



THE EFFECT OF TELEHEALTH-BASED SELF MANAGEMENT INTERVENTIONS FOR IRRITABLE BOWEL SYNDROME: A SYSTEMATIC

Rofiq Dwi Febriyanti*, Ika Nur Pratiwi, Fayza Eka Zhafirah, Wynne Faiza Rosada

Faculty of Nursing, Universitas Airlangga, Jl Mulyorejo, Surabaya, Jawa Timur 60115, Indonesia

*rofika.dwi.febriyanti-2025@fkip.unair.ac.id

ABSTRACT

An Irritable Bowel Syndrome (IBS) is a dysfunctional bowel disorder characterized by such gastrointestinal symptoms as abdominal pain, defecation, constipation, and bloating. Consequently, the condition may worsen over time. A systematic evaluation of the effectiveness, mechanisms, and implementation aspects of telemedicine-based self-management strategies in adults with irritable bowel syndrome (IBS). This study used a quantitative method with a systematic review approach following the PRISMA 2020 guidelines. The search was conducted in various databases such as PubMed, Scopus, Web Of Science (WOS), Sciondirect, and Proquest with a publication year range from 2020 to 2025. The Boolean search strategy was: “self-management” OR “self-care” “telehealth” AND “telemedicine” “Irritable Bowel Syndrome OR intestinal disorder.” From the 1,074 articles found, after screening using inclusion and exclusion criteria, 20 articles were selected for further analysis using the JBI Critical Appraisal checklist. 20 articles that met the study criteria showed that the use of telehealth can improve self-management skills and reduce the number of inpatient cases. The highest level of effectiveness was achieved through collaboration between telehealth and interprofessional health services in food map management. Digital self-management through telehealth is effective and feasible as an adjunct to IBS management, with consistent evidence for CBT-based, nutritional, relaxation, and multimodal interventions despite methodological variations.

Keywords: IBS; self management; telehealth

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INTRODUCTION

Irritable Bowel Syndrome (IBS) is characterized by abdominal pain or discomfort accompanied by changes in bowel habits for six months. This condition can worsen over time. The characteristic symptoms of IBS are recurrent pain that lasts for a long time, caused by food and stress. How can IBS patients manage themselves using telehealth? The prevalence of IBS tends to be higher in industrialized countries than in developing countries. The prevalence in India is 4.2%, which is very low compared to countries in North America, where it is 10-15%. The prevalence of IBS in Asia is estimated to be 3.5-25%, with the lowest in Iran and the highest in Japan. Recent studies report that the prevalence of IBS in Asian countries ranges from 4-20%, and in northern Indian communities, it is 4%. There is no national data available for Indonesia, but for the Jakarta area, out of 304 cases of digestive disorders included in the 2013 Asian Functional Gastrointestinal Disorder Study (AFGID), the incidence of functional constipation was reported to be 5.3% and the incidence of constipation-type IBS was 10.5%. The prevalence of IBS in women is approximately 1.5-2 times that in men. IBS can occur in all age groups, with the majority occurring in people aged 20-30 years and tending to decrease with age. The development of digital technology has opened up new opportunities in managing chronic diseases, including IBS. (Ora et al., 2022). The implementation of telehealth is still limited due to insufficient access to technology and inadequate preparedness of healthcare personnel. (Tifany & Tambunan, 2023). Based on the above description of the problem and the absence of research using systematic reviews, the researchers conducted a systematic review to determine the self-management of IBS patients using telehealth.

METHOD

The results of the review of articles will be presented in the form of a description of effective strategies for telehealth-based self-management in IBS patients. The population used consists of several articles that have been published through national and international databases. The initial database results yielded 1,074 articles with the following details: Scopus 10 articles, PubMed 7 articles, Sciencedirect 94 articles, Proquest 948 articles, and WOS 15 articles. We then extracted journals based on the exclusion criteria described above, resulting in 20 journals with the following details: Scopus 2 articles, PubMed 5 articles, WoS 10 articles, Sciendirect 2 articles, and Proquest 1 article. The sample is one of several studies and is representative of the population (Sumanto, 1990). The samples in this study were selected based on articles matching the keywords specified by the researcher, namely three keywords: “AND, OR, NOT.” The keywords used Medical Subject Headings (MeSH). The following criteria were used to develop the search strategy: “self-management” OR “self-care” “telehealth” AND ‘telemedicine’ “Irritable Bowel Syndrome OR intestinal disorder.”

