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FRI0236

MIGHT A 12-WEEK AEROBIC EXERCISE INTERVENTION IMPROVE PATIENT-REPORTED OUTCOMES IN WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS?

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Background: Despite the relevant advance in treatment options and survival rates in systemic lupus erythematosus (SLE), patient's quality of life (QOL) and other patient-reported outcomes (PROs) do not seem to improve accordingly [1]. PROs provide valuable information about the patient's perceptions across a variety of domains that should be considered in a successful management of this condition [2]. Exercise seems to be a safe way to improve cardiorespiratory fitness [3], and could have also a positive influence on PROs in SLE.

Objectives: To evaluate the effects of 12-week aerobic exercise intervention on PROs (QOL, depression, stress, and fatigue) in women with SLE.

Methods: These are secondary outcomes of a non-randomized clinical trial [NCT03107442]. A total of 58 participants with SLE were assigned to exercise group ($n=26$) or control group ($n=32$). The exercise intervention followed the American College of Sports Medicine guidelines, and consisted of 12-week progressive aerobic exercise on a treadmill (2 sessions/week) between 40%-75% of the individual's heart rate reserve [3]. Attendance of $\geq 75\%$ was set for inclusion in the analyses. The control group received verbal information about a healthy lifestyle. At baseline, and at week 12, PROs were assessed including the physical and mental summary scores of the 36-item Short-Form Health Survey (SF-36), depression (Beck Depression Inventory; BDI-II), perceived stress (visual analogue scale) and fatigue (Multidimensional Fatigue Inventory; MFI-20). A total of 49 women with SLE (age: 44.5 ± 14.2 years) completed all the assessments (exercise=21; control=28) and were included in the per-protocol (primary) analyses. The exercise and control group were comparable in age, disease duration and SLE activity, sociodemographic characteristics, and BMI at baseline, although there were differences in BDI-II scores. Baseline values and BDI-II values were used as covariates in the analyses.

Results: In comparison to the control group, the exercise group showed a significant reduction in general fatigue (mean difference -2.11 units; 95% CI -4.18 to -0.04; $P=0.046$) and physical fatigue (mean difference -3.90 units; 95% CI -6.3 to -1.5; $P=0.002$) following the intervention. There were no between-group differences in the changes from baseline to week 12 either in physical ($P=0.828$) or mental ($P=0.767$) QOL, depression ($P=0.498$), perceived stress ($P=0.247$) or other fatigue dimensions (mental, reduced motivation, reduced activity, all $P>0.05$).

Conclusion: The results of this study suggest that 12 weeks of progressive aerobic exercise might improve relevant dimensions of fatigue in women with SLE, despite absence of effects on QOL, depression or perceived stress.

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FRI0237

OMEGA-3 AND OMEGA-6 FATTY ACIDS IN SJÖGREN'S SYNDROME: CLINICAL IMPLICATIONS AND THEIR ASSOCIATION WITH INFLAMMATION

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Background: Essential ω -3 and ω -6 fatty acids (FA) are natural modulators of inflammation activity; however, their role in primary Sjögren's syndrome (pSS) is unknown.

Objectives: To evaluate the intake and serum levels of ω -3 and ω -6 FA in patients with pSS, and to correlate them with ocular and oral signs and symptoms, disease activity as well as with the presence of a panel of inflammatory chemokines/cytokines in saliva and tears.

Methods: We included 108 patients with pSS according to EULAR/ACG criteria. We excluded patients under ω -3 and ω -6 supplementation. Dietary information was obtained from a semiquantitative food frequency questionnaire of one-day reminder (applied by a trained interviewer), and processed using computerized nutritional analysis software. Fasting blood samples were collected. We measured the serum levels of ω -3 (α -linolenic acid [α -L], eicosapentaenoic acid [EPA], docosahexaenoic acid [DHA]) and ω -6 (linoleic acid [LA], arachidonic acid [AA]) using gas chromatography flame ionization. We assessed the ESSDAI score, ESPPRI, OSDI, tear film break-up time, Schirmer-I test and the SICCA Ocular Staining Score (OSS). In a subgroup of patients, we obtained tears and saliva samples that were frozen at -86°C until assayed. Once defrosted, the levels of CXCL8, CXCL10, CCL2, IL-22 and IL-21 in saliva and CXCL8, CXCL10, CCL2 and CXCL9 in tears were measured by Luminometry.

Results: The median age was 56.12 ± 13.7 years, 94.4% women and median disease duration 10 years. The FA ω -3 and ω -6 intake was 0.43 g/day and 3 g/d, respectively. The levels of α -L were 6.6 $\mu\text{g/mL}$, DHA 26 $\mu\text{g/mL}$, total ω -3 (α -L +DHA) 25.4 $\mu\text{g/mL}$, LA 168.5 $\mu\text{g/mL}$, AA 34 $\mu\text{g/mL}$, and total ω -6 (LA+AA) 205 $\mu\text{g/mL}$. We did not find a correlation among serum levels and food intake. Thus, further analyses were focused on serum results. We found a negative correlation between α -L and the OSDI ($\rho = -0.42$, $p = 0.01$) and ESSDAI ($\rho = -0.26$, $p = 0.03$) as well of DHA and ESSDAI ($\rho = -0.30$, $p = 0.01$). The rest of the variables were not associated. In tears, there was a positive correlation of AA and CXCL9 ($\rho = 0.48$, $p = 0.04$), whereas in saliva, we observed a negative correlation between α -L, DHA and total ω 3 (α -L+DHA) with CCL2. We also observed a negative correlation between total ω 6 (LA+AA) and IL-21, and the ω 6/ ω 3 ratio with IL-22.

Conclusion: Our pSS patients had deficient FA omega intake. We observed lower ocular symptoms, lower ESSDAI scores and salivary levels of CCL2 among patients with higher levels of FA ω -3. Our study suggest that low serum levels of ω -3 might be implicated in the perpetuation of chronic inflammation.

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