

Irregular dietary habits with a high intake of cereals and sweets are associated with more severe gastrointestinal symptoms in IBS patients

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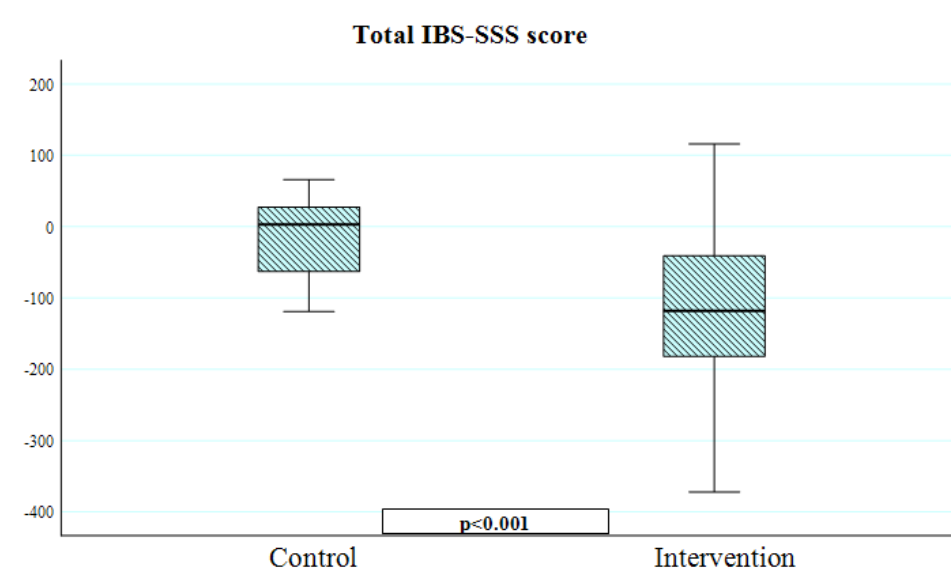
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Background: Dietary advice constitutes one of the first choices of treatment for irritable bowel syndrome (IBS). However, almost 50% of the IBS population do not improve their symptoms following accepted recommendations such as the NICE guidelines or a low FODMAP diet. The sucrase-isomaltase (*S*) genes are responsible for the enzymatic breakdown of starch and sucrose in the small intestine. Recently, we have recognized that an increased prevalence of functional *SI* gene variants can be seen in patients with IBS, resulting in enzymatic defects and possible difficulty digesting starches and sucrose [1].

Aim:

- To examine participants' dietary habits at baseline, and to correlate the dietary habits with GI symptoms and blood levels of minerals and vitamins.
- To examine the effect of a starch- and sucrose-reduced diet (SSRD) on GI symptoms.

