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Multidisciplinary rehabilitation in chronic lumbar pain: long-term effect on work status
N. M. N. Longmire1, C. Schindler1, L. Belgrand1, C. V. CHUV1,1, and Centre médical de Lavey-les-Bains

Lumbar pain rests an expensive condition including direct and indirect costs. The most costly patients are those with a long sick-leaf for more than 6 months following a diagnosis, losing their jobs and being unable to return to work. In this situation, a multidisciplinary group program has the best possibilities to work. When treating on the deconditioning situation there would be an increase in the return to work. The aim of this study is to analyze the return to work, considering the psychological modifications and the work status. Method: We have studied the results of 300 of our patients that have accomplished a multi-disciplinary program and that have been followed over 24 months. The program contained physical training, occupational work hardening the hole in cognitivo-comportemental approach. We have analyzed the relationship between the work capacity and its correlation with different pain and psychological questionnaires. Results: The work capacity, before inclusion and at 24 months after completing the program showed a clear increase, from 48% to 80.4% (p <0.01). Associated with this work capacity, we saw a real decrease in apprehensions and pain functioning. There were also a positive relationship between an increased work capacity and an decrease in different pain questionnaires, with an ODI from 36 to 14% at 24 months. The return to work was not associated to an increase in physical performance but an increase in apprehension. Conclusion: In chronic low back patients, a multidisciplinary rehabilitation program, giving 72% that returned to work, with a global work capacity of 80.4%, has to been seen as a positive way to treat these patients. Patients that associated on the psychological part, with less apprehension and also increased global SF 36 values. In fact an increase in body confidence rests the important factor in these functional re-education programs, more than direct pain release.

Infection risk after orthopaedic surgery in patients with inflammatory rheumatic diseases treated with immunosuppressive drugs
C. M. C. Scherrer1, Anne F. Mannon1, Diego Kyburz2, Markus Vogt1, and Ines A. Kramer1,2,3, Schulthess Clinic, Zurich, Switzerland
1Department of Rheumatology, University Hospital, Zurich
2Clinic and Infectious Disease Unit, Cantonal Hospital Zug, Baar, Switzerland

Objectives: The influence of specific drugs on the risk of postoperative infection in patients with rheumatic arthritis and other inflammatory rheumatic diseases (IRDs) remains unclear. This study examined the risk of postoperative infection in patients treated with immunosuppressive drugs (including biologics) undergoing different types of orthopaedic surgery. Methods: All 50359 cases of orthopaedic surgery performed in our hospital from 2000–2008 were included in this retrospective study. The primary outcome of interest was operation-related infection. Patients with IRD were compared with those with degenerative or posttraumatic disorders, and, in IRD patients, the effect of immunosuppressive medication, especially TNF-α-inhibitors and their preoperative management was examined.

Results: Of the 1129 patients who fulfilled our inclusion criteria 62% were smokers (37% current smokers, 25% past smokers). Smoking was associated with a higher level of baseline disease activity; mean BASDAI levels were +0.7 (95% CI: 0.4, 1.0) higher in smokers, with no difference between former and current smokers (Wilcoxon test p = 0.6). The adjusted longitudinal evolution of BASDAI and ASDAS was similar between smokers and non-smokers. However, we found a significant effect modification by acute phase reactants. Non-smokers and past smokers with elevated CRP/ESR evolve more favourably than current smokers with elevated CRP/ESR.

Conclusion: Smoking with SpA have more disease activity and a poorer function. A more disadvantageous course of disease activity in smokers was only found for patients with elevated acute-phase reactants. SpA patients with elevated CRP and/or ESR could benefit from ceasing smoking and improve their response to treatment.

Smoking is associated with a less favorable course of disease activity in spondyloarthropathy patients with elevated acute phase reactants
Adrian Ciurea1, Almut Scherer2, Ulrich Weber2, Michael Nissen3, Pascale Exer1, Juerg Bernhard1, Giorgio Tambornini1, Ruediger Mueller1, Bettina Weiss1, Rudolf Kissing1, Beat A. Michel1, Axel Finckh1, for the Rheumatologists of SCON
1University Hospital Zurich; 2Swiss Clinical Quality Management in Rheumatic Diseases; 3Balgrist University Clinic Zurich; 4University Hospital Geneva; 5Rheumatology office, Basel; 6Cantonal Hospital Solothurn; 7Cantonal Hospital St. Gallen

