

IS THERE A CONNECTION BETWEEN IBS AND THE GUT MICROBIOME

A NARRATIVE REVIEW

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INTRODUCTION

IBS is a gastrointestinal disorder and the prevalence of IBS globally is between 5-20%*, causing symptoms such as diarrhoea, constipation and abdominal pain**. However, discovering a causal link between changes within the gut, specifically the microbiome and whether IBS flares up or can be treated is somewhat more complex. The microbiome within the body can have a significant effect on how the body, not only reacts, but also how it physically and mentally adapts to those changes. The brain-gut axis is notable for its ability to manipulate reactions the body experiences*** and connects heavily to the Gate Theory of Pain within IBS sufferers. Aside of bodily reactions, there are many others aspects such as lifestyle that may affect IBS.

AIMS

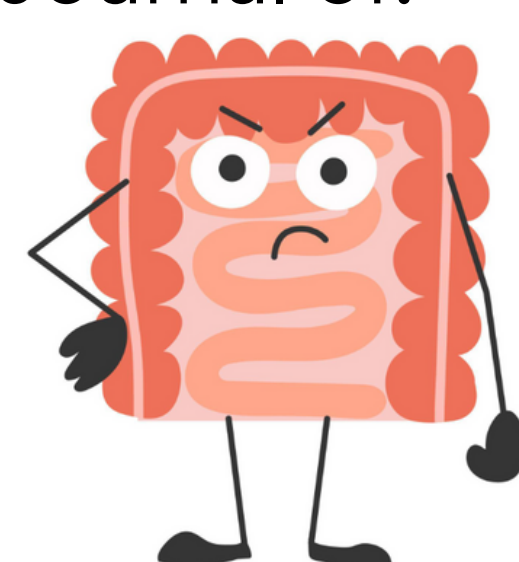
- Determine the influence gut microbiome has on IBS
- Evaluate the effects the gut microbiome has on IBS
- Discover any other connections that may exist and cause IBS symptoms

METHODOLOGY

Research has involved a narrative literature review using key search terms such as: -

