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HPR measuring health (development and measurement properties of PROs, tests, devices)

THU0752-HPR DEVELOPMENT OF THE "TREATMENT BELIEFS IN KNEE AND HIP OSTEOARTHRITIS (TOA)" QUESTIONNAIRE

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Background: Use of non-surgical treatment modalities in osteoarthritis (OA) is suboptimal[1], which might be influenced by patients' beliefs about treatments. An instrument for measuring treatment beliefs in OA is not available yet.
Objectives: To develop a questionnaire assessing patients' beliefs about treatment modalities of hip and knee OA: the "Treatment beliefs in OA (TOA) questionnaire" and to evaluate its clinimetric properties.
Methods: The item pool, drawn from two previous qualitative studies, comprised beliefs regarding 5 treatment modalities: physical activity, pain medication, physiotherapy, injections and arthroplasty. A draft questionnaire comprising beliefs on these 5 treatment modalities was developed (200 items, Table 1). Two samples of patients with knee or hip OA (N=840, N=700) were recruited from our hospital to test the clinimetric properties of the TOA questionnaire. Descriptive analyses, explorative factor analyses (EFA; sample 1) and confirmatory factor analyses (CFA; sample 2) were conducted for each treatment module separately. Internal consistency was assessed with Cronbach's Alpha (both samples). In order to examine test-retest reliability a subsample of sample 2 (N=67) was asked to fill out the final TOA questionnaire again after two weeks.
Results: 351 patients filled out the draft TOA questionnaire (sample 1), 289 patients filled out the final TOA questionnaire (sample 2), with a subsample (N=50) who filled out the final questionnaire twice. EFA yielded a two factor solution for each treatment modality. The factors were labeled "positive treatment beliefs" and "negative treatment beliefs". The final TOA questionnaire comprised 60 items; items per treatment modality ranged from 9 to 14. CFA showed adequate fit indices for physical activities and physical therapy, while fit indices for the treatment modalities pain medication, injections and arthroplasty just failed to reach adequate cut-off values. Internal consistency was good to excellent for the subscale positive treatment beliefs (Cronbach's α between 0.84 and 0.90), and mediocre to acceptable for the subscale negative treatment beliefs (Cronbach's α between 0.66 and -0.79). Test-retest reliability was satisfactorily to good with ICCs from 0.66 to 0.88 and SEMs from 0.17 to 0.52.

Table 1: Example items in the TOA questionnaire

Items TOA-questionnaire	Disagree				Agree
I think *[doing physical activities]* leads to risks	1	2	3	4	5
My quality of life improves through *[using pain medication]*	1	2	3	4	5
I think *[physiotherapy]* causes pain	1	2	3	4	5
I can do household chores more easily through *[an injection]*	1	2	3	4	5
I think *[a joint replacement]* is pervasive	1	2	3	4	5

Conclusions: The TOA questionnaire is the first questionnaire assessing positive and negative beliefs regarding five treatment modalities for knee and hip OA. The TOA questionnaire showed moderate structural validity and good internal consistency and test-retest reliability. The TOA questionnaire is useful for a better understanding of patients' treatment beliefs. Future research will examine how treatment beliefs, in interaction with other variables, influence treatment choices.
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HPR epidemiology and public health (including prevention)

THU0753-HPR PREDICTING THE FUTURE DEVELOPMENT OF SPONDYLOARTHRITIS AMONG PATIENTS WITH IDIOPATHIC ACUTE ANTERIOR UVEITIS USING REAL-WORLD DATA