Introduction: Smoking is associated with increased disease activity in patients with ankylosing spondylitis (AS) and early axial spondyloarthritis (SpA) in cross-sectional studies, however causation has not been established. Methods: We included all patients from the Swiss axial SpA cohort (SQUAM) with available smoking and HLA-B27 status fulfilling the ASAS criteria for axial SpA. The primary and secondary outcomes for this analysis were the BASDAI and the ASDAS-CRP. The exposures of interest were smoking as ever/never and as current/past/never. We compared clinical and demographic characteristics between smokers and non-smokers cross-sectionally. The course of disease activity was analysed using random slope multivariate longitudinal regression models, adjusted for potential confounders. Results: Of the 1129 patients who fulfilled our inclusion criteria 62% were smokers (37% current smokers, 25% past smokers). Smoking was associated with a higher level of baseline disease activity; mean BASDAI levels were +0.7 (95% CI: 0.4, 1.0) higher in smokers, with no difference between former and current smokers (Wilcoxon test p = 0.6). The adjusted longitudinal evolution of BASDAI and ASDAS was similar between smokers and non-smokers. However, we found a significant effect modification by acute phase reactants. Non-smokers and past smokers with elevated CRP/ESR evolve more favourably than current smokers with elevated CRP/ESR.

Conclusion: Smokers with SpA have more disease activity and a poorer function. A more disadvantageous course of disease activity in smokers was only found for patients with elevated acute-phase reactants. SpA patients with elevated CRP and/or ESR could benefit from ceasing smoking and improve their response to treatment.
Clinical and ultrasonographic articular manifestations in patients treated with ustekinumab for cutaneous psoriasis: a 10 cases analysis

D. Maclachlan1, C. Conrad2, A. So1, P. Zufferey1
RHU/DAL1, service de dermatologie2, CHUV, Lausanne Switzerland

Background: ustekinumab (Stelara), a monoclonal antibody against IL-12/IL-23, has been approved in many countries for the treatment of moderate to severe plaque psoriasis. Preliminary data have suggested that this compound could also be effective on psoriatic arthritis although a few case studies have reported a good skin response but lack of efficacy on arthropathy.

Objective: the objective of this study was to evaluate the effects of ustekinumab prescribed for skin lesions on articular symptoms of psoriasis.

Methods: 10 patients treated with ustekinumab were addressed to our rheumatology unit between October 2010 and January 2012. The rheumatologic evaluation comprised: a collection of demographic data, a detailed recording of articular symptoms at time of the visit and in the past, the search of clinical and ultrason sound synovitis, the calculation of DAS28 and the ultrasound score for synovitis: SONAR, and finally the patient global appreciation of the effect on articular manifestations of ustekinumab in comparison with prior treatments.

Results: the mean (SD) age, duration of skin disease, duration of Stelara treatment was respectively: 49 (11), 8 years (11), 7 months (6.4). Seven patients were male, 3 had previously received an anti-TNF, 2 methotrexate. The skin disease was described as significantly ameliorated in 9 patients. Axial or peripheral arthropathies compatible with psoriatic arthritis were present in 5 patients before the treatment. Among those, 3 declared a worsening of the symptoms since the introduction of Stelara. One of the 5 others, without prior articular symptoms, developed psoriatic arthropathy under treatment. However, in all these symptomatic patients, clinical and ultrasonographic synovitis remained mild, with median (range) DAS28CRP: 3.1 (2–4) and median total SONAR score: 5 (4–15).

Conclusions: this study suggests that ustekinumab at current dosage could not be as effective on articular symptoms as on skin lesions in psoriasis.

Enterobius vermicularis associated polyosynovitis

Flückiger Beat1, Neher Rosaly1, Vavricka Stephan2, Ebnöther Corina3, Theiler Robert1
Department of Rheumatology1, City Hospital Triemli (STZ). Division of Gastroenterology2, STZ. Division of Infectiology3, STZ, Zuerich, Switzerland

Background: Early diagnostic and treatment of oligo- or polyarticular synovitis are recommended. A large differential diagnosis to clarify disease due to constellation is daily clinical practice, one of them reactive arthritis. In spite of well-known urogenital or gastrointestinal causative organism other pathogenic agents need to be mentioned.

