Background: Dynamic grip endurance in psoriatic arthritis is one of the affected functional parameters during the disease process. However, there are limited studies about dynamic grip endurance related factors.

Objectives: To investigate the relationship between disease activity level and joint position sense and dynamic grip endurance in psoriatic arthritis.

Methods: A total of 27 PsA patients (age:53.33 ±11.85 years, women/men:16/5) who were classified by the Classification Criteria for Psoriatic Arthritis (CASPAR) criteria and followed in outpatient clinic were included in our study. The socio-demographic characteristic of all patients recorded. Disease activity level was assessed with the DAPSA score. Wrist joint position sense was evaluated by a goniometric re-position error test. Grip strength and endurance were examined by a hand dynamometer (Lafayette Professional Hand Dynamometer, USA). Data analysis was performed with Spearman Correlation Coefficient.

Results: Patients’ diagnosis year, tender joint on hand, and swollen joint on hand were 4.50 years, 23, and 18, respectively. DAPSA scores were 28.67 ± 14.85 and moderate-high level. There was no relationship between DAPSA scores and joint position error and dynamic grip endurance on both sides (p>0.05). A moderate level correlation was found between the DAPSA score and grip strength on both sides (p<0.05, r=0.516 and -0.570 dominant and non-dominant side, respectively).

Conclusion: Our study showed that PsA patients had lower grip strength during the exacerbation period. Since joint position sense and grip endurance were low independent of disease activity, they may not be associated with disease activity in this study. We think that in cases where disease activity increases, approaches that protect grip strength can be added to the disease management process.

REFERENCES: NIL.

Acknowledgements: NIL.

Disclose of Interests: None Declared.

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AB1761-HPR  A TELE-MONITORING PROGRAM FOR TIGHT CONTROL OF TREATMENT SAFETY IN PATIENTS WITH RHEUMATIC DISEASES

Keywords: Health Services Research

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Background: Initiation of an immuno-modulatory treatment is a vulnerable part of the patient journey. Distance monitoring via patient reported outcomes (PROs) and wearables are used to assess treatment efficacy. In combination with remote vital sign measurement and tele-nursing, remote care may also increase safety and save resources. However, it is unclear how such telemedicine services integrate into the clinical workflow.

Objectives: Feasibility and User Experience (UX) study of a combined app-based and nurse-assisted tele-monitoring program in rheumatic patients with different risk profiles starting a new biologic treatment.

Methods: In this quantitative and qualitative study, we explored a distance monitoring service including contactless optical vital sign measurement and tele-nursing in ambulatory rheumatic patients in Switzerland. System Usability Scores (SUS) and semi-structured interviews were performed with patients, tele-nurses, and rheumatologists. Patients collected weekly PROs and vital signs via an app (Vtuls, Switzerland) after instruction by tele-nurses. Vital sign deterioration triggered automated notification (categorized in yellow, green, and red) allowing corrective actions. Rheumatologists received monthly summaries of PRO and vital signs in PDF form.

Results: 15 patients with rheumatoid arthritis or spondylarthritides with a mean age of 43.9 years (32-79) were included and monitored up to three months with the app and phone calls of the tele-nurse. 15/15 patients found the program useful, mainly for staying in contact with their rheumatologist after therapy start or switch. 13/15 patients measured their vital signs regularly, the adherence to PRO questionnaires was significantly lower. 6 patients had technical problems with the contactless blood pressure measurement. The app generated in average 1.8 vital sign alarms per patient, of those 7.1 green, 1.1 yellow and 2.2 red alarms. The rheumatologists considered the program as useful, especially in one patient with high-level comorbidity who experienced infection and in another patient after dosing error of the new treatment. The number of consultations (e.g. routine control 1-2 months after starting the new treatment) were significantly lower in the tele-monitoring group in comparison to patients without remote care. PDF reports via email were considered as suboptimal and digital integration into the workflow needs to be implemented in future versions of the care program. Tele-nurses considered patients with high comorbidity, shorter disease duration and younger age as most suitable for remote control. False alarms initially increased the workload of the nurses, but this later reduced through technical advice and adjustment of the threshold levels. SUS scores were slightly higher in patients (median 77/5) compared to tele-nurses (median 77/5). One patient outlier (175) had higher expectations in the responsiveness of tele-nursing, based on entered PROs.

