	Baseline Mean ±SD	Control group Post- intervention Mean±SD	Intra-group analysis p- value	Baseline Mean ±SD	ProFibro group Post- intervention Mean±SD	Intragroup analysis p- value	Intergroup analysis p- value
WPI	13,6±3,7	12,3±4,5	0323	13,6±4,0	12,5±4,6	0442	0670
SS	9,2±1,9	7,6±2,4	0,024*	9,4±1,5	7,6±2,9	0,025*	0912
FIQR							
Function	18,5±6,9	15,8±7,6	0248	16,5±6,8	14,9±6,8	0588	0808
Impact	12,3±5,8	9,5±5,1	0112	13,0±4,2	9,8±5,3	0,041*	0777
Symptoms	34,6±7,8	30,3±8,2	0090	33,1±8,1	29,0±7,1	0090	0968
Total score	65,4 ±18,0	55,5±18,2	0093	62,6 ±16,8	53,7±17,1	0105	0745
VAS	5,7±2,2	5,3±2,3	0555	5,9±2,2	5,1±2,6	0291	0593
Self-care	53,5 ±11,0	54,3±11,0	0839	51,9±9,7	56,8±10,2	0127	0132

SD: standard deviation. *significant.

received a paper booklet of similar content. Subjects were assessed at baseline and after 6 weeks with the Revised Fibromyalgia Impact Questionnaire (FIQR), Widespread Pain Index (WPI), Pain Visual Analogue Scale (VAS), Symptom Severity (SS) Scale and Revised Appraisal of Self-Care Agency Scale.

Results: Control group showed significant improvement only in SS compared to baseline. ProFibro group showed significant improvements in SS and FIQR over-all impact domain. In intergroup comparison, no differences in change scores were found.

Fibromyalgia Impact Questionnaire (FIQR): a validation study. Clin Rheumatol 2013;32:1199–206.

- [4] Marques AP, Assumpcao A, Matsutani LA, Pereira CAB, Lage L. Pain in Fibromyalgia and Discriminative Power of the Instruments: Visual Analog Scale, Dolorimetry and the McGill Pain Questionnaire. Acta Reumatol Port 2008;33:345–51.
- [5] Damasio BF, Koller SH. The Appraisal of Self-Care Agency Scale - Revised (ASAS-R): adaptation and construct validity in the Brazilian context. Cad Saude Publica 2013;29:2071–82.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3124

THU0745-HPR USE OF WEARABLE ACTIVITY TRACKERS TO IMPROVE PHYSICAL ACTIVITY BEHAVIOUR IN RHEUMATIC CONDITIONS – A SYSTEMATIC REVIEW

T. Davigne¹, A. Pallot², L. Gossec¹, B. Fautrel¹. ¹GRC 08 UMR S 1163, Paris; ²IFMK Ceerf, Saint-Denis, Paris, France

Background: Patients with rheumatic conditions, such as low back pain (LBP), lower limb osteoarthritis (OA) and chronic inflammatory rheumatic diseases (CIRDs) are vulnerable regarding physical inactivity, although they derive specific benefits from regular physical activity.^{1, 2} Wearable activity trackers (WATs), including simple pedometers and more advanced WATs (e.g. Fitbit), could be a promising strategy to improve physical activity levels.

Objectives: To obtain an overview regarding the adherence and effectiveness of WATs to increase physical activity levels and to reduce sedentary behaviours in rheumatic patients.

Methods: This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) statement (PROSPERO CRD42018083532).

All articles available in English, published between 2000 and 2018 (January), in MEDLINE, EMBASE, PsycINFO and Central Register for Controlled Trials were screened as well as extensive hand search. Study selection and data collection were performed by two independent reviewers. Studies were included if they assessed WATs in patients with OA, LBP or CIRDs. Data collected pertained to (a) adherence (i.e. % days with the WAT worn), (b) efficacy on physical activity (i.e. increase in step counts or moderate to vigorous physical activity), (c) efficacy on symptoms (function, pain, quality of life). Standardised mean differences were calculated and reported as null (<0.2) small (0.2–0.5) moderate (0.5–0.8) or large (>0.8).

Results: Of 2378 abstracts, 15 studies were included in the review (of which, 7, 47%, published in 2017) with a total of 1344 patients: 42% men, range of mean age 16–64 years. Among the 15 studies, 7 (47%) were related to OA, 5 (33%) to LBP and only 3 (20%) to CIRDs. In all, 7 (47%) reported on advanced WATs and 8 (53%) on simple pedometers. (a) Adherence: 4/15 studies (27%) reported adherence, in a total of 416 patients. The weighted mean duration of the studies was 12.6 weeks and adherence was excellent (weighted mean time worn: 92.7% (SD 4.6)). (b) Efficacy on physical activity was reported in 11/15 (73%) studies (ie 876 patients). The mean increase in steps per day was 1579 (SD 770) in the intervention group over a weighted mean duration of 22.6 (SD 13.6) weeks. Effect sizes were null (2/10 studies), small (4/10 studies), moderate (3/10 studies) or large (1/10 studies) (figure 1). (c) For impact on symptoms, 14/15 (93%) studies reported on function, pain or quality of life (or several of these leading to 20 analyses). Overall, effect sizes were null (14/20, 70%) or small (6/20, 30%).

