upper limbs for many weeks results in changes in both the peripheral musculature and the central nervous system. It is well known that common complaints after upper limb fractures include weakness, pain, and stiffness; therefore, pain management is important in the early stages of the rehabilitation of upper limb fractures.

Objectives: This pilot study aimed to investigate the efficacy of graded motor imagery (GMI) on pain, range of motion (ROM), and function in patients with posttraumatic stiff elbow.

Methods: Fourteen patients with posttraumatic stiff elbow (6 women, mean age: 45.42 ± 11.26 years, mean body mass index: 24.29 ± 3.38 kg/m² and mean duration of immobilization: 4.75 ± 1.03 weeks) were randomly allocated to either GMI or control groups. The GMI group received GMI treatment in addition to a structured exercise program, and the control group received a structured exercise program (two days per week for six weeks) (Figure 1). The assessments included pain at rest and during activity using the visual analog scale (VAS), elbow active ROM with a digital goniometer (Baseline Evaluation Instrument, Fabrication Enterprises, Inc., White Plains, NY), and upper extremity functional status using the Disability of the Arm, Shoulder and Hand Questionnaire (DASH). The assessments were performed at baseline and after the 6-week intervention.

Figure 1. Graded motor imagery performed with mirror box

Results: After the 6-week intervention, there was a significant increase in elbow flexion-extension ROM and supination-pronation ROM, and improvement in DASH score in both groups ($p < 0.05$). However, improvement in VAS-rest and VAS-activity was significantly higher in the GMI group than the control group ($p = 0.03$ and $p = 0.01$, respectively).

Conclusion: A conservative treatment program consisting of GMI treatment in addition to a structured exercise program applied twice a week for 6 weeks, has been found more effective in decreasing pain in the posttraumatic stiff elbow. It could be concluded that GMI is an effective treatment method for elbow fracture in patients with predominant elbow pain.

References:

- [1] Harris JE, Hebert A. Utilization of motor imagery in upper limb rehabilitation: a systematic scoping review. *Clin Rehab*. 2015;29(11):1092-1107.
- [2] Opie GM, Evans A, Ridding MC, Semmler JG. Short-term immobilization influences use-dependent cortical plasticity and fine motor performance. *Neuroscience*. 2016;330:247-256.
- [3] Birinci T, Razak Ozdinler A, Altun S, Kural C. A structured exercise programme combined with proprioceptive neuromuscular facilitation stretching or static stretching in posttraumatic stiffness of the elbow: a randomized controlled trial. *Clin Rehab*. 2019;33(2):241-252.

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FRI0618-HPR

EFFECTS OF MUSIC THERAPY ON PAIN, ANXIETY, AND VITAL SIGNS IN CHRONIC INFLAMMATORY RHEUMATIC DISEASES PATIENTS DURING BIOLOGICAL DRUGS INFUSION

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Background: Music therapy is based on ancient cross-cultural beliefs that music can have a "healing" effect on mind and body. Research determined that listening to music can increase comfort and relaxation, relieve pain, lower distress, reduce anxiety, improve positive emotions and mood, and decrease psychological symptoms. Music therapy has been used greatly in various medical procedures to reduce associated anxiety and pain. Patients have a high level of anxiety when they are in the hospital, this is the case of patients with rheumatic diseases who consult regularly to have intravenous infusion of biological therapies.

Objectives: The purpose of this study was to examine the effectiveness of music therapy on pain, anxiety, and vital signs among patients with chronic inflammatory rheumatic diseases during intravenous infusion of biological drugs.

Methods: Fifty patients were divided into two groups: The experimental group G1 ($n=25$) received drug infusion while listening to soft music (30 minutes); and the control group G2 ($n=25$) received only drug infusion. Measures include pain, anxiety, vital signs (blood pressure, heart rate and respiratory rate). The pain was measured using visual analogic scale (VAS). The state-trait anxiety inventory (STAI) was used for measuring anxiety, low anxiety ranges from 20 to 39, the moderate anxiety ranges from 40 to 59, and high anxiety ranges from 60 to 80. Vital signs (systolic blood pressure [SBP], diastolic blood pressure [DBP], heart rate [HR], and respiratory rate [RR]) were measured before, during and immediately after the infusion. Statistical package for social sciences (SPSS) was used for analysis.