Conclusion: Tight remote control of safety and efficacy through a combined app, biosensor and tele-nursing program was appreciated by all stakeholders, especially in patients with high comorbidity. A better integration of data and communication in the clinical workflow required, ideally through the electronic medical record. A reduced workload in the rheumatology clinic was observed, but a complete reorganization of the processes was necessary.

REFERENCES: NIL.

Acknowledgements: NIL.

Disclosure of Interests: Marco Fedeli: None declared, Jas Saini Shareholder of Board of directors at Vtuls, Henrik Ibсен Shareholder of Board of director Opentelehealth, Miriam James Employee of: Mediservice AG, Thomas Hugel Shareholder of: Scientific board member at Vtuls, Consultant of: GSK, Novartis, Medac., Grant/research support from: Fresenius Kabi, Eli Lilly, Abbvie.

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AB1762-HPR  CAN PATIENT-REPORTED OUTCOMES BE USED TO TRIAGE PATIENTS WITH ANKYLOSING SPONDYLITIS TO MOBILITY MEASUREMENTS OR TESTING OF C-REACTIVE PROTEIN?

Keywords: Spondyloarthritides, Patient reported outcomes, Outcome measures

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Background: Patients with Ankylosing Spondylitis are assessed by healthcare with regular controls of mobility and disease activity. If these controls can be replaced by valid patient-reported index, it would unburden both patients and healthcare.

Objectives: In this study we analysed associations between healthcare measured mobility and disease activity and patient-reported disease activity, physical function and well-being in patients with AS.

Methods: This register-based cross-sectional study used data from 1541 visits (of which 1093 visits were men and 448 women) in the Swedish Rheumatology Quality Register. Variables for healthcare measured spinal mobility and disease activity were Ankylosing Spondylitis Metrology Index (BASMI) and C-Reactive Protein (CRP). Variables for patient-reported disease activity, physical function and well-being were Bath Ankylosing Spondylitis Disease Activity Index (BASDI), Bath Ankylosing Spondylitis Functional Index (BASFI) and Bath Ankylosing Spondylitis Global Score (BAS-G). First, associations were tested with Pearsons correlation. Secondly, discriminative ability to identify subnormal BASMI, or CRP [defined as below the 2.5th percentile of healthy individuals, and >3, respectively [1,2]] was determined by means of receiver operating characteristic (ROC) curve analysis for variables with coefficients r >0.4.

Results: Associations with r >0.4 was found only between BASMI and BASFI (r=0.49), resulting with an area under the curve (AUC) of 0.74 (95% CI: 0.72-0.76) in the ROC analyses. Among the subquestions of BASMI/BASFI, the highest association was seen between measured cervical rotation and the self-assessed ability to look over shoulder (r=-0.69), resulting in AUC of 0.85 (95% CI: 0.83-0.88) in the corresponding ROC analyses, using cervical rotation below 2.5th percentile of healthy individuals as discrimination value.

Conclusion: A significant association with r >0.4 was seen between BASMI and BASFI. The resulting AUC of 0.74 between BASMI and BASFI, and 0.85 between measured cervical rotation and self-assessed ability to look over shoul- der, can be deemed as acceptable and excellent, respectively [3]. BASFI and its sub-questions may therefore be of interest for further evaluation if they could be used for screening and triaging patients to spinal mobility measurements with BASMI. Neither of the self-reported indices associated with CRP to any higher degree (r <0.4).


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Disclosure of Interests: None Declared.

