

# Irritable bowel syndrome following gastroenteritis may last 4+ years in around half of those affected

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Irritable bowel syndrome (IBS)—characterized by abdominal pain, bloating, and altered bowel habit—may last 4 or more years following a

bout of gastroenteritis in around half of those affected, finds a pooled data analysis of the available evidence, published online in the journal *Gut*.

Aggressive and pro-inflammatory bacteria, such as Proteobacteria and Enterobacteriaceae, and the virus responsible for COVID-19 infection, SARS-CoV-2, are possible culprits, the findings suggest.

IBS and recurrent indigestion of unknown cause (functional [dyspepsia](#)), are disorders of the gut-brain axis. Although common worldwide, their causes remain poorly understood, note the researchers.

But a sudden bout of gastroenteritis, usually brought on by a viral infection or [food poisoning](#), is thought to be one of the possible triggers, explain the researchers, who add that an estimated 179 million people around the globe succumb to gastroenteritis every year.

To explore this further, the team trawled research databases, looking for published studies on the development of IBS or functional dyspepsia after a bout of gastroenteritis in people monitored for at least three months after the episode.

From a haul of 75 eligible studies, 45--involving a total of 21,870 people, mostly from Europe and North America--were suitable for pooled data analysis. Sixteen studies were judged to be of high quality, with the rest judged to be of fair quality.

The prevalence of IBS after a bout of gastroenteritis was 14.5%. This was based on 46 studies involving 14,446 people. The prevalence of functional dyspepsia was nearly 13%, based on 13 studies involving 5,636 people.

Compared with those who had not had gastroenteritis, those who had

were more than four times as likely to develop IBS and three times as likely to develop functional dyspepsia afterwards.

There were insufficient data to pool study results for the length of time functional dyspepsia persisted after gastroenteritis, but the pooled data analysis for IBS indicated that symptoms had persisted for between 6 and 11 months in 100 out of 201 people (50%) in 5 studies, and for 1–4 years in 125 out of 239 (52%) people in 3 studies.

Symptoms lasted for more than 5 years in 187 out of 471 (40%) people in 4 studies.

The pooled data analysis pointed to certain [risk factors](#) for developing IBS after a bout of gastroenteritis, the most influential of which was a history of anxiety: this was associated with a three-fold heightened risk.

Diarrhea lasting more than 3 weeks was associated with more than double the risk, while admission to hospital and female sex were associated with 65% and 59% heightened risks, respectively.

Analysis of the infectious agents involved showed that viruses were implicated in nearly 11% of cases (13 studies; 3,585 people), bacteria in just over 18% (20 studies; 7,050 people), and parasites in 30% (2 studies of 779 people).

The highest prevalence of IBS following gastroenteritis was associated with *Campylobacter* infection (21%), reported by 6 studies. The odds of developing IBS were 5 times as high after a Proteobacteria species infection and 4 times as high for infection with Enterobacteriaceae species. Those infected with SARS-CoV-2 or parasites were 5 times as likely to develop IBS.

The prevalence of functional dyspepsia following gastroenteritis was

nearly 14% for bacterial infections (4 studies; 759 people) and 10% for SARS-CoV-2 infection (5 studies; 1,269 people), with Enterobacteriaceae species, the most common source of [infection](#).

Although theirs is the largest pooled data analysis to date of the prevalence of IBS and [functional dyspepsia](#) after a bout of gastroenteritis, the researchers acknowledge various limitations to their findings.

The study design, definitions used, participant numbers and length of follow-up varied considerably among the included studies. Most of the studies focused on Western populations, with limited data from the Asia-Pacific region and Africa; and there was no microbiological evidence of gastroenteritis in several of the studies.

But the researchers point out, "The pathophysiology of [disorders of gut-brain interaction] is poorly understood, and these disorders are traditionally perceived by health care professionals as being mostly psychological and less 'valid' diseases, with a potential risk of underestimating patients' expectations and complaints."

They conclude, "Generally, as acute gastroenteritis is a common disorder worldwide, our findings may be relevant for public health, and physicians should pay heed if their patients present with a recent episode of infectious gastroenteritis."

**More information:** Prevalence of irritable bowel syndrome and functional dyspepsia after acute gastroenteritis: systematic review and meta-analysis, *Gut* (2024). [DOI: 10.1136/gutjnl-2023-331835](https://doi.org/10.1136/gutjnl-2023-331835)

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