

## Bridging the gap: Unveiling the crisis of physical inactivity in inflammatory bowel diseases

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### Abstract

In this editorial we comment on the article titled “Inflammatory bowel diseases patients suffer from significant low levels and barriers to physical activity: The BE-FIT-IBD study” published in a recent issue of the *World Journal of Gastroenterology* 2023; 29 (41): 5668-5682. Inflammatory bowel diseases (IBD) are emerging as a significant global health concern as their incidence continues to rise on a global scale, with detrimental impacts on quality of life. While many advances have been made regarding the management of the disease, physical inactivity in these patients represents an underexplored issue that may hold the key for further and better understanding the ramifications of IBD. Chronic pain, fatigue, and fear of exacerbating symptoms promotes physical inactivity among IBD patients, while the lack of clear guidelines on safe exercise regimens contributes to a norm of physical inactivity. Physical activity (PA) is accepted to have a positive effect on disease outcomes and quality of life, while inactivity exacerbates comorbidities like cardiovascular disease and mental health disorders. The “BE-FIT-IBD” study, focusing on PA levels and barriers in IBD patients of Southern Italy, revealed that a significant proportion (42.9%) were physically inactive. This lack of PA is attributed to barriers such as fear of flare-ups and misconceptions about exercise exacerbating the disease. The study also highlighted the need for better communication between healthcare providers and patients regarding the benefits of PA and safe incorporation into lifestyles. Moreover, physical inactivity may also contribute to disability in IBD patients, having a great impact on employment status. Of note is the fact that IBD also comes with an important psychological burden with relevant evidence suggesting that regular PA can improve mood, reduce anxiety, and enhance mental health. The “BE-FIT-IBD” study advocated for the integration of PA into IBD management, emphasizing the bidirectional link between PA and IBD. Regular exercise can influence the course of IBD, potentially

reducing symptom severity and prolonging remission periods. As such, it is mandatory that healthcare providers actively educate patients, dispel misconceptions, and tailor exercise recommendations to improve the quality of life and reduce IBD-related complications.

**Key Words:** Inflammatory bowel disease; Physical activity; Disability; Psychological burden; Body composition; Quality of life

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**Core Tip:** Physical inactivity is emerging as a widely acknowledged matter among inflammatory bowel disease (IBD) patients. The lack of physical activity (PA) can be attributed to concerns over the potential exacerbation of symptoms and misguided beliefs around the impact of exercise on IBD, thus increasing the susceptibility to comorbidities such as cardiovascular disease and mental health issues. This editorial argues in favor of including PA into the management of IBD, highlighting the reciprocal relationship between PA and the condition as well as the importance of healthcare providers educating patients, correcting misunderstandings, and customizing exercise regimens.

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## INTRODUCTION

Inflammatory bowel diseases (IBD), including Crohn's disease (CD) and ulcerative colitis (UC), represent a growing global health issue, with their prevalence steadily increasing worldwide. These chronic conditions mainly affect the gastrointestinal tract, but their impact extends beyond simply physical symptoms. They also significantly influence the overall physical, psychosocial, and emotional well-being of individuals. The medical and research communities have made significant progress in developing pharmacological and surgical interventions to manage these diseases effectively. However, there is an aspect of IBD patient care that is often overlooked and largely unaddressed: The issue of physical inactivity[1,2]. Thus, it is mandatory to bring this critical issue to the forefront to have a holistic approach in the management of patients with IBD.

The issue of physical inactivity among individuals with IBD is multifaceted and is influenced by several factors including chronic pain, fatigue, and exacerbation of symptoms[3]. The erratic occurrence of IBD flare-ups and the episodic nature of the disease instills a fear of exercise and presents a challenge in maintaining a regular regimen of physical activity (PA), leading to a cycle of sedentary behavior. This fear is compounded by the lack of clear guidelines on safe exercise regimens for IBD patients, creating an environment where physical inactivity becomes a norm rather than an exception[3,4]. Despite the various obstacles encountered, there is a growing recognition of the significance of PA in the management of IBD. This acknowledgment is supported by research indicating the positive impact of PA on disease outcomes and the overall enhancement of quality of life[5]. The implications of a sedentary lifestyle for IBD patients are profound. Physical inactivity is known to exacerbate comorbidities such as cardiovascular disease, osteoporosis, and mental health disorders, which are already increased in IBD patients[6,7].

