### What is this research about?

People with Inflammatory Bowel Disease (IBD) suffer from inflammation of the gut lining. However, the causes of IBD are not clear.

One possibility is that symptoms are worse when certain bacteria are present. Researchers wondered if *Fusobacterium* was commonly found in people with IBD. *Fusobacterium* is a type of bacteria associated with mouth inflammation. It can also be found in linings of the gut.

The researchers wondered if *Fusobacterium* strains from people with IBD are more invasive than the same bacteria from people without IBD. This research was a pilot study to see if *Fusobacterium* presence could become a potential sign of IBD. It did not attempt to determine if *Fusobacterium* caused IBD.

### What you need to know:

Inflammatory Bowel Disease (IBD) patients are more likely to have *F. nucleatum* bacteria in their gut. Highly invasive strains are more likely to be found in those with worse symptoms. Presence of *F. nucleatum* in the gut may be a diagnostic sign of IBD.

### How can you use this research?

- **Researchers** can use this to develop further research ideas that would aid in the understanding and treatment of IBD.
- **Inflammatory Bowel Disease patients** can use this research to be up-to-date on progress towards understanding the disease.

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What did the researchers do?
Samples of gut linings were taken from 56 adults who had a colonoscopy. 34 were in the healthy control group, while the other 22 had some form of IBD. Each sample was examined for the presence of *Fusobacterium* bacteria. Next, the specific species of the bacteria was determined by DNA analysis. Finally, each strain was tested for its ability to invade intestinal cells.

What did the researchers find?
People with IBD were more likely to have *Fusobacterium* in their gut. Specifically, *Fusobacterium* was found in 63% of patients with IBD and only 26% of the healthy control group. The most common kind of *Fusobacterium* bacteria in the samples was *F. nucleatum*. This *Fusobacterium* species was found in 50% of patients with IBD and only 17% of the control group.

In addition, *F. nucleatum* was more likely to be invasive when this bacterium was sourced from IBD patients with active inflammation, as compared to from an IBD group with no active inflammation or the control group.

Keywords:
Inflammatory bowel disease, inflammation, *Fusobacterium nucleatum*, bacteria, gut

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