parameters and pain were carried out in two sessions, standard shoe only and standard shoe with flat cushioning. In both sessions, all participants performed the 10-metre walking test in two walking conditions: normal walking (PW), walking at maximum speed (MAXW). The order of sessions and walking conditions were randomised. Plantar pressure parameters were assessed using pressure sensitive insoles and spatiotemporal parameters were assessed using video analysis method involving slow motion camera (120fps). Pain severity was assessed using Visual Analogue Scale at the beginning of both sessions and immediately following the end of the walking conditions in individuals with CINP. Paired sample t-test was used to determine the effects of flat cushioning insole on gait parameters for both groups and on neck pain for the only neck pain group.

Results: Our findings indicated that the flat cushioning insole results in a decrease in the maximum force, peak pressure, force-time integral, pressure-time integral and an increase in the contact area in both groups ($p<0.05$). In individuals with CINP, flat cushioning insole increased walking speed and step length in both walking conditions ($p<0.05$), however, it had no impact on cadence ($p>0.05$). Flat cushioning insole reduced the severity of neck pain during MAXW ($p<0.05$), but there was no difference in neck pain at beginning of both sessions and during PW conditions ($p>0.05$). In healthy individuals, no difference was found in spatiotemporal gait parameters between two sessions ($p>0.05$).

Conclusions: The study suggested that the flat cushioning insole reduces neck pain severity during walking and has positive effects on gait parameters in individuals with CINP. Flat cushioning insole may be used to decrease neck pain during walking and improve spatiotemporal gait parameters in individuals with CINP.

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AB1436-HPR COMPARISON OF PHYSIOTHERAPY GAINS OF THE PATIENTS WITH AND WITHOUT OSTEOPENIA IN DISTAL RADIUS FRACTURES

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Background: It is known that osteopenia was correlated with severity of forearm fractures.[1] Since there is an increased risk of long-term impairment due to the involvement of wrist joint after distal radius fractures, physiotherapy is an integral component of the complete concept for the treatment.[2, 3] However, there are no recommendations supported by studies regarding which patients might possibly benefit more or less from physiotherapy.[4]

Objectives: The aim of this study was to compare physiotherapy gains of the patients with and without osteopenia in distal radius fractures.

Methods: 31 patients (13 with normal bone quality, 18 osteopenic) surgically treated with volar plating after distal radius fracture were included. Bone mineral density (BMD) was assessed by using Dual-energy X-ray absorptiometry (DEXA). A BMD T-Spine value higher than −1 were considered as normal bone quality and the value between −1 and −2.5 were considered as osteopenia. A physiotherapy program, beginning at first day postoperatively, was applied for all patients, twice a week, through 12 weeks. Wrist and forearm range of motions (wrist flexion, wrist extension, ulnar deviation, radial deviation, forearm supination, forearm pronation), severity of pain, oedema and grip strength were assessed at 3rd week and 12th week postoperatively after ending of physiotherapy program. Physiotherapy gains of patients with normal bone quality (group 1, n=13) and patients with osteopenia (group 2, n=18) were compared.

Results: Median (min-max) BMD-T spine value was −0.3 (−0.7–1.0) for group 1 and −1.75 (−1.3 – −2.3) for group 2. At baseline, there were no statistically significant differences between groups in terms of evaluated parameters ($p>0.05$). In-group analyses showed that all evaluated parameters except forearm pronation were significantly improved in both groups ($p<0.05$). Changes of the measurements in both groups were similar and no significant differences were found in between-group analyses ($p>0.05$).

Conclusions: Physiotherapy gains of osteopenic patients with distal radius fractures were similar to patients with normal bone quality after 12 week treatment program. Wrist and forearm range of motions, severity of pain, oedema and grip strength of osteopenic patients can be improved like that of patients with normal bone quality after distal radius fracture by implementing physiotherapy program.

