

Title: Effect of fructooligosaccharide, buttermilk and prebiotic enriched fermented beverage in biohacking depression through gut microbiome modulation: The Gut Brain Axis.

Shruti Dwivedi[1] and Mini Sheth[2]
[1]Research Scholar, [2]Professor

Department of Foods and Nutrition,
Faculty of Family and Community Sciences,
The Maharaja Sayajirao University of Baroda,
Vadodara, 390002
India

Mental health despite being a major human scourge, is still underappreciated. WHO, 2020 anticipated, globally around 264 million people are depressed of which 70% of youth suffer in silence. Intriguingly increased depression rate calls for urgent lifestyle modification for mental sanity. Interestingly, biohacking mental health is possible, *the secret lies in our gut.* Microbes communicate with the brain through a circular loop among the central and enteric nervous systems- The Gut-Brain axis. Maintaining the 'right gut bacteria for the brain' is the key.

To grasp the criticality of this axis, the present study was executed. Beck's Depression Inventory was used to snapshot mild to moderate depression among 683 subjects (19-30 years) from The MS University of Baroda, Gujarat. Using systemized random sampling subjects who gave consent for participation were segregated into 3 experimental groups (EG) of 30 individuals each who were supplemented for 45 days with fructooligosaccharide (prebiotic), buttermilk, and ambil (a prebiotic fermented beverage) respectively. Gut macrofloral count and blood cortisol were determined pre- and post- intervention trials. The fecal log count of *Lactobacillus* and *Bifidobacterium* showed a significant increase of 6.80% and 6.13% in EG1, 5.57%, and 4.51% in EG2 and 10.05% and 36.15% respectively in EG3. A significant decrease in mean depression scores and cortisol values was seen by 18.69% and 1.76% in EG1, 14.21%, and 4.49% in EG2 and 46.45% and 6.56% respectively in EG3. Prebiotics, probiotics, and fermented beverages provide exciting avenues for managing depression by augmentation of gut microflora to a positive balance.

Biography

Shruti Dwivedi is a Ph.D. Research Fellow at The Maharaja Sayajirao University of Baroda. She is an active participant in the Nutritional Counselling Cell of the Department. SHUATS Allahabad and Banasthali University are her alma mater. Accomplishments include UGC NET JRF, SRF, ICAR AIEEA, and Young Scientist Award 2020. She has completed a research project in the area of nutrition education intervention. She has five research paper publications in reputed journals. She is also a certified nutrigenomic counselor. Keeping up with the vision- it's all about living smart she pursues her hobby as a nutrition blogger under the brand name 'nutrideck'.

Presenting author details
Full name: Shruti Dwivedi
Contact number: 8077396800, 7088565757
Linked In account: www.linkedin.com/in/shruti-dwivedi-ab2a8a145
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