Title: Exploring the Effects of Gut Microbiome on Mental Health Disorders.

Author: Heily Tirayan Chaires and Joan Bleecker

Abstract: The gut microbiome (GM) is a composition of microorganisms that reside within the gastrointestinal tract. The communication between the gut and brain can influence mental health disorders, including depression and anxiety, due to disruptions within the gut. Given the increased diagnosis of mental health disorders in the United States in the past decade, understanding the relationship between the GM and mental health is crucial. An in-depth literature analysis was done on the University of Washington Library Database. All research had to be published in peer-reviewed journals with an impact factor of at least 1.6. Studies using germ-free mice and specific pathogen-free mice demonstrated an understanding of the relationship between the GM and behavior. Probiotics and prebiotics have been shown to be effective in regulating the GM composition. However, some literature contradicts their efficiency. Research remains limited in confirming a relationship between the use of nutritional interventions with depression and anxiety. Future research into the GM's connection to brain development can improve a better understanding on mental health conditions and treatments.