

transit, chronic diarrhoea, chronic constipation, and alternation between diarrhoea and constipation.

The risk of incident RA was estimated using an age-adjusted Cox model that considers smoking status as a time-dependent variable.

Results: 70598 women from the E3N study were included in the study. A total of 1239 patients reported an incidental RA, of which 350 cases were included in the study (and 280 in the analysis of intestinal transit disorders). Non-ascertained cases were excluded from the analyses. The age at inclusion in the study was 49.0 years (\pm 6.4). The mean duration of follow-up was 21.2 (\pm 1.3) years.

Passive smoking exposure during childhood increased the association between the RA risk active and adult active smoking. In ever smokers who had childhood passive exposure to smoke, the HR was 1.73 [1.20; 2.50] as compared with non-smokers who were not exposed during childhood, while it was 1.37 [1.08; 1.73] in active smokers who were not exposed during childhood.

A history of chronic diarrhea was associated with increased RA risk (HR =2.32 [1.41, 3.81]), while chronic constipation or alternation between diarrhoea and constipation did not.

Smoking status	Controls (%)	RA (%)	HR [95% CI]
	N=70248	N=350	
Non smoker			Reference
No passive smoking in childhood	32440 (46,18)	137 (39,14)	
Non smoker			
+ Passive smoking in childhood	5010 (7,13)	30 (8,57)	1,43 [0,97; 2,13]
Ever smoker			
No passive smoking in childhood	27394 (39,00)	147 (42,00)	1,37 [1,08; 1,73]
Ever smoker			
+ Passive smoking in childhood	5404 (7,69)	36 (10,29)	1,73 [1,20; 2,50]
Normal transit	44254 (71,48)	187 (66,79)	Reference
Chronic diarrhea	1707 (2,76)	17 (6,07)	2,32 [1,41; 3,81]
Constipation	8661 (13,99)	43 (15,36)	1,16 [0,84; 1,62]
Alternating diarrhea - constipation	7291 (11,78)	33 (11,79)	1,07 [0,74; 1,55]

Conclusions: This study confirms the link between active smoking and the risk of RA. It suggests for the first time that in smokers, exposure to tobacco early in life, through passive smoking in childhood significantly increases this risk. Our study highlights the importance of avoiding any tobacco environment in children, especially in those with a family history of RA. Also, it shows for the first time an association between a history of chronic diarrhoea and the risk of developing RA. The association supports the hypothesis of dysbiosis (microbiota abnormality) as a risk factor for the emergence of autoimmunity. These data perfectly fit with the preclinical scheme of RA where an external event occurs at an early stage to promote emergence of auto-immunity, followed years after by clinical RA.

Disclosure of Interest: None declared

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HPR move to improve

OP0254-HPR HAND EXERCISE FOR WOMEN WITH RHEUMATOID ARTHRITIS AND DECREASED ADL ABILITY: AN EXPLORATORY RANDOMISED CONTROLLED TRIAL

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Background: Decreased strength and range of motion in the hand are often seen in rheumatoid arthritis (RA). Positive effects on hand function in RA patients after hand exercise and individual education in joint protection including coping strategies (ADL education) is shown (1;2). However, it is unknown if a combination of both will further improve hand performance.

Objectives: To investigate the effect on ADL ability of a hand exercise program as add on to an ADL education program in women with RA.

Methods: Women with RA involving the hand on stable medication for at least three months were recruited.

At baseline participants were examined by a rheumatologist who assessed joints of the hand and ruled out contraindications for participation e.g. massive malalignment of the joints. Inflammatory markers of the blood, hand pain and grip strength were also measured. The ADL motor ability was assessed using the observation-based Assessment of Motor and Process Skills (AMPS). After baseline examination randomized to ADL education + hand exercises (intervention; IG) or only ADL education (control; CG) was made.