Research Procedures

1. Planning

Research Question (RQ) The SR is the initial stage and foundation for conducting a Systematic Review (SR). The SR is used as a guide in the search and extraction of literature, analysis, and synthesis of data. The result of the SR is the answer to the RQ determined at the beginning. A good RQ is one that can provide benefits, has a measure, and is directed towards understanding the state-of-the-art research of a particular research topic (Nursalam, 2020).

2. Conducting

This stage involves reviewing, which is carried out in accordance with the protocol established by the researcher. It begins with determining keywords. PICO-based literature searches have been designed in the initial stage. Understanding alternative synonyms or substitutes can determine the accuracy of literature searches. The next step is to determine the digital library source by searching for literature. Researchers will obtain a large amount of literature, so it is necessary to use software to facilitate and manage the literature, for example, using Mendeley software (Nursalam, 2020).

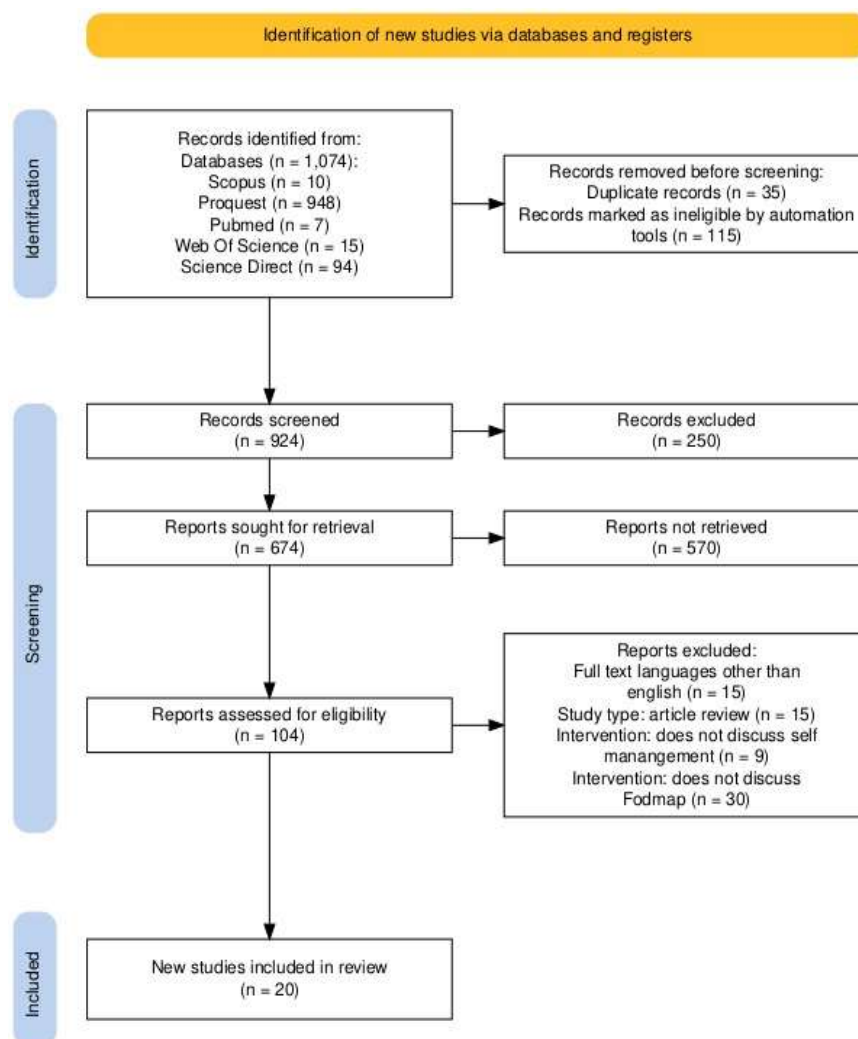
3. Reporting

This stage involves writing down the various results obtained from the review, which will then be published in the form of a paper or scientific article. There are three main sections in the structure of a review paper, namely the introduction, main section, and conclusion. The introduction contains the background and rationale for conducting the study. The main section contains the review protocol, analysis results, and synthesis of the data found, while the final section of the discussion will discuss the implications of the review results. The last section is the conclusion, which summarizes the findings in accordance with the predetermined RQ (Nursalam, 2020).

