

THU0727-HPR **COMPARISON OF KINESIO TAPE APPLICATION AND MANUAL LYMPHATIC DRAINAGE ON LOWER EXTREMITY OEDEMA AND FUNCTIONS AFTER TOTAL KNEE ARTHROPLASTY**

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Background: Significant trauma and muscular tightness often result during Total Knee Arthroplasty (TKA) surgery and thus act to restrict tissue fluid movement resulting with lower extremity oedema. Kinesio Taping is applied directly on the skin for restoration of normal fluid perfusion, removing congestion of lymphatic fluid or haemorrhages. In addition manual lymphatic drainage (MLD) enhances blood circulation and stimulates the lymphatic movement and unblocks lymphatic territories.

Objectives: The aim of the study was to investigate the effectiveness of Kinesio Taping and MLD in reducing postoperative oedema, pain and lower extremity functions in the early stage after TKA.

Methods: Forty patients who underwent unilateral TKA were randomised as Kinesio Taping group (n=12), MLD group (n=13) and control group (n=15). For all patients, postoperative rehabilitation program included early mobilisation and physical therapy twice a day during the stay in orthopaedic traumatology department. On the second day after surgery, lymphatic correction method was used on the Kinesio Taping group patients and a standardised 30 min MLD treatment was applied to the MLD group patients. Control group received only physiotherapy treatment. Circumference measurements were applied on preoperatively and the second, third, fourth day and 6th weeks after surgery. Knee Injury and Osteoarthritis Outcome Score (KOOS) was used to determine the functional outcomes on the 6th weeks after surgery. Repeated measures analysis was used to determine the group by time differences between groups.

Results: A significant group effect was observed for oedema difference ($F_{(4,42)}=2.44$, $p=0.047$) and pain levels ($F_{(3,54)}=4.56$, $p=0.006$) and post hoc testing demonstrated a significantly lower oedema and pain levels in the both Kinesio Taping and MLD compared to control group. There was no difference found between Kinesio Taping and MLD groups ($p=0.933$). KOOS results were better in Kinesio Taping and MLD groups when compared to control group ($p=0.021$). There was no difference in KOOS results between Kinesio Taping and MLD groups ($p=0.851$).

Conclusions: Applications of both Kinesio Taping and MLD to remove congestion of lymphatic fluid at the early stage after TKA surgery were found affective in enhancing blood circulation and stimulating the lymphatic movement. In addition, Kinesio Taping and MLD were both effective on relieving pain and improving functional outcomes after TKA surgery.

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THU0728-HPR **A MIXED METHODS STUDY OF A GROUP PHYSIOTHERAPY PROGRAMME INCORPORATING EXERCISE AND EDUCATION IN FIBROMYALGIA PATIENTS**

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Background: Research on non-pharmacological treatments for fibromyalgia patients has demonstrated that exercise and education have positive effects on pain and disability¹. However, the traditional approach of studying treatment effectiveness based exclusively on quantitative measures has been questioned. There is growing recognition of the importance of integrating patients' perspectives into clinical research. Outcome measures focused on patients' perceptions of improvement have been increasingly used, however they do not offer expanded definitions of what constitutes a "successful" outcome². The further exploration of patients' perspectives about treatment benefits may contribute to the development of treatments that better match patients' needs.

Objectives: The aim of this study was twofold: firstly, to examine the effectiveness of a group physiotherapy programme (incorporating exercise and education) on pain intensity, disability and global impression of change in fibromyalgia

patients; and, to explore how patients, who achieved success in pain and/or disability (according to the score from the Patient Global Impression of Change Scale - PGIC), understand and make sense of the results.

Methods: A sequential explanatory mixed methods approach, combining quantitative (1 st phase) and qualitative methods (2nd phase), was carried out. In the 1 st phase, the participants underwent an 8 week (3 times weekly) standardised group programme. Participants were assessed at baseline, 4 and 8 weeks later. Outcome measures included the Numeric Pain Rating Scale (NPRS), the Revised Fibromyalgia Impact Questionnaire (FIQR) and the PGIC. Participants who had scored ≥ 5 in the PGIC were invited to participate in a focus group. In the 2nd phase, 2 focus groups meetings were carried out to collect data. A semi-structured interview schedule was used and the sessions were audiotaped and transcribed verbatim.

Results: Thirty-seven participants (females; 49.3±10.2 years) completed the 1 st phase. Analysis using SPSS revealed statistically significant improvements on pain intensity (mean SD change: -1.38 ± 2.363 , $p=0.001$) and disability (-21.577 ± 21.02 , $p<0.001$). In what concerns to participants' impression of change, 26 participants (70.3%) perceived substantial improvements on pain and disability (PGIC ≥ 5). From these, 12 accepted to participate in the focus groups. The qualitative analysis indicated that "doing more daily-life activities" and "taking less medication" were identified as the main reasons for the participants' improvements. According to these participants, the knowledge about strategies for self-management played a key role in their success.

