(RMDs) and at optimising the use of nursing competencies [1]. In the Netherlands, these recommendations seem well implemented. There are specialised nurses (SNs); nurses trained at a secondary vocational or Bachelor level, followed by a one-year educational program in rheumatology, and nurse practitioners (NPs), trained on a Master Level. SNs provide information, education and (psychosocial) support, but also monitoring of disease, supervised by a rheumatologist. NPs are trained and legally authorised to provide integral medical (e.g. prescribing) and nursing care independently. Informal discussions among rheumatology nurses suggest a variation in roles, and tasks of SNs and NPs, and of care organisation in rheumatology practices.

Objectives: The objective of this study was to explore current roles and tasks of SNs and NPs, and care organisation in order to visualise potential variation.

Methods: A web-based questionnaire, based on literature [2] and existing task descriptions was disseminated among all members of the Dutch Nurses Association, unit Rheumatology (n=257). The questions were in closed-ended, multiple choice, likert-scales and open-ended format as appropriate. Data were analysed descriptively. Subgroup analyses were carried out for SNs and NPs.

Results: In total 84 nurses, 75 SNs and 9 NPs responded. Characteristics, roles and main tasks are presented in Table 1.The majority of the SNs, 96.4%, and 100% of the NPs work at the outpatient clinic, providing individual face-to-face consultations or telephone support.

Table 1

	SN (n=75)	NP (n=9)
Age, mean years (sd)	47.6 (9.5)	46.7 (10.2)
Female (%)	98.7	88.9
Appointed, mean hours/week (sd)	24.8 (6.0)	33.1 (4.1)
Days/week, median (IQR)	3 (3.4)	4 (4,4)
Role (%)		
SN	85.3	33.3
NP	0	55.6
Other (e.g.combination with research or infusion)	14.7	11.1
Tasks (% always/often)		
Information and education about disease	89.3	100
Information and education about treatment	90.7	88.9
Metrology	78.7	100
Joint examinations 57.3	100	
Make diagnosis new patients	1.3	22.2
Manage patients with RMDs	54.6	88.9
Administrate medication	45.4	22.2
Give intra-articular injections	1.3	22.2
Independent prescribing	2.7	77.8
Screen for comorbidities	29.3	44.4
Manage patients on biologic therapy	54.7	100
Provide psychosocial support	82.7	77.8
Refer to other health professionals	58.7	77.8
Monitor patients on DMARD	70.7	88.9
Self-management support	77.3	33.3
Time for consultations, median (IQR) minutes		
New patient (diagnosing)	27.5 (0,30)	42.5 (32.5, 45)
Newly diagnosed patients	45 (30,60)	30 (17.5, 60)
Follow-up patients	30 (20,30)	17.5 (15, 20)

Conclusions: Differences in roles, tasks and available time for consultations visualise variation in care organisation and in the content of rheumatology nursing care, also within the SN and NP group respectively. Further research on these differences is necessary but they show inequity of care for people with RMDs in the Netherlands and also suggests suboptimal use of nursing competencies.

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

FRI0732-HPR THE PSS-QOL: DEVELOPMENT AND FIRST PSYCHOMETRIC TESTING OF A NEW PATIENT-REPORTED OUTCOME MEASURE FOR PSS PATIENTS

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Background: Patients with primary Sjögren Syndrome (PSS) are affected by glandular and extraglandular manifestations leading to physical and psychological impairment. To what extent these factors affect the health related quality of life (HRQL) of these patients is largely unexplored. Disease activity scores for PSS have been developed but there is no disease-specific HRQL questionnaire available so far.

Objectives: To develop a questionnaire for the assessment of HRQL in PSS.

Methods: In a previous qualitative study, concepts related to HRQL in PSS were identified by focus-group interviews with PSS patients. Based on these concepts, a questionnaire (PSS-QoL) was developed focusing on two main topics: physical (pain and dryness) and psychosocial dimension. The first draft of this questionnaire was evaluated by semi-structured interviews with PSS patients (n=6) and rheumatologists (n=4). Based on their feedback, a revised questionnaire was constructed and re-evaluated by the patients and physicians. Subsequently, psychometric testing of PSS-QoL was performed in 75 PSS patients of the outpatient clinic of the Medical University Graz. For testing of internal consistency Crohnbach's α was used. Convergent construct validity was tested by correlating the scores with the ESSPRI and the EQ-5D. Reliability was examined by asking patients who considered themselves to be in a stable disease to complete the questionnaire 1–2 weeks apart. In addition, an English version of PSS-QoL was was developed using a standard methodology for translation.