Table 1.

Criteria Inklusi dan Eklusi

Criteria	Inklusion	Exclusion
Population	Patients diagnosed with Irritable Bowel Syndrome (IBS)	Pasien tidak terdiagnosa <i>Irritable Bowel Syndrome</i> (IBS)
Intervention	Studies that provide self-management through telehealth	Studi yang tidak memberikan <i>self management</i> melalui telehealth
Comparison	Digital telehealth	Konvensional
Outcome	Effective self-management strategies based on telehealth for irritable bowel syndrome	Bukan Strategi efektif <i>self management</i> berbasis telehealth pada <i>irritable bowel syndrome</i>
Research Design	Qualitative, Quantitative, RCT	Studi Review, keterbatasan jumlah studi, homogen
Year of Publication	Between 2020 and 2025	Pra tahun 2020 dan pasca 2025
Language	Inggris language	Mandarin, Korea, Arab Language



RESULT

Based on an analysis of 20 scientific journals, it was found that telehealth-based self-management strategies are effective for irritable bowel syndrome. It is known that patients with IBS need behavioral changes and support from systems such as telehealth to monitor their lifestyle, nutritional support, and knowledge enhancement. The self-management strategy for IBS patients involves a personalized digital diet plan using Fermentable Oligosaccharides, Disaccharides, Monosaccharides, and Polyols (FODMAP), resulting in significant clinical improvement in 81% of IBS patients (Jactel et al., 2023). The use of telehealth can aim to increase patient knowledge related to IBS in terms of increasing motivation and behavioral change in IBS management (Hwang et al., 2023). As explained in the table below regarding behavioral change techniques, the following table summarizes the results of 20 journals analyzed in this systematic review:

Table 2.

Analysis Article				
No	Journal Title	Method	Objective	Research Result
1	Title: <i>Efficacy of a Digital Personalized Elimination Diet for the Self-Management of Irritable Bowel Syndrome and Comorbid</i>	D: Cohort S: 37 respondent V: Independent: Digital personal elimination diet Dependent: Self management I: <i>BS-Symptom Severity Score (IBS-SSS)</i> A: ANOVA	To determine the effectiveness of self-management dietary interventions in patients with IBS	Digitally personalized elimination diet interventions have been proven effective and feasible as a self-management strategy for patients with IBS (Irritable Bowel Syndrome) and IBS with comorbid IBD (UC or Crohn's Disease). High clinical effectiveness: approximately 81% of participants experienced symptom improvement at mid-study, 78% had

