

# Response to Oliviero et al.'s publication: "Impact of COVID-19 lockdown on symptoms in patients with functional gastrointestinal disorders: Relationship with anxiety and perceived stress"

Dear Editor,

We read with great interest the findings by Oliviero et al.<sup>1</sup> on the impact of COVID-19 on patients with disorders of gut-brain interaction (DGBI) in southern Italy. We were particularly interested in the higher levels of stress and anxiety associated with higher risk of increased symptom intensity.

We would like to share our experience of the impact of COVID-19 in southeastern Minnesota (SEMN) on patients with irritable bowel syndrome (IBS). We surveyed all residents of Olmsted County, and MN diagnosed with IBS at Mayo Clinic over the past decade to assess symptoms (IBS-SSS and IBS-QOL), mental health (HAD), and healthcare utilization from March to May 2020.

A total of 38 surveys were returned, with respondents predominantly female (84.2%), averaging (+/-14) 45 years old. During this period, 39.5% ( $n = 15$ ) had active GI symptoms but only 60% ( $n = 9$ ) sought medical care. Of the six symptomatic participants who did not seek care, four cited COVID-19-related concerns.

Eight respondents (21%) had a friend/relative diagnosed with COVID-19, and twelve (32.4%) reported developing significant financial concerns. Respondents with friends/family diagnosed with COVID-19 had higher anxiety ( $p = 0.028$ ) and depression ( $p = 0.027$ ) scores, and those reporting COVID-related financial concerns had higher anxiety ( $p = 0.03$ ). Quality of life on IBS-QOL was higher (worse) with both anxiety ( $R^2 = 0.35$ ,  $p < 0.0001$ ) and depression scores ( $R^2 = 0.51$ ,  $p < 0.0001$ ). On IBS-SSS, both anxiety and depression were correlated with high pain (A:  $R^2 = 0.17$ ,  $p = 0.016$ ; D:  $R^2 = 0.19$ ,  $p = 0.01$ ), distension (A:  $R^2 = 0.17$ ,  $p = 0.018$ ; D:  $R^2 = 0.14$ ,  $p = 0.03$ ), dissatisfaction (A:  $R^2 = 0.11$ ,  $p = 0.048$ ; D:  $R^2 = 0.22$ ,  $p = 0.003$ ), and life interference (A:  $R^2 = 0.34$ ,  $p = 0.0001$ ; D:  $R = 0.34$ ,  $p = 0.0001$ ).

Symptomatic respondents who did not seek care due to COVID-related concerns ( $n = 4$ ) had higher HAD-depression scores (9.8 vs. 4.6,  $p = 0.02$ ), higher IBS-SSS pain levels (67.5 vs. 23.9,  $p = 0.04$ ), dissatisfaction (88.75 vs. 46.5,  $p = 0.014$ ), interference to life (67.5 vs. 32.2,  $p = 0.04$ ), and IBS-QOL totals (111.5 vs. 67.9,  $p = 0.0095$ ).

Our findings corroborate those of Oliviero et al. showing that COVID-19 had a significant negative impact on anxiety levels, which correlated with worsened quality of life and symptom severity. Our cross-sectional study early in the pandemic in SEMN provides additional insight on the impact of restricted healthcare access and depression on IBS symptoms and quality of life. Our study echoes the need to support our patients with DGBI as the pandemic continues to evolve, highlighting the need to consider new modalities of care (ie, telehealth), to continue to provide support for both their gut and their brain.

## FUNDING INFORMATION

The authors have no financial disclosures.

## ACKNOWLEDGEMENTS

Xiao Jing Wang takes full responsibility for the conduct of the study. She had access to the data and control of the decision to publish.

## CONFLICT OF INTEREST

No competing interests declared.

## AUTHOR CONTRIBUTIONS

Dr. Wang drafted the initial manuscript, which was revised by Dr. Fox. Ms. Breen-Lyles and Ms. Murphy recruited and collected all survey data and reviewed the final manuscript.

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1. Oliviero G, Ruggiero L, D'Antonio E, et al. Impact of COVID-19 lockdown on symptoms in patients with functional gastrointestinal disorders: relationship with anxiety and perceived stress. *Neurogastroenterol Motil.* 2021;33(5):e14092. <https://doi.org/10.1111/nmo.14092>

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