Table 1. Multinomial logistic regression analyses: coefficients, standard errors and Wald statistic.

Variable	Coefficient	Std. Error	Wald	P
Age, yrs	-0.17872	0.065399	4.4682	0.0534
Gender	-0.087304	0.73366	0.01416	0.9053
BMI, Kg/m ²	-0.096320	0.081124	1.4097	0.2351
Pain duration from diagnosis, yrs	0.13065	0.069051	3.5801	0.0585
Educational level, yrs	0.066913	0.080301	0.6944	0.4047
Kellgren/Lawrence grades	0.62074	0.50629	1.5032	0.2202
mRDCI	-0.60277	0.18993	10.0714	0.0015
SF36-MCS	0.028143	0.020074	1.9655	0.1609
SF36-PCS	-0.00070260	0.025118	0.0007824	0.9777
WOMAC Pain subscale	-0.29129	0.081619	12.7373	0.0004
Constant	17.42518	5.73269	9.2393	0.0024

Figure 1. Distribution of the WOMAC-Pain scores according to the frailty categories by SHARE-FI, and p-values for comparison (ANOVA test)

Conclusion: Frailty or pre-frailty are common in KNEE-OA. The main factors associated with frailty were pain and comorbidity burden. Implementation of the frailty assessment into the routine rheumatological practice could represent a major advance in KNEE-OA care. Further studies are needed to identify the physiological mechanisms underpinning these associations.

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THU0613-HPR ADAPTATION AND VALIDATION OF THE MINI OSTEOARTHRITIS KNEE AND HIP QUALITY OF LIFE (MINI-OAKHQOL) QUESTIONNAIRE IN TURKISH POPULATION

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Background: The 20-item Mini-OAKHQOL was derived from the 40-item OAKHQOL questionnaire which was developed to assess the quality of life in subjects with osteoarthritis of the lower limbs. It has 5 subscales containing physical activities, mental health, pain, social support, social functioning; and two independent items addressing sex life and professional life (1). The Mini-OAKHQOL's good

psychometric properties have recently been shown and validation studies have been done in several populations (1,2).

Objectives: We aimed to investigate the validity and reliability of the Turkish version of the Mini-OAKHQOL in patients with knee and hip osteoarthritis.

Methods: Patients diagnosed with knee or hip osteoarthritis clinically and radiologically were included in the study. Demographic data were noted. The French version of Mini-OAKHQOL was used for translation and adaptation. Translation-back translation methodology was applied and cross-cultural adaptation of the Mini-OAKHQOL into Turkish was done. Face and content validities were evaluated by cognitive information interviews with patients and expert committee. Internal consistency of the scale was made with Cronbach alpha coefficient. Convergent validity was evaluated by the correlations of Mini-OAKHQOL with Nottingham Health Profile (NHP), subscales of Short form 36 (SF-36), and VAS of the quality of life. The relations of the Mini-OAKHQOL with age, BMI, disease duration, VAS of the pain, WOMAC, and Lequesne Index were assessed for divergent validity. $P < 0.05$ was considered significant.

Results: Seventy-three patients (63 female, 10 male) with the mean age of 57.22 (SD: 9.91) years were recruited. The main site of the symptomatic lower limb osteoarthritis was knee in 44, hip in 25, and both in 4 patients. The mean BMI was 31.69 (SD: 11.06) and the median disease duration was 36 months (IQR: 12–72). Turkish version of Mini-OAKHQOL had a good face and content validity. Cronbach's alpha coefficients of the subscales for internal consistency were 0.927, 0.841, 0.867, 0.771, and 0.677. Physical activities, mental health, pain dimensions of Mini-OAKHQOL had moderate to high correlations with Nottingham Health Profile and the physical functioning, physical role limitations, energy/fatigue, social functioning, pain, and general health subscales of SF-36 (ρ between 0.484-0.748). The social function subscale of Mini-OAKHQOL had mild significant correlations with emotional well-being (ρ : 0.239) and general health (ρ : 0.315) subscales of SF36. The subscales of Mini-OAKHQOL had no correlation with disease duration, BMI, and age; and had generally moderate correlations with VAS-pain, Lequesne Index, and the WOMAC subscales. These data show good convergent and divergent validities of Mini-OAKHQOL.

Conclusion: The Turkish version of the Mini-OAKHQOL is a valid and reliable instrument to assess the quality of life in patients with knee/hip osteoarthritis. In addition, it is a simple, accurate, disease-specific, and not time-consuming self-report instrument.

