

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.

References:

- [1] Classification of diseases, WHO, <http://www.who.int/classifications/icd/en/> accessed 170103.
- [2] Ndosi M, Bremander A, Hamnes B, et al. Validation of the Educational Needs Assessment Tool as a Generic Instrument for Rheumatic Diseases in 7 European Countries. *Ann Rheum Dis* 2014;73:2122–2129.

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FRI0734-HPR EFFECTS OF VIRTUAL REHABILITATION ON SHOULDER PERIARTHRITIS

B. Kapsigay¹, Z. Sari¹, B. Kavlak¹, I. Aras², A. Tanhan¹. ¹Physiotherapy and Rehabilitation, Marmara University Health Science Institute; ²Physiotherapy and Rehabilitation, Special Kızılay Medical Center, Istanbul, Turkey

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 of our study is to investigate the effect of virtual rehabilitation on kinesophobia and clinical fragility in patients with shoulder periarthritis.

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 Frailite, 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.

References:

- [1] Cherniack EP, Florez HJ, Troen BR. Emerging therapies to treat frailty syndrome in the elderly. *Altern Med Rev* 2007;12:246–58.
- [2] Topinková E. Aging, disability and frailty. *Ann Nutr Metab* 2008;52:6–11.
- [3] Bal, A. Ekşioğlu, E. Gürçay, E. Karahmet, Ö. Küçük, S. ve Çakıcı, A. (2008). Subakromiyal sıkışma sendromlu hastalarda omuz dizabilitesinde etkili faktörlerin değerlendirilmesi. *Türkiye Klinikleri Journal of Medical Sciences*, 28, 468–472.

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

P. Egea-Serrano¹, A.C. Haro-Martínez², A. Vidal¹, D. Palma-Sánchez².

¹Cardiology; ²Rheumatology, Hospital Rafael Mendez, Lorca, Spain

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 echocar-

diogram 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 sinus 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 ± 1.6 mm). 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 - $17.9 \pm 3\%$, two-chambers general LS - $17.2 \pm 5\%$, three-chambers general LS - $19 \pm 5.2\%$, and four-chambers general LS - $17.3 \pm 3.5\%$; 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

D.C. Sarac¹, B. Unver², S. Cekmece², V. Karatosun³. ¹Division of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Izmir Katip Celebi University; ²School of Physiotherapy and Rehabilitation; ³School of Medicine, Department of Orthopaedics, Dokuz Eylül University, Izmir, Turkey

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.