AB0930 **CROSS-SECTIONAL ANALYSIS OF THE AUTONOMIC NERVOUS SYSTEM (HEART RATE VARIABILITY): CORRELATIONS WITH PSYCHOLOGICAL DIMENSIONS IN WOMEN WITH FIBROMIALGIA, RHEUMATOID ARTHRITIS AND HEALTHY CONTROLS**

T.L. Santiago, D. Peixoto, C. Costa, J.A. Pereira da Silva. *Rheumatology, Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal*

Background: Autonomic nervous system (ANS) dysfunction has been proposed to play a role in the pathophysiology and maintenance of rheumatic diseases, including fibromyalgia (FM) and rheumatoid arthritis (RA). Heart rate variability (HRV) analyses provide a quantitative marker of ANS activity. Some studies suggest an association between reduced HRV parameters and psychological dimensions, namely a negative emotional state. This led us to hypothesize an association between rheumatic diseases and higher sympathetic activity mediated by a negative emotional state.
Objectives: To establish correlates between HRV parameters with rheumatic disease groups and psychological dimensions.
Methods: Sixty women (FM, $n=20$; RA, $n=20$; healthy controls (Ct), $n=20$) completed a self-reported questionnaire addressing demographic characteristics, the Eysenck Personality Questionnaire, the Hospital Anxiety and Depression Scale, and the Beck Depression Inventory-II (BDI-II).
HRV analysis was performed by photopletismography between 8:00 and 10:00am, after an overnight fast, in a sitting position, for 5-minutes. We obtained the time and frequency-domain indices of HRV, including SDNN (standard deviation of the NN intervals), RMSSD (root-mean square differences of successive R-R intervals), high frequency power (HF), low frequency power (LF) and very low frequency (VLF). LF/HF ratio reflects sympathetic to parasympathetic balance.
Statistical analysis were performed considering: A) Rheumatic disease groups (FM/RA/Ct), and B) Psychological scores (irrespective of disease group): higher versus lower tertile in the personality questionnaires and score above (depression) versus below 20, in BDI-II. Between-groups comparisons were performed with Kruskal-Wallis test and analysis of covariance (age was adjusted during analyses), as appropriate.
Results: Neuroticism, anxiety and depression scores were significantly higher in FM and RA patients compared with controls ($p<0.05$). However, no statistically significant difference was observed in HRV parameters between disease groups. No statistically significant difference was observed in HRV parameters between tertile groups for psychological dimensions, except for depression. The values of HF power (parasympathetic activity) were lower in the high depression group compared to the low depression group ($p<0.05$). The ratio of LF/HF was higher among the depression group than the control group ($p<0.05$).
Conclusions: This study did not found significant differences in the HRV between the three rheumatic disease groups. The results confirm that depression is accompanied by dysfunction of the autonomic nervous system, specifically lower parasympathetic activity. These results suggest that psychological dimensions, namely depression, must be taken into account when evaluating the ANS and its impact in disease pathogenesis.

AB0931 **EFFECTS OF MANUAL THERAPY ON PAIN, POSTURE, FLEXIBILITY, QUALITY OF SLEEP AND DEPRESSIVE SYMPTOMS IN FIBROMYALGIA SYNDROME**

T. Duymaz[1], G. Sakınç Toprak[2]. [1]*Physiotherapy and Rehabilitation, Istanbul Bilim University, Şişli-Istanbil;* [2]*Physiotherapy and Rehabilitation, Acıbadem Hospital, Izmit-Kocaeli, Turkey*

Background: Fibromyalgia syndrome (FMS) is a chronic musculoskeletal pain condition characterized by widespread and a constellation of other symptoms.
Objectives: The purpose of this study was to investigate the therapeutic effects of a Manual Therapy (MT) protocol for improving pain, posture, flexibility, tender points, impact of FMS symptoms, sleep quality and depressive symptoms with FMS.
Methods: Patients completed demographic information, a number of self-report measures including Visual Analog Scale for assessing pain, Fibromyalgia Impact Questionnaire, the Pittsburgh Quality of Sleep Questionnaire Index and the Hospital of Anxiety and Depression Scale.The patients underwent a protocol of MT for a 60-minute session for 3 weeks (5/wk). The protocol was as the following release and mobilisation. All analyses were performed with the SPSS (version 22.0)statistical program
Results: 16 women,3 men patients who had FMS were treated with MT.Demographic variables of the participants are provided in Table 1.While there was a favorable change in all measurement parameters after treatment ($p<0.001$).There was a statistically significant difference between before and after the treatment measurement parameters (Table 2)

