Bug vs Bug:
Probiotics to improve long-term outcomes for people living with HIV

While food safety and malnutrition prevention remain cornerstones of nutrition education for patients with HIV, as antiretroviral therapies (ARTs) have advanced allowing those with the disease to lead longer lives, research has revealed that these patients suffer from particularly high rates of cardiometabolic diseases \(^1,^2\). The greater vulnerability of these individuals to chronic disease has been linked to their state of persistent infection combined with medication induced immune disturbances, which appear to result in gut microbial translocation and damage, as well as heightened inflammation and coagulation \(^2,^3\). As with many chronic diseases, it is the pro-inflammatory metabolic profile observed in ART treated HIV patients that researchers believe is associated with their elevated risk of cardiovascular disease, diabetes, liver and kidney diseases, cancer, and overall mortality \(^1,^2,^3\). Thus, interventions that would reduce inflammation, improve immune system and gut function in a safe, practical, and effective way would clearly benefit these individuals. According to a growing body of literature, probiotic containing products may meet these therapeutic requirements.

Current evidence on the use of probiotics and synbiotics as adjunct HIV treatment from double-blind, randomized, placebo-controlled trials, systematic reviews, and meta-analyses robustly support their safety, tolerability, and efficacy for ART treated patients. The data consistently show that probiotic interventions improve gut function and integrity, reduce bacterial translocation, improve immune system regulation, and levels of inflammatory biomarkers without adversely impacting ART medication efficacy \(^3,^4,^5,^6\). Despite these promising results, practical applications of probiotics are complicated by the fact that these benefits have been observed using a variety of bacteria and yeast species, differing treatment time-frames, and various dosages. Thus, standardized probiotic medical nutritional therapy protocols for HIV
patients must still be created before interventions can be administered. Despite this hurdle, these findings are exciting news for those in the field of Dietetics as probiotics emerge as an important nutritional tool to improve the long-term quality of life for those with HIV. The development of probiotics as adjunct therapies is particularly important from a health equity perspective, as HIV has been found to disproportionately impact lower income individuals, and these products can easily be provided as relatively low cost supplements or components of inexpensive nutrient dense foods.

Works Cited:


