



# New Study Finds Connection Between Gut Bacteria, Food Addiction, and Obesity

## Description

### New Study Reveals Gut Bacteria Linked to Food Addiction

A recent international study has identified specific gut bacteria associated with food addiction, shedding light on potential treatments for this behavioral disorder. Researchers found that certain gut bacteria can contribute to the development of food addiction in both mice and humans, leading to obesity. Conversely, they also identified bacteria with protective effects against food addiction.

The study, presented at the Federation of European Neuroscience Societies (FENS) Forum 2024 and published in the journal *Gut*, utilized a questionnaire to diagnose food addiction in both mice and humans. By analyzing the gut bacteria of food-addicted individuals, researchers discovered an increase in Proteobacteria and a decrease in Actinobacteria and Blautia.

Furthermore, the study highlighted the positive effects of increasing the abundance of Actinobacteria and Bacillota in protecting against food addiction. Oral administration of prebiotics led to improvements in food addiction symptoms in mice, providing a promising avenue for future treatments.

The findings underline the intricate relationship between gut bacteria and brain function, offering new insights into the complex origins of food addiction and related disorders. By understanding this crosstalk between behavior and gut bacteria, researchers hope to develop effective therapies for food addiction in the future.

## Vocabulary List:

1. **Addiction** /ə'dɪk.tʃən/ (noun): The state of being physically or mentally dependent on a particular substance or activity.
2. **Bacteria** /bæk'tɪr.i.ə/ (noun): Microscopic single-celled organisms that can be found in various environments.
3. **Obesity** /oʊ'bi:.sɪ.ti/ (noun): The condition of being significantly overweight posing health risks.
4. **Crosstalk** /'krɔ:s.tɔ:k/ (noun): Communication or interaction between two or more systems often leading to interference.
5. **Prebiotics** /,pri:.baɪ'ɒt.ɪks/ (noun): Substances that induce the growth or activity of beneficial microorganisms.
6. **Therapies** /'θer.ə.pɪz/ (noun): Various treatments intended to alleviate or manage health issues.

## Comprehension Questions



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## Multiple Choice

1. What is the main focus of the recent international study mentioned in the text?  
Option: Heart disease  
Option: Gut bacteria and food addiction  
Option: Neurological disorders  
Option: Cancer treatments
2. Which bacteria were found to be associated with the development of food addiction?  
Option: Proteobacteria and Actinobacteria  
Option: Firmicutes and Bacteroidetes  
Option: Blautia and Bacillota  
Option: E. coli and Lactobacillus
3. What are the protective effects against food addiction mentioned in the study?  
Option: Increase in Proteobacteria  
Option: Decrease in Actinobacteria  
Option: Increase in Actinobacteria and Bacillota  
Option: Decrease in Blautia
4. What was the approach used to diagnose food addiction in both mice and humans in the study?  
Option: Blood tests  
Option: MRI scans  
Option: Questionnaire  
Option: Genetic testing
5. What type of administration led to improvements in food addiction symptoms in mice?  
Option: Antibiotics  
Option: Probiotics  
Option: Prebiotics  
Option: Chemotherapy
6. What forum featured the presentation of this study in 2024?  
Option: International Conference on Microbiology  
Option: World Health Summit  
Option: Federation of European Neuroscience Societies Forum  
Option: Global Nutrition Congress



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## Answer

**Multiple Choice:** 1. Gut bacteria and food addiction 2. Proteobacteria and Actinobacteria 3. Increase in Actinobacteria and Bacillota 4. Questionnaire 5. Prebiotics 6. Federation of European Neuroscience Societies Forum

## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. What term describes the ability to recover from difficulties?  
Option: Inflammation  
Option: Resilience  
Option: Integrity  
Option: Perseverance
2. What is the term for the collection of microorganisms in a particular environment?  
Option: Bacteria  
Option: Addiction  
Option: Microbiome  
Option: Crosstalk
3. What term refers to the mental action or process of acquiring knowledge and understanding?  
Option: Achievement  
Option: Cognition  
Option: Transplant  
Option: Obesity
4. What are measurable substances that indicate the presence of a biological process or condition?  
Option: Therapies  
Option: Incurable  
Option: Biomarkers  
Option: Devastating
5. What term describes a complex condition characterized by compulsive drug use?  
Option: Incurable  
Option: Achievement  
Option: Addiction  
Option: Prognosis



6. What is the term for a medical condition in which excess body fat has accumulated to an extent that it may have a negative effect on health?

- Option: Prognosis
- Option: Crosstalk
- Option: Integrity
- Option: Obesity

7. What are specialized plant fibers that nourish the good bacteria already in the colon?

- Option: Prebiotics
- Option: Bacteria
- Option: Resistant
- Option: Mitigate

8. What term describes the ability of a microorganism to withstand the effects of medication?

- Option: Resistant
- Option: Complex
- Option: Prognosis
- Option: Mitigate

9. What term refers to the temporary or permanent disappearance of the signs and symptoms of cancer?

- Option: Remission
- Option: Perseverance
- Option: Biodiversity
- Option: Acidity

10. What term describes a community of living organisms interacting with one another and their physical environment?

- Option: Mitigate
- Option: Ecosystems
- Option: Interconnectedness
- Option: Acidity

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

11. \_\_\_\_\_ is the quality of being honest and having strong moral principles.

12. The disease had a \_\_\_\_\_ effect on his ability to perform daily tasks.

13. Multiple \_\_\_\_\_ is a type of cancer that forms in a type of white blood cell called a plasma cell.



14. The discovery held great \_\_\_\_\_ for the field of medicine.
15. The Amazon rainforest is known for its rich \_\_\_\_\_ of plant and animal species.
16. Efforts to \_\_\_\_\_ the effects of climate change are crucial for the future of the planet.
17. The immune system is a highly \_\_\_\_\_ network of cells and proteins.
18. The doctor provided a positive \_\_\_\_\_ for the patient's recovery.
19. His success was a result of hard work and \_\_\_\_\_ in the face of challenges.
20. Despite advances in medicine some diseases remain \_\_\_\_\_.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**

21. Chronic has been linked to various health conditions including heart disease and diabetes.
22. The earthquake had a impact on the small island nation destroying homes and infrastructure.
23. A kidney can improve the quality of life for patients with end-stage renal disease.
24. Winning the Nobel Prize was a significant for the scientist after years of research.
25. The concept of global highlights the idea that actions in one part of the world can have far-reaching effects.
26. Various medical are available to treat different types of cancer.
27. Cellular plays a crucial role in coordinating responses to external stimuli.
28. The pH level measures the degree of or alkalinity in a substance.
29. The loss of biodiversity in the rainforest would be to the delicate ecosystem.
30. Probiotics are live bacteria and yeasts that are good for your health especially your digestive system.

## Answer

**Multiple Choice:** 1. Resilience 2. Microbiome 3. Cognition 4. Biomarkers 5. Addiction 6. Obesity 7. Prebiotics 8. Resistant 9. Remission 10. Ecosystems

**Gap-Fill:** 11. Integrity



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12. Debilitating 13. Myeloma 14. Significance 15. Biodiversity 16. Mitigate 17. Complex 18. Prognosis  
19. Perseverance 20. Incurable  
**Matching sentence:** 1. Inflammation 2. Devastating 3. Transplant 4. Achievement 5. Interconnectedness  
6. Therapies 7. Crosstalk 8. Acidity 9. Devastating 10. Bacteria

## CATEGORY

1. Health - LEVEL4

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