Results: The mean age in G1 was 44.45 years (26-72) with a sex ratio (M/F) of 0.8. Including the 25 patients, 12 had rheumatoid arthritis, 10 had ankylosing spondylitis and 3 had psoriatic arthritis. The mean disease duration was 8 years. In G2, the mean age was 46 years (25-70) with a sex ratio (M/F) of 0.75, 12 had rheumatoid arthritis, 11 had ankylosing spondylitis and 2 had psoriatic arthritis. The mean disease duration was 7.5 years. The biological drugs used were: Infliximab in 30 cases, Tocilizumab in 12 cases and Rituximab in 8 cases.

Before the infusion, the patients of experimental group had a mean VAS of $5/10 \pm 3$, a mean STAI of 50.62 ± 6.01 , a mean SBP of 13.6 cmHg ± 1.4 , a mean DBP of 8.6 cmHg ± 1 , a mean HR of 85 ± 10 and a mean RR of 18 ± 3 . While in control group the mean VAS was 5.5 ± 2 , the mean STAI was 50.89 ± 5.5 , the mean SBP was 13.4 ± 1.2 , the mean DBP was 8.8 ± 1.1 , the mean HR was 82 ± 8 and the mean RR was 19 ± 2 . During the infusion and after music intervention in G1, the mean STAI became 38.35 ± 5 in G1 versus 46.7 ± 5.2 in G2 (p value = 0.022), the mean SBP became 12.1 ± 0.5 in G1 versus 13 ± 1 in G2 ($p = 0.035$), the mean DBP became 8.1 ± 0.8 in G1 versus 8.4 ± 0.9 in G2 ($p = 0.4$), the mean HR became 76 ± 9 in G1 versus 78 ± 7 in G2 ($p = 0.04$) and the mean RR became 17.3 ± 2.1 in G1 versus 18.2 ± 1.7 in G2 ($p = 0.39$). This study found a statistically significant decrease in anxiety, systolic blood pressure and heart rate in patients receiving music interventions during biological therapies infusion, but no significant difference were identified in diastolic blood pressure and respiratory rate.

Conclusion: The findings provide further evidence to support the use of music therapy to reduce anxiety, and lower systolic blood pressure and heart rate in patients with rheumatic disease during biological therapies infusion.

References:

- [1] Lin, C., Hwang, S., Jiang, P., & Hsiung, N. (2019). *Effect of Music Therapy on Pain After Orthopedic Surgery -A Systematic review and Meta-Analysis. Pain Practice.*

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FRI0619-HPR

INVESTIGATION OF THE RELATIONSHIP BETWEEN BIOPSYCHOSOCIAL STATUS AND QUALITY OF LIFE, EMOTION - STATUS AND FUNCTIONALITY IN INDIVIDUALS WITH PSORIATIC ARTHRITIS.

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Background: Due to the chronic processes of rheumatological diseases, patients' biopsychosocial effects are revealed.

Objectives: The aim of this study is to evaluate the biopsychosocial status of individuals diagnosed with psoriatic arthritis; to examine the relationship between quality of life, emotion - status and functionality.

Methods: 105 individuals were included in the study. To evaluate the biopsychosocial situation, BETY-BQ (Bilişsel Egzersiz Terapi Yaklaşımı – Biopsychosocial Questionnaire)(1); Psoriatic Arthritis Quality of Life (PsAQoL) Scale to assess quality of life; For the emotion-status assessment; Hospital Anxiety and Depression Scale (HADS-A, HADS-D); Health Assessment Questionnaire (HAQ) was used for functionality. Pearson Correlation Analysis was used in statistical analysis.