Case Report: An acute symmetric polyosynovitis (wrists, elbows, shoulders, MCP and MTP joints, knee, ankle) and Achilles’ tendinitis was diagnosed in a 34-year old female Swiss patient in November 2009. Personal and family medical history and examination was without other pathological findings. We found negative serological testing for rheumatoid factor, anti-CCP and antinuclear antibodies, parvovirus B19, hepatitis B/C, HIV, lues, borenia burgdorferi and HLA-B27. No erosions were confirmed and a sacroiliitis was ruled out by MRI imaging. By thinking of an associated inflammatory bowel disease due to constipation upper and lower endoscopy was performed. Pinworms classified as enterobius vermicularis were diagnosed. Due to this finding a helminth infection associated polyosynovitis could be postulated. A treatment with 100 mg mebendazole at day one and seven was combined with diclofenac 75 mg twice a day. Intrarticular steroid injections were adjusted. Because of prolonged oligoarthritis (knees, wrist) glucocorticosteroids combined with methotrexat (weekly 10 mg, subcutaneously) were given for more than 6 months ago and the patient was still recovered.

Conclusions: Enterobius vermicularis associated polyosynovitis should be considered in patients with multiple polyarticular at time of the visit and in the past, the search of clinical and ultrason sound synovitis, the calculation of DAS28 and the ultrasound score for synovitis: SONAR, and finally the patient global appreciation of the effect on articular manifestations of ustekinumab in comparison with prior treatments.

Secondary lupus syndrome: induced or revealed by anti-TNF drugs

Variose P.A.1, Zufferey P1, Fabreguet I1, Aubry-Rozier B1, Adler S2, Villiger P3, So A1 RHU/DAL1, CHUV Lausanne, RIA Inselspital Bern

Background: TNF blocking agents have been used very frequently during the last 10 years. Two pathologies are prescribed to treat inflammatory diseases; monoclonal antibodies against TNF and soluble receptors of TNF with etanercept, infliximab, adalimumab, golimumab and certolizumab pegol. Clinical manifestations of lupus syndromes mostly skin and joint manifestations with rare cases of Libman-Sacks endocarditis, probable myositis and myelitis. Abnormal laboratory values were: cytopenia, microhematruia and humoral manifestations with elevated ESR and CRP. Immunological manifestations were reported as elevated DNA in ALL patients and anti-dis-DNA (n = 5), presence of anti-histone (n = 2) and anti-phospholipid-antibodies (n = 3) and complement factors were consumed in 2 patients. LE cells in a pleura effusion and antinuclearcytes- and anti-thrombocytes-antibodies were observed.

Conclusions: Secondary lupus syndrome is a rare but potentially life-threatening problem. Careful monitoring for specific signs and symptoms is warranted. In some cases anti-TNF can be a trigger of a pre-existing SLE. Therefore clinical and serological screening prior to anti-TNF treatment might be a reasonable option.
**POSTOP: A randomized, open-label study of denosumab on bone mineral density loss after renal transplantation**

D.P. Frey, M. Bonanö, A. Serra, T. Fehr, R.P. Wüthrich
1Division of Rheumatology, University Hospital Zürich;
2Division of Nephrology, University Hospital Zürich

**Introduction:** Denosumab is approved for the treatment of post-menopausal women with osteoporosis and for breast- and prostate-cancer patients treated with anti-hormonal therapy. There is no data however of the efficacy and safety of Denosumab in patients under immunosuppressive therapy. Renal transplant recipients are at high risk of bone loss and are usually treated with immunosuppressants and corticosteroids. We present preliminary results of the safety of Denosumab in this population.

**Methods:** In this ongoing randomized open-label trial patients under triple immunosuppressive therapy including steroids are randomized within 28 days after transplantation to receive either Denosumab, 60 mg s.c. every 6 months or no specific treatment. All patients receive Calcium 1000 mg and Vitamin D 800 IU.

**Results:** 34 of 100 planned patients were randomized between 07/2011 and 03/2012 and received Denosumab plus Ca/Vit D or Ca/Vit D only. Denosumab was generally well tolerated. Urinary tract infections occurred more often in the Denosumab group.

**Conclusion:** Denosumab is generally well tolerated in kidney transplant patients and urinary tract infections in Denosumab treated patients is remarkably higher than in the control group. This finding needs further investigation. The study is ongoing and expected to be completed in 2014.

