

between RT and HP. In view of other published studies on hand problems in SSc, a surprisingly small amount of referrals to occupational- and hand therapists. Further research should focus on the optimisation of professional communication.

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HPR Interventions (educational, physical, social and psychological)

THU0720-HPR FACTORS ASSOCIATED WITH POOR SLEEP QUALITY IN PATIENTS WITH CHRONIC WIDESPREAD PAIN: RESULTS FROM THE AMSTERDAM PAIN COHORT

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Background: Reduced sleep quality is a major concern in patients with chronic widespread pain (CWP).^{1,2} Poor sleep quality in CWP has received relatively little attention in both multidisciplinary treatment and clinical research in multidisciplinary treatment.^{3,4}

Objectives: (i) To investigate the prevalence of poor sleep quality and (ii) to explore the associations between clinical, cognitive and emotional factors and quality of sleep in patients with CWP indicated for multidisciplinary treatment.

Methods: Baseline data were used from 163 CWP patients referred for multidisciplinary treatment. Linear regression models, adjusted for age and gender, were used to assess the relationship of clinical (pain, fatigue, pain interference and disability), emotional (anxiety, depression and psychological distress) and cognitive factors (catastrophizing, acceptance, self-efficacy, kinesiophobia and illness beliefs) with sleep quality, as measured with the Pittsburgh Sleep Quality Index (PSQI).

Results: Poor sleep quality was found in 92% of the patients. The multivariate model showed that a higher level of fatigue, psychological distress and more concerns about the illness were independently associated with poorer quality of sleep. The model explained 27.9% of the variance of sleep quality.

Conclusions: The high prevalence of poor sleep quality in patients with CWP referred for multidisciplinary treatment emphasises the need to target sleep during the treatment program. Poorer quality of sleep is related to a higher level of fatigue, psychological distress and more concerns about the illness. Attention to these factors during multidisciplinary treatment could contribute to improvement in quality of sleep.

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THU0721-HPR THE EFFECTS OF UPPER AND LOWER LIMB EXERCISE ON THE MICROVASCULAR REACTIVITY IN SYSTEMIC SCLEROSIS PATIENTS

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Background: Vascular endothelial injury is one of the early hallmarks in systemic sclerosis (SSc). High intensity interval training (HIIT) is known to improve vascular function in a range of clinical conditions. Ramos et al., 2015 HIIT in particular has demonstrated improvements in clinical outcomes, in conditions that have a strong macroangiopathic component. Nevertheless, the effect of HIIT on microcirculation in SSc patients is yet to be investigated.

Objectives: Therefore, the purpose of the study was to compare the effects of two HIIT protocols (cycle and arm cranking) on the microcirculation of the digital area in SSc patients.

Methods: Thirty four SSc patients (65.3±11.6 years old) were randomly allocated in three groups (cycling n=11, arm cranking n=11 and control group n=12). The exercise groups underwent a twelve-week exercise program twice per week. All patients performed the baseline and post-exercise intervention measurements where the physical fitness, functional ability, transcutaneous oxygen tension (Δt_{cpO_2}), body composition and quality of life were assessed. Endothelial-dependent as well as -independent vasodilation were assessed in the middle and index fingers using LDF and incremental doses of acetylcholine (ACh) and sodium nitroprusside (SNP). Cutaneous flux data were expressed as cutaneous vascular conductance (CVC).

Results: Peak oxygen uptake increased in both exercise groups ($p<0.01$, $d=1.36$). Δt_{cpO_2} demonstrated an increase in the arm cranking group only, with a large effect, but found not statistically significant ($p=0.59$, $d=0.93$). Endothelial-dependent vasodilation improvement was greater in the arm cranking ($p<0.05$, $d=1.07$) in comparison to other groups. Both exercise groups improved life satisfaction ($p<0.001$) as well as reduced discomfort and pain due to Raynaud's phenomenon ($p<0.05$). Digital ulcers and hospitalizations reported in four patients (36%) of the control group and one of them proceeded for amputation. Arm cranking seems to be the preferred mode of exercise for study participants as compared to cycling ($p<0.05$). No changes were observed in the body composition or the functional ability in both exercise groups compared to the control group.

Conclusions: Our results suggest that the arm cranking has the potential to improve the microvascular endothelial function in SSc patients and to prevent digital ulcers and further related complications. Also notably, our recommended training dose (e.g., a 12 week HIIT program, twice per week), appeared to be sufficient and tolerable for this population. Future research should focus on exploring the feasibility of a combined exercise such as aerobic and resistance training by assessing individual's experience and the quality of life in SSc patients.

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THU0722-HPR PHYSICAL THERAPY IS EFFECTIVE IN PATIENTS WITH ANKYLOSING SPONDYLITIS: A RANDOMISED CONTROLLED TRIAL

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Background: Ankylosing spondylitis (AS) is a chronic inflammatory disease that predominantly affects the spine and may cause serious functional impairment. The prevalence of AS is approximately 0.1% of the Caucasoid population. Treatment of AS includes use of antiinflammatory drugs to reduce pain and stiffness. In addition, patients are advised to exercise daily and to engage in weekly group physical therapy to maintain mobility of the spine and peripheral joints.

Objectives: To evaluate the effects of physical therapy on pain, disease activity, functional and emotional status and quality of life in patients with AS.

Methods: Thirty one patients diagnosed with AS and followed up in outpatient clinic were conducted into the study. Routine physical examination of musculoskeletal and neurological system of all patients has been performed. Patients divided into two groups (physical therapy group and control group) as random. 15 seance physical therapy (hotpack, ultrasound, TENS and hydrotherapy) exercise and medical treatment performed for the physical therapy group and only home exercise programme and medical treatment for control group. All patients received medical therapy which was not changed during the study. We evaluated all patients with visual analogue scale (VAS) at night and rest for pain, Bath Ankylosing Spondylitis Functional Index (BASFI) for functional status, Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) for disease activity and modified Schober, finger floor distance (FFD), lateral flexion of the lumbar spine, cervical rotation, intermaleolar distance, tragus wall distance, chest expansion, cheek manubrium distance and Bath Ankylosing Spondylitis Metrology Index (BASMI) for spinal mobility measurements at the beginning, 2nd and 6th weeks. Also Beck Depression Inventory (BDI) and short form 36 (SF-36) were fulfilled by all patients at the beginning and 6th week.