Results: Descriptive data of the individuals participating in the study were recorded (Table 1). While BETY-BQ was highly correlated with PsAQoL Scale ($r = 0.826$,

$p < 0.001$), moderate correlations were found with HADS-A and HADS-D (HADS-A ($r = 0.618$, $p < 0.001$), HADS-D ($r = 0.507$, $p < 0.001$)). Low correlation was found between BETY-BQ and HAQ ($r = 0.286$, $p = 0.003$) (Table 2).

Table 1. Descriptive Statistics

	Minimum	Maximum	Mean	Standard Deviation
Age (years)	20	60	44.98	11.04
Height (cm)	145.00	190.00	165.61	8.88
Weight (kg)	44	138	75.54	17.36
VKI (kg/m^2)	17.85	49.00	27.54	6.02

Table 2.

	PsAQoL	HADS-A	HADS-D	HAQ
BETY-BQ	$r = 0.826^{**}$ $p < 0.001$	$r = 0.618^{**}$ $p < 0.001$	$r = 0.507^{**}$ $p < 0.001$	$r = 0.286^{**}$ $p = 0.003$

** Correlation is significant at the 0.01 level (2-tailed)

Conclusion: In this study, it was found that BETY-BQ is a scale that can be used in total to evaluate the quality of life, emotion-status level and functionality of individuals diagnosed with PsA. It was thought that BETY-BQ could be considered and preferred by clinicians when individuals with PsA should be evaluated from a biopsychosocial point of view.

References:

- Unal E, Arin G, Karaca Nb, Kiraz S, Akdogan A, Kalyoncu U, et al. Development of a quality of life measurement for rheumatic patients: item pool construction Journal of Exercise Therapy and Rehabilitation. 2017; 4 (2): 67-75.

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FRI0620-HPR THE EFFECT OF THERMOFORMABLE FOOT ORTHOSES ON WALKING IN RHEUMATOID ARTHRITIS PATIENTS: PRELIMINARY RESULTS FROM AN OPEN CLINICAL TRIAL

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Background: Foot pain is common in rheumatoid arthritis and appears to persist despite modern day medical management.

Objectives: To evaluate the impact of thermoformable foot orthoses on walking in rheumatoid arthritis (RA) patients.

Methods: This is an open clinical trial, that included 14 consecutive patients (85.7% female, mean age 54.8 ± 10 years) with RA (median duration of progression of 9 [5-12] years), the average DAS28 was 2.7 ± 1.2 and the functional impact objectified by the Health Assessment Questionnaire (HAQ) was on average 0.9 ± 0.7 . The foot problem was bilateral in 100% and inaugural in 85.7% of the cases.

The 14 rheumatoid subjects were examined and appropriate foot orthoses were prescribed according to each patient's needs. All the patients were evaluated at baseline and 8 weeks after use of orthoses. Gait pain, difficulty walking and the 10 Meter Walk test were noted at each appointment.

We used dynamic baropodometric analysis to assess postural evaluation. We calculated the lateral-medial index of each foot before and after the use of orthoses.

Table 1. Assessment of walking before and after the use of orthoses

	Before orthoses	After orthoses	p
Pain when walking* (EVA 0-10)	5 [3-5,2]	0 [0-2]	0,002
Difficulty walking* (0-10)			
- In house	4 [3-5,2]	2 [0-2]	0,002
- Outside	6 [4,7-7]	2 [1,5-2,5]	0,02
10 Meter Walk test** (Normal comfortable speed)			
- Number of steps	18,64 $\pm$ 3,7	16,9 $\pm$ 5	0,2
- Duration (sec)	11,9 $\pm$ 4,6	11,8 $\pm$ 5,2	0,9
- Walking speed (m/min)	56,4 $\pm$ 17,7	58,6 $\pm$ 20,3	0,6
latero-medial (L/M) index**			
- L/M index of the right foot	1,18 $\pm$ 0,17	1,23 $\pm$ 0,23	0,1
- L/M index of the left foot	1,25 $\pm$ 0,17	1,26 $\pm$ 0,19	0,9

*median and quartile

**average and standard deviation

p significant if $< 0,05$

Results: A significant decrease in walking pain ($p = 0.002$) and difficulty walking ($p = 0.02$) was found with the use of orthoses. The variations in 10 meter walk test and dynamic baropodometric parameters were not significant ($p > 0,05$).