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**Efficacy of unstable shoes in chronic low back pain: a pilot randomized controlled trial**

Stephanie Armand, Ziva Tavcar, Katia Turco, Lara Aliev, Pierre Hoffmeyer, Stephanie Genevery
1Willy Taillard Laboratory of Kinesiology; 2Medical Directorate; 3Division of Orthopaedics and Trauma Surgery, Division of Rheumatology, University Hospitals of Geneva

**Background:** Low back pain (LBP) is a world-wide spread musculoskeletal burden that causes important costs for society. Unstable shoes have been identified as a potential device to reduce LBP. Standing and walking with unstable shoes require more activation of stabilizing muscles and modify posture which could lead to a reduction of LBP. The purpose of this study was to conduct a pilot trial to explore the effect of unstable shoes on chronic LBP in health professionals.

**Methods:** We conducted a randomized controlled trial (n = 40) with an intervention (IG) (n = 20) and a control group (CG) (n = 20). All the participants were health professionals working at the University Hospitals of Geneva with LBP >30/100 on a VAS at the inclusion and without radicular symptoms. The IG received unstable shoes (model Adidas Bigroar). Both groups wore the shoes at work during 6 weeks. LBP scores (last 24h, during walking with shoes, during walking barefoot and reported in a diary logbook), functional disability (Roland-Morris questionnaire, RMDQ) and quality of life (EQ-VAS) were assessed at baseline and follow-up.

**Results:** Baseline characteristics were similar between the two patient groups. The intervention group showed a higher decreasing than control in all the pain scores. All the pain scores showed a statistically significant difference (P <0.05) expected the pain score during last 24h (p = 0.199). The percentage of responders was higher in the intervention group versus the control group for the different pain scores. The rate of satisfaction (satisfied and very satisfied) was 79% in the intervention group versus 25% in the control group (p = 0.002).

**Conclusions:** In the absence of a significant effect of booster vaccinations against 2009 H1N1 influenza virus on the humoral immune response in B cell-depleted patients with autoimmune rheumatic diseases, enhanced antiviral T cell responses in patients with low B cell percentages indicate that T cells compensate for the impaired humoral immunity in these patients.

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**Rituximab for necrotizing scleritis associated with rheumatoid arthritis, a clinical case**

Fabreguet I., Varisco P.A., Aubry-Roizler B., Zufferey P.1, So A1

RHU / DAL / CHUV Lausanne

**Background:** Scleritis is one of the inflammatory ocular complications of RA. According to studies, 0.2 to 6.3% of patients with RA develop scleritis. Anterior necrotizing scleritis is one of the most severe and destructive form, with a risk of visual impairment around 40%. According to Usui et al., the inflammation in autoimmune necrotizing scleritis may be driven by B-cells [1].

**Objective:** To report the case of a patient with RA, treated by Rituximab for a severe, refractory, necrotizing scleritis.

**Results:** The patient was a 45-year-old woman with severe, RF positive, erosive, nodular RA, refractory to several biologics. On Etanercept and methotrexate, she developed a necrotizing scleritis of the left eye, attributed to RA. The Etanercept was stopped. The necrotizing scleritis did not respond to local and systemic corticotherapy (oral and IV), one infusion of tocilizumab was not efficient. The patient was then referred to start cyclophosphamide. However, this latter treatment was not introduced due to a severe infection (epidural abscess). The patient received Rituximab (two infusions of 1 g, repeated 6 months later), associated with oral corticotherapy. On this treatment, the scleritis was controlled and the oral corticotherapy was slowly decreased. In addition to Rituximab, she received antibiotics during 6 months for the epidural abscess.

**Conclusions:** Rituximab seems efficient in RA patients with severe refractory necrotizing scleritis. Further studies are needed to confirm this hypothesis.

Malnutrition in Rheumatology in Acute Care Settings, Risk factors and Interventions

P. Schärer1, P. M. Villiger1, C. Wenger2, B. Hürlimann3
1 University Clinic for Rheumatology, Clinical Immunology and Allergology; 2 University Clinic for Endocrinology, Diabetology and Clinical Nutrition; 3 Department of Nursing, Medical Technical and Medical-Therapeutic Areas Inselspital CH-3010-Bern

Background: The prevalence of malnutrition in hospitalized patients in Switzerland is up to 40%. Malnutrition leads to a higher mortality and a higher complication rate. Only few studies about malnutrition have been conducted in rheumatology and only with a small sample. Since 2010, the nutritional status of all hospitalized patients in the Clinic for Rheumatology at the University Hospital Berne, Inselspital has been assessed with the NRS 2002 adapted for the Clinic for Rheumatology (NRS-RIA) as well as an entry of quantities of every meal.