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THU0614-HPR ASSESSING THE EFFECT OF INTERVENTIONS FOR AXIAL SPONDYLOARTHRITIS ACCORDING TO THE ENDORSED ASAS/OMERACT CORE OUTCOME SET: A META-RESEARCH STUDY OF TRIALS INCLUDED IN COCHRANE REVIEWS

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Background: The Assessment of SpondyloArthritis international Society (ASAS) has defined separate core sets for: i) symptom-modifying anti-rheumatic drugs (SM-ARD), ii) clinical record keeping, and iii) disease-controlling anti-rheumatic therapy (DC-ART). These all include the following domains: 'physical function', 'pain', 'spinal mobility', 'spinal stiffness' and 'patient global assessment' (PGA). The core set for clinical record keeping further includes the domains 'peripheral joints' and 'acute phase reactants', and the core set for DC-ART further includes the domains 'fatigue', 'spine/hip radiographs'.

Objectives: To assess the effect of interventions for each of the 9 axSpA core domains.

Methods: We investigated the efficacy across all interventions included in Cochrane reviews according to the core outcome set for axSpA, as reported in these eligible axSpA trials. We combined data using the standardized mean difference (SMD) to meta-analyze outcomes involving similar constructs. By meta-regression analysis, we examined the effect for each of the nine separate SMD measures on the primary endpoint across all trials.

Results: Among 85 articles screened, we included 43 trials with 63 randomized comparisons. Mean (SD) number of core outcomes domains measured for SM-ARD trials was 4.2 (1.7). 6 trials assessed all 5 proposed domains. Mean (SD) for number of core outcome domains for DC-ART trials was 5.8 (1.7). Unfortunately, no trials assessed all 9 domains. 8 trials were judged to have high risk of selective outcome reporting. The most responsible core domains for achieving success in meeting the primary objective per trial were pain; OR (95% CI) 5.19 (2.28, 11.77) and PGA; OR (95% CI) 1.87 (1.14, 3.07).

Conclusion: Overall outcome reporting was good for SM-ARD trials, and poor for DC-ART trials. None of the DC-ART trials assessed all 9 domains. Outcome-reporting bias and 'missing data' should be reduced by implementing the endorsed ASAS/OMERACT outcome domains in all clinical trials. Our findings suggest that PGA and pain likely provide a holistic assessment of disease beyond "objective measures" of spinal inflammation.

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Amgen, Axellus, Bayer HealthCare Pharmaceuticals, Biogen Idec, Bristol-Myers Squibb, Cambridge Weight Plan, Ipsen, Janssen, Laboratoires Expanscience, MSD, Mundipharma, Norpharma, Novartis, Pfizer, Roche, Rottapharm-Madaus, Sobi, and Wyeth), grants from Payment for manuscript preparation (Axellus, Bristol-Myers Squibb, and Cambridge Weight Plan, Aleris-Hamlet (via Norpharma)), non-financial support from Patents (planned, pending or issued), non-financial support from Royalties, grants from Payment for development of educational presentations (Bristol-Myers Squibb, MSD, Pfizer), non-financial support from Stock/stock options, grants from Travel/accommodations/meeting expenses unrelated to activities listed (Abbott, AbbVie, Axellus, Biogen, Bristol-Myers Squibb, Cambridge Weight Plan, Celgene, Laboratoires Expanscience, Norpharma, Novartis, Pfizer, Roche, Rottapharm-Madaus, and Wyeth), non-financial support from Other (err on the side of full disclosure), outside the submitted work; and I am involved in many health-care initiatives and research that could benefit from wide uptake of this publication (including Cochrane, OMERACT, IDEOM, RADS, and the GRADE Working Group).

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THU0615-HPR FORCE-TIME CURVE ANALYSIS OF HANDGRIP STRENGTH IN PATIENTS WITH FIBROMYALGIA: COMPARISON WITH HEALTHY SUBJECTS

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Background: Factors associated with handgrip strength (HGs), in female with fibromyalgia (FM), use of force-time (FeT) curve to assess peak force, area under the curve (AUC), and variability of the time to reach maximum plateau of the curves (Fig.1) (1) to identify the impact of FM patients versus healthy controls have not been extensively studied.

Figure 1. Force-time (FeT) curve showing the method of calculation of the various force attributes.

Objectives: The aim of the study was to compare the HGs of FM with healthy subjects and to evaluate the relationship between curve characteristics and FM disease severity (2,3).

