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WORD COUNT 1677
TIME SUBMITTED 13-JUN-2024 05:56PM
PAPER ID 109619754

Name of Journal: *World Journal of Gastroenterology*

Manuscript NO: 94321

Manuscript Type: EDITORIAL

What aspects do we overlook in the rehabilitation of patients with inflammatory bowel disease?

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Abstract

In this editorial, we comment on the article titled "Bridging the gap: Unveiling the crisis of physical inactivity in inflammatory bowel diseases" published in a recent issue of the World Journal of Gastroenterology 2024; 30(10): 1261-1265. Inflammatory bowel disease (IBD) constitutes a cluster of chronic and progressive inflammatory disorders affecting the digestive system. IBD can impede an individual's capacity to perform daily activities, hinder work productivity, limit physical capabilities, and negatively impact medical outcomes. Although physical activity and structured exercise programs are becoming increasingly important in many chronic inflammatory diseases, they are not being sufficiently implemented in IBD patients. Effective prevention of future disability and drug dependence in IBD patients requires timely diagnosis and treatment of musculoskeletal problems, including sarcopenia, as well as decreased muscle strength, aerobic capacity, and bone mineral density. To improve treatment outcomes for IBD patients, it is crucial to develop individualized rehabilitation programs tailored to their unique needs. Equally critical is the active participation of pertinent departments in this process. It is imperative to highlight the significance of creating a personalized rehabilitation program with a multidisciplinary approach in IBD management.

Key Words: Inflammatory bowel disease; Physical activity; Disability; Sarcopenia; Structured exercise; Rehabilitation

Core Tip: Effectively managing clinical issues in IBD patients is critical to reducing the risk of long-term disability and facilitating optimal health outcomes. This includes addressing concerns such as decreased bone mineral density, muscle weakness, limited aerobic capacity, and sarcopenia. Customized structured exercise programs should be provided for patients in accordance with their individual needs, considering factors such as joint involvement, frailty, fatigue, and disease activity. Healthcare providers should adopt a multidisciplinary approach to provide personalized exercise recommendations, educate patients, and address misconceptions. This approach

improves quality of life, minimizes complications associated with IBD, and enhances treatment success.

INTRODUCTION

Inflammatory bowel disease (IBD) is an umbrella term that encompasses two disease entities, Crohn's disease and ulcerative colitis, which are chronic, progressive inflammatory disorders of the digestive system. This disease imposes a significant burden on healthcare systems, leading to substantial annual healthcare expenditures. IBD is a condition that can lead to a variety of primary and secondary symptoms that can include diarrhea, abdominal pain, urgency, fatigue, frailty, anorexia, and depression[1]. Secondary symptoms significantly impact an individual's daily routine, work productivity, academic performance, physical abilities, medical outcomes, and overall quality of life (QOL). Young patients with IBD are seldom advised to engage in physical activity, which can result in a sedentary lifestyle due to concerns regarding potential complications[2].

It is crucial to distinguish between the terms "structured exercise" and "physical activity" because they are frequently used interchangeably. Structured exercise and physical activity are two distinct types of activities that exhibit physiological differences. Structured exercise is a specialized and comprehensive program aimed at enhancing the functions of specific body systems, such as cardiovascular endurance and muscular strength. However, physical activity encompasses any form of movement that results in an increase in energy expenditure. Numerous chronic illnesses are believed to be exacerbated by inadequate physical activity[3,4]. The "BE-FIT-IBD" study found that 42.9% of IBD patients were physically inactive, despite their awareness of the importance of physical activity in managing the disease. Fear of disease flare-ups, patients' inadequate knowledge about exercise, and inadequate guidance from healthcare providers regarding physical activity are significant factors contributing to this lack of physical activity[5]. Physical inactivity has negative effects on IBD patients,

including comorbidities such as cardiovascular disease, sarcopenia, osteoporosis, and mental health disorders. Physical rehabilitation and structured exercise are insufficiently implemented in the IBD population despite providing statistically significant improvements in disease activity, health outcomes, physical function, functional capacity, and overall QOL[6].

Currently, there is a lack of a comprehensive guide for healthcare practitioners or a detailed evidence-based physical rehabilitation protocol for IBD[7]. It is recommended that IBD patients engage in structured exercise under medical supervision until such time that they are deemed capable of doing so independently[8]. Inpatient rehabilitation programs can improve the physical mobility of IBD patients after they reach a state of medical stability[9]. When oxygen capacity is impaired due to anemia or dehydration, structured exercise and physical rehabilitation programs should be planned to include elements such as tempo, workload distribution, and rest intervals[10]. Employing suitable rehabilitation strategies and structured exercises can mitigate complications, such as gastrointestinal bleeding, that may develop due to excessive exercise[4]. There is evidence that shows aerobic exercise regimens can provide cardiovascular and psychosocial benefits for adult IBD patients with mild to moderate disease who are in clinical remission[11].

