the quality of life. Mann-Whitney U test was used to compare AS groups with the control group. Spearman test was used for correlation analysis.

Results: No difference between age (p=0.031) and BMI (p=0.012) in both groups. There were no differences modified Schober (p=0.184), lumbar flexion (p=0.160) and tragus to wall distance (p=0.434). But lower right lateral flexion (p=0.003) and left lateral flexion (p=0.001) in ankylosing spondylitis group when compared to healthy individuals. Rearfoot load higher than forefoot load in ankylosing spondylitis group (p=0.001). There were no differences static and dynamic analysis parameters ankylosing spondylitis group and healthy group. In addition to right lateral flexion (r=0.645 p=0.005) and left lateral flexion (r=0.641 p=0.04) correlated foot angle axis; tragus to wall distance correlated maximum foot pressure (r=0.578 p=0.015) and average foot pressure (r=0.542 p=0.025).

Conclusion: Lumbar spine flexibility was lower and associated with foot pressure distribution in AS patients. In addition, the load distribution between the rare and fore foot was different in these patients. Therefore, the foot pressure distribution as well as the spine flexibility should be monitored closely, when implementing and designing the exercise programs in patients with AS.

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Disclosure of Interests: Nazi Sarı: None declared, Hande GUNEY DENIZ: None declared, Ulmut Kalyoncu Grant/research support from: MSD, Roche, UCB, Novartis and Pfizer, Consultant for: MSD, Abbvie, Roche, UCB, Novartis, Pfizer and Abdı Ibrahim, Speakers bureau: MSD, Abbvie, Roche, UCB, Novartis, Pfizer and Abdı Ibrahim, Gul Baltaci: None declared


PULMONARY FUNCTIONS AND RESPIRATORY MUSCLE PERFORMANCE CORRELATE WITH NIGHT PAIN IN PATIENTS WITH ANKYLOSING SPONDYLITIS COMPARED TO CONTROLS

Büle Taskın1, Naciye Vardar-Yaglı2, Ulmut Kalyoncu1, Gul Baltaci1, 1 Private Guven Hospital, ANKARA, Turkey; 2Hacettepe University, Ankara, Turkey

Background: In ankylosing spondylitis (AS), chronic systemic inflammation mainly affects the axial skeleton and involve the costovertebral and costotransversal joints results in limitation of thoracic and spinal mobility (1,2). There is no study published to evaluate the endurance and strength of respiratory muscle and to investigate the relationship with pain.

Objectives: The aim of the study was to investigate the functional status, quality of life, pain, pulmonary function, respiratory muscle strength and endurance patients with AS and compare to healthy controls.

Methods: Standard pulmonary function tests, maximum inspiratory pressure (PImax), and maximum expiratory pressure (PEmax) for pulmonary volumes and respiratory muscle strength were applied. Respiratory muscle endurance was recorded using sustained threshold loading of 40% maximal inspiratory pressure. AS group were evaluated by using the functional status and quality of life, the Bath Ankylosing Spondylitis Functional Index (BASFI), Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), Ankylosing Spondylitis Quality of Life Questionnaire (ASQoL). The severity of night pain, morning pain and morning stiffness were evaluated by Visual Analog Scale (VAS) in patients with AS. Mann Whitney-U test and Student’s Test were used to compare to groups variables. To evaluate the correlation in AS group Spearman’s Test was used.

Results: A total eleven patients (6 female, 5 male; mean age: 41±9.4yrs, body mass index (BMI): 26.1±3kg/m² and duration of disease 22±9.9months) and eleven controls (6 female, 5 male; mean age: 42.9±12.7yrs and BMI: 25±3.6kg/m²) were included in this study. There were no differences in age (p=0.554) and BMI (p=0.922) between the groups. No difference between FEV1% (p=0.069), FEV1/FVC% (p=0.243), PEF% (p=0.490), FEFF25-75% (p=0.297), MVV% (p=0.450), PImax (p=0.694), PEmax (p=0.358) and respiratory muscle endurance (p=0.341) in both groups. But FVC% (p=0.041) significantly lower in AS group compare to controls. In addition to PImax (r= -0.800, p=0.003), PEmax (r=0.683, p=0.021) and respiratory muscle endurance (r=0.683, p=0.021) were correlated the night pain level in AS group. The respiratory muscle endurance (r=0.675, p=0.023) was correlated the duration of disease. No correlations to the functional status, quality of life indexes and pulmonary functions in AS group.

Conclusion: This study shows that patients with AS have clearly reduced maximal PImax and PEmax, indicating decreased respiratory muscle strength and endurance as night pain levels increased. If indeed the respiratory strength were to be unchanged or even increased the decreased respiratory muscle strength should be due to reduced strength or atrophy of intercostal or accessory muscles, or both. Although the present data do not provide the direct evidence of intercostal muscle atrophy, it is tempting to speculate that immobilization of these muscles due to thoracic rigidity and decreased inspiratory intercostal and accessory activation leading to disuse may be an important factor contributing to it.

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Disclosure of Interests: Büle Taskın: None declared, Naciye Vardar-Yaglı: None declared, Ulmut Kalyoncu Grant/research support from: MSD, Roche, UCB, Novartis and Pfizer, Consultant for: MSD, Abbvie, Roche, UCB, Novartis, Pfizer and Abdı Ibrahim, Speakers bureau: MSD, Abbvie, Roche, UCB, Novartis, Pfizer and Abdı Ibrahim, Gul Baltaci: None declared