The "BE-FIT-IBD" study, published in the *World Journal of Gastroenterology*, delves into the PA levels and barriers faced by patients with IBD in Southern Italy. This cross-sectional observational study aimed to assess PA levels using the International Physical Activity Questionnaire (IPAQ) and identify barriers to regular PA among IBD patients[8]. The findings of this study aligned with the regular pattern observed in relation to PA, indicating that a notable proportion (42.9%) of individuals with IBD were physically inactive. In comparison, just 4.1% of individuals met the criteria for engaging in health-enhancing PA. Gravina *et al*[9] identified several barriers that contributed to this lack of PA, such as the fear of flare-ups and a general distrust in exercise post-diagnosis. These findings are in line with the existing literature that suggests IBD patients often have misconceptions about exercise exacerbating their condition, leading to avoidance of physical exertion[5].

The study also highlighted that a patient's social networks often encourage PA, yet many patients feel uninformed about exercise in the context of IBD. This suggests a gap in communication between healthcare providers and patients about the benefits of PA and how it can be safely incorporated into their lifestyle considering their disease status[9].

## SYNERGY AND STRUGGLE: BODY COMPOSITION, IBD, AND PA

IBD often leads to alterations in body composition, characterized by a reduction in muscle mass and an increase in fat mass. This phenomenon, known as sarcopenia, is prevalent among IBD patients and is linked to poor outcomes, including increased disability, lower quality of life, and higher rates of surgery[10]. Sarcopenia in IBD can result from

various factors, including chronic inflammation, malnutrition, and reduced PA. Additionally, IBD patients often experience body composition changes due to the catabolic state induced by the chronic inflammation and the side effects of treatments like corticosteroids[11].

While the direct effects of implementing an exercise regimen in individuals with sarcopenia and IBD remain inconclusive, it is advisable to promote PA among patients. Based on research related to other medical conditions, it is probable that the integration of resistance training and aerobic exercise will result in favorable outcomes. The management of the underlying IBD is anticipated to have a positive impact on muscle health. However, additional research is necessary to have a more comprehensive understanding of this association[12].

There exists a correlation between obesity and a decreased occurrence of clinical remission as well as elevated levels of depression, anxiety, fatigue, and pain in individuals with IBD as compared to non-obese people. Furthermore, it was observed that patients with obesity and IBD experienced a significantly greater annual burden and higher expenses associated with hospitalization when compared to their non-obese counterparts. In addition to general obesity, visceral adiposity has demonstrated a more consistent correlation with poor outcomes in individuals with IBD. Patients with CD who had a high volume of visceral adipose tissue had an increased risk of penetrating or stricturing complications and required a shorter time interval to undergo surgery[13].

Moderate-intensity aerobic exercise, in addition to resistance training, can help reduce fat mass and improve cardiovascular health in IBD patients. This type of exercise is beneficial for managing body weight and reducing the risk of comorbid conditions[14]. Ng *et al*[15] demonstrated that low-intensity exercise improved the quality of life in patients with CD, suggesting that even mild forms of PA can have beneficial effects on body composition and overall well-being of IBD patients.

The “BE-FIT-IBD” study does not specifically detail the intensity of PA in terms of light, moderate, or intense categories. However, it does mention the use of the IPAQ to assess PA levels among IBD patients. The IPAQ classifies PA into different types: Intense activities (like running); moderate activities (such as carrying light weights); and mild activities (like walking for at least 10 min). Of note, it is indicated that patients with UC had a negative correlation between their disease activity and the intense activity scores from the IPAQ. This suggests that patients engaging in more intense activities might have lower disease activity scores, although this relationship was not significant[8].

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## PHYSICAL INACTIVITY AND DISABILITY: UNDERSTANDING THE COMPLEX INTERACTION

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The finding that a large percentage of IBD patients are physically inactive unveils a potential disability aspect in these individuals. Physical inactivity is often both a consequence and a cause of disability. This phenomenon may be caused by a variety of factors in patients with IBD, including pain, fatigue, gastrointestinal symptoms, and psychological distress [3]. These elements can limit a patient’s ability to engage in regular PA, leading to a vicious cycle where inactivity further exacerbates disease symptoms and quality of life. The “BE-FIT-IBD” study reports a high unemployment rate among IBD patients especially among patients suffering from CD. It seems that the impact of physical inactivity extends beyond the medical sphere, increased fatigue, and decreased stamina due to lower physical fitness making it challenging for some patients to meet the physical demands of many jobs[8].