Conclusions: Findings suggest that both ProFibro app and the booklet are effective for reducing symptom severity. ProFibro may also reduce the overall impact of FM in the quality of life. More studies with larger sample sizes and longer periods of intervention are needed to confirm the findings of the present study.

REFERENCES:

- [1] Yuan SLK, Marques AP. Development of a Mobile Application to Promote Self-Care in Brazilian Patients with Fibromyalgia [abstract]. In: WCPT Congress Proceedings 2017 Jul 2–4; Cape Town. London: WCPT 2017. Abstract Nr. SI-PL-1081.
- [2] Wolfe F, Clauw DJ, Fitzcharles MA, Goldenberg DL, Katz RS, Mease P, et al. The American College of Rheumatology preliminary diagnostic criteria for fibromyalgia and measurement of symptom severity. Arthritis Care Res (Hoboken) 2010;62:600–10.
- [3] Paiva ES, Heymann RE, Rezende MC, Helfenstein M, Jr, Martinez JE, Provenza JR, et al. A Brazilian Portuguese version of the Revised

Conclusions: Short term adherence to WATs was high in published studies of LPB, OA or CIRDs but the efficacy to increase physical activity levels was small to moderate. There were no modifications of symptoms. The incorporation of WAT in patient care remains challenging. Further studies are needed, especially for CIRDs.

REFERENCES:

- [1] O'Dwyer T. Rheumatology 2014 Oct 1;53(10):1812–7.
- [2] van der Heijde D, Ann Rheum Dis 2017;210770.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5084

THU0746-HPR EFFICACY OF SURGICAL TREATMENTS FOR PAIN ASSOCIATED WITH TRAPEZIOMETACARPAL (THUMB BASE) OSTEOARTHRITIS: A SYSTEMATIC REVIEW

L. Hamasaki^{1,2,3}, S. Laprise⁴, P.G. Harris^{1,2,3}, D. Ziegler², H.T.V. Zomahoun⁵, N. J. Bureau^{1,2,3}, N. Gaudreault^{6,7}, M. Choinière^{1,3}. ¹Université de Montréal; ²Centre hospitalier de l'Université de Montréal (CHUM); ³Research Center of the CHUM, Montreal; ⁴Physiothérapie MyoSynergie, Amos; ⁵Quebec Spor-support Unit, Quebec; ⁶Université de Sherbrooke; ⁷Centre hospitalier universitaire de Sherbrooke, Sherbrooke, Canada

Background: Trapeziometacarpal osteoarthritis (TMO) is a highly prevalent, painful, and debilitating disorder. Unfortunately, TMO management remains sub-optimal and this is in part due to the lack of knowledge on evidence-based care management. The aim of this systematic review (SR) is to document the efficacy of existing surgical interventions for reducing TMO pain.

Methods: We performed this SR according to the Cochrane intervention review methodology. Trials and SRs assessing surgical intervention efficacy on TMO were identified via 16 databases and hand search via the included references. Studies selection, data extraction and methodological quality assessment were conducted by two independent reviewers. Effect estimates of interventions were extracted from SRs when available, otherwise estimated from randomised controlled trials (RCTs). If RCTs were not available, non-RCTs (NRCTs) were referred to. Characteristics and efficacy of interventions were quantitatively analysed. In addition, we rated the level of evidence quality by using the GRADE tool.

Results: A total of 8 SRs, 16 RCTs and 41 NRCTs were identified. Most of these studies had unclear to high risk of biases which may have compromised their results. More than 40 comparisons of different surgical interventions were identified, including arthroscopic debridement (AD) (n=2 studies); 1 st metacarpal osteotomy (n=3); resection of 1 st metacarpal/trapezium (R) (n=3); arthrodesis (A) (n=14); trapeziectomy (T) (n=16); hematoma distraction arthroplasty (n=5); ligament reconstruction (LR) (n=5); tendon interposition (TI) (n=13); LRTI (n=17); and manufactured implants - Arex (n=1), Artelon (n=7), chondrocostal autograft (n=4), De la Caffinière (n=5), Elektra (n=5), Graftjacket (n=1), Gore-Tex (n=6), Guepar (n=3), Ledoux (n=2), Maia (n=1), Marlex (n=5), porcine dermal collagen xenograft (n=2), pyrocarbon Pi₂ (n=5), PyroDisk (n=1), Pyrocordan (n=1), and Swanson (n=11). The effect sizes of most of the interventions were small (standardised mean differences 0.04–4.81, risk ratios 1.05–11.1) and/or their 95% confidence intervals included null value. Nonetheless, the superiority of the following interventions was supported by the evidence of very low to moderate quality: AD

over conservative interventions; R+GraftJacket over R; A over R, T+TI and T+LRTI; partial T+chondrocostal autograft over T; T over T+porcine xenograft; T+TI over Artelon; T+LRTI+ bone tunnel over T+LRTI without tunnel for a short-term period; T+LRTI over T+LRTI+ Mitek anchor suture; T+Elektra over T+TI; PyroDisk over Pyrocordan.

