Medical Xpress

Studies show strong links between the endocrine system and COVID-19 incidence and mortality

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COVID-19 and interlinkages to endocrine and metabolic diseases was an important programme topic at the 2020 European Congress of Endocrinology. With 4675 attendees from 112 countries this is the premier European endocrine meeting. Over 5 days, panel sessions covered the science behind COVID-19 and endocrine and metabolic disorders, as well as e-consulting and e-support to endocrine patients in

times of COVID-19.

"One thing that is clear from the beginning of the pandemic is that patients with underlying endocrine diseases, like diabetes, obesity or the lack of vitamin D were more at risk of developing severe COVID-19," said Andrea Giustina, President of ESE. He continued, "Therefore, disciplines that work in the prevention, such as endocrinology, can focus on creating a healthier population, which can be important in the preparation for pandemics like COVID-19."

The need to address the links between endocrinology and COVID-19 has not gone unnoticed by policymakers. At the e-ECE opening ceremony, John Ryan, Director of public health, country knowledge and crisis management at the Directorate General for Health and Food Safety (DG SANTE) of the European Commission said, "there is a huge issue regarding non-communicable diseases and the EU is investing heavily together with Member States in trying to find effective ways to prevent it, such as the Farm2Fork Strategy of the EU4Health program."

COVID-19 incidence higher for those with underlying endocrine conditions

There is evidence that people with underlying endocrine conditions such as diabetes, obesity or autoimmune thyroid disease, face an increased risk of infection from COVID-19. In fact, vitamin D deficiency makes people more vulnerable to infection and may increase lung damage. In addition, recent studies show that certain underlying conditions, associated with exposure to endocrine-disrupting chemicals (EDCs), are exacerbating the effects of COVID-19 in vulnerable populations.

Endocrine conditions lead to worse outcomes for COVID-19

It has been proven that people suffering from underlying endocrine-related diseases, who are infected by COVID-19 are more likely to suffer severe symptoms, be admitted to intensive care units (ICU) as well as have an increased risk of death. For instance, in a study by Matteo Rottoli, obesity was shown to be a risk factor for respiratory failure, admission to the ICU and death among COVID-19 patients. In fact, patients with a body mass index (BMI) over 35kg/m^2 had a dramatically increased risk of death.

Moreover, endocrine systems could suffer in the long term from the impact of COVID-19, since the hormone system is the key regulator of body weight, energy expenditure and energy (food) intake. In fact, COVID-19 is associated with anorexia, dysgeusia, dysfunction of gastrointestinal absorption and severe weight loss, mostly from muscle mass.

Urgent policy attention is needed to address these interlinkages

The European Society of Endocrinology (ESE) has stated in a COVID-19 and endocrinology position statement that we need urgent policy attention to address the structural factors and underlying conditions that render populations vulnerable and exacerbate healthcare crises such as the COVID-19 pandemic. The upcoming EU4Health strategy needs a strong endocrine and metabolic element to achieve its objectives. Therefore, it is needed to focus on the following demands: an increase in research funding for the relationship between COVID-19 and hormones, a coordinated effort for global surveillance, new models of patient management and increased collaboration between countries, policymakers and other stakeholders.