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AB1437-HPR THE EFFECTS OF SHORT FOOT EXERCISE ON PAIN, KNEE AND FOOT BIOMECHANICS IN PATIENTS WITH PATELLOFEMORAL PAIN

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Background: It was well known that patellofemoral pain (PFP) has multifactorial aetiology. Increased navicular drop measures and especially more pronated foot posture in stance phase have been reported as distal factors.[1,2] Foot orthosis are recommended as distal interventions but remained passive.[3] For this reason, short foot exercise (SFE),[4] as an active approach, may be of significant benefit in patients with PFP.

Objectives: The aim of this study was to investigate the effects of SFE on pain, knee and foot biomechanics in patients with PFP.

Methods: Twenty-two patients with PFP, mean age was 40.91±10.73, included in this study. They were randomly divided into two groups. The first group (KHE) was followed under the exercise program including knee and hip exercises, and the second group (SFE) was followed under SFE in addition to the same exercise program 2 days per a week for 6 weeks. At the beginning and the end of the study, for pain at walking, sitting, squatting, climbing stairs Visual Analogue Scale (VAS) and Kujala Patellofemoral Symptom Scale (KPSS); for knee and foot biomechanics measurement of Q angle, Navicular Drop Test (NDT), Calcaneo-tibial angle (CTA) and Foot Posture Index (FPI) were performed.

Results: As a result of this study, it was found that all parameters were improved in both groups, whereas the improvements in the pain intensity (VAS) of sitting and stair activities, values of Q angles, NDT, CTA and FPI were statistically significant in SFE group compared to KHE group ($p<0.05$).

Conclusions: In conclusion, it was shown that SFE has positive effects on pain, knee and foot biomechanics in patients with PFP. At this point, SFE is an exercise approach in order to increase the success of the rehabilitation program in patients with PFP.

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AB1438-HPR THE ASSESSMENT OF IMAGERY ABILITY IN PATIENTS WITH FAMILIAL MEDITERRANEAN FEVER

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Background: Studies have shown that individuals with FMF are more restricted in terms of physical function than the normal population and that depression and anxiety are more common in these individuals. Catastrophizing is the strongest psychological factor associated with pain. Imagery is a cognitive process fundamental to motor learning and performance. It is also a mental technique that can be utilised in many ways. A main function of imagery is to aid self-regulation of thoughts, feelings, and behaviours. Studies have shown to be more effective for individuals displaying a higher level of imagery ability when using imagery to improve motor and motivational outcomes, including self-efficacy. Several studies suggest that pain-related imagery may help to reduce distress and increase behavioural flexibility in individuals suffering from chronic pain. However, there is no published imagery research in FMF patients.
Objectives: The aim of this study was to assess imagery ability and pain catastrophizing in patients with familial mediterranean fever.
Methods: Between October and December 2017, 30 participants diagnosed with FMF were recruited through the Division of Rheumatology Department of Internal Medicine Cerrahpasa Medical Faculty University of Istanbul. The Istanbul Medipol University Ethics Committee approved the study. Demographic and participant characteristic information were recorded. Clinical data collected were: Age onset of FMF, age of diagnosis were inquired. Pain catastrophizing was assessed with Pain Catastrophizing Scale (PCS) and imagery ability was assessed with Movement Imagery Questionnaire- 3 (MIQ-3).A total PCS score of 30 represents clinically relevant level of catastrophizing. MIQ-3 is a 12-item questionnaire to assess individuals ability to image four basic movements: a knee lift, jump, arm movement, and waist bend. Ease of imaging is measured in both visual and kinesthetic modalities. For each item, participants read a description of the movement. Then, they physically perform the movement before assuming the same starting position to either visually or kinesthetically image the movement. Following this step, participants rate their ease of imaging on a 7-point Likert-type scale ranging from 1 to 7 (*very hard/easy to see/feel*). After the items for each subscale are averaged, a higher score represents a greater ease of imaging.