Results: Out of the 75 PSS patients, 91% were female, disease duration was 4.8±4.08 years and age of patients was 58.5±12.5 years.The internal consistency of the PSS-QoL showed a Crohnbach's α of 0.892 and we found a moderate correlation of the PSS-QoL with the ESSPRI ($Corr_{coeff}$=0.625) and the EQ-5D (EQ5D-pain/discomfort; $corr_{coeff}$=0.531). A second assessment was performed after 1–2 weeks in 21 patients with stable disease. The ICC for PSS-QoL was 0.958 (95% CI 0.926 to 0.981). In comparison, the ICC for EQ-5D in this population was 0.854 (95% CI 0.735 to 0.933). Subsequently, the final German version of PSS-QoL was translated forward and back into English by native speakers.

Conclusions: A questionnaire to assess the HRQL in PSS patients has been developed and tested for its psychometric properties. The PSS-QoL should allow for a better and more comprehensive assessment on patients' HRQL in PSS. Multicentre studies for further validation are needed.

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FRI0733-HPR THE EDUCATIONAL NEEDS OF PATIENTS WITH UNDIFFERENTIATED SPONDYLOARTHRITIS

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Background: The educational needs of people with undifferentiated spondyloarthritis (USpA) have not been well studied. The educational needs assessment tool (ENAT) has been translated into Swedish and validated in other rheumatic diseases but not USpA.[1]

Objectives: To validate the educational needs assessment tool (ENAT) in people with USpA and use it to study their educational needs.

Methods: A cross-sectional study recruiting a random sample of patients with USpA from a hospital register. USpA was diagnosed according to the International Classification of Disease, ICD-10 (M46.0, M46.1, M46.8, and M46.9).[1] The study was approved by the Regional Ethics Board and all included patients signed an informed consent. We used a postal survey to collect data on disease activity (BASDAI) and educational needs (Swedish version of the ENAT).[2] The data was then utilized to assess the construct validity, internal consistency, unidimensionality and response bias of the ENAT using Rash analysis. Given fit to the Rasch model, we transformed the ENAT ordinal scores into interval logit-based scores before deploying descriptive and inferential statistics. Total ENAT Score ranges between 0 (no needs) and 156 (the highest level of needs), and comprises seven subscales (pain 0–24, movement 0–20, feelings 0–16, disease 0–28, treatments 0–28, self-help 0–24 and support 0–16). Finally, we categorised the data by gender, age (median split) and disease activity (BASDAI split at 4) and assessed differences between patient subgroups using the student's t-test.

Results: Complete responses were derived from 77 patients (48 women), mean (SD) age 50 (12) years, disease duration was 16 (11) years, BASDAI 4.9 (1.9) and BASFI 3.1 (2.3). When used as a 7-subscale questionnaire, the ENAT satisfied the requirements of Rasch model (c^2=11.488; p=0.119) including strict unidimensionality.

Overall, the mean (SD) ENAT scores for patients with USpA was 86 (32). Women reported higher needs than men in the domains of pain, mean (SD) 13.1 (6.8) vs. 10.1 (6.0), p=0.05; movement mean (SD) 13.0 (5.5) vs. 9.9 (5.7), p=0.02 and self-help, mean (SD) 17.0 (5.8) vs. 14.1 (5.0), p=0.03). Higher disease activity (BASDAI >4) was associated with higher educational needs, mean (SD) 92.6 (31.9) vs. 73.7 (29.4), p=0.02. There was no significant difference in educational needs between age groups.

Conclusions: The Swedish ENAT has been validated in USpA thus enabling an accurate estimation of the educational needs of people with USpA in Sweden.

Our data suggest that women and patients with higher disease activity are likely to have high levels of educational needs and these groups should be targeted in educational interventions for people with USpA.