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Background: Previous studies have suggested an association between idiopathic acute anterior uveitis (AAU) and spondyloarthritis (SpA), including showing that at least 40% of AAU patients have undiagnosed SpA. However, the clinical factors to predict the incident diagnosis or future development of SpA remain poorly recognized.
Objectives: The objectives of this study were: 1) to describe the patient characteristics of AAU patients with and without SpA diagnosis, and 2) to identify the predictive factors of SpA diagnosis among AAU patients using real-world data.
Methods: Adult patients with at least one diagnosis of AAU (ICD-9-CM: 364.01 or 364.02) were selected from a large US insurance claims database (01/01/2008–06/30/2015). The first AAU diagnosis was defined as the index date. Patients were required to have at least 6 months of continuous data availability before the index date. Patients with intraocular surgery, penetrating or blunt eye trauma, or a diagnosis of rheumatoid arthritis or SpA on or prior to the index date were excluded. Potential predictive factors for subsequesnt diagnosis of SpA included demographic characteristics, type of AAU (primary [first diagnosis] vs. recurrent), SpA-related comorbidities, and healthcare resource utilization prior to the index date. Factors predictive of SpA diagnosis were selected into a multivariable Cox proportional hazards model based on statistical significance and clinical relevance. Hazards ratios (HR) and p-values were estimated for each factor.
Results: A total of 48,822 patients with AAU were included, and among them, 1,032 patients were newly diagnosed with SpA during the follow-up period which was 24 months on average. Patients with SpA were younger (45.7 vs. 50.4 years), more likely to be male (52% vs. 42%), more likely to have recurrent AAU (44% vs. 29%), back pain (21% vs. 13%), SpA-related comorbidities including inflammatory bowel disease (IBD) (4% vs. 1%) and psoriasis (3% vs. 1%), and more likely to use corticosteroids (45% vs 40%). Predictive factors in the final Cox model were: male vs. female (HR=1.55; p-value$<$0.01), age$<$45 vs. $\geq$45 years old (1.65; $<$0.01), recurrent vs. primary AAU (1.94; $<$0.01), back pain under age 45 vs. no back pain (1.90; $<$0.01), back pain above age 45 vs. no back pain (1.46; $<$0.01), psoriasis (5.16; $<$0.01), IBD (2.50; $<$0.01), chiropractor/physical therapist visits (1.29; 0.01), conjunctivitis (1.23; 0.02), nonsteroidal anti-inflammatory drugs use (1.44; $<$0.01), use of conventional synthetic disease-modifying anti-rheumatic drugs (1.32; 0.05), joint pain (1.14; 0.19), imaging test use (1.03; 0.74), corticosteroids use (1.07; 0.33), and enthesitis/heel pain (1.13; 0.36). When sacroiliitis was included in the model, results remained largely similar.
Conclusions: There are significant differences among isolated AAU patients and AAU patients that developed SpA later. The most predictive factors of SpA diagnosis were male, age$<$45 years, recurrent AAU, back pain, and other extra-articular manifestations of SpA such as IBD and psoriasis. Since delayed diagnosis is common among SpA patients, identifying such predictive factors can help inform risk stratification.
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THU0754-HPR WORK STATUS IN WOMEN WITH FIBROMYALGIA – A 12-YEAR FOLLOW UP STUDY

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Background: Fibromyalgia (FM) affects approximately 1–3% of the general population in the Western world and about 10% have been found to report Chronic Widespread Pain (CWP). The work ability is often affected in persons with FM and CWP. Previous research has shown a small improvement of symptoms over time in patient with FM and CWP. Sustain in work has been

shown to predict improvement in pain, pressure tenderness, fatigue, stiffness, depression, disturbed sleep, disease specific health, physical aspects and quality of life in persons with FM/CWP. There is lack of research about long-term follow-up of work status in FM and CWP. To enable patients with FM or CWP to sustain in work or return to work it is crucial to gain knowledge about which factors that can affect their work status in the long-term.
Objectives: To investigate change in work status and possible predictors of work status after 12 years in a cohort of women with FM and CWP.
Methods: In 2004, 166 women with FM and CWP participated in a randomized controlled trial in Sweden investigating effects of patient education and pool exercise. The 166 women were invited to participate in a follow-up study in 2016 in which long-term effects on work status, aspects of health and physical function were investigated. 126 participated in the follow-up study of which 98 were <65 years of age (age of retirement in Sweden) and included in the present study of work status. Data was collected by a standardized interview, a battery of questionnaires and an examination including tests of physical function. Work status refers to percentage of full-time work divided into four categories; 0%/1–49%/50–79%/80–100%. Wilcoxon's signed-rank test was used for comparisons of work status over time within the group.
Multivariable forward stepwise logistic regression was used for analyses of predictors of work status after 12 years. The dependent variable was work status dichotomized into <50%/≥50% work. Independent variables were baseline values of age, work status, symptoms of stress, pain intensity, overall health status, leisure time physical activity, walking capacity, health related quality of life and depression.
Results: The 98 women showed a significant increase in work status ($p<0.001$) at the 12 years follow-up. Proportions of work status in category 1–4 at baseline were 56%/10%/22%/10% and at follow-up it was 36%/11%/23%/28%. The participants' age, overall health assessed with Fibromyalgia Impact Questionnaire (FIQ) and health related quality of life assessed with SF-36 Physical component summary (PCS) at baseline predicted work status 10–12 years later. Age (years): OR 0.90 (95% CI 0.84–0.97), p=0.004. FIQ total score (0–100): OR 0.94 (95% CI 0.91–0.97), $p<0.001$. SF-36 PCS (0–100): OR 1.1 (95% CI 1.0–1.2), p=0.019.
Conclusions: Women with FM or CWP appear to improve their work status on group-level over time. Lower age, better overall health and higher health related quality of life at baseline were found to predict higher probability of working 50–100% after 12 years.
Disclosure of Interest: None declared
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THU0755-HPR DIETARY PROTEIN INTAKE AND UPPER LEG MUSCLE STRENGTH IN PATIENTS WITH KNEE OSTEOARTHRITIS: DATA FROM THE OSTEOARTHRITIS INITIATIVE

