

**Results:** We found 48 articles in PubMed and 95 articles in LILACS, MEDLINE regarding Alexithymia in fibromyalgia. For these findings support the need for further study. These difficulties in the processing of emotional information, discrimination of different emotional states and visceral proprioception of physiological manifestations associated with the emotional activation of alexithymia are present in fibromyalgia. For in alexithymia the two cerebral hemispheres altered by these symptoms that affect the affective modulation, being this region rich in dopaminergic receptors that make neuronal connection with motivational limbic system. These regions when injured or underactive alter emotional perception, decision making, planning and initiative. This review of studies will serve as a facilitator for the development of psychological treatments as well as viable neuromodulatory targets in the fibromyalgia process.

**Conclusion:** Although the etiology of fibromyalgia is unclear, intervention with tDCS in the dopaminergic receptor-rich prefrontal cortex regions supports possible future tDCS interventions.

**Keywords:** *Alexithymia, Fibromyalgia, TDCS.*

## A2

### **Pain modulation in fibromyalgia patients induced by low-dose naltrexone (LDN)**

Mariane Schäffer Castro, Liciane Fernandes Medeiros, Rodrigo Hernandez Paludo, Tânia Maria Hendges de Paula, Fabícia Fritz do Couto, Wolnei Caumo, Andressa de Souza. ISBN: 978-1-7342025-1-9  
Laboratory of Pain & Neuromodulation at Federal University of Rio Grande do Sul

**Objective:** To evaluate the use of low-dose naltrexone (LDN) for the treatment of chronic fibromyalgia (FM) pain.

**Methods:** Data from this study are part of a randomized controlled trial, in which 86 women with a medical diagnosis of FM and aged between 18 and 65 years were included. In addition, 48 patients were excluded for having another syndrome with painful component. Included patients were randomized between LDN (n = 43) or placebo (n = 43), receiving 26 days of treatment. During the 1st and 26th day of intervention patients were submitted to the following procedures: sociodemographic questionnaire (1st assessment), Visual Analogue Pain Scale (VAS), Pressure Pain Threshold (PPT) (reporting their minimum pain and maximum pain) and Functional Scale for Patients with Chronic Pain (frequency and intensity of pain, interference of pain in activities and interference of pain in emotions). Data were analyzed using SPSS 20.0 software, using Wilcoxon test and considering significant difference when  $P < 0.05$ .

**Results:** The mean age of the patients was  $49.38 \pm 9.05$ . Comparison between VAS values before and after LDN intervention showed a significant difference ( $P = 0.026$ ). In addition, the LDN group showed a difference in pain interference scores on activities ( $P < 0.001$ ). There was no significant difference between the maximum and minimum pain values before and after intervention in the groups.

**Conclusions:** This study was able to demonstrate that the use of low dose naltrexone (LDN) is able to modulate pain

of fibromyalgia patients, proving to be a possible treatment for a limiting syndrome and no cure.

**Keywords:** *Pain modulation, Fibromyalgia, naltrexone.*

## A3

### **Low-dose naltrexone effects in pain modulation in fibromyalgia rats**

Rodrigo Hernandez Paludo, Rafael Augusto Paes Lima Rocha, Elisângela de Moraes Rocha, Vanessa Silva de Souza, Bettega Costa Lopes, Mariane Schäffer Castro, Liciane Fernandes Medeiros, Wolnei Caumo, Iraci LS Torres, Andressa de Souza. ISBN: 978-1-7342025-1-9  
Laboratory of Pain & Neuromodulation at Federal University of Rio Grande do Sul

**Objective:** Fibromyalgia syndrome is characterized by generalized chronic pain, fatigue, non-restful sleep and cognitive symptoms. It mainly affects women, being prevalent in 2% of the world population. Pharmacological interventions include simple analgesics, antidepressants, anticonvulsants and muscle relaxants for symptomatic control. In this context, low-doses naltrexone (LDN) are correlated with reduced symptom severity in fibromyalgia, multiple sclerosis and complex regional pain syndrome.

**Methods:** This study was approved by CEUA-HCPA-20180515. Forty male Wistar rats from the Center for Reproduction and Experimentation of Laboratory Animals (CREAL-UFRGS) between 55 and 65 days of age ( $\geq 250g$ ) were used. The 1mg / kg reserpine fibromyalgia model was used for 3 consecutive days. Experimental Groups: Control (reserpine vehicle + placebo), FL (fibromyalgia + LDN) and FP (fibromyalgia + placebo). Treatment was consisted in LDN 0.5 mg / kg for ten days or Placebo. Nociceptive thresholds were measured by the electronic von-frey test. One-way Anova test was used, considering significant difference when  $P < 0.05$ .

**Results:** the fibromyalgia induction model was effective to establish the proposed experimental model, in which pain thresholds reduction was observed in the fibromyalgia groups compared to the control group ( $P < 0.05$ ). After treatment with LDN there was an increase in thresholds, demonstrating an antinociceptive effect.

**Conclusion:** Low doses of naltrexone were able to improve pain in a model of fibromyalgia in rats, proving to be a promising treatment for a curable and limitless disease such as fibromyalgia.

**Keywords:** *Fibromyalgia, Low Dose Naltrexone, Pain*

## A4

### **Cortical excitability and function of the descending pain system: findings between fibromyalgia and major depression disorder**

Samuel Lopes Souza, Tiago Madeira Cardinal, Luciana Conceição Antunes, Aline Patricia Brietzke, Cristiane Schulz Parizotti, Fabiana Carvalho, Andressa De Souza, Iraci Lucena da Silva Torres, Felipe Fregni, and Wolnei Caumo - ISBN: 978-1-7342025-1-9  
Laboratory of Pain & Neuromodulation at Federal University of Rio Grande do Sul

**Objective:** This study aimed to compare cortical excitability parameters and the function of descending-pain-modulatory-systems (DPMS) between patients with fibromyalgia (FM), major depression disorder (MDD) and