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[1] **Type**: Use one of the following codes (in consistence with the Description of the Action):
- R: Document, report (excluding the periodic and final reports)
- DEM: Demonstrator, pilot, prototype, plan designs
- DEC: Websites, patents filing, press & media actions, videos, etc.

[2] **Dissemination level**: Use one of the following codes (in consistence with the Description of the Action)
- PU: Public, fully open, e.g. web
- SEN: Sensitive, limited under conditions of the Grant Agreement

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Summary

The eHealth tool MyIBDCoach app has been adapted to include various questionnaires for monitoring psychosocial and lifestyle risk factors. The Food Frequency Questionnaire (FFQ) has been made available through a separate website, as due to Medical Device Regulations (MDR), this could not yet be implemented directly into the app. MyIBDCoach has been validated with the longitudinal cohort in the Netherlands, demonstrating feasibility, clinical relevance, and practicality of using this eHealth platform for monitoring of lifestyle, psychosocial and diet-related risk factors in IBD patients.

1 Introduction

MyIBDCoach is an existing eHealth tool to monitor and register disease activity, and quality metrics to improve care and quality of life (QoL) in IBD patients. This app was developed and validated and is currently being used for patients with IBD in 23 hospitals in the Netherlands. In miGut-Health, we want to extend this app with additional questionnaires integrated within MyIBDCoach to monitor a broad range of psychosocial, lifestyle and dietary risk factors. Patients most frequently ask questions about the diet. However, there are no automated dietary analyses and advice tools, yet.

2 Description of Activities

The UMCG has extended the existing eHealth tool MyIBDCoach to monitor and register disease activity and quality metrics in IBD patients. For this purpose, the following additional questionnaires were integrated within the app to monitor a broad range of lifestyle factors:

- the Malnutrition Universal Screening Tool (MUST) and the more sensitive Patient-Generated Subjective Global Assessment Short Form (PG-SGA-SF) are replaced by the Short Nutritional Assessment Questionnaire (**SNAQ**);
- International Physical Activity Questionnaire Short Form (IPAQ-SF) for habitual physical activity is replaced by alternating questions on PROMISE **physical function SF8B** and questions about the Dutch exercise standard;
- the 36-Item Short Form Health Survey (SF-36) is integrated in several PROMISE questionnaires;
- the Hospital Anxiety and Depression Scale (HADS) is replaced by **PROMISE Anxiety SF4a** and **PROMISE Depression SF4a**;
- For measuring sleep duration and sleep quality, the Munich ChronoType Questionnaire (MCTQ) was replaced by night's sleep disease burden questions;
- For assessment of fatigue, the Functional Assessment of Chronic Illness Therapy – Fatigue (FACITF) was replaced by **PROMISE chronic fatigue**

All are now being applied to consecutive IBD outpatients using the IBD Coach app.

In addition, questionnaires on dietary assessment were planned to be implemented in the IBD Coach:

- **Food Frequency Questionnaire** (FFQ) to screen for habitual dietary intake (direct link for patients);-
- the **Food-related QoL (FR-QoL**) which measures the dietary impact on the patient's QoL;

The FR-QoL has now been implemented within the app. However, due to the Medical Device Regulation (MDR), the **FFQ** (which is a research instrument) could not be implemented in direct clinical care and therefore not directly implemented into the MyIBDCoach. However, the instrument is now operationable and automated, and patients can be linked to the instrument through a website. Patients can fill this form out anonymously. They only share their sex, age, length, weight and physical activity needed to calculated their dietary needs. This allows patients to insert their dietary intake which will take about 45 minutes. Subsequently, they receive direct feedback on their food-intake and a brief nutritional advice on how to achieve nutritional targets on their personal email address. Therefore, from the data protection point of view, use of this page is safe for them, and they can decide for themselves with whom they want to share this information. Also, an additional **knowledge tool on nutrition and IBD** was developed. This is available to all on the UMCG website (link: Kennisportaal Voeding bij IBD (versie 1) . Patients are directed to this to receive general information about food in

special situation like IBD. On this website there is also a link to all dietitians that are especially trained in IBD (link: Dietisten geschoold in IBD (versie 1)).