No	Journal Title	Method	Objective	Research Result
	<i>Irritable Bowel Syndrome and Inflammatory Bowel Disease</i> Researcher: (Jactel et al., 2023)			significant clinical improvement, and 67% achieved complete symptom resolution. Very high compliance and participation rates, effective identification of trigger foods, and stable short-term effects.
2	Title: <i>Smartphone app-delivered gut-directed hypnotherapy improves symptoms of self-reported irritable bowel syndrome: A retrospective evaluation</i> Researcher: (Peters et al., 2023)	D: Retrospective evaluation S: 190 respondent V: Independent: Hypnotherapy Dependent: Smartphone application I: Visual Analogue Scale (VAS) A: Uji Wilcoxon matched-pairs signed rank test dan Multivariable logistic regression	To determine the effectiveness of hypnotherapy using smartphone applications in reducing IBS symptoms	Hypnotherapy delivered via a smartphone app effectively reduces symptoms of Irritable Bowel Syndrome (IBS). Of the 190 users who completed the entire program, 64% experienced a $\geq 30\%$ reduction in abdominal pain. Abdominal pain decreased, other IBS symptoms also improved, and therapeutic response was higher among users aged ≥ 40 years and those who had suffered from IBS for ≥ 5 years, while probiotic users showed a lower response. Although the success rate was high among users who completed the therapy, overall compliance remained low.
3	Title: <i>Real-world outcomes for a digital prescription mobile application for adults with irritable bowel syndrome</i> Researcher: (Pathipati et al., 2024)	D: Observational retrospektif S: 162 patient V: Independent: Digital Recipe Mobile App Dependent: IBS I: IBS-SSS and Perceived Stress Scale (PSS) A: Descriptive statistics, t-tests and Wilcoxon tests, multivariate analysis/logistic regression	To determine the effectiveness of reducing psychological scores with digital applications in IBS patients	IBS as a digital therapy for adult patients with Irritable Bowel Syndrome (IBS). Use of the app resulted in a significant reduction in IBS symptoms, with an average reduction. Approximately 59% of participants who completed the program achieved clinically meaningful improvement. Psychological stress scores also decreased. Better responses were found in patients with higher IBS severity, older age, and those who received direct prescriptions from healthcare providers. The digital prescription app is effective in managing IBS symptoms, but user compliance remains a challenge.
4	Title: <i>Development and Evaluation of a Web-Based Self-Management Program for Korean Adult Patients with Irritable Bowel Syndrome Based on the Information–Motivation–Behavioral Skills Model</i> Researcher: (Hwang et al., 2023)	D: Quasi eksperimen S: 38 patient V: Independent: Self Managament, Dependent: Knowledge IBS I: Quesioner, IBS Symptom Severity Scale (IBS-SSS) A: Uji paired t-test atau Wilcoxon signed-rank test	To analyze the effectiveness of patient knowledge regarding IBS symptoms	This web-based program significantly improved patients' knowledge about IBS after intervention. Motivation and behavioral skills in managing IBS also increased significantly. The severity of IBS symptoms showed a meaningful decrease. Patients' health-related quality of life improved after using this program. These findings indicate that the IMB model is effective as a basis for developing web-based self-management programs for IBS patients.
5	Title: <i>Low FODMAP diet reduces gastrointestinal</i>	D: Randomized Control Trial S: 12 patient IBS V:	Untuk menganalisis hasil skor keefektifan	To analyze the results of FODMAP effectiveness scores over 7 days and 14 days in IBS

No	Journal Title	Method	Objective	Research Result
	symptoms in irritable bowel syndrome and clinical response could be predicted by symptom severity: A randomized crossover trial	Dependent: Low FODMAP diet independent: Irritable bowel syndrome and clinical response I: 7-day diet period, and 14-day diet period A: Pre test and post test	FODMAP selama 7 hari dan 14 hari pada IBS	
	Researcher: (Nybacka & Simr, 2022)			
6	Title: <i>Cognitive Behavioral Therapy-Based Comprehensive Self-Management Program Improves Presenteeism in Persons with Irritable Bowel Syndrome: A Secondary Data Analysis</i>	D: RCT (<i>Randomized Controlled Trial</i>) S: 160 people with IBS V: Independent: CSM (<i>Comprehensive Self-Management</i>), Dependent: <i>Work Productivity and Activity Impairment in IBS</i> (WPAI-IBS) and <i>daily diary</i> I: <i>Work Productivity and Activity Impairment in IBS</i> (WPAI-IBS) dan <i>daily diary</i> A: Pearson correlation	To analyze the effectiveness of combining health education and relaxation in IBS	Comprehensive Self-Management (CSM) intervention based on CBT (plus diet education and relaxation) is more effective than usual care in reducing presenteeism, overall work productivity loss, and activity impairment. There was a significant correlation between the measures of presenteeism, overall productivity loss, and activity impairment from the daily diary and from the WPAI-IBS questionnaire ($r = 0.44-0.51$, all $p < 0.05$). However, the correlation for absenteeism was low and not significant ($r = 0.03$, $p = 0.75$).
	Researcher: (Yang et al., 2022)			
7	Title: <i>Efficacy of Zedy, a Mobile Digital Therapeutic for the Self-management of Irritable Bowel Syndrome: Crossover Randomized Controlled Trial</i>	D: RCT (<i>randomized Controlled Trial</i>) S: 121 people V: Independent: application usage Zedy, Dependent: self management from IBS I: IBS <i>Quality of life</i> , GSRS-IBS (<i>Gastrointestinal Symptom Rating Scale</i>), <i>Fear of Food Questionnaire</i> (FFQ), <i>Visceral Sensitivity Index</i> (VSI), <i>Gastrointestinal Cognitions Questionnaire</i> (GI-COG), <i>Depression Anxiety Stress Scale</i> (DASS), <i>Patient Health Questionnaire</i> (PHQ) A: <i>Paired sample t-test</i> , <i>univariate general linier models</i>	To determine the effectiveness of the Quality of Life of IBS patients using the Zedy application	<i>Treatment using the Zedy app showed significant improvement compared to the control group in IBS-QoL and GSRS after 8 weeks, with a decrease in visceral anxiety and fear of food, which were significant mediators for several changes in quality of life. However, there was a loss of participants during the study.</i>
	Researcher: (Hunt et al., 2021)			
8	Title: <i>Cost effectiveness of therapist delivered cognitive behavioural therapy and web-based self-management in irritable bowel syndrome:</i>	D: RCT (<i>Randomized Controlled Trial</i>) S: 558 people with IBS V: Independent: Telephone delivered CBT, Treatment as usual, Web based CBT, Dependent: IBS severity, self management I: IBS-SSS (<i>IBS Symptom Severity Score</i>), <i>Work and</i>	To analyze the combination of TCBT and WCBT interventions in patients with IBS	TCBT (Telephone-Delivered CBT) and WCBT (Web-Based CBT) interventions were more effective than TAU (treatment as usual) in reducing IBS symptoms and improving patients' quality of life, with a decrease in symptom scores and improvement in social functioning compared to TAU at the 12-month follow-up.

