







# Abstract Book

The First World Conference Fighting COVID-19 Pandemic Health Challenges

COLLECTIVE KNOWLEDGE.
GLOBAL HEALTH.

26-28 March 2022, Belgrade, Serbia









# **Abstract Book**

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The First World Conference Fighting COVID-19 Pandemic - Health Challenges COLLECTIVE KNOWLEDGE, GLOBAL HEALTH. 26-28 March 2022, Belgrade, Serbia

## **Abstract Book**

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# COVID-19 diagnosis, immunization and prevention

**Invited speakers** 

**Oral presentations** 

**E** poster

Abstracts are ordered by arrival date

The First World Conference Fighting COVID-19 Pandemic - Health Challenges

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GLOBAL HEALTH.

# Gender Difference in SARS-CoV-2 Stimulation of Hyperinflammatory Response in Patients with COVID-19

Olivera Mitrović-Ajtić<sup>1</sup>, Tijana Subotički<sup>1</sup>, Sanja Miljatović<sup>2</sup>, Bojana Beleslin-Čokić<sup>3</sup>, Vladan Čokić<sup>1</sup>

**Background**: Although women and men have the same prevalence, men with COVID-19 are more at risk for worse outcomes and death, independent of age.

Methods: To observe the hyperinflammatory response regarding sex, we will measure the levels of inflammatory cytokines: interleukin-6 (IL-6), IL-1 $\beta$ , tumor necrosis factor-alpha (TNF- $\alpha$ ), monocyte chemoattractant protein-1 (MCP-1), IL-10, interferon-gamma (IFN- $\gamma$ ), IL-8, transforming growth factor-beta 1 (TGF- $\beta$ 1), analyzed by ELISA, in plasma of 130 COVID-19 patients at diagnosis and correlate them with clinical parameters. Besides, we checked the quality of life of patients up to 3 months after hospitalization.

Results: Pro-inflammatory IL-6 was significantly (p<0.01) increased in male COVID-19 patients compared to healthy male volunteers (4.7-fold) and female COVID-19 patients (1.75-fold). IL-6 was positively correlated to INR, aPTT (p<0.001), and ferritin (p<0.05), while INR with CRP (p<0.05). IL-8 was significantly increased in female COVID-19 patients compared to healthy female volunteers (p<0.01, 2.5-fold) and male COVID-19 patients (p<0.05). TNF-α was significantly (p<0.05) increased in male COVID-19 patients compared to healthy male volunteers. MCP-1 and IFN-γ were significantly increased in female COVID-19 patients compared to healthy female volunteers (p<0.01). Anti-inflammatory TGF-β1 was decreased in COVID-19 patients regardless of gender. Most patients were men (75%) with chronic disorders (59%, mostly hypertension). COVID-19 reduced their social (32%) and physical activities (34%) after 6 weeks of diagnosis, but further on reduced in additional 3 months (social 55%) with depression (22%).

**Conclusions**: Inflammatory response is generally increased in COVID-19 patients with specific cytokines in accordance with gender.

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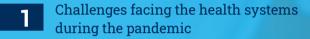
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- 2 COVID-19 diagnostics, immunization and prevention
- 3 State-of the art approach to COVID-19 treatment with emphasis on multidisciplinary team work