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AB1763-HPR  RELIABILITY AND VALIDITY OF THE TURKISH VERSION OF SCLERODERMA SKIN PATIENT-REPORTED OUTCOME IN PATIENTS WITH SYSTEMIC SCLEROSIS

Keywords: Systemic sclerosis, Patient reported outcomes, Validation

Background: Systemic sclerosis (SSc), which is characterized by fibrosis of the skin and internal organs and vasculopathy, is an autoimmune rheumatic disease. Skin fibrosis is the most seen feature of SSc patients and affects nearly all patients with SSc at different levels and severity. Skin involvement is generally evaluated with the modified Rodnan skin score (mRSS). However, several studies have indicated that there is no relation between mRSS and appearance self-esteem. Based on evidence from previous studies that it is significant to comprehensively evaluate the effects of skin fibrosis on QoL in SSc patients. There is a need for an instrument to assess the effects of skin involvement on the quality of life of the Turkish population in SSc patients.

Objectives: Scleroderma Skin Patient-Reported Outcome (SSPRO) is useful scale to evaluate the skin related quality of life in SSc patients. This study purposed to translate the SSPRO questionnaire to Turkish (SSPRO-T) language and to assess its validity and reliability.

Methods: Fifty-four SSc patients (female: male, 51:3) participated in the reliability and validity analysis. The translation and cross-cultural adaptation of the original version of the SSPRO were applied in accordance with the procedure described by Beaton guidelines. The SSPRO-T, the Scleroderma Health Assessment Questionnaire (SHAQ), the Health Assessment Questionnaire Disability Index (HAQ-DI), Skindex-29 and patient global skin severity were conducted to 54 patients with SSc for construct validity. The SSPRO-T was re-tested to assess its reliability after seven days.

Results: The SSPRO-T had a four-factor structure. The total SSPRO-T score and its subscales correlated positively with SHAQ, HAQ-Di, Skindex-29 and patient global skin severity. The internal consistency and reliability were excellent the SSPRO-T and physical effects subscale, emotional effect subscale, physical limitation subscale and social effect (Cronbach’s α = 0.94, 0.80, 0.95, 0.93 and 0.84, respectively) (Table 1). The SSPRO-T had excellent test-retest reliability (r=0.91, p<0.001). In addition; it was not seen floor effect and ceiling effect related SSPRO-T.

Conclusion: The SSPRO-T questionnaire is an excellent a reliable and valid tool. It could be used in research and clinical studies in the Turkish patients with SSc.

REFERENCES

Table 1. SSPRO-T descriptive statistics, internal consistency and test-retest reliability

<table>
<thead>
<tr>
<th>Scores</th>
<th>Number</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Floor effect (%)</th>
<th>Ceiling effect (%)</th>
<th>Consistency reliability (Cronbach’s α)</th>
<th>Test-retest reliability (ICC 95% CI (Lower-upper bound))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score</td>
<td>18</td>
<td>29.0</td>
<td>0</td>
<td>96</td>
<td>1.85</td>
<td>1.85</td>
<td>0.94</td>
</tr>
<tr>
<td>PE</td>
<td>5</td>
<td>12.0</td>
<td>0</td>
<td>30</td>
<td>1.85</td>
<td>1.85</td>
<td>0.80</td>
</tr>
<tr>
<td>EE</td>
<td>6</td>
<td>5.5</td>
<td>0</td>
<td>36</td>
<td>9.72</td>
<td>1.85</td>
<td>0.95</td>
</tr>
<tr>
<td>PL</td>
<td>4</td>
<td>0.0</td>
<td>0</td>
<td>24</td>
<td>7.56</td>
<td>1.08</td>
<td>0.93</td>
</tr>
<tr>
<td>SE</td>
<td>3</td>
<td>0.0</td>
<td>0</td>
<td>17</td>
<td>16.74</td>
<td>1.85</td>
<td>0.84</td>
</tr>
</tbody>
</table>

SSPRO-T: Scleroderma skin patient-reported outcome Turkish, PE: Physical effects, EE: Emotional effects, PL: Physical limitations, SE: Social effects ICC: Intraclass correlation coefficient, CI: Confidence interval

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Disclosure of Interests: None Declared.