Other studies have shown that IBD can significantly impact employment status. A higher rate of unemployment is noted among IBD patients compared to the general population, and those who are employed often report difficulties in fulfilling their job responsibilities[15]. IBD patients often face unique challenges in the workplace due to the unpredictability of their symptoms. Flare-ups can lead to frequent bathroom breaks, fatigue, and pain, which can lower job performance and attendance. These challenges can lead to decreased productivity, absenteeism, and even job loss, contributing to the psychological burden of the disease. The economic implications of IBD-related workplace disability are significant. The costs associated with low productivity and unemployment can be substantial, adding to the costs of care of these patients[16-18].

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## INTERPLAY BETWEEN PSYCHOLOGICAL BURDEN OF IBD AND PA

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IBD is often associated with a considerable psychological burden. Patients frequently experience anxiety, depression, and reduced quality of life due to the chronic and unpredictable nature of the disease. The psychological impact is exacerbated by symptoms such as pain and fatigue, resulting in a negative cycle that affects both mental and physical health. Depression in these patients may be further compounded by the social stigma and isolation associated with the disease[19,20]. Stress and anxiety can also exacerbate IBD symptoms, creating a complex interplay between psychological state and disease activity[21].

Engaging in PA has been recognized as a beneficial coping mechanism for IBD patients. Regular PA leads to improvements in mood, reduces anxiety levels, and enhances overall mental health in IBD patients. This can be attributed to the release of endorphins during exercise, which are natural mood lifters[22].

Group exercises or sports activities not only provide the physical benefits associated with exercise but also offer a crucial social dimension. This social interaction can hold therapeutic effects for IBD patients, who often struggle with feelings of isolation due to the chronic nature of their condition. The social support derived from group activities can significantly enhance the mental health of IBD patients. Participating in group exercises allows individuals to connect with others who may share similar experiences and challenges, fostering a sense of community and belonging. This can be incredibly valuable in reducing feelings of loneliness and isolation that often accompany chronic illnesses like IBD.

Moreover, the shared experiences in group settings can lead to the exchange of coping strategies, tips on disease management, and general emotional support. Such interactions can improve overall mental well-being as they feel understood and supported not just by medical professionals but also by peers who truly empathize with their daily experiences[23,24].

## IMPACT OF PA AND IBD: A BIDIRECTIONAL LINK

PA has been recognized for its potential role in influencing the course of IBD. Regular exercise can contribute to a reduction in the severity of symptoms and may even play a role in prolonging periods of remission, particularly in CD. Studies have shown that moderate, consistent PA can lead to a decrease in inflammatory markers commonly associated with IBD, suggesting a potential anti-inflammatory effect of exercise. This reduction may be mediated through several mechanisms, including the downregulation of proinflammatory cytokines and the enhancement of anti-inflammatory mediators[3,5,25]. Regular PA is thought to contribute to a reduction in the frequency of IBD flare-ups. This is particularly significant given the unpredictable nature of these diseases. For CD patients, some studies have indicated that those who engage in consistent moderate exercise experience longer periods of remission and fewer episodes of acute exacerbation [26,27].

The “BE-FIT-IBD” study did not find significant difference in PA levels, as measured by the IPAQ total score, in relation to the PRO-2 measured IBD activity. The data related to the frequency of symptoms in patients with CD and UC exhibited diversity, with no significant alterations seen. It is noteworthy that individuals with CD who were in a state of remission and participated in consistent PA acquired better disease activity scores compared to those who engaged in less PA. However, this observation was not valid in patients with UC. The study also draws attention to how treatments, particularly biologics, influence PA levels. Patients on biologic therapy showed better IPAQ scores in moderate PA. This suggests that effective medical management of IBD can potentially reduce disability by enabling patients to increase their PA levels, thus breaking the cycle of inactivity[8].

## CONCLUSION

The “BE-FIT-IBD” study serves as a wake-up call, bringing attention to the complex relationship between PA and IBD, revealing concerning levels of inactivity among these patients that contributes to numerous health conditions. The study’s findings underscore the necessity of addressing physical inactivity in IBD management, emphasizing the need for comprehensive care strategies that integrate PA. Healthcare providers should proactively engage in patient education, dispelling misconceptions about exercise and IBD, and tailor exercise recommendations to individual patient needs. This approach can enhance patient well-being, reduce IBD-related complications, and improve overall quality of life. The importance of PA in managing IBD is becoming more and more clear as research is conducted, and the incorporation of PA into standard care practice is becoming mandatory.

## FOOTNOTES

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