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THE IMPACT OF A RESISTANCE EXERCISE PROGRAM ON SLEEP QUALITY IN WOMEN WITH PRIMARY SJOGREN'S SYNDROME

Luciana Paula Dardin^{1*}, Ana Beatriz Andreo Garcia¹, Paulo Alexandre Minalli¹, Virgínia Fernandes Moça Trevisani¹

¹Universidade Federal de São Paulo, São Paulo (SP), Brazil.

*Corresponding author: lucianadardin@gmail.com

BACKGROUND

Increased sleep disturbance has been reported in patients with several rheumatic diseases, such as rheumatoid arthritis (RA) and systemic lupus erythematosus. As previously reported, the prevalence of sleep disturbance in patients with primary Sjögren's syndrome (pSS) was significantly higher compared to controls or to patients with RA. Considering that non-pharmacological interventions may be safer, less costly and known for the benefits of physical exercise in improving sleep, it should be tested in high-quality clinical trials. The present study aimed to assess the impact of a resistance exercise program on sleep quality in women with primary Sjögren's syndrome.

MATERIALS AND METHODS

This is a parallel, single-blind randomized trial, where 59 women age 18 years or older, diagnosed with pSS according to the American-European Criteria, were randomized to a 16-week resistance exercise program (RE, n = 30) or a control group (CG, n = 26, 3 losses). Women in CG received their usual pharmacological treatment and instructions regarding the disease control, pain management, sleep hygiene and activities of daily living. All patients completed the Korean version of the Pittsburgh Sleep Quality index (PSQI) and used an actigraph (or actimeter) during 15 days before and after the protocol.

RESULTS

There was no significant difference between the two groups ($p < 0.001$) regarding age, disease activity and symptom time. T-tests were applied and variables with a p-value < 0.05 were statistically significant. These variables are shown in Table 1.

Table 1. Mean difference between final and initial moments of the control and intervention groups.

Variables	Control group (n = 26)				Resistance exercise group (n = 30)			
	Mean difference	Standard error	CI (2.5; 97.5%)	p-value	Mean difference	Standard error	CI (2.5; 97.5%)	p-value
PSQI daytime sleepiness	0.08	0.21	-0.35; 0.50	0.7133	-0.73	0.17	-1.07; -0.39	0.0001
PSQI overall sleep quality	-0.27	0.14	-0.56; 0.02	0.0697	-0.57	0.15	-0.87; -0.26	0.0007
PSQI total score	0.54	0.81	-1.14; 2.21	0.5142	-2.67	0.82	-4.34; -0.99	0.0029
Actigraph sleep latency	0.66	4.40	-8.40; 9.71	0.8827	-4.04	1.91	-7.95; -0.13	0.0434
Actigraph waking time after sleep onset	-2.38	7.04	-16.89; 12.12	0.7378	-4.98	2.40	-9.89; -0.07	0.0470

IC: inferior (2.5%) and superior (97.5%) limits of confidence interval.

CONCLUSION

A resistance exercise program showed a significant improvement on three PSQI domains and two actigraph parameters including overall sleep, day sleepiness, sleep latency time, waking time after sleep onset. These results reveal resistance exercise as a promising non-pharmacological intervention, inducing positive impact on sleep quality in women with pSS.

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