

Maintaining healthy lifestyle might prevent up to 60% of inflammatory bowel disease cases, suggests new research

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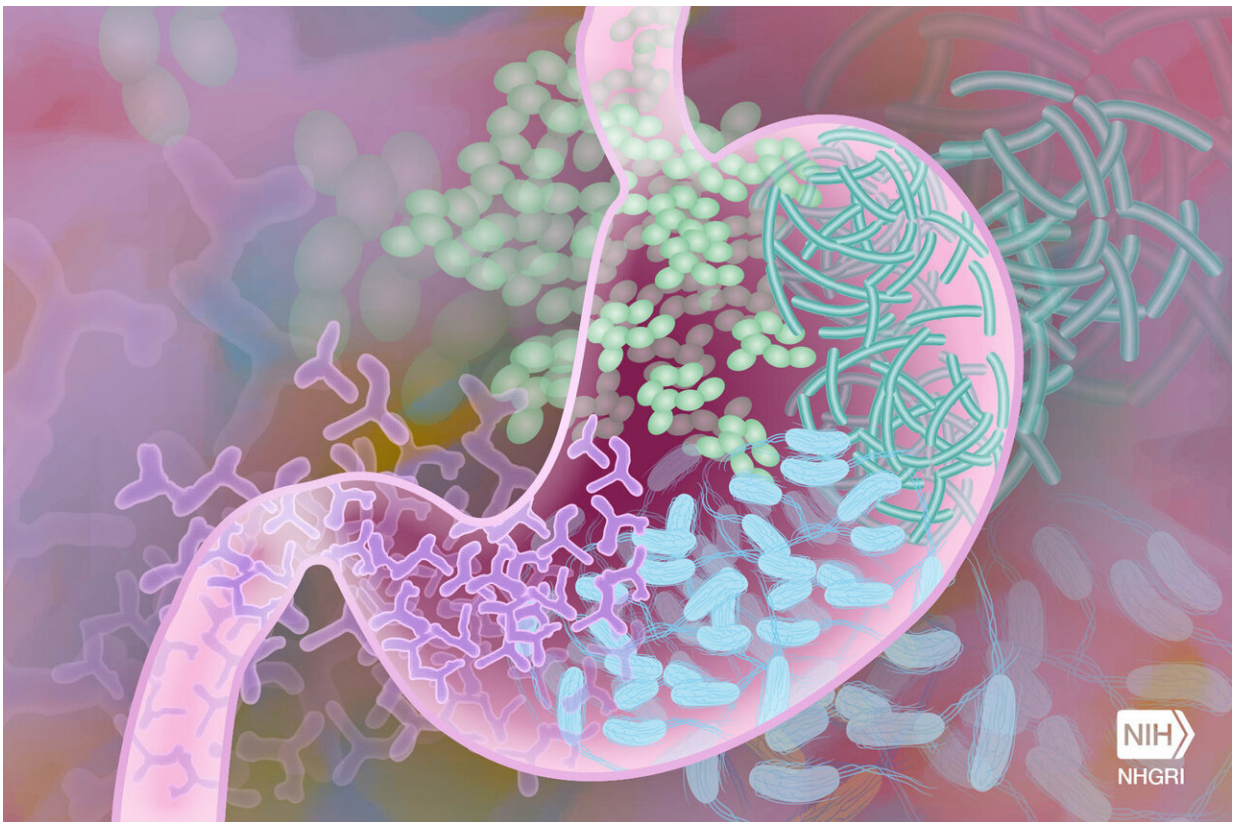


Illustration of bacteria in the human gut. Credit: Darryl Leja, National Human Genome Research Institute, National Institutes of Health

Adopting and maintaining a healthy lifestyle might prevent up to 60% of

inflammatory bowel disease cases—Crohn's disease and ulcerative colitis—finds a large international study, published online in the journal *Gut*.