Figure 2. Changes in total IBS-SSS score after the two-week dietary intervention



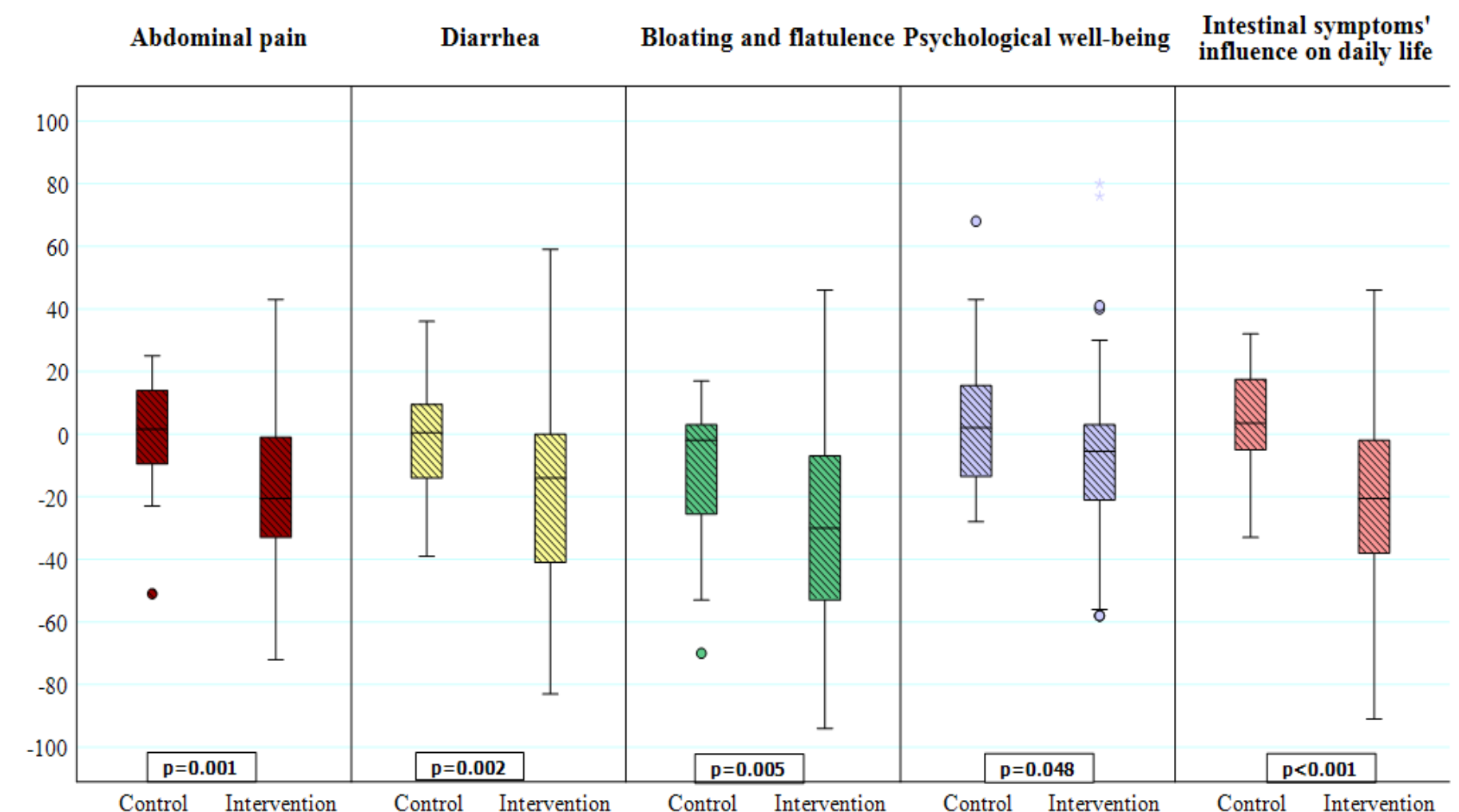
Differences in the change of total IBS-SSS symptom scores (delta values) between controls and the intervention group

Method: IBS patients (82 women, age 46.06 ± 13.11 years) were randomized to either the dietary intervention group ($n=80$); following a SSRD for 2 weeks or to the control group ($n=25$) who continued with their ordinary eating habits. All subjects had blood drawn and completed questionnaires regarding GI symptoms (VAS-IBS, IBS-SSS and Rome IV) as well as two 4-day food diaries at baseline and after 2 weeks.

Results: Results showed that patients with regular dietary habits had lower total IBS-SSS scores, than patients with irregular habits ($p=0.029$)(Student's T-test). Women with an on-going diet had lower levels of ferritin than women without any diet ($p=0.042$)(Mann-Whitney U-test). A majority of the patients had serum levels of 25-OH vitamin D below reference values. IBS patients randomized to the intervention group showed significant improvement of several symptoms after the 2-week dietary intervention, in contrast to controls (figure 1 and 2)(Mann-Whitney U-test). The improvements were correlated with the decreased intake of cereals and sweets/soft drinks.

Conclusion: Dietary habits affect the experience of GI symptoms and blood levels of minerals and vitamins in patients with IBS. A starch- and sucrose-reduced diet with reduced intake of cereals and sweets has marked effect on reducing GI symptoms in this cohort. The pathologic mechanisms behind this improvement need to be further researched in future studies.

Figure 1. Changes in symptoms after the two-week dietary intervention



Differences in the change of VAS-IBS symptom scores (delta values) between controls and the intervention group regarding abdominal pain, diarrhea, bloating and flatulence, psychological well-being and intestinal symptoms' influence on daily life. A score of 100 indicates the highest level of GI symptoms, very poor psychological well-being and high influence of symptoms on daily life

References

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