

The effects of prebiotic treatment in Schizophrenia: Results of a pilot study

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Abstract

Background: Emerging research suggests that disruptions of the normal flora in the gut microbiota may affect brain development and function and play a role in psychiatric disorders. Butyrate is one of the three major short chain fatty acids (SCFA) that are produced by bacterial fermentation in the gut and plays a critical role in maintaining the integrity of the gut/blood barrier and in several aspects of brain development, including cognitive function.

Methods: In this 2-week open-label pilot study, we enrolled participants with a DSM-5 diagnosis of schizophrenia or schizoaffective disorder, between the ages of 18-64 years, and who were hospitalized for at least 7 days, were treated with an antipsychotic without dose changes in the last 14 days and had no antibiotic, prebiotic or anti-inflammatory treatments within the last 3 months.

Results: We enrolled five participants: all of whom were taking olanzapine or clozapine and smoked cigarettes. Three of the five participants were female and four of five were African American. The mean age of illness onset was 18.8 ± 7.0 years and mean age at the time of study was 38.1 ± 8.5 years.

Conclusion: Based on our preliminary results, OEI treatment in people with schizophrenia has a promising therapeutic potential. Future studies should replicate these initial findings and OEI may be an effective treatment for cognitive dysfunction. We are currently conducting an NCCIH funded R61/33 clinical trial to examine the effects of OEI on butyrate in a double blind randomized clinical trial.

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Biography:

Deanna L. Kelly completed her PharmD from Duquesne University in Pittsburgh, PA and completed a residency in psychiatric pharmacy practice at the University of Maryland (UMB), Baltimore in 1997. Dr. Kelly is currently Professor of Psychiatry at the UMB School of Medicine and directs the Treatment Research Program at the Maryland Psychiatric Research Center in Baltimore, MD USA.

Speaker Publications:

1. Richardson CM, Davis EA, Vyas GR, DiPaula BA, McMahon RP, Kelly DL. Evaluation of the safety of clozapine use in patients with benign neutropenia. *J Clin Psych* 2016;77(11):e1454-e1459. PMID: 27736047.
2. Cihakova D, Eaton WW, Talor MV, Harkus UH, Demyanovich H, Rodriguez K, Feldman S, Kelly DL. Gliadin-related antibodies in schizophrenia. *Schizophrenia Research*, 2018;195:585-586 PMID: 28886891

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