The findings prompt the study authors to suggest that subject to further research, particularly in those at high risk of developing these conditions, [lifestyle changes](#) may be a feasible option for future preventive strategies.

Inflammatory bowel disease, or IBD for short, affects an estimated 3 million adults in the U.S. and another 1.3 million in Europe, and diagnoses have been increasing, particularly in newly industrialized countries.

Previously published research has linked IBD risk with several lifestyle factors, but it's not clear whether adopting and maintaining a [healthy lifestyle](#) might lower the risk of developing the condition in the first place. To find out, researchers drew on participant data from the Nurses' Health Study (NHS), NHSII, and the Health Professionals Follow-up Study (HPFS).

The Nurses' Health Study enrolled 121,700 female nurses (aged 30-55) from 11 U.S. states in 1976, while the NHSII study, established in 1989, monitored 116,429 female nurses (aged 25-42) from 15 U.S. states. The HPFS included 51,529 male doctors (40-75) from across the U.S. in 1986.

The researchers created modifiable risk scores (MRS) for each participant based on established modifiable [risk factors](#) for IBD to estimate the proportion of IBD cases that could have been avoided. The MRS ranged from 0-6, with higher scores denoting more risk factors.

These risk factors included weight (BMI); smoking; use of non-steroidal

anti-inflammatory drugs; physical activity; and daily intake of fruit, fiber, vegetables, polyunsaturated fatty acids (PUFAs) and red meat.

The researchers then estimated the proportion of avoidable cases if an overall healthy lifestyle were adopted and maintained. Scores of 0-9 were assigned to each participant, with higher scores indicating a healthier lifestyle.

A healthy lifestyle comprised: BMI between 18.5 and 25; never smoking; at least 7.5 weekly MET hours (METS express the amount of energy [calories] expended per minute of [physical activity](#)); at least 8 daily servings of fruit and vegetables; less than half a daily serving of red meat; at least 25 g of fiber/day; at least 2 weekly servings of fish; at least half a daily serving of nuts/seeds; and a maximum of 1 alcoholic drink/day for women or 2 for men.

During the monitoring period (NHS, HPFS: 1986-2016; NHSII: 1991-2017), 346 cases of Crohn's disease and 456 cases of ulcerative colitis were reported.

Based on the MRS scores, the researchers estimated that a low MRS could have prevented 43% and 44.5%, respectively, of Crohn's disease and ulcerative colitis cases.

Similarly, maintaining a healthy lifestyle could have prevented 61% of Crohn's disease cases and 42% of ulcerative colitis cases.

The researchers applied the scoring systems to data from three large European studies to validate their findings: the Swedish Mammography Cohort (37,275 participants); the Cohort of Swedish Men (40,810); and the European Prospective Investigation into Cancer and Nutrition (404,144).

These calculations showed that a low MRS and maintaining a healthy lifestyle could have respectively prevented 44%-51% and 49%-60.5% of Crohn's disease cases, and 21%-28% and 47%-56.5% of [ulcerative colitis](#) cases.

This is an observational study, and as such can't establish cause. The researchers acknowledge that the average age at which IBD was diagnosed was older than is typical. Early lifestyle factors that may have been influential were not considered. These included antibiotic prescriptions; breastfeeding; [environmental factors](#) such as pollution; stress; and socioeconomic factors.

"A key assumption of our findings is that the relationship between lifestyle factors and IBD development is causal. Though this has yet to be established, several lines of evidence support the critical role of environmental and [lifestyle factors](#) in the development of IBD," they write.

"Lifestyle modification may be an attractive target for future prevention strategies in IBD," they add. "This may be of particular relevance to high-risk groups, such as first-degree relatives of IBD patients, who have an estimated 2%-17% risk of developing the disease over their lifetime."

More information: Lifestyle factors for the prevention of inflammatory bowel disease, *Gut* (2022). [DOI: 10.1136/gutjnl-2022-328174](#)

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