

Symptom patterns in irritable bowel syndrome

Akademisk avhandling

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Avhandlingen baseras på följande delarbeten

- I. Clevers E, Whitehead WE, Palsson OS, *et al.* Factor Analysis Defines Distinct Upper and Lower Gastrointestinal Symptom Groups Compatible With Rome IV Criteria in a Population-based Study. *Clin Gastroenterol Hepatol.* 2018 Aug;16(8):1252-1259.
- II. Clevers E, Vaes B, Henrard S, *et al.* Health problems associated with irritable bowel syndrome: analysis of a primary care registry. *Aliment Pharmacol Ther.* 2018 May;47(10):1349-1357.
- III. Clevers E, Tack J, Törnblom H, *et al.* Development of Irritable Bowel Syndrome Features Over a 5-year Period. *Clin Gastroenterol Hepatol.* 2018 Aug;16(8):1244-1251.
- IV. Clevers E, Törnblom H, Simrén M, *et al.* Relations between food intake, psychological distress, and gastrointestinal symptoms: A diary study. *United European Gastroenterol J.* 2019 Aug;7(7):965-73.
- V. Clevers E, Nordqvist A, Törnblom H, *et al.* Food-symptom diaries can generate personalised lifestyle advice for managing gastrointestinal symptoms. [Submitted]

**SAHLGRENKA AKADEMIN
INSTITUTIONEN FÖR MEDICIN**



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Abstract

Who has never had them: symptoms in the abdominal region, such as pain, bloating, constipation, and diarrhoea? These are common symptoms of irritable bowel syndrome (IBS). IBS affects 5-10% of the population, especially females between the age of 16 and 40.

The good news is that IBS is a benign disorder: IBS does not increase the risk of cancer, and symptoms are not progressive. The bad news is that impact on quality of life is high due to symptoms in the abdomen as well as elsewhere (e.g. joint pain) and psychological symptoms (e.g. anxiety) or even psychiatric disorders (e.g. anxiety disorders). Specifically, symptom-related anxiety is a predictor of more severe symptoms and worsening quality of life.

Why exactly do people have symptoms? In part, symptoms can be explained by lifestyle factors, mainly food and stress. Common food triggers have been described for diarrhoea (confectionery, coffee, spices), flatulence (onions, fruits, bread), bloating (late eating), and pain (late eating, rice, bread). Before we start dieting, however, two important remarks must be made:

- Intolerances to food and stress are very person-specific. Person-specific food-symptom and stress-symptom relations may be identified when a patient keeps a diary of food intake, stress, and symptoms. The computer analyses the diary for possible symptom triggers. Exclusion of personal triggers may lead to symptom improvement for a group of patients.
- There are many non-lifestyle factors that drive symptoms in IBS. These include the gut bacteria and immune system. Therefore, it is possible that a patient does not benefit from any dietary or psychological therapy.

This thesis leads to two research suggestions, both aiming for personalised management of IBS:

- Personal symptom triggers. Although we know that the food/symptom diary concept can generate personalised lifestyle advice, we still lack evidence that it actually improves symptoms. Patients who keep a diary and receive personalised lifestyle advice should be followed up to monitor symptom evolution. A great opportunity would be to combine it with smart devices that measure physiologic variables, as these may explain *how* a trigger leads to symptoms.
- Predictors of treatment response. For the patient, finding a good treatment is currently a process of trial and error. There is a need for an evidence-based treatment algorithm, as this makes IBS management more efficient and teaches us about the underlying mechanisms.

Keywords: IBS, gastroenterology, nutrition, stress, symptom patterns