No	Journal Title	Method	Objective	Research Result
	<i>the ACTIB randomised trial</i> Researcher: (McCrone et al., 2021)	<i>Social Adjustment Scale (WSAS), Client Service Receipt Inventory (CSRI)</i> A: not specified		
9	Title: A Novel Mobile App (Heali) for Disease Treatment in Participants With IBS: Randomized Controlled Pilot Trial Researcher: (Rafferty et al., 2021)	D: Randomized Controlled Trial S: 58 people IBS (APP n=29, Control n=29) V: Independent: Heali application intervention (AI-based dietary app) Dependent: IBS-SSS, quality of life, knowledge LFD, adherence LFD I: IBS-SSS, LFD Knowledge Questionnaire, LFD Adherence Score, WHO-QoL A: Mann–Whitney U test, Chi-square, Spearman correlation	To determine the quality of life of IBS patients using the heali app	The use of the Heali app resulted in a greater improvement in quality of life compared to the control group (31.1 vs. 11.8; p=0.04). The total IBS-SSS score decreased more significantly in the app group, especially in the bowel habit dissatisfaction component, which showed a twofold improvement. The app improved diet adherence and provided real-time support in selecting low FODMAP foods.
10	Title: Long-Term Effects of a Web-Based Low-FODMAP Diet vs Probiotic Treatment for IBS Researcher: (Ankersen et al., 2021)	D: Randomized double-crossover clinical trial, follow-up 1 year S: 34 people IBS V: Independent: LFD vs probiotik (VSL3) Dependent: IBS-SSS, flare-up, reintroduction success I: IBS-SSS, microbiome shotgun sequencing, FARS adherence A: Wilcoxon, Mann–Whitney, alpha diversity analyses	To analyze the effectiveness of the FODMAP diet in reducing symptoms in people with IBS	A low FODMAP diet is as effective as probiotics in reducing IBS symptoms (reduction in IBS-SSS LFD = -126; probiotics = -130). The response cannot be predicted from the composition of the microbiota. The IBS Constant Care web application is very helpful for long-term symptom monitoring, is safe, and increases patient engagement.
11	Title: The Effects of Digital eHealth vs Onsite Group Education in 255 IBS Patients Researcher: (Berentsen et al., 2025)	D: Cohort study (comparation two group) S: 255 patient IBS (eHealth n=132; IBS-school n=123) V: Independen: eHealth vs onsite IBS-school Dependen: IBS-SSS, QOL, depression I: IBS-SSS, IBS-QoL, HADS, CSQ-8 A: Paired t-test, Mann–Whitney U, Wilcoxon	To analyze the impact of eHealth interventions on reducing IBS symptoms	The eHealth group showed a significant reduction in IBS symptoms (≥ 50 points) in 41% of participants, which was equivalent to or better than face-to-face education. There was an improvement in QOL and a reduction in anxiety and depression. Participants also rated eHealth as a good quality service (CSQ-8 score: 23.5).
12	Title: <i>Dietary Intake, Symptom Control and Quality of Life</i>	D: Cross Sectional S: 47 patient V: Independent: Heali	To assess the qu ality of life of IBS sufferers	The severity of symptoms and quality of life related to IBS were similar across all reported dietary patterns and FODMAP intake, but food-related quality of life was low in those who continued to apply strict