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FRI0734-HPR EFFECTS OF VIRTUAL REHABILITATION ON SHOULDER PERIARTHRITIS

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Background: The virtual rehabilitation (Nintendo Wii) program works with a 3-dimensional, computer-assisted, virtual reality creation system.The system creates a mirror effect and provides the smoothness of the movement of the adult. It keeps visual and sensory feedback during exercise.The avatar that appears on the screen detects motion and displays the result thanks to the control commander. The use of virtual reality practice in the exercise program is a new way of improving participation and motivation of participants.
Objectives: The aim our study is to investigate the effect of virtual rehabilitation on kinesophobia and clinical fragility in patients with shoulder periathritis.
Methods: Fifteen cases diagnosed with shoulder periarthritis were included in the study. In our study, we used Tampa Kinesophobia Scale for kinesophobia, VAS for pain severity, manual muscle test for muscle strength and goniometer for ROM. In addition to Clinical fragility Scale for fragility and 4-item Quality of Life Questionnaire were used to assess quality of life. Finally, Shoulder Pain and Disability Index (SPADI) was used for shoulder disability. Eight of 15 patients were included in the control group (CG) and 7 in the virtual rehabilitation group (VRG). Both groups were treated with Therapeutic US, TENS and Cold Pack. In addition to these, the control group consisted of 15 sessions of active stretching and strengthening exercises for 20 minutes each session; the VRG was given a total of 15 sessions of the virtual rehabilitation program for 45 minutes each session, with 3 sessions per week. Intra-group pretreatment and post-treatment differences were analyzed by Wilcoxon test, and inter-group comparisons were analyzed by Mann-Whitney U test.
Results: Statistically significant reductions in Frajilite, Kinesophobia, SPADI and VAS values were observed in the VRG analyzes; A statistically significant increase in the 4-item quality of life questionnaire, range of motion and muscle strength values was assessed ($p<0.05$). In the CG, there was a statistically significant decrease in kinesophobia, VAS and SPADI values; There was a statistically significant increase in joint range of motion and muscle strength evaluations ($p<0,05$). There was no statistically significant difference in the fragility evaluation of the CG ($p>0,05$).
Fragility and kinesophobia decreased in both groups after treatment compared to before treatment, but this decrease was found to be higher in VRG ($p<0.05$).
Conclusions: As a result of our study, virtual rehabilitation in the treatment of kinesophobia and fragility in shoulder periarthritis patients was game-focused and it was found to be an effective method for increasing participation and biofeedback. Virtual rehabilitation was considered as an alternative to conventional physiotherapy and rehabilitation programs.

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FRI0735-HPR ANALYSIS OF LEFT VENTRICULAR FUNCTION WITH ECHOCARDIOGRAM IN PATIENTS WITH PSORIATIC ARTHRITIS AND NOT DIAGNOSED CARDIOVASCULAR DISEASE

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Background: It is known that some rheumatologic disorders may affect the cardiovascular system. In the last years, psoriatic arthritis (PsA) has been pointed out as one of those.
Objectives: The aim of this study was to analyze if there was any subclinical dysfunction sign in patients with PsA of whom no cardiovascular disease had been diagnosed.
Methods: Forty three patients with PsA were studied. A comprehensive echocardiogram was performed. Variables recorded for each patient were: left ventricular (LV) dimensions, LV and right ventricular (RV) systolic function, valve morphology and function, LV diastolic function assessment, and longitudinal strain (LS) assessment with speckle tracking imaging. Information on age, sex, cardiovascular risk factors (hypertension, diabetes, dyslipemia, renal disease and smoking), and evolution time of PsA was also recorded. An electrocardiogram was also carried out for each patient.
Results: There were 23 men and 20 women. The mean age was 52±12 years old. The PsA mean evolution time was 6.8±5.3 years. Most of patients had at least one cardiovascular risk factor. All patients were in synusal rhythm. The LV end-diastolic diameter and ejection fraction, left atrium, and RV function were within normal limits. Men had overall a thicker interventricular septum (12±1.7 mm) when compared to women (9.7±1.6mm). 86% patients had a normal mitral valve function, as so 91% with aortic valve. None of them had findings suggesting pulmonary hypertension, or pericardial effusion. The diastolic function assessment in the general population revealed normal average of septal and lateral A' and S waves peak velocities, and E/E' ratio. Men had lower septal E' and S waves values and higher septal A' wave velocity. Nearly 50% of patients had a low septal E' or lateral E' wave peak velocity. 13 patients (30%) had impaired both septal E' and lateral E' waves, who were older and mainly men. The strain analysis showed an average of global LS - 17.9%±3%, two-chambers general LS -17.2%±5%, three-chambers general LS -19%±5.2%, and four-chambers general LS -17.3%±3.5%; without any significant difference between sex. 26 patients (60.5%) had global LS above normal limits; these were younger and with less PsA evolution time. Longitudinal strain values tended to be less negative at the basal level.
Conclusions: Half of the patients with PsA were found to have some feature of diastolic dysfunction and more than the half of them had a slightly impaired global longitudinal strain value. Further studies could be of value to determine whether these findings would have a specific impact on the follow-up in this kind of patients.