Methods: One hundred and ten women (mean age 53.8±12.4 years; range 18 to 80) were included and compared with 111, age and BMI matched, female healthy controls. HGs was measured with an electronic device, while demographic and clinical characteristics of the subjects were obtained by the Revised version of the Fibromyalgia impact questionnaire (FIQR) and Fibromyalgia Activity Score (FAS). The patient opinion of their symptoms state (PASS) was evaluated as external criterion. The HGs threshold that best discriminates between the presence and absence of FM, as well as between moderate and severe FM, was determined using the receiver operating characteristic (ROC) curves analyses. Multivariate regression procedure was used in order to assess the relative contribution of the covariates on the HGs.

Results: HGs-AUC and peak force levels were lower in patients with FM than healthy women (median 342.7 vs 496.5; and in Kg median was 13.9 vs 19.9, respectively; both at significant level of $p<0.001$) and in women with severe FM compared with those with mild-moderate FM ($p<0.0001$). The time to reach maximum plateau of the curves was significantly higher in patients with FM than healthy women (15.5 vs 11.8 sec; $p>0.001$). ROC analyses revealed that the HGs peak force threshold that best discriminated between the presence and absence of FM was 14.2 kg (AUC 0.801; $p<0.001$), whereas the HGs peak force threshold that best discriminate between PASS was 16.3 kg (AUC 0.834; $p<0.001$). A negative correlation was found between FIQR and FAS scores and peak force, AUC in patients with FM (all at $p<0.001$). Furthermore, a correlation was observed between widespread pain index (WPI) and peak force, AUC (both at $p<0.0001$), and of the time to reach maximum plateau of the curves ($P=0.04$) in patients with

FM. Factors significantly associated with HGs-AUC in multivariate analysis were WPI and FIQR (both at $p<0.001$).

Conclusion: HGs is reduced in woman FM patients and is inversely related to FM severity and symptomatology. The FeT curve gave more information about grip in the FM and could be used as a complementary tool in the assessment and monitoring of FM. Further research on male FM patients is needed to confirm or contrast these findings.

Table 6. Correlations between HGs curve characteristics and questionnaires studied through the Spearman's rho correlation coefficients (rho).

	FIQR	FAS	HGs peak force levels	Time to reach maximum plateau of the curves	HGs-AUC
WPI	0.732 <0.0001	0.823 <0.0001	-0.612 <0.0001	-0.195 0.0415	-0.615 <0.0001
FIQR		0.761 <0.0001	-0.576 <0.0001	-0.054 0.5768	-0.592 <0.0001
FAS			-0.577 <0.0001	-0.167 0.0813	-0.588 <0.0001
HGs peak force levels				-0.151 0.0249	0.991 <0.0001
Time to reach maximum plateau of the curves					-0.135 0.0456

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THU0616-HPR EXPIRATORY FLOW ACCELERATOR (EFA) IN SYSTEMIC SCLEROSIS PATIENTS WITH MUCUS HYPERSECRETION, PRODUCTIVE COUGH AND DYSPNOEA: PRELIMINARY RESULTS FROM A HOME-BASED AIRWAY CLEARANCE TECHNIQUE DAILY PROGRAM

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Background: Systemic sclerosis (SSc) is a chronic disease with frequent lung involvement. As mucociliary clearance is impaired, mucus retention and frequent pulmonary infections, increase morbidity and mortality (1).

Airway clearance techniques (ACT) enhance removal of mucus from the airways. Expiratory flow accelerator (EFA) is a new technology that promotes deep and gentle drainage of the bronchial secretions, through the Venturi effect. No respiratory effort is required and no negative pressure is generated, avoiding risk of bronchial collapse (2).

Objectives: The aim of this study was to describe the effectiveness of EFA in improving pulmonary symptoms in SSc patients.

Methods: SSc patients with daily productive cough, frequent pulmonary exacerbations, exertional dyspnea and/or reduced physical activity were selected. All of them underwent a home-based ACT program with EFA. A Respiratory Physiotherapist (RT) trained each patient to use the device 3 times a day, 15 minutes each session. Every subject compiled the Saint George's Respiratory Questionnaire (SGRQ) and scleroderma Health Assessment Questionnaire (SHAQ) at baseline, 30, 90 and 180 days from the beginning. Statistical analysis has been carried out with General linear model for repeated measures. A value of $p<0.05$ was considered statistically significant.

Results: 8 patients were enrolled (M:F=1:7), median age 54 (IC95% 46-69) years. Interstitial lung disease affected the majority of them (7/8). SGRQ total score and SHAQ domain for respiratory symptoms decreased over time