**Covering letter**

The Scientific Committee,

Second IAMRS Conference.

Submission of Abstract for the Conference

Dear Sirs,

We intend to present the attached article entitled **“Deciphering the Role of Inflammatory Cytokines and their Correlation with Clinical Manifestations in Women with Fibromyalgia Syndrome”** in your Second IAMRS Conference. On behalf of all contributors, I will act as the corresponding author from this point onward. We have no conflict of interest in any substance or material mentioned in this manuscript.

Yours sincerely,

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**Abstract**

**Title: Deciphering the Role of Inflammatory Cytokines and their Correlation with Clinical Manifestations in Women with Fibromyalgia Syndrome**

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**Background:** FMS is a common chronic pain syndrome with an unknown etiology. There are several clinical conditions integrated with increased inflammatory cytokines, but novel data suggest a relationship between inflammatory cytokines and pain perception. Therefore, in the present study we examined the inflammatory cytokines in women with Fibromyalgia Syndrome (FMS) and also evaluated its correlation with the severity of its symptoms.

**Method:** Inflammatory cytokines were determined by measuring the levels of tumor necrosis factor alpha (TNF-α), interleukin 8 (IL-8), IL-2, IL-4, IL-6and IL-18 in serum in 100 female patients satisfying American College of Rheumatology (ACR) criteria for FMS and 100 healthy females without FMS. Clinical parameters were evaluated by Fibromyalgia Impact Questionnaire Revised (FIQR).

**Results:** Concentrations of TNF-α (p<0.001), and IL-6 (p<0.001) were significantly very higher in patients with FMS, and levels of IL-8, IL-2, IL-4, and IL-18 were significantly higher in patients group. A significant positive correlation was also found between TNF-α and IL-6 and clinical symptoms of FMS among patients group.

**Conclusion:** The higher levels of inflammatory cytokines found in FMS patients suggest the presence of an inflammatory response system. Therefore, the hypothesis that cytokines may play a role in the clinical features of FMS is hence proved. The positive correlation between the levels of cytokines and symptoms of FMS strengthens the hypothesis of the involvement of inflammatory mechanisms in the worsening of symptoms of FMS. The present results indicate that this escalated inflammatory cytokines in FMS may play a role in the etiopathogenesis of the disease.

Key words: Inflammatory cytokines, fibromyalgia syndrome, clinical manifestations