No	Journal Title	Method	Objective	Research Result
	<i>AfterDietitian-Delivered Education on a FODMAP Diet for Irritable Bowel Syndrome: A 7-Year Follow Up</i>	intervention (AI-based dietary app) Dependent: IBS-SSS, quality of life, knowledge I: questionnaire IBS-SSS, FR-QOL A: Mann–Whitney U test,		restrictions. Satisfactory symptom relief was reported by 64%. Symptom worsening was alleviated by changing FODMAP intake (66%) or fiber intake (26%), with a small proportion (27%) using medications.
13	Title: Significance and efficacy of low-FODMAP diet for treating irritable bowel syndrome Researcher: (Mróz & Korek E, 2020)	D: RCT (Randomized Controlled Trial) S: 944 patient IBS V: Independent: low FODMAP diet Dependent: symptom IBS I: IBS Severity Scoring System A: model random effects	To analyze the effectiveness of the FODMAP diet in reducing symptoms in people with IBS	A low FODMAP diet significantly improves IBS symptoms and can reduce abdominal pain. FODMAP is more effective than other diets such as the British Dietetic Association (BDA) diet, especially for abdominal distension.
14	Title: Predicting symptom response and quality of life to the low FODMAP diet in irritable bowel syndrome: a 6-month longitudinal study Researcher: (Manning et al., 2024)	D: Longitudinal cohort study S: 112 people V: Independent: quality of life, Dependent: symptom IBS I: IBS SSS (Severity Scoring System) A: Linear Mixed Models, Cross-lagged Panel Models, dan Latent Class Growth Analysis	To analyze psychological predictors in IBS patients	The results show that baseline psychological predictors indicate higher confidence in treatment at the start of the study. Low gut-specific anxiety predicts greater reduction in IBS symptoms, while higher perceptions of personal control and treatment control are associated with symptom reduction and improved quality of life.
15	Title: Low FODMAP diet reduces gastrointestinal symptoms in irritable bowel syndrome and clinical response could be predicted by symptom severity: A randomized crossover trial. Researcher: (Algera et al., 2023)	D: Randomized crossover trial S: 29 people with IBS I: IBS-SSS and Stool diary (Bristol Stool Form Scale), Lactulose Nutrient Challenge Test (LNCT) V: Independent: low FODMAP and Moderate FODMAP diet, Dependent: symptom gastrointestinal A: paired t-test or Wilcoxon signed rank test	To analyze the effectiveness of the FODMAP diet in reducing symptoms in people with IBS	A low FODMAP diet significantly reduced the severity of IBS symptoms. Some participants showed sensitivity to FODMAPs, but there were no significant predictors.
16	<i>Comparing the effect of internet-delivered short-term progressive muscle relaxation and</i>	D: RCT S: 60 patient IBS V: IBS, visceral, muscle relaxation I: the Freiburg Questionnaire- Short Form	To analyze iPMR against visceral hypersensitivity in IBS	iPMR significantly improved mindful ability, reduced visceral hypersensitivity, and reduced gastrointestinal symptoms compared to psychoeducation ($p < 0.001$).

