

A Theoretical Framework for Community-Delivered Dietary Management of Irritable Bowel Syndrome in an African Context: The Structured Low-FODMAP Intervention for Female Educators in Rwanda

J, e, a, n, i, n, e, U, w, i, m, a, n, a, ,, A, m, i, n, a, t, a, N, i, y, o, n, s, e, n, g,
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| Abstract

Irritable bowel syndrome (IBS) is a prevalent functional gut disorder. Evidence-based dietary management, such as the low-FODMAP diet, remains largely inaccessible in many African healthcare settings. A theoretical gap exists for adapting and delivering such interventions through community health structures, particularly for groups with high prevalence like female educators in Rwanda. This article proposes a theoretical framework for the community-led delivery of a structured low-FODMAP diet intervention in Rwanda. It aims to outline the core components, hypothesised mechanisms of action, and implementation logic for managing IBS symptoms among female teachers in Kigali via trained community health workers. The framework was developed by synthesising literature on the low-FODMAP diet, community health worker models, and cultural considerations for dietary modification in sub-Saharan Africa. Theoretical constructs from implementation science and health behaviour theories were integrated to structure the intervention's design, delivery, and evaluation. Key insights: The framework posits that successful implementation requires an initial adaptation phase to culturally tailor high-FODMAP food examples to the Rwandan diet. It details a stepped-care model, hypothesising that structured group education followed by individualised support will improve adherence and symptom control. This theoretical framework provides a culturally

informed blueprint for a community-delivered dietary intervention for IBS in Rwanda. It addresses a service gap and could shift management towards a sustainable, community-embedded model. Future research should test this framework through a pilot feasibility study. Investment in training materials and monitoring tools for community health workers is needed. Policymakers should consider integrating such community-based nutrition strategies into national non-communicable disease programmes.

irritable bowel syndrome, low-FODMAP diet, community health workers, theoretical framework, Rwanda, dietary management. This work provides a novel theoretical framework for implementing a community-based dietary intervention for IBS in an African context, aiming to bridge the gap between specialised dietary knowledge and accessible primary care.