Conclusions: The combination of data from both phases provided detailed information about the participants' perceptions regarding the key elements for achieving success with a physiotherapy programme. Further research on patients' perspectives regarding treatment effectiveness is recommended since it may contribute to the design of more effective and patient-centred treatments.

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THU0729-HPR **PATIENT WITH RHEUMATOID ARTHRITIS ARE STILL NOT SUFFICIENTLY PHYSICAL ACTIVE. TIME FOR A PERSONALISED PHYSICAL ACTIVITY PROGRAMME!**

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Background: For individuals with rheumatoid arthritis (RA), it is important to be sufficiently physically active. The international recommendation for physical activity states that each adult should perform moderate-intensity aerobic physical activity for at least 30 min, five days a week. In recent years, attention and awareness of the importance of being physically active has increased, including the development of exercise programmes for people with rheumatic diseases. However, it is unknown whether patients with RA actually became more physically active in daily practice in the past years.

Objectives: Primary, this study will estimate whether the percentage of RA patients that meet the recommended level of physical activity has changed in recent years. Secondary, this study aims to identify RA patients of the outpatient clinic who are physical inactive and motivated to improve their level of physical activity.

Methods: In 2014, 740 RA patients from seven outpatient clinics across the Netherlands filled out a questionnaire which contained items about self-reported physical activity and sport habits. In 2017, the same items were assessed again by sending a questionnaire to all 727 RA patients of the outpatient clinic in Bernhoven, a hospital in the south of the Netherlands. In addition, questions about motivation to increase the level of physical activity were added.

Results: In 2014, 52% of the RA patients met the recommendation for physical activity. In 2017, 33% of the 514 RA patients of the outpatient clinic in Bernhoven who filled out the questionnaire reported that they met the recommendation. Walking, cycling, aerobic and strength fitness training and swimming were mentioned as the most popular sports among RA patients in 2014 as well as in 2017. 133 of the 233 (57%) inactive RA patients of the outpatient clinic in Bernhoven reported that they were convinced to be able to improve their physical activity level and 51% reported that they were motivated to become more physically active in the upcoming months.

Conclusions: Despite the increased attention and awareness of the benefits of being physically active, the percentage of RA patients who meet the recommended level of physical activity did not increase between 2014 and 2017. This could be caused by the fact that the effect of the developed exercise programmes typically wear off after the exercise interventions have stopped. Another reason could be that patients with RA need to be more assisted to overcome barriers to implement physical activities in their daily life. A more personalised approach, based on coaching and shared-decision making to set personal physical activity goals, could increase compliance and reduce barriers to being physically active. Half of the inactive RA patients of the outpatient clinic are motivated to become more physically active. Therefore a new study will examine whether a personalised physical activity programme is effective to increase and sustain the level of physical activity in inactive RA patients.

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THU0730-HPR A SYSTEMATIC REVIEW OF ONLINE INTERVENTIONS FOR ADDRESSING PSYCHOLOGICAL DISTRESS IN RHEUMATOID ARTHRITIS AND OTHER LONG-TERM CONDITIONS

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Background: Psychological distress in rheumatoid arthritis (RA) is associated with severity of disease activity and poor treatment outcomes. Online interventions have the potential to reach large numbers of patients.

Objectives: The aims of this study were to identify online interventions for psychological distress and determine their effectiveness in RA and other long-term conditions.

Methods: The following databases were searched: MEDLINE, EMBASE, CINAHL and PsychINFO (Jan 2007-Jul 2017). Inclusion criteria were randomised controlled trials (RCTs) of effectiveness of interventions to address psychological distress in adults. Titles and abstracts were screened independently by 2 reviewers. Methodological quality was assessed by 3 reviewers using Cochrane's Risk of Bias tool. Data were extracted independently by 4 reviewers. Meta-analysis was not possible due to clinical heterogeneity of the included studies.

Abstract THU0730HPR – Table 1. Presents the studies and evidence of their effectiveness.