3 Results & Discussion

We performed analyses of Lifestyle and psychosocial factors through implementation in IBD Coach in the Netherlands, and here are the first result.

Lifestyle and psychosocial factors impact mucosal inflammation and well-being of IBD patients. However, lifestyle assessment and interventions are not standard care. The aim of this study was to estimate the occurrence of and gather patients' perspectives on unfavorable lifestyle and psychosocial factors in individuals with IBD.

We performed a multicenter study conducted, enrolling IBD patients using the telemedicine platform IBD Coach that reports on disease activity, lifestyle, and psychosocial factors. Patients' perspectives were gathered through a nationwide online survey distributed by the Dutch IBD patient organization. In the telemedicine cohort (*n* = 460), 16.3% followed a specific diet, and 50.7% believed diet impacted their disease or quality of life. Additionally, 67.4% did not meet exercise norms, 9.3% smoked, and 8.0% had excessive alcohol consumption (>7 units/week). About one-third experienced high stress, poor sleep regularly, and emotional distress occasionally. In the nationwide survey (*n* = 1126), most patients (58–91%) believed that stress, unhealthy diet, poor sleep, physical inactivity, and anxiety or depression could cause intestinal symptoms. Around 70% were motivated to change diet, stress management, and physical activity. Less than one-fifth of patients received hospital support, with the majority being satisfied. Approximately 20% of patients desired but lacked support concerning stress, physical activity, diet, and sleep.

Patients with IBD commonly report unfavorable lifestyle and psychosocial factors, recognize their impact on intestinal symptoms, and are motivated to change, but often lack hospital support. This underscores the importance for systematic incorporation of lifestyle and psychosocial factors into patient-centered IBD care and the potential for targeted interventions.

We analyzed the impact of the FFQ, feedback and knowledge tool on the change in FR-QoL in IBD patients (as mentioned before – not implemented in IBD Coach due to MDR regulations). Between August 2024 and December 2025, the online FFQ was filled out by 141 patients (79 CD/62 UC/4 IBDU). These were all given feedback on their nutritional intake and directed to the web-based knowledge tool on IBD. Out of these, 102 filled out the questionnaire for the second time. Their Fr-QoL increased from 92 to 103 points (on a scale of 29 to 145 with a score >90 being good). This means that food issues have less impact on their QoL after the intervention. We noticed low intakes of fiber, calcium and vitamin B2 in IBD patients, which enhanced after the intervention. On a scale from 0 to 10, with 0 being low and 10 being excellent, the FFQ was rated 7.1 and the knowledge tool was rated 7.3 by the patients. We are currently preparing the manuscript.

4 Conclusion

Instruments for monitoring modifiable lifestyle factors including the Fr-QoL have been implemented in MyIBDcoach, currently up and running, and results have been reported. These results demonstrated feasibility, clinical relevance, and practicality of using this eHealth platform for longitudinal monitoring of lifestyle and psychosocial factors in patients with IBD. The Food Frequency Questionnaire online assessment is active. Patients are given a link to fill out the questionnaire and receive feedback on their food intake and possibilities to enhance this in the knowledge tool on Nutrition in IBD. First results also demonstrate clinical relevance and credibility of the tool for assessing dietary quality and receive advice in patients with IBD, and it is reported to be user friendly as well. Final results will be reported soon.

5 Next steps

Analysis of the impact of the FFQ, feedback and knowledge tool on the change in FR-QoL in IBD patients is ongoing and the manuscript is being prepared.

We also performed a latent profile analysis based on the lifestyle and psychosocial factors collected through the implementation in IBD Coach app which unveiled distinct subgroups of IBD patients based on gastrointestinal and psychological symptom occurrence. The manuscript is submitted and currently under review.

6 References

Resulting Publications:

Demers K, Lifestyle and psychosocial factors in inflammatory bowel disease: Prevalence, impact, motivation, and support needs. PLoS One. 2025 Aug 29;20(8):e0331092. doi: 10.1371/journal.pone.0331092. PMID: 40880377; PMCID: PMC12396644.

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