Abstract AB1438HPR – Table 1. Demographic and clinical characteristics of study population

Variables	Mean ± SD Median (min-max)
Age	32.37±11 (18-56)
BMI (KG/m²)	24.39± 6.1 (17.3-40.3)
Age of Diagnosis	22.20± 14.7 (2-54)
Disease Duration	10.17± 7.6 (2-28)
Kinesthetic Imagery Ability	14.99± 4.5 (3.1-21.1)
Internal Imagery Ability	13.84± 5.3 (3.16-20.0)
External Imagery Ability	12.41± 4.7 (3.8-19.0)
Pain Catastrophizing Scale	23.27± 12.5 (6-44)

Results: The study included 27 female, 3 male. Mean age was 32±11 years, mean BMI was 24±6.1 kg/m^2; (table 1). Kinesthetic imagery ability was higher than internal and external visual imagery. There was no significant relalationship between imagery and pain catastrophizing severity.
Conclusions: According to previous studies people with chronic pain had pain-related imagery, catastrophizing, and distress related in proportion with each other but in our study, we didn't find any significant relationship between imagery and catastrophizing. This may be due to small sample size or the pattern of pain in FMF which is periodic, intermittent, differently from chronic pain. Each patient with rheumatic disease should be addressed as a composite biopsychosocial being with unique characteristics and needs. Previous study have shown that imagery is an effective treatment for neuropathic and chronic pain. We suggest that imagery may be an effective method for management of pain in patients with FMF.
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AB1439-HPR THE EFFECTS OF DIFFERENT EXERCISE PROTOCOLS ON FUNCTIONAL STATUS AND AEROBIC CAPACITY IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Although there is the emphasis on the importance of lifelong regular exercise to improve the efficacy of medication in the treatment of ankylosing spondylitis (AS) patients, there is a lack of information about the safe exercise dosage in clinical practice.
Objectives: In this study, we aimed to investigate the effects of different exercise protocols on functional status and aerobic capacity in patients with ankylosing spondylitis.
Methods: Thirty-one ankylosing spondylitis patients were evaluated and grouped according to their arrival order. Patients' spinal mobility (Bath Ankylosing Spondylitis Mobility Index), disease activity (Bath Ankylosing Spondylitis Disease Activity Index), flexibility (back scratch test), pulmonary functions (forced vital capacity with pulmonary function test, maximal inspiratory and expiratory pressures with respiratory muscle strength test), aerobic capacity (oxygen consumption test with submaximal modified Bruce protocol), fatigue level (Fatigue Severity Scale) and sleep quality (Pittsburgh Sleep Quality Index) were assessed. Group 1 (n=16) did both aerobic training and clinical pilates exercises, while group 2 (n=15) only did aerobic training. Patients did exercises for 8 weeks, 3 days a week under the supervision of a physiotherapist and then measurements were repeated.
Results: According to the measurements, it was found that disease activity level, respiratory muscle strength was improved ($p<0.05$) in both groups. When clinical pilates exercise was given additionally to aerobic training spinal mobility (BASMI score), upper extremities flexibility, forced vital capacity, fatigue severity and sleep quality ($p<0.05$) was also improved.
Conclusions: As a result of the study, it was noted that when clinical pilates exercises applied together with the aerobic exercise training in ankylosing spondylitis patients, effectiveness on functional status and aerobic capacity was increased.
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AB1440-HPR YOGA-THERAPY FOR RHEUMATOID ARTHRITIS: RAPID IMPROVEMENT IN PROMS

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Background: Rheumatoid Arthritis (RA) is associated with mood disorders and poor quality of life (QOL) Chorus et al., 2003 Yoga therapy (Y-T) has been used in several Long Term Conditions. Khalsa et al, 2016.
Objectives: This study investigated: a) impact of a 16 week Y-T intervention on functional outcomes and QOL in 10 adult-onset RA patients, b) acceptability and experiences of the intervention.
Methods: Ten adult RA patients (Ages: 29–71 Y; RA duration: 1–15 years) consented to 10 individual Y-T sessions (weekly ×4; biweekly ×6) with a yoga therapist in a standard consulting room. The intervention was tailored to the needs and abilities of each patient and included: breath-centred physical yoga postures, breathing and visualisation techniques, mantras and meditation, and Lifestyle/behavioural strategies. All participants completed measures to assess changes in health pre- and post-intervention (EQ-5D and HADS) and took part in a semi-structured

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