Aim: The aim of this study is to define assessment instruments for malnutrition as well as interventions for the prevention and treatment of malnutrition in a rheumatologic ward.

Questions:
- What factors are influencing the risk for malnutrition in patients with rheumatic diseases?
- What interventions have a positive effect on patients' dietary intake.

Methods: A literature research was made using the following key-words and the risk for malnutrition are important clinical problems in patients suffering from systemic sclerosis, rheumatoid arthritis or patients hospitalised for diagnostics have a risk for malnutrition. For age and social isolation no pattern can be found regarding malnutrition and risk factors and Interventions

Results: The following influencing factors were found in the literature: Illness, age, motor restrictions (especially regarding the ability to eat self-dependently), that means regarding the higher extremities), xerostomia, lesion of the oral mucosa, social isolation. These factors were integrated in the analysis of the clinical data. During data collection, at hospitalisation more than half of the patients were at risk for malnutrition or suffering from malnutrition. Additionally, with a longer hospitalisation stay the nutritional status of the patients got worse. For the influencing factors, it can be assumed that rheumatic disease, motor restrictions and problems with the oral mucosa increase the risk for malnutrition. Looking closer at disease, a higher proportion of patients suffering from systemic sclerosis, rheumatoid arthritis or patients hospitalised for diagnostics have a risk for malnutrition. For age and social isolation no pattern can be found regarding malnutrition and risk factors and Interventions

Conclusions: The main conclusion of this study is that malnutrition and the risk for malnutrition are important clinical problems in patients with a rheumatic disease. In clinical practice, the NRS-RIA proved to be easy to use to assess these patients. Thanks to the systematic entry of quantities, the daily dietary intake could be evaluated. Dieticians were integrated in time in patients' care, which had a positive effect on patients' dietary intake. As the average length of stay in the Clinic for Rheumatology is only ten days, it is important to think about the sustainability of these interventions. For instance patients in day care could be systematically assessed, to improve nutritional status also in non hospitalised patients. Especially for patients with systemic sclerosis, rheumatoid arthritis or patients hospitalised for diagnosis, a focused interprofessional care should be institutionalised, for instance by implementing standards or clinical pathways. Another possible preventive approach would be to improve rheumatologic patients' knowledge about «healthy nutrition».

Client-centred counselling for activity-based prevention of Raynaud’s Phenomenon – a small but important subject for occupational therapy in rheumatology

Introduction: Raynaud’s Phenomenon (RP) is characterized by an excessive vasospasm of digital arteries causing a ischemia (reduced blood flow to the skin) as well as a cyanosis (blue skin because of deoxygenation of slow-flowing blood in the small vessels). It occurs often as a response to cold exposure or other stimuli like emotionally stressful situations1. Most often affected are the fingers but also toes, the nose, or ears. Scleroderma, mixed connective tissue diseases but also other rheumatic diseases can be associated with RP. Repetitively occurring RP diminishes the skin’s protective function, can harm the small vessels causing wounds and digital ulcers. Painful digital ulcers reduce the satisfactorily performing of daily occupations. Thus, prevention of RP is a relevant but often disregarded subject for occupational therapists working with rheumatic clients.

Methods: Based on the “trans-theoretical model of health behavior change”2 a systematic counselling guide for the prevention of RP was developed.

Results: Occupational therapy begins with a client-centred interview based on daily occupations and situations in which an RP occurs. Thereafter the counselling comprises i.) imparting knowledge about the RP (pathophysiology, types of RP, causes, risks, and treatment possibilities); and ii.) imparting knowledge based on individual analysis of activities and behaviours triggering RP. Change of behaviour in daily and job-related activities is emphasized to prevent from the occurrence of RP. Thus, general prophylactic procedures to avoid RP-provoking factors as well as possibilities to increase microcirculation in hands and feet get underlined.

Discussion: Patients value the possibility to test practically different assistive devices and products like heating gloves or the paraffin bath. Nevertheless, this clinical practice project could be developed further to systematically evaluate change of behavior and the reduction of RP-frequency respectively the duration of an already occurred RP.

