OP0385-HPR An individualised, supervised, combined exercise programme including aerobic and resistance training improves pain and fatigue in people with systemic sclerosis. A multi-centre research clinical trial [abstract only]

MITROPOULOS, Alexandros, BOSTRÖM, C., MATTSSON, M., KOUIDI, E., DIMITROULAS, T., VLIET VLIELAND, T.P.M., DE VRIES-BOUWSTRA, J. K, HOEKSTRA, E., JACOBSEN, S., JENSEN, K.Y., DIEDERICHSEN, L.P., CUOMO, G., NAVA, T., AKIL, M., PETTERSSON, H. and KLONIZAKIS, Markos <http://orcid.org/0000-0002-8864-4403>

An individualised, supervised, combined exercise programme including aerobic and resistance training improves pain and fatigue in people with systemic sclerosis. A large multi-centre research clinical trial.

Author Block: Alexandros Mitropoulos[1], Carina Boström[2], Malin Mattsson[3], Evangelia Kouidi[4], Theodoros Dimitroulas[5], Thea Vliet Vlieland[6], Jeska de Vries-Bouwstra[7], Eva Hoekstra[7], Søren Jacobsen[8], Kasper Jensen[8], Louise Diederichsen[8], Giovana Cuomo[9], Tiziana Nava[10], Mohammed Akil[11], Markos Klonizakis[12], [1]Sheffield Hallam University, Nursing and Midwifery, Sheffield, UK, UNITED KINGDOM, [2]Department of Neurobiology, Care Sciences and Society, Karolinska Institute, Stockholm, SWEDEN, [3]Department of Physiotherapy, Sunderby Hospital, Luleå, SWEDEN, [4]Laboratory of Sports Medicine, Department of Physical Education and Sports Sciences, Aristotle University of Thessaloniki, Thessaloniki, GREECE, [5]4th Department of Internal Medicine, Hippokration Hospital, School of Medicine, Aristotle University of Thessaloniki, Thessaloniki, GREECE, [6]Department of Rheumatology,, Leiden University Medical Center, Leiden, NETHERLANDS, [7]Department of Rheumatology, Leiden University Medical Center, Leiden, NETHERLANDS, [8]Copenhagen Research Centre for Autoimmune Connective Tissue Diseases, Copenhagen University, Rigshospitalet Copenhagen, DENMARK, [9]Department of Precision Medicine, University of Campania L. Vanvitelli, Naples, ITALY, [10]Department of Physiotherapy, Milan University, Milan, ITALY, [11]Rheumatology, Royal Hallamshire Hospital, Sheffield, UNITED KINGDOM, [12]Lifestyle, Exercise and Nutrition Improvement Research Group, Department of Nursing and Midwifery, Sheffield Hallam University, Sheffield, UNITED KINGDOM.

Abstract:

Background/Aims: Pain and fatigue constitute two of the most debilitating symptoms in systemic sclerosis (SSc), both significantly affecting patients' quality of life (QoL). Pharmacotherapy is not sufficiently effective in the management of SSc-induced pain and fatigue, and evidence for exercise is scarce. As yet, the effects of a tailored exercise programme on pain and fatigue in people with SSc (PwSSc) have not been explored.

Methods: This European multicentre (n=6) randomised controlled clinical trial recruited 170 PwSSc which were randomly allocated into the exercise (EG) and control groups (CG). EG performed a 12-week (twice/week) supervised combined (aerobic and resistance training) upper body exercise programme parallel to usual care and CG received usual care alone. Baseline, 3- and 6-month follow-up assessments included pain and fatigue (primary outcomes), depression, QoL, body composition analysis, cardiorespiratory fitness, and upper body strength and endurance.

Results: Both overall fatigue and pain were significantly better ($P<0.05$) at 3 months for the EG compared to the CG; similarly, depression scores, QoL, body fat percentage and physical fitness at 3 months were significantly better ($P<0.05$) compared to the CG. EG maintained improvements in components of pain, fatigue, QoL and depression at 6 months.

Conclusion: Our 12-week upper body combined supervised exercise programme, twice per week, improves pain and fatigue including depression, SSc-related QoL, and physical fitness in PwSSc. A significant percentage of these improvements was maintained at 3 months post-intervention (i.e., 6-month follow up). Noteworthy, exercise training also prevented the apparent disease progression of SSc observed in the CG.