Self-management through Telehealth Applications
in Patients with Inflammatory Bowel Disease

Azadeh Yazdanian [1], Zahra Mahmoudvand [1], Fatemeh Entezaryan [2], Atyieh Masoomi[2*]

[1] Assistant Professor of Health Information Management, School of Allied Medical Sciences, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran.

[2] Student of Health Information technology, School of Allied Medical Sciences, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran.

Inflammatory bowel disease (IBD) is a chronic disease of the gastrointestinal tract characterized by an immune system attack against the gastrointestinal (GI) tract (1). IBD cases are assigned to Crohn's disease (CD) or ulcerative colitis (UC) according to the affected area of the gastrointestinal tract and the clinical symptoms of the disease. Colon and rectum are the most affected in patients with UC. The incidence of new cases and the overall prevalence of IBD vary between different races and geographic regions. For example, the highest number of new cases of UC and CD were observed in Europe (24.3 cases per 10,000) and North America (20.2 cases per 10,000), respectively (2). The chronic nature of inflammatory bowel disease has an adverse effect on the quality of patient's life, so that it leads to the inability of a person to perform daily tasks and interference in social activities. Therefore, patients should be under continuous and individual supervision to prevent long-term complications (3). Self-management refers to a person's ability to accept self-care and manage the physical, psychological, and social consequences of a chronic illness. Considering that finding relevant health information for patients through educational pamphlets, books and clinical guidelines causes a lot of confusion in patients, so new tools and approaches for self-management are needed. According to various articles, today the role of self-management through telehealth applications in the management of diseases, especially IBD, is significant. So that in developed countries, virtual and telephone appointments are currently the most common appointment methods for remote management of patients with IBD. Common virtual platforms include platforms fully integrated with electronic health records (eg, EPIC) or non-integrated platforms such as Zoom, Skype, FaceTime, Google Meet, Microsoft Teams, WeChat, and WhatsApp (4). Also, several remote health systems such as Constant Care, E IBD and TECCU have been developed for the

***Corresponding author:**
Atyieh Masoomi, bachelor Student of Health Information technology
Address : Department of Health Information Technology, School of Allied Medical
Sciences, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran.
Tel : + 98 33543246
Fax : + 98 33543246
Email : atyiehmasoomihit99@gmail.com

diagnosis and treatment of IBD, with the ability to record symptoms and report them, track medications, check nutritional status and physical activity, alerts, advice and action plans. Finally, the evaluation of these systems showed a significant reduction in the amount of receiving acute care, patient visits to the doctor's office, and long-term use of steroids (1,4,5,6).

Since patients are involved in many problems related to their disease as a part of their life. In addition, they are interested in taking an active role in the management and follow-up of their disease; It seems that with remote health applications, patients can easily access the required information about their disease and treatment complications regardless of location and time. Also, when patients have access to sufficient information to meet their needs, they can more effectively cope with negative emotions and symptoms of their illness.

Considering the current management models emphasize on empowering patients, encouraging self-management of the disease with the support of health care professionals and using information and communication technology, therefore, the use of self-management through remote health applications can be so effective in following up the treatment of patients with inflammatory bowel disease and preventing side effects during treatment. Although not all of these applications are without flaws, focusing on self-management using telehealth applications can help patients reduce pain and live better.

REFRENCES:

1. Del Hoyo J, Nos P, Faubel R, Muñoz D, Domínguez D, Baśtida G, et al. A Web-Based Telemanagement System for Improving Disease Activity and Quality of Life in Patients With Complex Inflammatory Bowel Disease: Pilot Randomized Controlled Trial. *J Med Internet Res*. 2018;20(11):e11602.

2. Jalalvand M, Enayati S, Akhtari M, Madreseh E, Jamshidi A, Farhadi E, et al. Blood regulatory T cells in inflammatory bowel disease, a systematic review, and meta-analysis. *Int Immunopharmacol*. 2023;117:109824.

3. Aguas M, Del Hoyo J, Faubel R, Muñoz D, Domínguez D, Bastida G, et al. A Web-Based Telemanagement System for Patients With Complex Inflammatory Bowel Disease: Protocol for a Randomized Controlled Clinical Trial. *JMIR Res Protoc*. 2018;7(12):e190.

4. Spartz EJ, DeDecker L, Le D, Jalilian L, Limketkai BN. Advances in Mobile Health for Inflammatory Bowel Disease. Diagnostics. 2022;13(1):37.

5. Yin AL, Hachuel D, Pollak JP, Scherl EJ, Estrin D. Digital Health Apps in the Clinical Care of Inflammatory Bowel Disease: Scoping Review. *J Med Internet Res*. 2019;21(8):e14630.

6. Gerner M, Vuillerme N, Aubourg T, Messner EM, Terhorst Y, Hörmann V, et al. Review and Analysis of German Mobile Apps for Inflammatory Bowel Disease Management Using the Mobile Application Rating Scale: Systematic Search in App Stores and Content Analysis. *JMIR mHealth and uHealth*. 2022;10(5):e31102.