References:

Skin and mucosa care in systemic sclerosis – implementation of a specific education program

A. Kocher1, C. Mermod1, E. Spichiger2, P.M. Villiger3, K. Winkler1, S. Marini2, L. Hermann3 & K. Hirtz3
1 Universitätsklinik für Rheumatologie, Klinische Immunologie und Allergologie; 2 Direktion Pflege/MTT, Bereich Fachentwicklung und Forschung

Introduction: Skin and mucosal manifestations such as skin thickening, pruritus, reduced microcirculation, digital lesions or dryness of the eyes and mucous membranes are common in Systemic Sclerosis (SSc). These changes affect quality of life and body image. Managing these symptoms as part of the disease is difficult and results in behaviour modifications not only of the patients but also their family caregivers [1, 2]. Thus, the aim was to establish an «SSc Patient and Family Caregiver Education Program» (SSc PFEP) to increase self-efficacy and improve necessary skills to cope with skin and mucosal problems [3].

Methods: SSc PFEP was developed using participatory action research techniques [4]. After a literature review two focus group interviews were conducted with eight clinical experts and nine SSc patients. Based on these data the SSc PFEP was planned and education material such as information leaflets and guidelines were developed.

Results: SSc PFEP has been offered by a specialized team consisting of two registered nurses and a nurse specialist since October 2010. The program includes assessments and tests of the skin and mucosa. SSc PFEP is offered as individual and group education. Furthermore, consultation by telephone or e-mail is provided. The following topics have been incorporated into SSc PFEP education material: skin symptoms, skin sclerosis, Raynaud’s phenomenon, ulcers and appearance-related changes.

Conclusion: By developing and implementing SSc PFEP nursing roles have been expanded. Additionally, this project stimulated an on-going collaboration between professionals and SSc patients. The current evaluation will show if SSc PFEP is meeting SSc patients’ skin and mucosa care needs.

References:
Development of an interdisciplinary pathway for the management of contractures in clients with scleroderma – an EBP-project

F. Heigl1, D. Schenker2
1Universitätsklinik für Rheumatologie, Klinische Immunologie und Allergologie, Inselspital, Universitätsspital Bern, Schweiz; 2Institut für Physiotherapie, Inselspital, Universitätsspital Bern, Schweiz

Introduction: Scleroderma (systemic sclerosis, SSC) is a complex autoimmune disease, which comes along with inflammatory and fibrotic changes of the skin and visera and vasculopathy. Fibrotic changes can occur rapidly and cause irreversible and massive impairments in musculoskeletal functions like decreased range of motion in the hands and the upper limb as well as in the lower extremities. Early therapy against these contractures is necessary as physical disability leads to difficulties in conducting activities of daily living and decreased quality of life and well-being [1]. So far, no clinical pathway existed in our clinic for the treatment or prevention of contractures in clients with SSC.

Methods: The development of an interdisciplinary pathway was guided by the criteria of the evidence-based practice [2; 1] literature-search for treatment of contractures in SSC (PubMed/MEDLINE, CINAHL, PEDro, OTseeker) including an evaluation of articles regarding methodology and clinical utility; 2) collecting additional information from external therapists and authors; 3) selection of interventions; 4) design of clinical pathway; 5) implementation in clinical practice; 6) evaluation on the basis of observation of daily practice (clinical therapists, referring physicians).

Results: The clinical pathway was developed in the form of a mind map: who, when, what has to be done (assessments and interventions); 4.) design of clinical pathway; 5.) implementation in clinical practice; 6.) evaluation on the basis of observation of daily practice (clinical therapists, referring physicians).

Discussion: The interdisciplinary process of such an evidence-based clinical practice-project for a complex clientele in a busy clinic has been illustrated. The relevance for health professional practice from the first idea to its implementation in practice is discussed.

References:

Association of the sense of coherence with physical and psychosocial health in the rehabilitation of osteoarthritis of the hip and knee

T. Benz1, F. Angst1, S. Lehmann1, A. Aeschlimann1
1Research Department, Rehabilitation clinic «RehaClinic», Bad Zurzach, Switzerland

Introduction: Comprehensive inpatient rehabilitation of patients with osteoarthritis (OA) of the hip or knee may improve pain and physical function. Psychosocial factors may affect the disease and response to treatment. Antonovsky’s sense of coherence (SOC) is a concept that influences mental and physical health. The goal of this study was to analyze the association of the SOC physical and psychosocial health components in patients with hip and knee OA before and after in- and outpatient rehabilitation.