There were no significant correlations between pain and difficulty walking, the progression of RA, the duration of foot damage and the functional impact measured by the HAQ.

Conclusion: Thermoformable foot orthoses significantly reduced pain and difficulty walking. The absence of factors associated with pain and difficulty walking could possibly be related to the small sample size.

Disclosure of Interests: None declared

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FRI0621-HPR CHANGES IN LOCUS OF CONTROL LEVEL IN PATIENTS WITH RHEUMATOID ARTHRITIS AFTER THE COURSE OF BIOFEEDBACK TRAINING

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Background:

Objectives: Our aim was to study the effect of biofeedback (BFB) training on the locus of control in patients suffering from rheumatoid arthritis (RA), and to justify the use of this method in the complex treatment of the disease.

Methods: 40 RA patients hospitalized in the rheumatology department were examined. The average age of patients was 48.6 ± 7.73 years (from 30 to 70 years), women accounted for the majority = 26 (86%), the average duration of the disease was 12 ± 3.44 years. We use J. Rotter's Locus of Control Scale in E.F.Bazhin adaptation. RA patients were divided into two groups: the main (20 patients) and control (20 patients). Patients of the main group received complex therapy with 12 sessions of BFB training, mainly based on the parameters of the brain's electrical activity — EEG relaxation using the Reakor™ psychophysiological rehabilitation complex manufactured by Medicom MTD (Taganrog).

Results: We revealed externality in RA patients in the general field (3.03 ± 0.3), as well as in the field of relation to the disease (3.86 ± 0.23) and in the field of production relations (3.43 ± 0.25). After BFB trainings, an increase in internality was observed on the scales of the general sphere ($p < 0.05$) and attitude to the disease ($p < 0.01$) in patients of the main group. In the group of patients receiving conventional treatment, the dynamics of the results was unreliable.

Conclusion: It should be noted that the locus of control (or subjective control) is a quality that characterizes a person's tendency to attribute responsibility for the results of his activity to external forces, or to his own abilities and efforts. Externality is manifested when people prefer to shift responsibility for important events of their life to external circumstances, and external forces (bosses, colleagues, etc.). In the field of attitude to the disease, externality is manifested when patient behaves passively, and believes that he cannot influence the course of the disease in any way, shifting all responsibility for the treatment results to medical staff, which can lead to non-compliance with the treatment regimen and an increase in the level of anxiety and depression, decreased self-esteem. The onset of the disease and its associated social consequences (disability, loss of social roles, etc.) can cause a negative mental state of learned helplessness. Learned helplessness is defined as a condition that occurs as a result of uncontrolled, mainly negative events, which manifests itself in violations of emotional, motivational and cognitive processes. In other words, RA patient suffering from this condition expects treatment failures and reduces control over compliance with the treatment regimen. BFB therapy can be used in order to correct and prevent the state of learned helplessness by increasing the level of internality.

It is assumed that increasing internality in the BFB process is associated with teaching the patient the skills of self-regulation of physiological processes. The mechanisms of BFB therapeutic effect are not only changes in physiological parameters (improvement of cerebral and peripheral blood flow, muscle relaxation, and improvement of sleep) but also in a shift in the locus of control from external to internal, which can increase compliance, reduce neurotic complaints, mobilize volitional potential and improve patient self-esteem.

As a result of BFB course, an increase in the internality was noted in patients on the scales of the general sphere and the sphere of attitude to the disease. It is advisable to use the BFB to increase the compliance and effectiveness of complex treatment of RA patients.

Disclosure of Interests: None declared

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FRI0622-HPR IMPACT OF A PHARMACIST'S INTERVENTION ON THE KNOWLEDGE OF BIOLOGICS AND ADHERENCE IN PATIENTS WITH SPONDYLOARTHRITIS: A RANDOMIZED, OPEN-LABEL, CONTROLLED TRIAL

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