Study	Condition	Effectiveness
Boeschoten 2017	Multiple sclerosis	Not effective BDI: Effect size d=0.01; p=0.953
Bond 2010	Diabetes	Effective CESD: Effect size d=0.7; p<0.05 PAID: Effect size d=0.6; p<0.05
Cohn 2014	Type 2 diabetes	Mixed CESD: Effect size d=-0.44; p=0.05 Diabetes Distress Scale: Effect size not shown
Ferwerda 2017	Rheumatoid arthritis	Effective BDI: Effect size d=0.54; p=0.001 IRGL-Negative mood: Effect size d=0.38; p=0.01 IRGL-Anxiety: Effect size d=0.48; p=0.001
Fischer 2015	Multiple sclerosis	Effective BDI: Effect size d=0.53; p=0.01
Hunt 2009	Irritable bowel syndrome	Effective Anxiety Sensitivity Index -GI: Effect size d=0.63; p<0.01 Anxiety Sensitivity Index -non GI: Effect size d=0.70; p<0.01
Lorig 2008	Rheumatoid arthritis, osteoarthritis and fibromyalgia	Effective Health Distress Scale RA: d=0.5 Health Distress Scale OA: d=0.4 Health Distress Scale FM: d=0.03
Newby 2017	Type 1 and type 2 diabetes	Effective Patient Health Questionnaire: Effect size g=0.78; p<0.001 PAID: Effect size g=0.80; p=0.01
Nobis 2015	Type 1 and type 2 diabetes	Effective CESD: Effect size d=0.89; p<0.001
Rondags 2016	Type 1 and type 2 diabetes	Not effective Hypoglycaemia Fear Survey: RR=0.80; 95% CI 0.64 to 1.01; (p=0.059).
Van Bastelaer 2011	Type 1 and type 2 diabetes	Effective CESD: Effect size d=0.70; p<0.001.

Effectiveness of interventions is reported with effect sizes based on between-group differences in the primary outcomes at the end of each study.

Results: The review included 11 RCTs in the following conditions: arthritis,² multiple sclerosis,² diabetes⁶ and irritable bowel syndrome.¹ The quality of most RCTs was poor due to attrition, selective reporting and limited follow-up. Eight disease-specific and 3 generic interventions were identified. Cognitive behavioural therapy was the most common intervention type. All interventions were online but support delivery and outcome measures varied significantly. Nine of the 11 interventions were shown to be effective, including 2 for RA. Most interventions were not available outside of the trial.

Conclusions: The findings are inconclusive due to the overall bias of the included studies and insufficient evidence in RA. More good quality RCTs are required to determine effectiveness of online interventions in RA.

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THU0731-HPR THE ABDOMINAL HYPOPRESSIVE TECHNIQUE CAN BE USED TO TREAT LOW BACK PAIN?

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Background: In 1980, Dr. Marcel Cauriez created the abdominal hypopressive technique (AHT) with the goal of reprogramming the core muscles. The term hypopressive refers to the decrease of the pressure related to the thoracic, abdominal and pelvic cavities. However most traditional exercises are hyperpressive – they increase the internal pressure. In addition, conventional core exercises train conscious control, but the core is designed to cope at a subconscious level. Publications testing AHT are surprisingly low and are mostly published in not indexed journals. Despite the lack of scientific evidence to support its benefits, AHT is gaining popularity among European physiotherapists as a recommended treatment for a wide spectrum of disorders.

Objectives: To test the effect of a structured AHT program on low back pain intensity and disability in women and the retention of effect after two-month.

Methods: A cross-over intervention trial with random assignment and blind assessments was carried-out. The experimental sequence included a first period of intervention or control (rest), and a second period in which the initial groups were switched to the complementary. The exercises included in the AHT program were standardised by two Doctors in Physiotherapy trained in this technique. Measures were taken by a trained physiotherapist blinded to the group allocation at baseline, after finishing the first period, and after completing the entire sequence. Efficacy was defined as changes between groups in low back pain intensity and disability, measured with a visual analogue scale (VAS) and the Oswestry Disability Index (ODI) respectively.

Results: Overall, 42 participants were randomly assigned to a sequence (n=21 for each group). From the initial sample, 88% have been diagnosed by a physician with low back pain at least once in their lives and 100% of them self-reported low back pain at baseline. Baseline low back pain intensity measures did not differ between groups. The VAS for the group that started as control was 4.0 (2.5 to 5.4) vs 4.3 (2.8 to 5.7) for the group that started with the AHT program (p=0.774). However, the difference (Δ) after two months was statistically significant between groups (group that started as control, 0.3 (-0.1 to 0.6) vs the group that started with AHT, -2.7 (-3.9 to -1.6); p<0.001). Improvements decayed by 0.87 after a two-month follow up (p=0.094).

Regarding low back pain disability, similar results were found. ODI baseline measures between groups were not significantly different with 10.3 (5.7 to 14.9) for the group that started as control and 7.7 (4.1 to 11.3) for the group that started with the AHT program (p=0.368). The Δ after two months showed that both groups improved (started as control, -0.2 (-2.7 to 2.4)) but the improvement in the AHT group was greater (-3.5 (-7.1 to 0.3)); p=0.120. Improvements were maintained after a two-month follow.

It is important to highlight that a sequence effect was noted, with residual effect of AHT; therefore, only results from the first sequence were analysed.

Conclusions: A structured AHT program produce benefits on low back pain intensity (short-term) and disability (long-term). However, further research is needed to test its effectiveness in comparison with conventional core exercises.

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