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FRI0736-HPR VALIDITY AND RELIABILITY OF PERFORMANCE TESTS ASSESSING BALANCE AND FALL RISK IN PATIENTS WITH TOTAL KNEE ARTHROPLASTY

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Background: Total knee arthroplasty (TKA) is a common surgical intervention that is performed with an aim to treat severe osteoarthritis (OA) of knee. Even though there is a rapid improvement in knee pain, functional improvement is limited in the following year after the surgery. Increased fall risk due to impairments in balance is one of the most common limitations after TKA. Therefore, balance and fall risk evaluation is an essential part of the assessment.
Objectives: The aim of this study was to determine the validity and reliability of various performance tests that are used for evaluating balance and fall risk in patients with TKA.
Methods: This study included 32 OA patients (27 F, 5 M) who undergone TKA surgery 6 months prior to the study. Mean age and BMI of the patients were 64±10,58 and 30,49±5,87, respectively. Participants performed the Timed Up and Go Test (TUG), 10 Meter Walk Test (10MWT), Single Leg Stance Test (SLST), Functional Reach Test (FRT), 2 Minute Walk Test (2MWT), Five Times Sit to Stand Test (5x SST) as performance tests. Each of the tests was performed twice, with a

Table 1. Test-Retest Reliability analysis of the performance tests

	Day 1 Mean (SD)	Day 2 Mean (SD)	ICC (95% CI)	SEM	MDC_{95}
TUG (sec)	10.67±4.53	10.61±5.05	0.95 (0.90–0.97)	1.01	2.79
10 MWT (sec)	9.89±3.37	9.72±3.03	0.97 (0.94–0.98)	0.58	1.6
SLST (sec)	14.96±14.90	18.97±19.15	0.74 (0.48–0.87)	7.59	21.02
FRT (cm)	26.19±7.33	26.60±6.63	0.94 (0.88–0.97)	1.79	4.95
2 MWT (m)	145.25±37.63	145.32±38.06	0.98 (0.96—0.99)	5.32	14.73
5x SST (sec)	13.54±6.26	13.04±5.03	0.96 (0.91–0.98)	1.25	3.46

Unit: Mean ± SD, ICC: Intraclass Correlation Coefficient CI: Confidence Interval, SEM: Standard Error of Measurement, MDC: Minimal Detectable Change at 95% Confidence Interval, sec: seconds, cm: Centimeters, m: meters, TUG: Timed Up and Go Test, 10 MWT: 10 Meter Walk Test, SLST: Single Leg Stance Test, FRT: Functional Reach Test, 2 MWT: 2 Minute Walk Test, 5x SST: Five Times Sit to Stand Test.

Table 2. Concurrent Validity of Performance Tests

	r value	*p**
TUG (sec)	-0.713	$p<0.01$
10 MWT (sec)	-0.736	$p<0.01$
SLST (sec)	0.754	$p<0.01$
FRT (cm)	0.695	$p<0.01$
2 MWT (m)	0.792	$p<0.01$
5x SST (sec)	-0.766	$p<0.01$

*Spearman Correlation Test; sec: seconds, cm: Centimeters, m: meters, TUG: Timed Up and Go Test, 10 MWT: 10 Meter Walk Test, SLST: Single Leg Stance Test, FRT: Functional Reach Test, 2 MWT: 2 Minute Walk Test, 5x SST: Five Times Sit to Stand Test.