

Understanding the patient perspective for treatment outcomes and preferences in functional bowel disorders

Citation for published version (APA):

Sturkenboom, R. (2022). *Understanding the patient perspective for treatment outcomes and preferences in functional bowel disorders*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20221109rs>

Document status and date:

Published: 01/01/2022

DOI:

[10.26481/dis.20221109rs](https://doi.org/10.26481/dis.20221109rs)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

ENGLISH SUMMARY

The majority of patients presenting for medical consultation with a gastroenterologist suffer from disorders of the gut-brain interaction, formerly referred to as functional gastrointestinal disorders. These disorders are characterized by recurring and persistent gastrointestinal symptoms and significantly associated with a lower quality of life and very frequent healthcare usage. This dissertation focused on measuring outcomes in irritable bowel syndrome (IBS), functional constipation and fecal incontinence such as quality of life (QoL), treatment preferences and long-term continence scores and complications.

To accomplish symptom control to improve quality of life (QoL), multiple appropriate treatments for these functional bowel disorders are available. The cornerstone of evaluating therapeutic effects in functional disorders (which are characterized by the lack of biomarkers), is the appropriate assessment of subjective symptoms. The US Food and Drugs Administration (FDA) and the European Medicines Agency (EMA) developed guidelines to measure treatment outcomes. This has led to the definition of PROMs, patient reported outcome measures. The PRO measure should capture all of the clinically important signs and symptoms of the target population. In this way, symptoms like the level of abdominal pain, frequency of defecation and symptom severity could be measured using a structured format.

An example of a health-related quality of life (HRQOL) instrument is the EQ-5D which informs cost-utility values for a treatment to determine whether a new therapy delivers value for money. This can be used in economic evaluations to compare benefit between new and established treatments by calculation of standardized quality-adjusted life years (QALYs). This is a generic instrument, because this can measure HRQOL in more conditions. On the other hand, an example of a condition-specific HRQOL instrument is the Irritable Bowel Syndrome Quality of Life questionnaire (IBS-QoL) in IBS patients. This questionnaire is an IBS-specific QoL instrument, but is not preference-based and as such does not allow calculation of QALYs. Condition-specific HRQOL are often preferred in clinical studies, because they capture more disease-specific or relevant aspects of the disease from a clinical and patients' perspective. We explored in **Chapter 2** whether the condition-specific IBS-QoL is more sensitive than the general EQ-5D to capture (mental) health changes in IBS patients. We reported that the overall known-group validity of the IBS-QoL and EQ-5D-5L was quite similar to discriminate between patient and disease characteristics. Moreover, we developed a mapping algorithm where we used data from two multicenter randomized clinical trials as input, to calculate utility values

for use in economic evaluations. The most appropriate mapping model to transform IBS-QoL scores into EQ-5D-5L utility scores, contained the total IBS-QoL score and the squared IBS-SSS (IBS severity scoring system).

In the management of functional bowel disorders, multiple appropriate therapies are available to choose from. Because patients have heterogenous complaints with underlying different (psychological) comorbidities and triggers, it is not possible to design an algorithm that fits all patients. Also, in for example IBS clinical trials, the NNT for IBS treatment is comparable. Therefore, other important treatments aspects should be identified during consultation such as exploring patients' needs, wishes during treatment. The PROs used in clinical trials quantify health outcomes, but these instruments unfortunately do not incorporate patients' preferences and their trade-offs. In **Chapter 3** we determined important factors, next to efficacy, to examine preferences for a specific therapeutic entity of both patients and physicians and compare their perspective. In this study we performed semi-structured interviews with 8 IBS patients and sent out surveys to 15 physicians involved in IBS care. Data revealed nine important treatment aspects: effectiveness, time until response, cessation of response, side effects, location of therapy, waiting period, treatment burden, frequency of healthcare appointments and willingness to pay. We found that effectiveness, duration of response, side effects and treatment burden were all scored as important by patients and physicians. Time to response, location and waiting time were less important for patients compared to physicians.

In Chapter 4 we used the results of the study described in **Chapter 3** to develop a discrete choice experiment to examine the treatment preferences and trade-offs between different attributes in IBS patients. In this prospective cohort study, a total of 185 patients from the Maastricht IBS cohort completed our survey. Patients were represented with nine different hypothetical choice sets with each three treatment options (medication, diet, psychotherapy) and six attributes. Looking at the varying properties of each treatment, patients were asked which treatment they preferred. This study showed that the most-preferred treatment was dietary intervention, subsequently pharmacotherapy and psychotherapy. IBS patients preferred a higher effectiveness, shorter time interval to response, longer time interval until recurrence, no severe side effects and frequent appointments when attending psychotherapy. Identifying patients' treatment preferences during shared decision-making, will provide more optimal management strategies for these patients.

In some of the patients with functional bowel disorders conservative treatments like pharmacological options, are not effective enough. For this subgroup of patients different surgical options are available. Until now, the long-term effects such as

efficacy, continence scores and complications, were not clear. Therefore, in **Chapter 5** we reported the success rate, QoL- and morbidity scores of the MACE in patients with fecal incontinence or constipation. In this retrospective single-center study 30% developed a postoperative complication. The overall success rate of 37%, determined by using the Malone's continence scale, was disappointing. However, the long-term quality of life scores of these patients did not differ from the general Dutch population.

Another possible surgical option to treat functional bowel disorders, is sacral neuromodulation (SNM). Sacral neuromodulation is effective as minimal invasive surgical option to treat fecal incontinence. However, the long-term effects of sacral neuromodulation in patients with constipation were not known. In **Chapter 6** we performed a prospective study where we included thirty adolescents who received sacral neuromodulation. We showed in this study that defecation frequency, abdominal pain and Wexner score significantly improved over time. The 2-year recurrence-free survival was approximately 42.9%. Incorporating this beneficial effect of SNM on defecation frequency and accompanying symptoms, we can conclude that SNM is an effective treatment in adolescent patients with severe complaints of constipation resistant to conservative treatment. In line with our conclusion, current guidelines recommend discussing SNM as a therapeutic option in patient with fecal incontinence.

Patients suffering from fecal incontinence also have several conservative options, including pelvic floor physiotherapy, bulking agents and antidiarrheals. For patients with greater sphincter defects, these treatments are often not sufficient. In **Chapter 7** we reported the long-term outcomes of the artificial bowel sphincter (ABS) in this category of patients. This retrospective record review study included sixty-three patients who were treated with an ABS. We reported that the device was explanted in 49.2% of the patient after a median follow-up of 57 months due to complications. 101 revisions were conducted in total because of device failure or infection. At 5-years follow-up only 35% of the patients had restored continence and 80% had experienced a complication requiring surgery. These limitations of this technique were found to be significant and should be carefully discussed during decision-making. Because of the availability of more effective treatment options, this procedure is generally not offered to patients anymore.

Therefore, shared decision-making is a preferable strategy to pursue where wishes and needs of patients with functional bowel disorders are incorporated.

Chapter 8 comprises directions for further research and future perspectives in relation to the main findings of our studies.