Table 1.Demographic variables of the participants

Variables	Mean ±SD (min-max)
Age (year)	36.05±8.16 (20–58)
BMI (kg/m²)	24.19±4.16 (19.49–33.06)
Duration of symptoms (year)	4.81±2.41 (1–9)

Conclusions: This study found that the application of a MT protocol was effective for improving pain, posture, flexibility,tender points, impact of FMS symptoms, sleep quality and depressive symptoms in individuals with FMS.
References:
[1] Goldenberg DL, Burckhardt C, Crofford L. Management of fibromyalgia syndrome. JAMA. 2004;292:2388–2395.
[2] Castro-Sa' nchez AM, Matara' n-Peñ arrocha GA, Arroyo-Morales M. Effects of myofascial release techniques on pain, physical function, and postural stability in patients with fibromyalgia: a randomized controlled trial. Clin Rehabil. 2011;25:800–813.

AB0932 **PREVALENCE OF TYPE D PERSONALITY IN TURKISH PATIENTS WITH FIBROMYALGIA SYNDROME**

Y. Garip[1], T. Guler[1], O.B. Tuncer[2], S. Onen[3]. [1]*Physical Medicine and Rehabilitation, Ankara Numune Training and Research Hospital, Ankara;* [2]*Physical Medicine and Rehabilitation, Medipol University Medical School, Istanbul;* [3]*Psychiatry, Sevket Yılmaz Eğitim ve Araştırma Hastanesi, Bursa, Turkey*

Background: Type D personality is a distressed personality type involving two personality traits, namely negative affectivity and social inhibition, which are described as tendency to experience negative emotions and to inhibit self-expression in social relationships, respectively (1).
Objectives: The present study investigated the prevalence of type D personality in Turkish patients with fibromyalgia (FM) and evaluated the association between type D personality and clinical parameters of FM. Although there is adequate number of studies focusing on the relation between FM and psychological conditions such as depression and anxiety; this topic has been rarely addressed in the literature.
Methods: A total of 100 patients with FM fulfilling 1990 American College of Rheumatology (ACR) diagnostic criteria and 50 healthy controls were included. Type D personality was assessed by Type D Scale-14 (DS-14). FM disease severity was determined by Fibromyalgia Impact Questionnaire (FIQ), functional status by Stanford Health Assessment Questionnaire (HAQ), and health-related quality of life (HRQoL) by Nottingham Health Profile (NHP). Severity of pain and fatigue were measured by Visual Analog Scale (VAS).

Abstract AB0931 – Table 2. Comparison of before and after treatment in all measurement parameters

Variables	Before Treatment Mean ± SD (min–max)	After Treatment Mean ± SD (min–max)	z	p
Number of tender points	12.10±1.24 (10–15)	7.31±2.26 (2–11)	-3.840	0.000**
VAS at night	6.84±1.30 (3–9)	0.91±0.64 (0–2)	-3.843	0.000**
VAS in activity	7.31±1.24 (4–9)	1.11±0.81 (0–2.20)	-3.850	0.000**
VAS in rest	6.42±1.46 (3–9)	0.49±0.81 (0–2.40)	-3.834	0.000**
Distance of Tragus-Wall (cm)	12.08±1.95 (9–17)	10.72±1.90 (8.20–15.60)	-3.529	0.000**
Distance of processus spinosus-Skapula (cm) (R)	10.65±3.03 (6.50–17)	10.26±2.76 (7–15)	-2.007	0.045*
Distance of processus spinosus-Skapula (cm) (L)	11.21±3.17 (7–17)	10.26±2.76 (7–15)	-2.842	0.004**
Trunk Lateral Flexion (°) (R)	36.47±3.35 (30–41)	37.00±3.39 (30–41)	-1.821	0.069
Trunk Lateral Flexion (°) (L)	33.47±4.01 (27–41)	36.68±3.28 (30–41)	-3.534	0.000**
Distance of hand-floor (cm)	6.86±4.84 (0–17)	5.18±3.92 (0–14)	-3.219	0.001**
FIQ	56.25±18.74 (19.79–85.58)	46.39±17.99 (19.59–67.98)	-3.724	0.000**
HAD-A	10.89±3.91 (5–19)	4.73±3.49 (0–10)	-3.849	0.000**
HAD-D	9.78±3.29 (2–15)	5.05±2.06 (0–9)	-3.632	0.000**
PSQI	10.52±3.40 (5–15)	3.63±2.47 (0–8)	-3.830	0.000**

Wilcoxon Test. *p<0.05; **p<0.001.VAS: Visual Analog Scale;FIQ: Fibromyalgia Impact Questionnaire; HAD-A: Hospital Anxiety and Depression-Anxiety; HAD-D: Hospital Anxiety and Depression-Depression; PSQI: Pittsburgh Quality of Sleep Questionnaire Index.