All participants received three to four sessions with an occupational therapist learning how to perform ADL tasks overcome their specific hand problems. The

intervention group also received a hand exercise program, to be conducted four times a week, for eight weeks, containing exercises for improving range of motion and strength; once a week the exercise program was supervised by a physiotherapist, to correct and prevent overload and to increase load if possible. Primary outcome measure was change in observed ability to perform ADL tasks (AMPS) at week 8. Secondary outcomes include grip strength, pain, joint count, inflammatory markers and self-reported function.

After eight weeks, all baseline measures were repeated and changes from baseline were calculated based on the Intention To Treat (ITT) population.

Clinicaltrials.gov Identifier: (NCT02140866)

Results: Fifty five patients were randomised to IG (n=28) or CG (n=27); 22 and 25 patients, respectively, completed the trial. The ITT-populations mean age was 63.8 (12.8) years, mean disease duration was 12.4 (11.0) years. Baseline tender and swollen joint count was 5.07 (4.85) and 1.37 (1.72) respectively, the hand pain was 41.95mm (right) and 35.78mm (left) (VAS) and hand grip strength was 18.25 kg (right) and 17.46 kg (left). Baseline AMPS ADL motor measure was 1.36 (0.46). As judged by the 95% confidence intervals, no difference in change from baseline was seen between the groups (see table).

Change from baseline in and between groups (ITT analysis)

	Intervention group (n=28)	Control group (n=27)	Difference between groups	p-value
AMPS motor	0.24 (0.09-0.39)	0.20 (0.05-0.35)	0.04 (-0.17-0.25)	0.70
Tender joint count (28 joints)	-0.57 (-1.86-0.73)	0.35 (-0.95-1.64)	-0.92 (-2.77-0.93)	0.32
Swollen joint count (28 joints)	0.25 (-0.23-0.73)	0.16 (-0.32-0.64)	0.10 (-0.59-0.77)	0.78
CRP	-0.70 (-2.41-1.02)	1.77 (-0.09-3.63)	-2.45 (-5.0-0.06)	0.06
HAQ	-0.07 (-0.17-0.03)	0.01 (-0.09-0.12)	-0.08 (-0.23-0.06)	0.24
Hand pain activity (VASmm)	-1.17 (-7.82-5.48)	0.55 (-6.23-7.31)	-1.71 (-11.20-7.79)	0.72
Right/left	-3.43 (-11.07-4.20)	-0.81 (-8.59-6.97)	-2.62 (-13.62-8.38)	0.64
Hand strength (kg)	1.43 (0.40-2.45)	0.18 (-0.86-1.23)	1.24 (-0.23-2.71)	0.10
Right/left	1.00 (-0.47-2.47)	-0.36 (-1.83-1.11)	1.36 (-0.71-3.44)	0.19

Conclusions: A hand exercise program as add on to an ADL education did not improve ADL ability more than ADL education alone in women with RA experiencing decreased ADL ability involving the hands.

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OP0255-HPR AN ADD-ON PROGRAMME IMPROVED THE SHORT-TERM, BUT NOT THE LONG-TERM EFFECT OF REHABILITATION IN PATIENTS WITH RHEUMATIC DISEASES: RESULTS FROM A PRAGMATIC MULTI-CENTRE STEPPED-WEDGE CLUSTER RANDOMIZED CONTROLLED TRIAL

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Background: Multidisciplinary rehabilitation is widely used alongside medical treatment of patients with rheumatic diseases. Although beneficial effects of such rehabilitation have been demonstrated, patients are mostly back to their initial health status 6 to 12 months after discharge.

Objectives: To evaluate an add-on rehabilitation programme designed to enhance and prolong the effect of rehabilitation in adult patients with rheumatic diseases.

Methods: We conducted a pragmatic multi-centre stepped-wedge cluster randomized controlled trial in six rehabilitation centres in Norway. All centres started simultaneously to include patients in the control phase (traditional rehabilitation),

whereupon they switched to the intervention phase (add-on programme) sequentially and in randomised order. The add-on programme comprised structured individualized goal planning, motivational interviewing, a self-help booklet and four supportive follow-up phone calls the first five months after discharge. Data were collected on admission, discharge, 6 and 12 months after discharge. Primary outcome was health related quality of life (HR-QoL) measured by the individualized Patient Generated Index (PGI). The main statistical analysis was a linear repeated measures mixed model performed on the intention to treat population (all available data).