Methods: Prospective cohort study with 335 patients, 136 (41%) with hip and 199 (59%) knee OA. The outcome was measured by Short Form-36 (SF-36) and the Sense of Coherence (SOC-13). Baseline scores of the SF-36 scales and the observed effect sizes after rehabilitation were correlated with the baseline SOC-13. These correlations were compared to the Factor Score Coefficients for the Mental Component Summary of SF-36 which quantify the factor load on the psychosocial dimension. Predictive impact of the baseline SOC-13 for the SF-36 scales (baseline scores and effect sizes) was then determined by multivariate linear regression controlled for possible confounders.

Results: After rehabilitation, improvements were observed in all SF-36 scales. At baseline, the SOC-13 correlated with the SF-36 scores between r = 0.10 (physical functioning) and r = 0.53 (mental health). The correlation of these correlation coefficients to the Factor Score Coefficient of the SF-36 Mental Component Summary was r = 0.95. The correlations for the effect sizes (baseline – discharge) with the baseline SOC-13 were even stronger, with r = 0.85 (physical health) and r = 0.99 (mental health). In the multivariate linear regression model, the explained variance by the baseline SOC-13 continuously increased from physical to psychosocial health components and was consistently observed for both, the baseline scores and the effect sizes.

Conclusion: The SOC was associated with psychosocial dimensions but hardly with physical health. The more a SF-36 score loads on mental health the higher was its association to the SOC. This contrasts the idea of Antonovsky who predicted high associations to both, mental and physical health.

Sind virtuelle Hausbesuche durch Bezugspersonen von älteren Menschen eine praktikable, reliable und alternative zu Wohnraumabklärungen vor Ort durch ErgotherapeutenInnen?

Daniel Heikel1, Oesch Peter1, Stuck Andreas2, Born Stephan3, Bachmann Stefan1
1Kliniken Valens, Reha-Bereich Bad Zurzach, Schweiz; 2Bad Zurzach, Switzerland; 3Kliniken Valens, Rehabilitationsschwerpunkt Rehabilitation, Valens, Schweiz; 4Inselspital Bern, Geriatrie Universitat Bern, CH-3010 Bern, Schweiz; 5Kliniken Valens, Rehabilitationsschwerpunkt Rehabilitation, Valens, Schweiz; 6Inselspital Bern, Universitätsspital Bern, Schweiz


Cardiovascular training is effective in patients with ankylosing spondylitis. A randomised controlled trial

Niedermann K.1,2, Sidelnikov E.1, Muggli C.1, Dagfinrud H.1
1Department of Rheumatology and Rehabilitation, University Hospital Zurich (USZ); 2Center for Mobility and Aging, University of Zurich; 3Swiss Ankylosing Spondylitis Association, Zurich; 4Klinik Valens, Rehabilitationsschwerpunkt Rehabilitation, Klinik für Rheumatologie und internistische Rehabilitation, Valens, Schweiz

Background: There is evidence that ankylosing spondylitis (AS) may contribute to cardiovascular mortality and morbidity (1). The objective of this study was to evaluate the effects of a 12-week individually monitored, moderately intensive cardiovascular outdoor training (CVT), additionally to classical mobility exercise, on physical fitness and perceived disease activity (BASDAI) in AS patients.

Methods: Patients diagnosed with AS according to modified New York criteria were randomised to either CVT ‘or attention control. Assessments were performed at baseline and after the intervention period of 3 months. Physical fitness was measured in watts using a submaximal bicycle test following the PACM 75% protocol (2). ANOVA models adjusting for covariables were used to analyze the data. Results: Of 106 AS patients enrolled, 40% were women, mean age was 49 (SD = 12.0) years. 76.5% of the CVT participants reported exercising at least three times a week. At 3 month follow-up, the fitness level in the CVT group was significantly higher than in the control group (90.32 (SD 4.52) vs. 109.84 (SD 4.72) respectively, p = 0.001), independent of other covariables. Further, the CVT group had a significantly lower BASDAI joint pain subscore of 1.19; p = 0.01, compared to the controls.

Conclusions: CVT, in addition to mobility exercise, increased fitness in AS patients and may be beneficial on pain, but not on fatigue.

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