

## **Evaluation of the effect of saffron on pulmonary function and serum levels of IL-6 and TNF- $\alpha$ in patients with chronic obstructive pulmonary disease**

### **Abstract:**

**Background:** The anti-inflammatory of saffron properties have been mentioned in several studies. A previous study in asthmatic patients as an inflammatory disease of the respiratory tract, it was found that saffron supplementation in these patients could reduce inflammatory markers and improve lung function.

**Objective (Study aim):** This study was performed to evaluate the efficiency of saffron supplementation on lung function and serum levels of TNF- $\alpha$  and IL-6 in patients with chronic obstructive pulmonary disease.

**Materials & Methods:** This study was performed as a clinical trial on patients referred to the pulmonary clinic of Imam Khomeini Hospital in Ardabil in two treatment groups of 28 patients (intervention group treated with saffron and placebo group).

**Findings:** The results of the present study revealed that after 12 weeks of intervention with saffron, pulmonary function tests in patients with COPD were significantly different from the placebo group. Also, the results of 6MWD test showed that the intervention with saffron compared to the control group led to a significant increase. Intervention with saffron revealed a prophylactic effect associated with changes in serum IL-6 levels compared with the placebo group. In addition, intervention with saffron showed that at the end of the study, it significantly reduced the serum level of TNF- $\alpha$ .

**Conclusion:** In this study, it was found that saffron supplementation by reducing the serum level of inflammatory agents may affect the balance of oxidant / antioxidant levels and improve the physical function of patients with COPD.

**Keywords:** saffron, chronic obstructive pulmonary disease, TNF- $\alpha$ , IL-6