No	Journal Title	Method	Objective	Research Result
	<i>psychoeducation on mindful ability, visceral hypersensitivity and symptoms of IBS</i> (Zargar et al., 2023)	(FMI-SF), the Visceral Sensitivity Questionnaire (VSI), and the Gastrointestinal Symptoms Rating Scale (GSRS) A: ANOVA		
17	<i>Efficacy of an eHealth self-management program in reducing irritable bowel syndrome symptom severity: a randomized controlled trial</i> (Hamaguchi et al., 2020)	D: RCT S: 40 audience V: <i>Self-manangement</i> , e-health, IBS I: Kuesioner IBS-SI A: ANOVA	To analyze the effectiveness of the FODMAP diet in reducing symptoms in people with IBS	The eHealth group showed a significant decrease in IBS-SI scores ($p=0.010$), an improvement in quality of life ($p=0.034$), and positive changes in low FODMAP food consumption and gut microbiota.
18	<i>A Comprehensive Self-Management Intervention for Inflammatory Bowel Disease (CSM-IBD): Protocol for a Pilot Randomized Controlled Trial</i> (Kamp et al., 2023)	D: RCT S: 54 audience (intervention = 36 participants; usual care = 18 participants) V: Dependent: IBD Independent: <i>Comprehensive Self Manangement (CSM)</i> Intervention. I: CSM-IBD intervention with eighth intervention. A: no explained	To analyze website-based CSM interventions in improving self-management among IBS patients	The efficacy of the CSM-IBD intervention (a web-based program with weekly consultations with registered nurses) aimed at improving symptom management in individuals with IBD over a long period of time.
19	<i>The effect of self-management online modules plus nurse-led support on pain and quality of life among young adults with irritable bowel syndrome: A randomized controlled trial</i> (Chen et al., 2022)	D: RCT S: 80 individual with IBS V: Independent: <i>self-management</i> , online modules nurse-led support, pain, quality of life. Dependent: <i>Irritable bowel syndrome</i> I: 1. Kuesioner Average pain intensity and pain interference using Brief Pain Inventory (BPI) 2. Irritable bowel syndrome quality of life was measured by a 34-item irritable bowel syndrome specific quality of life instrument Irritable bowel syndrome related symptoms including anxiety,	Untuk menganalisis The effectiveness of digital-based education on pain management in IBS patients	Studi ini menunjukkan bahwa edukasi daring tentang manajemen Self-care and nurse-led interventions are effective in reducing pain and improving quality of life in young adults with irritable bowel syndrome by targeting self-management processes. Nurse-led interventions provide better results than online education alone in improving quality of life.

No	Journal Title	Method	Objective	Research Result
		depression, fatigue, and sleep disturbance were measured by using the NIH Patient-Reported Outcomes Measurement Information System (PROMIS) 3. Self-efficacy was measured by the 6-item Self-Efficacy for Managing Chronic Disease (SEMCD) 4. Coping strategies :Coping Strategies Questionnaire—Revised (CSQ-R) A: general liniear models		
20	<i>Protocol Perspectives on the sustained engagement with digital health tools: Protocol for a qualitative interview study among people living with Inflammatory Bowel Disease or irritable bowel syndrome</i> (Olson et al., 2024)	D: Qualitative S: 30 individuals diagnosed with IBS V: Dependent: Individuals with IBD or IBS Independent: Perspectives, digital health tools, obstacles, and opportunities. I: in-depth interview A: Tematic analysis	To analyze the healthy lifestyle behaviors of IBS sufferers	Digital health tools include mobile applications or web-based technologies used to manage IBD or IBS, including tools that support the implementation and maintenance of healthy lifestyle behaviors such as diet or physical activity.