Results: 389 patients with various rheumatic diseases (SpA, RA, OA, and SLE) were included (table 1). A significant treatment effect of the add-on intervention on HR-QoL was found on discharge (mean difference =3.32 [95% CI: 0.27, 6.37], $p=0.03$). There were no significant differences between the groups at 6 and 12 months. Treatment compliance was 94%, and response rate >80% at all time points. Both groups showed a positive effect of rehabilitation in terms of increased HR-QoL at discharge, which subsequently declined, although the values remained at higher levels after 6 and 12 months compared with baseline values (figure 1).

Table 1. Baseline characteristics of included patients (n=389)

	Control group (n=195)	Intervention group (n=194)
Age, yrs, mean (min, max)	56.9 (24, 89)	57.5 (23, 89)
Gender, ♀, n (%)	127 (65.1)	147 (75.8)
Disease duration, yrs, mean (SD)	21.0 (13.3)	19.1 (13.1)
Paid work, n (%)	69 (35.8)	76 (39.4)
Using TNF-inhibitors, n (%)	44 (22.6)	39 (20.1)

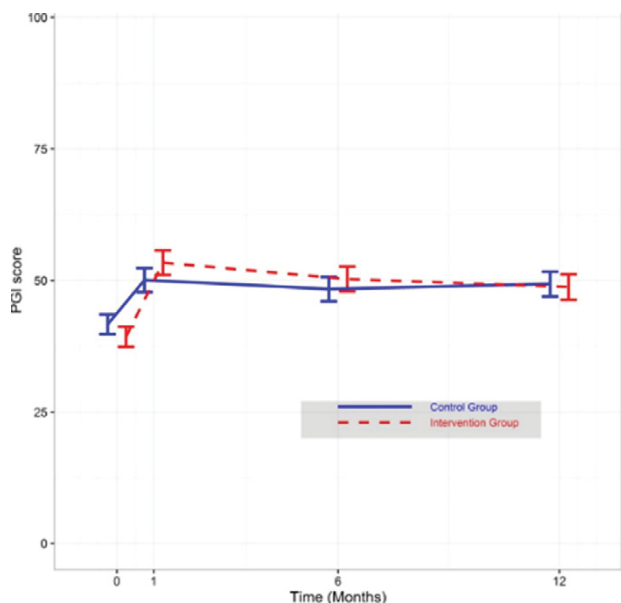


Figure 1. Health related quality of life in patients with rheumatic diseases measured by the Patient Generated Index (PGI), 0-100, 0 low HR-QoL. Vertical lines indicate the mean values (centre) with 95% confidence intervals at the four measurement time points: on admission to rehabilitation stay (baseline), at discharge, and six and twelve months after discharge. Horizontal lines show the fluctuating mean PGI values from baseline to 12 months after discharge.

Conclusions: The add-on intervention enhanced the short-term effect of rehabilitation with respect to HR-QoL, but did not prolong the effect as intended. The findings suggest that individualized structured goal planning should be considered important and relevant in rehabilitation of patients with rheumatic diseases. Although this study evaluated the effect of a complex intervention, and not the effect of single components, the results indicate that supportive telephone follow-up after discharge do not prolong the effect of rehabilitation. However, this study showed a longer lasting effect of rehabilitation in both the control- and intervention group, compared to previous reports.

Disclosure of Interest: None declared

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OP0256-HPR PHYSICAL ACTIVITY AND INACTIVITY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Previous studies indicate that patients with systemic lupus erythematosus (SLE) have a reduced physical activity compared to controls and public health recommendations. However, most studies have used questionnaires without expressing the energy requirements for the activities.