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AB1764-HPR

EXPRESSION OF CYTOKINES RELATED TO "INFLAMMATING" AND ARTERIAL STIFFNESS IN PATIENTS WITH RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS: A GENE ONTOLOGY AND PATHWAY ENRICHMENT ANALYSIS

Keywords: Rheumatoid arthritis, Cytokines and chemokines

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Background: Cardiovascular disease is the leading cause of premature death among patients with rheumatoid arthritis (RA). Inflammatory cytokines play a pivotal role in this process, leading to impaired artery elasticity by priming endothelium and enhancing arterial stiffness.

Objectives: To assess the expression of inflammatory cytokines associated to cardiovascular alterations such as arterial stiffness among patients with RA and osteoarthritis (OA) through Gene Ontology and Pathway Enrichment analysis.

Methods: Inclusion criteria for this analytical cross-sectional study were patients with RA and OA between 40 and 70 years old. Sociodemographic and clinical characteristics as well as inflammatory, metabolic markers, acute phase reactants, autoantibodies were analyzed. Levels of 18 cytokines: including VCAM1 (CD106), ICAM1 (CD54), CCL7 (MARC), MCP1, SPP1 (OPN), PDGF, CXCL10 and inflaming related cytokines: INFγ, IFNG, IL-10, IL-1RA, IL-11, IL-6, TNF-α, MMP1, MMP2, MMP9, TIMP1, TIMP2, were measured using a Lumineux Assay (Invitrogen, Carlsbad, CA, United States). Cardiovascular measurements (including Pulse Wave Velocity -PWV and arterial augmentation index – Aix) were performed within one month after blood sampling using the TensoMed Arteriography. A protein-protein interaction network (PPI) was built using the string App plugin from Cytoscape v3.9.1. Gene Ontology and pathway analysis were carried out using ClueGO (v2.8.9) + Cluepedia (v1.5.9) Cytoscape plugin for the proteins that showed a significant overexpression against GO biological processes, KEGG, and Reactome pathways datasets (Homo sapiens).

Results: A total of 80 patients were included (71.3% women). The average age was 57 years, interquartile range (IQR) 10. OA patients had higher waist circumference, weight, and body mass index values than RA patients. There were no differences in lipid profile or glucose levels. CRP levels were higher in RA patients. Levels of disease activity in RA patients was low according to the measurement of the DAS-28-PCR. 12.5% of patients with RA had polyautoimmunity. There were no significant differences in the measurement of cardiovascular variables between the two groups except for Brachial diastolic blood pressure, which was higher in the RA group (p=0.049). Plasma levels of VCAM1 (CD106), MARC (CCL7: p=0.000), OPN (SPP1: 0.040), IL-1RA; p=0.015) and IL-1β (p=0.031) were significantly higher in the group of RA patients. ICAM1 (CD54), MARC, and INFγ levels were negatively correlated with Aix in the RA group. In the OA group, IL-10 levels positively correlated with Brachial pulse pressure and other central and peripheral pressure measurements (mild or moderate). The merged network between upregulated cytokines (VCAM1, SPP1, PDGF1, IFNG, ICAM1 and CCL7, RA query in DISEASE database and “Arterial stiffness” query (PubMed) resulted in a PPI network with 26 nodes and 88 interactions. (Figure 1.) The nodes with BC above 0.05 (VCAM1, TNF, JAK1, ICAM1, IL-10, CD4, PTKB2, FN1, ITGB1) represents the key genes. Ten GO terms and twelve pathways were significantly enriched (Figure 2.). The principal GO terms were as follows: "membrane to membrane docking" (34% genes), "response to type II interferon" (78.9% genes), and "regulation of lipid biosynthetic process" (5.26% genes). KEGG and REACTOME included: signaling by PDGF (78.9%), integrin cell surface interaction (2.63%), extracellular matrix organization (2.63%).

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Acknowledgements: NIL.