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# Editorial: Community series in neurogastroenterology – Focus on the gut-brain axis, volume II

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## Editorial on the Research Topic

[Community series in neurogastroenterology – Focus on the gut-brain axis, volume II](#)

Following up on the previous Research Topic entitled “*Neurogastroenterology – Focus on the gut-brain axis*” published in 2021 (1) an update was planned this year reflecting the timeliness of the topic along with an increasing amount of data. The current *Community series in neurogastroenterology—Focus on the gut-brain axis—volume II* encompasses four articles, two original articles, one study protocol and one review.

Since inflammatory bowel disease seems to have a link to / overlap with neurological and psychiatric symptoms/disorders, Liu et al. investigated possible alterations of the cerebral cortex in patients with inflammatory bowel disease in a large sample of 133,380 European subjects. While neither inflammatory bowel disease nor cytokines were associated with global cortical changes, on a regional level cortical thickness and the surface area were altered and associated with the respective inflammatory bowel disease itself or cytokines such as interleukin-6 or the interleukin-6 receptor alpha (Liu et al.). These results, as pointed out by the authors, give rise to alterations of the gut-brain axis in this disease. Whether these results will also have therapeutic (e.g., for monitoring of progression of the disease) implications will have to be further investigated.

Not only, but perhaps especially in patients with functional gastrointestinal disorders, a good doctor-patient communication is essential for the relationship and later for medical outcome. Goebel-Stengel et al. investigated more than 5000 physician-patient conversations from more than 500 physicians. While physicians mostly assumed stress-related burdens as contributing factor, patients more often suspected food as a cause/trigger for their complaints (Goebel-Stengel et al.). Interestingly, despite the fact that physicians overall rated themselves as confident even in difficult patient conversations, doctors at the same time rated the physician-patient relationship just below the threshold for difficult interactions using a validated questionnaire. This likely gives rise to the need of (further) training of physicians in doctor-patient communication especially for difficult conversations e.g., with patients with functional gastrointestinal disorders.

One important component contributing to the pathogenesis of functional gastrointestinal disorders, also known as disorders of gut-brain interactions, is visceral (hyper)sensitivity. Labrenz et al. discuss in their review the interplay with stress in the modulation of visceral pain and the role of sex hormones, likely contributing to the higher prevalence of functional gastrointestinal disorders in women compared to men. The authors also critically highlight gaps in knowledge and propose the need for investigations across the lifespan to shed more light on this topic and for the development of personalized treatment strategies.

Lastly, a study protocol by Aulenkamp et al. delineates a randomized controlled trial investigating placebo effects in healthy volunteers. While the placebo effect has attracted a lot of attention during the past four decades, the placebo effect, related to negative expectation on treatment outcome, has been less investigated and only during the past 15 years. In this study, a multiple-threat paradigm as well as rectal distensions and cutaneous thermal stimuli will be used to investigate the effect of negative expectations on visceral and somatic pain (Aulenkamp et al.). This protocol will not only be assessing cross-sectionally but also the persistence of effects over time and combine psychophysiological and neuroendocrine parameters. The enhanced understanding of the role of placebo effects in patients with disorders of gut-brain interactions will help to better design clinical studies for these patients, taking into account the placebo effect(s) and ultimately the impact on treatment options.

Collectively, this community series on the gut-brain axis stretches the arc from inflammatory bowel disease to functional gastrointestinal disorders with all studies ultimately thriving to improve medical care for patients with disorders of gut-brain interactions.

## References

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