Objectives: We investigated if self-reported physical activity, expressed in Metabolic Equivalent of Task (METs)-minutes/week, in patients with SLE is reduced. The aim was also to investigate if they fulfil the public health recommendations for physical activity.

Methods: 103 patients (93 women/10 men, mean age 51.5 (SD 15.9) years) with SLE according to the 1982 revised ACR criteria for SLE were involved. Physical activity was assessed with the short version of the International Physical Activity Questionnaire (IPAQ), which measure physical activity the last seven days. The IPAQ scientific group classify physical activity into the following categories: "inactive", "minimally active"(equal to public health recommendations) and "health enhancing physical activity". Those individuals who do not meet the criteria for the two latter categories are considered inactive.

Results: The patients reported that they were physically active in median 1666 (interquartile range 693; 3759) METs-minutes/week (n=84). The patients answered that they were sitting in median 6 (interquartile range 4; 8) hours/day the last week (n=98). 59.6% of the patients achieved a minimum of at least 600 METs-minutes/week, i.e. they were active 5 or more days with any combination of walking, moderate-intensity or vigorous intensity activities ("minimally active"). 17.9% achieved a minimum of at least 1500 METs-minutes/week, i.e. they were active on vigorous-intensity on at least 3 days or; achieved a minimum of at least 3000 METs-minutes/week, i.e. they were active 7 or more days on any combination of walking, moderate-intensity or vigorous intensity activities ("health enhancing physical activity"). 22.6% of the patients were "inactive".

Conclusions: In the investigated patients with SLE, the majority were "minimally active" according to IPAQ-categories, which is sufficiently physically active according to the minimum level of public health recommendations. However, only 1/5 reached "health enhancing physical activity" category and 1/5 were considered physically "inactive". Health professionals could use the short version of IPAQ to find out which patients with SLE need support in physical activity programmes.

References:

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OP0257-HPR RELATIONSHIP BETWEEN SLEEP DISORDERS AND DISEASE ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is the prevalent autoimmune inflammatory arthritis found in adults, with the worldwide prevalence ranging from 0.4% to 1.3% (1). Patients with this condition have permanent changes with different severity of arthritis deformities as well as functional disturbances; Studies had shown that every painful condition disturbs sleep, which can lead to mood and abilities disturbances (2).

Objectives: The aim of this study was to describe the socio-demographic profile and sleep disorders in RA patients from a specialized RA clinic in Colombia and relationship with disease activity.

Methods: A descriptive cross-sectional study was performed in a specialized clinic dedicated to care patients with rheumatoid arthritis (RA). Data was collected during our psychology consultation, through semi-structured interviews and non-probability sampling. Descriptive epidemiology was applied for continuous variables, using measures of central tendency and dispersion for categorical and qualitative variables by averages and percentages. We analyzed bivariate association with Pearson's χ^2 .

Results: We included 1398 patients attending to our psychology consultation. Mean age was 55±8. 80% were female and 20% male. Mean DAS28 was 2.6±1.3, mean HAQ was 1.6±1.6; Patients had the disease for an average of 12 years ± 8; 41% of patients had comorbidities associated with non-autoimmune disease, 14% comorbidities related to autoimmune disease; 35% of our patients did not report other comorbidities. Most of patients were married 60%, followed by divorced 19%, single 14% and widowed 7%. Regarding occupation 33% were employees, 25% were housekeepers or retired due to age, 12% were retired due to disabilities, and 3% unemployed. Of the total population 45% had elementary school, 32% high school, 8% college education, 7% graduate education and 7% were illiterate. 17% of patients lived alone. When the psychologist asked about sleep disorders 69% reported no to have any, 25% primary insomnia, 1% hypersomnia, 3% OSAS and 2% alterations on the circadian rhythm. Disease activity was statically associated with sleep disorders ($p<0.00$).

Conclusions: Sleep problems are an important aspect to consider in a patient with RA and are correlated to disease activity; it is important to have a multidisciplinary care team for the patient with RA, including a psychologist that can manage this kind of illness in order to improve the life quality of patients.

References:

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