

The dietary fibre intake of patients with constipation-predominant irritable bowel syndrome who applied different medical nutrition therapies

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Irritable bowel syndrome (IBS) is a functional bowel disease accompanied by symptoms such as chronic abdominal pain, bloating, gas and defecation disorders triggered by some dietary compounds and foods. A gluten-free diet and recently approved diet called a low-FODMAP diet, which affects dietary soluble and insoluble fibre intake are applied to relieve these symptoms⁽¹⁾. These diets affect gut microbiomes that include beneficial microorganisms for human health⁽²⁾. This study was aimed to evaluate different medical nutrition therapies on dietary fibre intake, which may cause dysbiosis in the gut.

In this study, forty-five patients aged 19-64 diagnosed with constipation-predominant IBS (IBS-C) according to Rome-IV criteria were randomized into three groups of 15 patients each. Each group adopted either a gluten-free diet, low-FODMAP (fermentable oligo-, di-, monosaccharides and polyols) diet or traditional constipation diet for six days. Participants were asked to keep a food diary using 24-hour food record for each day. At the end of the study, the food diaries were evaluated in total dietary soluble and insoluble fibre intake using Nutrition Information System software (BeBiS).

Participants mean age was 37.6±11.2 year, and body mass index 25.6±3.2 kg/m². Mean total dietary soluble fibre intake of traditional constipation diet group was 12.8±4.4 g, gluten-free diet group was 11.6±3.1 g and low-FODMAP diet group was 9.0±4.0 g. The difference in total dietary soluble fibre intake between groups was statistically significant ($p = 0.033$). Mean total dietary insoluble intake of traditional constipation diet group was 22.9±6.6 g, gluten-free diet group was 23.2±5.3 g, and low-FODMAP diet group was 16.9±6.9 g. Total dietary insoluble intake was the lowest for low-FODMAP diet groups and found statistically significant ($p = 0.024$).

Gut microbiome needs to be supported by diet to increase its number and maintain host health. Dietary fibre, especially soluble fibre, is one of the primary energy sources of the microbiome. Even though low-FODMAP and gluten-free diets are effective to relieve the symptoms of IBS-C, they are restricted from dietary fibre. Compared to these two diets, a traditional constipation diet includes more fibre however it is not enough for a healthy diet. To support patients' dietary intervention with enough soluble fibre may be helpful for the gut microbiome.

References

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