

ORIGINAL RESEARCH

Harnessing Gut Health to Prevent Obesity: A Nutrition-Centered Approach for Optimizing Gut Functionality in Preclinical Obese Adults

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Abstract:

The increase in numbers of individuals struggling with excess obesity poses a potential risk to public health Globally. Prolonged periods of overweight and obesity have led to an increase in the prevalence of most non-communicable diseases (NCDs), including cancer, diabetes mellitus, and Cardiovascular disease. Interventions such as pharmacological, surgical and non-invasive weight management procedures, emerging weight loss trends like Intermittent fasting, Ketogenic diets etc have been employed to try and mitigate the menace of preclinical and clinical obesity. Further investigations found that, optimisation of the gut in managing Obesity in developing countries, Kenya included, is seldomly used. The study, therefore was conducted to examine the effectiveness of gut health focused approaches as a cheaper alternative to prevention & management of both Pre-clinical & Clinical Obesity. A narrative literature review was carried out on several studies & publications from Pubmed , Science direct & Cochrane library with a specific focus on studies from 2013-2025. Key inclusion criteria were those linking Gut Microbiota Composition, Digestive Health & Metabolism with Overweight & Obesity. From the review, it was evident that overweight and obese persons suffer from gut dysbiosis, intestinal permeability, low microbial diversity, chronic inflammation, and altered satiety signaling- further reducing their basal metabolic rate (BMR). An increase in dietary fiber (25–38g/day), fermented foods, and polyphenol-rich plant foods intake on the other hand promotes satiety, enhances metabolic flexibility, and restores energy balance, eventually improving weight outcomes. With such observations, optimizing gut functionality through targeted nutrition presents a promising, cost-effective, and non-invasive strategy for managing weight in preclinical obese individuals. And Integration of gut-focused dietary interventions into National Nutrition Guidelines in clinical practice could help manage Pre-Clinical Obesity better reducing the transition to clinical obesity. Dietitians have a primary and critical role in leading this preventive approach within multidisciplinary teams.

Keywords: Gut Microbiota, Gut Brain Axis, Obesity In Kenya, Sustainable Nutrition Interventions, Gut Health