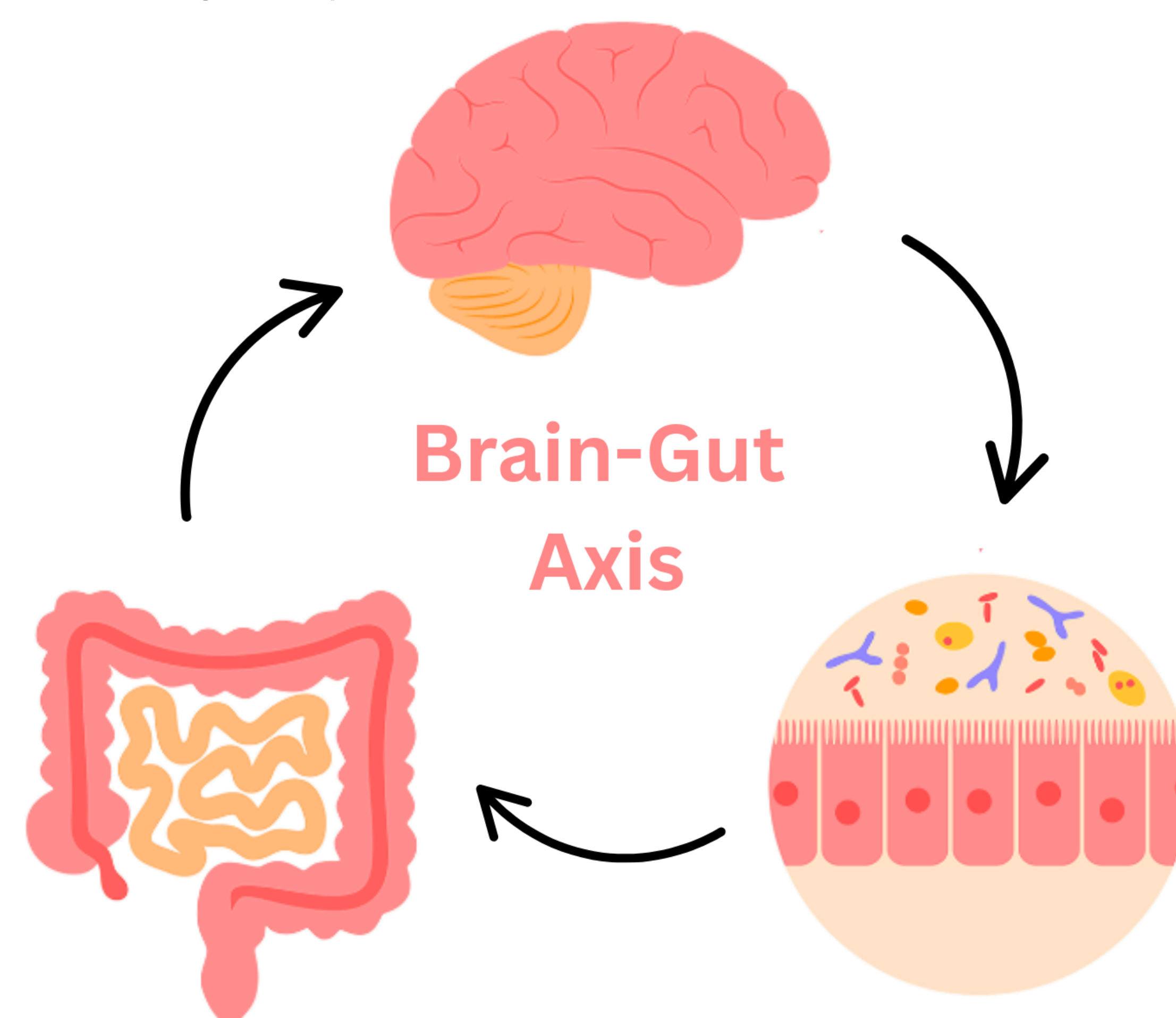
- IBS
- Gut Microbiome
- Brain-Gut Axis

Extensive searches including Google Scholar, Wiley Online Library, NHS, Cochrane Library, the Journal of Gastroenterology and Hepatology and ScienceDirect have been used. Papers from 2010 onwards have been used through the majority of the research.



KEY FINDINGS

- Prevalent links between IBS and SIBO
- Visceral hypersensitivity is key but requires more research
- Physiological symptoms as well as psychological symptoms can be found in sufferers
- Gut dysbiosis disrupts brain-gut axis
- Lack of human trials
- Diet can help treat symptoms but does not address the overriding complaint



- Enhancing the gut microbiome could positively affect other symptoms and conditions
- Neurological and neurodevelopmental dysbiosis affected by gut microbial changes
- Dorsal horn disruption causing acknowledgement of pain within the body

DISCUSSION

- The Brain-Gut axis is extremely important regarding its effect on IBS. Changes to the gut microbiome, in turn, change the signalling that is directed to the brain. This signalling change causes the body to adapt and change physically and, sometimes, psychologically.
- SIBO symptoms overlap and are similar to those of IBS and should be tested to establish which condition is present in order to treat effectively.
- Visceral hypersensitivity can be triggered by trauma or a reaction by the body which causes cell and neurotransmitter adaptation.
- Diet is a main contributor to changes of the gut microbiome and a FODMAP diet can be used in order to eliminate the offending food(s).

REFLECTION

- Having an interest in the topic due to family members suffering from IBS has helped me complete the research
- Avoid using older research and suggest this for future recommendations.

REFERENCES

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- **Chang, L. (2021) 'How to approach a patient with difficult-to-treat IBS', Gastroenterology, 161(4), pp. 1092-1098. DOI: [10.1053/j.gastro.2021.07.034](https://doi.org/10.1053/j.gastro.2021.07.034) AND Canavan, C., West, J., and Card, T. (2014) 'The epidemiology of irritable bowel syndrome', Clinical Epidemiology, 6, pp. 71-80. DOI: <http://doi.org/10.2147/CLEP.S40245>
- ***Singh, P., Tuck, C., Gibson, P. and Chey, W. (2022) 'The Role of Food in the Treatment of Bowel Disorders: Focus on Irritable Bowel Syndrome and Functional Constipation', The American Journal of Gastroenterology, 117(6), pp. 947-957. DOI: 10.14309/ajg.0000000000001767