

## Probiotics: A Clinical Review

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**INTRODUCTION:** Probiotics are formulations of living microorganisms that have the potential to provide health benefits. Research on the use of probiotics in treatment or prevention of various medical conditions is on the rise. Recent research suggests probiotics have the potential to improve conditions, such as antibiotic associated diarrhea, irritable bowel syndrome, and inflammatory bowel disease because of their ability to re-colonize the altered microbial environment that occurs with these gastrointestinal conditions. Many commercial probiotic products sold contain more than one strain of bacteria making it difficult for healthcare providers to prescribe and consumers to understand or correctly purchase the product. In addition, limited research has been done to explore the safety of probiotics.

**PURPOSE:** To identify the role of probiotics in primary care practice and to establish a simple, but effective way to guide providers in the use of probiotic strains and formulations in treating common conditions.

**METHODS:** Articles were found by searching the Wichita State University library database, which linked us to various databases including, but not limited to Cochrane Library and MEDLINE.

**RESULTS:** The efficacy of probiotics is variable, due to the differences in patient presentation of symptoms, severity of disease, population size analyzed, and study design. Current research suggests that probiotics may be effective in alleviating symptoms associated with several gastrointestinal conditions such antibiotic-associated diarrhea, clostridium difficile overgrowth, irritable bowel syndrome, and ulcerative colitis. Research indicated probiotics are less effective in Crohn's disease, GERD, helicobacter pylori, rotaviral infection and functional constipation. In addition, research is also being conducted on probiotic use in psychological, integumentary, gynecological, and some pediatric conditions. Probiotics are generally considered as safe, but there is a need to determine their safety for use in specific immunocompromised populations.

**CONCLUSION:** The evidence on probiotic use in clinical practice is conflicting because of extensive variation in the research. For many of the disease processes there is evidence of positive outcomes when using probiotic products. There is stronger evidence for effectiveness of probiotic use in several gastroenterology conditions. Probiotics are continuously being evaluated as a new treatment for a multitude of conditions. A lot of this research on probiotics is relatively new and therefore, more research needs to be done to provide a better understanding of appropriate use of probiotics.