Table 3.
. Critical Appraisal of Intervention Studies Using the JBI Checklist

Authors (Year)	Appraisal
(Jactel et al., 2023)	JBI - Strong effect; applicable with minor limitations.
(Peters et al., 2023)	JBI - Promising results; moderate methodological clarity.
(Pathipati et al., 2024)	JBI - Effective intervention; some risk of bias.
(Hwang et al., 2023)	JBI - Clinically relevant; method details needed.
(Nybacka & Simr, 2022)	JBI - Valuable insight for future planning.
(Yang et al., 2022)	JBI - Effective tool; needs stronger methodological reporting.
(Hunt et al., 2021)	JBI - Robust findings; minor concerns about blinding.
(McCrone et al., 2021)	JBI - Effective; moderate risk of bias from non-randomised design.
(Rafferty et al., 2021)	JBI - Effective intervention; moderate risk of bias due to non-randomised design.
(Ankersen et al., 2021)	JBI - Effective intervention; moderate risk of bias due to non-randomised design.
(Berentsen et al., 2025)	JBI - Strong evidence; well- designed, applicable.
(Noser et al., 2023)	JBI - Effective intervention; some design limitations.
(Mróz & Korek E, 2020)	JBI - Effective; moderate bias risk.
(Manning et al., 2024)	JBI - Strong design; applicable.
(Algera et al., 2023)	JBI - Effective; small sample, no control group.
(Zargar et al., 2023)	JBI - Strong effect; good internal validity.
(Hamaguchi et al., 2020)	JBI - - Effective tool; needs stronger methodological reporting.
(Kamp et al., 2023)	JBI - Effective; moderate bias risk.
(Chen et al., 2022)	JBI - Effective; small sample, no control group.
(Olson et al., 2024)	JBI - Effective; small sample, no control group.

DISCUSSION

Irritable Bowel Syndrome (IBS) is a chronic gastrointestinal disorder characterized by recurrent abdominal pain, bloating, abdominal discomfort, and changes in bowel habits without any underlying condition. In recent years, the prevalence of IBS has increased in Asia (Chen et al., 2022). Most patients with IBS find that their symptoms originate from or are exacerbated by the food they consume. The occurrence of IBS, changes in intestinal motility and sensitivity, dysregulation of the brain-gut axis, stress, socio-psychological and genetic factors (Jactel et al., 2022). Recent technological advances in multiomic platforms can help prove the relationship between food intake, gut microbiome composition, mucosal homeostasis, immune response, and microbial metabolite production. Eliminating foods that trigger IBS relief is as effective as medical therapy for the management of IBD in certain populations. This can improve a person's quality of life. Among these factors, dietary patterns can help alleviate symptoms. Therefore, increasing knowledge and individual efforts to improve dietary habits and consume a balanced diet are the most important factors in improving symptoms, given the minimal side effects compared to medication consumption (Lacy et al., 2021).

Results of research on self-management of symptoms in IBS patients and evaluation of its effectiveness. A digital-based nutrition education program based on nursing models such as (IMB) is needed and implemented as a health program (Hwang et al., 2023). Self-management has traditionally been important in controlling chronic disease symptoms. Non-pharmacological treatments of IBS often incorporate self-management methods, wherein patients actively control their own symptoms. Self-management of IBS can ameliorate disease and economic burdens. For example, the low FODMAP diet controls IBS symptoms and increases microbiota diversity by helping patients manage their food intake (Hamaguchi et al., 2020). The results of the study show that self-efficacy and nutritional knowledge increased significantly after 12 weeks of digital-based nutrition education in participants who had no previous experience in nutrition education or dietary modification. Although IBS patients can reduce their symptoms by making changes to their diet and lifestyle, several studies report that IBS patients tend to be unable to manage their symptoms independently due to a lack of knowledge and negative perceptions of symptom management. Furthermore, persistent IBS symptoms can lead to socioeconomic problems such as reduced social relationships, decreased work productivity, and medical costs, resulting in a decline in quality of life (Hasan et al., 2023). The results of the study explain that a low FODMAP diet is more effective in patients with IBS who experience frequent diarrhea. Nutritional factors can also predict improvement in pain symptoms in IBS. Therefore, a low FODMAP diet can reduce pain symptoms, digestive disorders, and affect bowel habits in IBS (Nybacka & Simr, 2022). Using telehealth showed a significant reduction in IBS symptoms (≥ 50 points) in 41% of participants, which was equivalent to or better than face-to-face education. There was an improvement in QOL and a reduction in anxiety and depression. Participants also rated eHealth as a good quality service (Berentsen et al., 2025).

CONCLUSION

The reviewed article states that digital technology applications aimed at promoting healthy behavior for self-management in IBS patients include providing information using social media, one of which is telehealth, to facilitate self-management so that patients can change their lifestyle to reduce the worsening of symptoms in IBS patients.

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