Despite exhibiting body compositions that are comparable to those of healthy controls, IBD patients in remission exhibit reduced muscle strength and power[12]. This may be due to impaired nutrient absorption, weight loss, decreased physical activity, and the upregulation of cytokines, which leads to muscle atrophy. Reduced muscle strength and function lead to functional deficits. Resistance exercise, when prescribed appropriately, aids muscle growth and strength by stimulating the release of biologically active myokines[13]. Populations with a higher risk of sarcopenia, malnutrition, being female, or being older have higher rates of complications. The early assessment of lower extremity and core strength can play a vital role in identifying individuals with IBD who are at risk of preclinical disability. Thus, timely diagnosis and

treatment of musculoskeletal problems in these patients can effectively prevent future dependence and disability[14].

Both aerobic and resistance exercise training have been scientifically validated as effective approaches for improving cardiovascular health as well as muscle mass and strength. Numerous chronic conditions, including cardiovascular disease, diabetes, and rheumatoid arthritis, are believed to be impacted by insufficient physical activity. Interleukins (IL), leukocytes, tumor necrosis factor, and visceral fat play a significant role in the pathogenesis and progression of IBD [15]. The potential benefits of exercise for individuals with IBD are linked to its anti-inflammatory properties. Physical activity is recognized for its ability to reduce inflammation by releasing anti-inflammatory myokines, such as IL-6, into the circulation in large quantities during exercise [16]. Furthermore, exercise may contribute to positive outcomes by reducing adipose tissue in the abdominal and intestinal regions [17]. Patients with IBD have concerns about engaging in physical exercise, unlike healthy individuals. While several studies have demonstrated the safety and effectiveness of physical activity in IBD patients, these studies primarily included patients with mild disease or those in remission[18].

The most common extra-intestinal symptom in IBD patients is articular involvement, with a prevalence of 17%–39%[19]. Although it is often characterized by involvement of axial joints, it may also be associated with peripheral arthritis such as synovitis and/or dactylitis and/or enthesopathy. IBD-related arthritis rehabilitation aims to prevent disability and deformity. Physical therapy is crucial for enhancing spinal mobility to prevent spinal deformities that could impair breathing and cause disability.

Patients with IBD have a higher risk of fractures compared to the general population. Adequate nutrition and a combination of progressive low-impact and resistance exercise training are important for preventing and treating osteoporosis[3].

IBD patients exhibit alterations in body composition due to the catabolic state caused by chronic inflammation and the use of treatments such as corticosteroids. Therefore, IBD patients frequently develop sarcopenia. The prevalence of sarcopenia is reported to be 52% and 37% in Crohn's disease and ulcerative colitis, respectively. However,

accurately determining the precise prevalence is challenging [20]. Sarcopenia exerts a significant impact on QOL, duration of hospitalization, surgical outcomes, and mortality. This is an important consideration in the management of IBD, as it impacts both prognosis and treatment. Although sarcopenia is defined as age-related loss of muscle mass, it is known that it can also occur as a result of chronic illness, inactivity, and inflammation [21]. Research suggests that patients with sarcopenia may benefit from personalized resistance and aerobic exercise regimens [22].

Prehabilitation is a multimodal (nutritional, exercise, and psychological) intervention that aims to increase functional ability in the presence of impending physical stress (e.g., surgery). While most studies have concentrated on cancer patients, this strategy could have a significant impact on IBD patients with refractory disease awaiting elective surgery[23].

The epidemiology of IBD varies significantly across different regions of the globe. Although IBD is more prevalent in Western societies, which are characterized by higher socioeconomic status and improved health conditions, there has been a significant rise in the incidence and prevalence of IBD in developing countries like Turkey [24].

In developed countries, the average rate of non-adherence to treatment is 50%, and in developing countries, this figure is even higher. Furthermore, IBD has been associated with an increase in disease activity, relapse, diminished response to medical agents, higher morbidity and mortality, and increased health expenditure [25]. To address these concerns, tele-health services may be employed, which are both feasible and acceptable in terms of patient education, evaluation of treatment compliance, and emphasizing the need for personalized rehabilitation programs. More comprehensive research is necessary to utilize these systems for improving healthcare access in developing nations [26].

CONCLUSION

In IBD patients, several factors such as reduced bone mineral density, diminished muscle strength, decreased aerobic capacity, and sarcopenia are often not adequately

screened or treated during medical evaluation. A multidisciplinary approach helps address the comorbidities accompanying IBD and reduces subsequent morbidity and mortality. Furthermore, personalized rehabilitation programs can help alleviate the economic burden and frequency of disease exacerbations that are associated with the condition. Therefore, it is imperative that healthcare professionals prioritize these factors and ensure that they are addressed appropriately to improve the overall health outcomes of patients. To obtain optimal results, it is essential to collaborate with a team of specialized professionals, including a gastroenterologist, surgeon, rheumatologist, and physiatrist. This editorial aims to underline the significance of developing a specific rehabilitation program for IBD patients and assessing them from a comprehensive perspective. This is crucial in mitigating morbidity and mortality along with tackling the issue of physical inactivity among IBD patients, as was highlighted in the main article.

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