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Background: In patients with knee osteoarthritis (OA) muscle weakness is common and is strongly related to more pain and activity limitations. Therefore, conservative treatment focuses on optimizing muscle strength in patients with knee OA. Determinants of muscle strength such as muscle quantity and quality, level of pain and physical activity are widely studied in knee OA. Only a limited number of studies have focused on the relation between nutrition and muscle strength in patients knee OA.
Protein is an essential building block for muscle tissue. Adequate dietary protein intake is needed to preserve muscle tissue. In a part of the general older population lower intakes than the recommended daily protein intake are observed [1,2]. Higher levels of dietary protein intake have been linked to greater muscle mass and strength in older adults[3,4]. Whether there is an independent association between lower dietary protein intake and lower muscle strength in knee OA patients in unknown.
Objectives: To determine whether lower dietary protein intake is associated with lower muscle strength in patients with knee OA.
Methods: In this cross-sectional study, baseline data of patients with symptomatic and radiographic knee OA from the progression subcohort of the Osteoarthritis Initiative (OAI) were used. Protein intake was measured by the Block Brief 2000 food frequency questionnaire and expressed as g per day/ kg bodyweight. Knee muscle strength was measured in the index knee by the Good Strength chair test, and expressed as the sum of both flexion and extension strength (N/kg bodyweight). Linear regression analysis was used to test the association, adjusting for relevant demographic, clinical and behavioral confounders.
Results: Data from 1128 patients (mean age 61.7±SD 9.1 y., 60.4% female) were used. A Kellgren and Lawrence grade of 2, 3 or 4 was scored in 25.7%, 44.7% and 30.0% of the patients, respectively.The mean daily protein intake was 0.68±SD 0.26 g/kg bodyweight, and the mean muscle strength was 5.33±SD 1.96 N/ kg bodyweight. In the unadjusted model, lower protein intake was associated with lower muscle strength (B = -0.804, 95% CI -0.336 to -1.272, p=0.001). After adjusting for age and gender, lower protein intake was still associated with lower muscle strength (B = -1.102, 95% CI -0.680 to -1.524, $p<0.001$) and was maintained after controlling for other relevant confounders.
Conclusions: Lower protein intake is independently associated with lower muscle strength in patients with knee OA. To confirm this relationship, future research is needed to test this association in longitudinal and interventional studies in patients with knee OA.
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Disclosure of Interest: None declared
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HPR patients' perspectives, functioning and health (descriptive: qualitative or quantitative)

THU0756-HPR PREDICTORS OF FEAR OF MOVEMENT IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a systemic chronic autoimmune inflammatory disease characterized by synovial joint inflammation that results in functional limitations accompanied by social and psychological outcomes.
Objectives: The aim of this study was to investigate the association between fear of movement and age, upper and lower extremity functions and functional disability in patients with Rheumatoid Arthritis (RA).
Methods: A total of 88 patients with RA participated to the study. Disease activity was assessed using the Disease Activity Score in 28 joints (DAS28). Functional disability was assessed using the Health Assessment Questionnaire-Disability Index (HAQ-DI). The Disabilities of the Arm, Shoulder and Hand Score (QuickDASH) was used to assess the upper extremity function. The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) was used to assess the lower extremity function. The Tampa Scale for Kinesiophobia (TSK) was used to assess pain-related fear of movement. The multiple stepwise linear regression model with R-square (R^2) was used to compare across the models and explain the total variance.
Results: Eight independent variables namely, age (r=0.215; p=0.044), QuickDASH (r=0.504; $p<0.001$), HAQ-DI (r=0.315; p=0.003), WOMAC Pain (r=0.512; $p<0.001$), WOMAC Stiffness (r=0.419; $p<0.001$), WOMAC Function (r=0.398; $p<0.001$), WOMAC Total (r=0.429; $p<0.001$), WOMAC range (r=0.419; $p<0.001$), demonstrated significant correlations with TSK. There were correlations between two independent variables (QuickDASH, p=0.013; WOMAC Pain, p=0.034) and TSK (R^2=0.293).
Conclusions: Health professionals should keep in mind that fear of movement were likely to cause poorer upper extremity functional disability and lower extremity pain levels in spite of varied drug therapies in patients with RA.
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THU0757-HPR EUROPEAN QUALITATIVE RESEARCH PROJECT ON PATIENT-PREFERRED OUTCOMES IN EARLY RHEUMATOID ARTHRITIS (EQPERA): RATIONALE, DESIGN AND METHODS OF AN ONGOING MULTI-COUNTRY, MULTI-CENTER, MULTI-LANGUAGE, LONGITUDINAL QUALITATIVE STUDY

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Background: Ample studies exist on outcome assessment from the patient perspective in Rheumatoid Arthritis (RA), but little is known about health and