Conclusions: This SR allowed collating comprehensive evidence on the efficacy of surgical interventions for TMO pain. Based on the available scientific evidence, arthrodesis appears superior to other interventions (R, T+TI and T+LRTI) to alleviate pain, however, adverse effects (e.g., nonunion) have been reported. Thus, it goes without saying that when choosing a proper surgical intervention for TMO, not only its analgesic effects but also the risk and gravity of adverse effects must be taken into consideration.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.2870

THU0747-HPR THE EFFECT OF CLINICAL PILATES EXERCISES ON DISEASE SPECIFIC INDICES, CORE STABILISATION AND BALANCE IN PATIENTS WITH ANKYLOSING SPONDYLITIS

Y. Acar¹, B. Gürpınar¹, G. Can², F. Önen², N. Özdemir¹. ¹Physical Therapy and Rehabilitation; ²Rheumatology, Dokuz Eylül University, izmir, Turkey

Background: The Pilates method has been widely used to improve physical fitness and rehabilitation in general. Although Pilates method gives precedence to the spine and focuses on controlled movement, posture, and breathing, which are obviously the basic goals of Ankylosing Spondylitis(AS) treatment there is limited literature on the effectiveness of the Pilates method as treatment for patients with AS.

Objectives: The aim of this study was to investigate the efficacy of clinical pilates exercises on on disease-specific indices, core stabilisation and balance in patients with AS.

Methods: The study included 21 AS patients(11 male, 10 female). Demographic and physical characteristics(age, height, weight, body mass index) were recorded. Evaluations were performed before clinical pilates treatment and after 8 weeks clinical pilates treatment. Bath Ankylosing Spondylitis Disease Activity Index(BASDAI) for disease activity, Bath Ankylosing Spondylitis Functional Index (BASFI) for functional capacity, Bath Ankylosing Spondylitis Mobility Index (BASMI) for spinal mobility were used. Balance was evaluated with Biodex Balance System SD. Overall postural stability indices obtained with bilateral stance (stable and unstable platform), single leg stance(stable platform) and overall limits of stability scores were recorded. Static and dynamic endurance tests were used to evaluate core stabilisation. Modified sit-ups test for dynamic core endurance and static core endurance tests recommended by McGill were used to evaluate core stabilisation. Patients attended group clinical pilates exercise sessions three times a week, during 8 weeks with physiotherapist.

Results: The mean age of patients was 43.9±8.93 years and the mean body mass index(BMI) was 27.37±3.68 kg/m². Pre and post treatment measurements were shown in table 1. Statistically significant improvement were observed in all parameters except stable platform bilateral stance and single leg stance postural stability results(p<0,05).

Abstract THU0747HPR – Table 1. Comparison of pre and post treatment measurements

	Pre-Treatment Median(IQR)	Post Treatment Median(IQR)	p value
BASDAI	1,70 ^(1,01–3,27)	0,8 (0,56–1,75)	0,000*
BASFI	1,8 (0,35–3,13)	1 (0–1,83)	0,001*
BASMI	2,4 (1–3,7)	2 (0,7–3,1)	0,002*
Flexor endurance(s)	30,0 (20,5–60,35)	54,50 ^(42,85–86,00)	0,000*
Extensor endurance(s)	44,6 (20,75–63,00)	76,5 (54,25–91,77)	0,000*
Lateral side bridge(right)(s)	39 ^(21,86–60,00)	59,00 ^(43,61–80,00)	0,000*
Lateral Side Bridge(Left)(s)	42,40 ^(27,35–55,90)	65 ^(34,65–89,00)	0,001*
Sit-up test(reps)	16 ^(3,50–25,50)	20 ^(13–26,50)	0,001*
Bilateral stance (stabil)	0,30 (0,2–0,45)	0,3 (0,2–0,40)	0,907
Bilateral stance (unstabil)	1,5 (1,25–2,10)	1,40 ^(1,10–1,75)	0,007*
Single leg stance(Right)	0,7 (0,6–0,95)	0,7 (0,6–0,85)	0,298
Single leg stance(left)	0,7 (0,6–1,05)	0,7 (0,6–0,80)	0,463
LOS (overall)	51 ^(46–62)	64 ^(52,5–70,5)	0,007*

Mann Whitney U test. IQR: Interquartile Range

Conclusions: Clinical pilates exercises is beneficial and safety method in patients with AS to improve functional capacity, disease activity, spinal mobility, core stabilisation and balance. Clinical pilates is an enjoyable and effective way to exercise for Ankylosing Spondylitis patients.

REFERENCE:

- [1] Altan L, et al. Effect of Pilates training on people with ankylosing spondylitis. Rheumatology international 2012.32(7):2093–2099.