



Exacerbation of disordered eating behaviors in adolescents with type 1 diabetes during the COVID-19 pandemic: reply

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Dear Editor-in-Chief,

We appreciate the response to our publication entitled “Exacerbation of Disordered Eating Behaviors in Adolescents with Type 1 Diabetes during the COVID-19 Pandemic” recently published on *Acta Diabetologica* [1]. In their letter, Dr. Sirofu and her colleagues hypothesize that COVID-19-induced autoimmune mechanisms may have a role in the increased risk of developing eating disorders (ED) that we observed [2]. This hypothesis is based on studies showing a potential role of the immune system in the pathophysiology of ED, especially anorexia nervosa [3]. The authors suggested that ED and autoimmune diseases share immunopathological mechanisms and that a circular relationship exists between COVID-19, diabetes mellitus, and ED.

We are aware of this hypothesis. However, to our understanding, the impact of the immune system in developing and maintaining ED has not been elucidated and remains speculative. Nevertheless, our research was not planned to study these aspects of ED, therefore, it cannot be inferred that a COVID-19-induced immune mechanism stands within the basis of our findings. The cohort of our study includes adolescents with long-standing diabetes who were recruited

at the end of the first lockdown. None of them were infected by the SARS-CoV-2, and their metabolic control was not affected by the pandemic. Thus, in our cohort, the SARS-CoV-2 could not affect the pancreas or the autoimmune process causing diabetes, and it is reasonable to assume the inflammatory state of the participants didn't change significantly during the studied period. Moreover, the lockdown and social distancing markedly reduced the incidence of other viral infections, thus further dropping the chance of a viral-induced mechanism worsening the long-standing autoimmune process. Thus, we believe that our results stress the impact of emotional and social factors as a driver for the exacerbation of disordered eating behaviors observed in our study. The COVID-19 pandemic, especially during the lockdown and under conditions of social distancing, had a profound emotional impact, including feelings of anxiety, depression, and stress. These factors, alongside disrupted school routine, reduced extracurricular activities, poor sleeping habits, and increased use of social media, have made adolescents more vulnerable to worsening eating disorder behaviors [4, 5]. As disordered eating behaviors are more common in young people with type 1 diabetes, we believe the COVID-19 pandemic had a more pronounced effect on the development and worsening of ED in this population.

Immune mechanisms may play a role in the development of ED. Further studies are warranted to explore the effect of inflammation and autoimmunity on disordered eating in Type 1 diabetes patients.

Managed by Massimo Porta.

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Declarations

Conflict of interest The authors declare no conflict of interest.

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