vinetur

Four Weeks of Daily Beer Boosts Gut Microbiome Diversity in Healthy Men, Study Finds

Lisbon pilot study shows both alcoholic and non-alcoholic lagers increase gut bacterial diversity without harming metabolic health markers.

Wednesday, October 22, 2025



Non-alcoholic beers have seen a surge in popularity in recent years, raising questions about their potential health benefits compared to traditional alcoholic beers. A pilot study conducted by researchers in Lisbon, Portugal, has provided new insights into how both alcoholic and non-alcoholic lagers may affect the gut microbiome and certain health markers in healthy adult men.

The study, carried out at NOVA Medical School, involved 22 healthy male volunteers aged between 23 and 58. Participants were randomly assigned to drink either one 330 mL bottle of non-alcoholic beer (0.0% alcohol by volume) or one bottle of alcoholic beer (5.2% alcohol by volume) every day for four weeks. The trial was double-blind, meaning neither the participants nor the research team knew which type of beer each person was drinking until after the data analysis was complete.

Before and after the intervention, researchers collected blood and fecal samples from each participant. These samples were used to assess changes in body composition, blood markers related to metabolism and cardiovascular health, and the diversity of gut bacteria using genetic sequencing techniques.

The main finding was that both groups—those drinking alcoholic beer and those drinking non-alcoholic beer—showed an increase in the diversity of their gut microbiota after four weeks. Gut microbial diversity is considered a marker of good health, as lower diversity has been linked to conditions such as diabetes and cardiovascular disease. The increase in diversity was measured using Shannon’s diversity index, a standard method for evaluating the richness and evenness of microbial communities.

Importantly, neither group experienced significant changes in body weight, body fat mass, or key blood markers such as glucose, cholesterol (LDL and HDL), triglycerides, or markers of inflammation. This suggests that moderate daily consumption of either type of beer over a month does not negatively impact these aspects of metabolic health in healthy men.

The study also found that both types of beer tended to increase fecal alkaline phosphatase (ALP) activity—a marker associated with improved intestinal barrier function—though this change did not reach statistical significance. Serum ALP levels actually decreased slightly after the intervention in both groups. The researchers noted

that increased fecal ALP activity could indicate better gut health, as this enzyme helps reduce inflammation and maintain the integrity of the intestinal lining.

The beers used in the study were similar in nutritional content except for their alcohol levels. Both contained comparable amounts of polyphenols—plant compounds found in hops that are thought to have beneficial effects on health. The researchers suggest that these polyphenols may be responsible for the observed increase in gut microbial diversity, regardless of whether alcohol is present.

No significant differences were found between the two groups in terms of specific bacterial species or genera present in the gut before and after the intervention. The most common bacteria identified belonged to the Firmicutes and Bacteroidetes phyla, with Faecalibacterium and Prevotella among the most abundant genera.

Participants were instructed not to change their usual diet or physical activity during the study period. Compliance with daily beer consumption was high among most volunteers.

While previous studies have shown that high alcohol intake can reduce gut microbial diversity, this research suggests that moderate consumption of lager beer—even with alcohol—may actually promote a more diverse gut microbiome when compared to baseline levels. The authors note that polyphenols present in beer could counteract any negative effects of alcohol on gut bacteria.

The study had some limitations, including its small sample size and focus on healthy men who already consumed alcohol moderately. The researchers recommend further studies with larger groups and different populations—including those who do not usually drink alcohol—to confirm these findings.

This research adds to a growing body of evidence suggesting that non-alcoholic beers may offer some health benefits similar to those associated with moderate consumption of traditional beers, particularly through their effects on gut microbiota diversity. However, experts caution that more research is needed before making broad recommendations about beer consumption for health purposes.