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Anxiety and Work Disability in Patients With Immune-Mediated Inflammatory Diseases

OPEN

A Cross-Sectional Study From a Single Center

ABSTRACT

Immune-mediated inflammatory diseases (IMIDs) are chronic diseases that are associated with an inflammatory process with unclear etiology and occur in genetically predisposed individuals. In this study, inflammatory bowel disease (IBD) and rheumatic disease (RD) were examined. The aim of the research is to evaluate the relationship between IMID and state anxiety and work impairment in patients. A cross-sectional study was conducted in an outpatient clinic for rheumatology and gastroenterology at an Italian university hospital. A total of 476 patients (261 IBD and 215 RD) were considered. Patients diagnosed with IBD demonstrated significantly higher levels of anxiety, encompassing both trait and state anxiety, compared to those with RD ($p < .001$). While trait anxiety exhibited a modest positive correlation with work productivity loss ($r = .163$; $p = .046$), activity impairment showed a positive correlation with both state anxiety ($r = .243$; $p < .001$) and trait anxiety ($r = .206$; $p = .002$). The impact of anxiety on job performance and daily activities should not be underestimated, as it may elevate the risk of unemployment and absenteeism and lead to increased societal costs.

Immune-mediated inflammatory diseases (IMIDs) are used to collectively describe a group of chronic conditions characterized by immune dysregulation and inflammation and that share common inflammatory pathways and several epidemiological and clinical features (Rahman, Inman, El-Gabalawy, Krause,

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2010). Although the etiology of IMIDs has not yet been identified, it is currently known that both genetic and environmental factors play an important role in the development of these disorders. IMIDs have a significant impact on patients' physical, emotional, and social well-being, as well as on patients' and caregivers' quality of life (Cassar, Youssef, Knowles, Moulding, Austin, 2020; Pham et al., 2021; Russell, Gulliver, Irvine, Albani, Dutz, 2011). This burden is significant due to the chronic nature of IMID and owing to the fact that the majority of these diseases are currently incurable and require lifetime medical therapy (Greenfield et al., 2017). This study focuses on anxiety and work/activity impairment stemming from chronic diseases, notably inflammatory bowel diseases (IBDs) and rheumatic diseases (RDs).

Background

IMIDs affect approximately 5%–7% of Western populations and can have a detrimental effect on quality of life and health outcomes (Vangeli et al., 2015). Until 2019, the expected IMID incidence was 80 cases per 10^5 people per year (Chen et al., 2019). IBDs, ankylosing spondylitis (AS), psoriatic arthritis and psoriasis,

and some neurological diseases, such as multiple sclerosis, are examples of chronic disorders. IMDs are often associated with acute symptomatology that requires hospitalization and medical therapies with high costs to patients and society (Russell et al., 2011). According to a study by Marrie et al. (2017), individuals with a chronic medical condition experience a higher prevalence of state anxiety and mood disorders compared to the general population. Sometimes, the illness can induce internal processes that are sufficiently stressful to aggravate the subject's psychological state or exacerbate physical issues.

IBD and RD are clinically distinct but have certain characteristics, comprising genetically determined inflammatory pathways and the appearance in patients of extra-intestinal symptoms including musculoskeletal and cutaneous manifestations, medical therapy, and high medical expenses (Finucci et al., 2021; Perez-Alamino, Maldonado-Ficco, Maldonado-Cocco, 2016). Besides the uncertainty related to the disease, other factors that may influence psychosocial distress in IBD and RD (Durmus et al., 2015) should be considered; for example, sociodemographic characteristics, disease activity, fatigue, type of treatment, extraintestinal manifestations, gender, sex, pain, personality and interpersonal traits, stress and coping strategies, emotional aspects, and patient experiences.

According to a recent multicenter study from eight European centers and Israel on 585 adult patients with IBD, 14.2% of the patients were diagnosed with poor mental health after their IBD diagnosis; patients diagnosed with depression/anxiety had a more sedentary lifestyle ($p < .01$), lower presenteeism at work ($p < .01$), and a higher rate of unemployment ($p < .01$) (Sciberras et al., 2022). Moreover, in a Tunisian cross-sectional study involving patients diagnosed with IBD, 66 patients (47.8%) reported missing work in the past week due to disease-related issues such as diarrhea (Nasr et al., 2023). In total, 108 patients (65.4%), including both employed and unemployed individuals, reported impairment in their daily activities due to IBD. This impact was estimated to be 50% or higher in 27.9% of cases ($n = 54$).

On the other hand, in a recent American/European study, 390/1,015 (38.4%) patients with RD self-reported anxiety or depression (Peterson et al., 2019). Based on age, gender, body mass index, and clinical factors (flaring and severity), multiple regression analyses showed that patients with anxiety or depression experienced more treatment dissatisfaction ($p < .001$), had greater impairment at work ($p = .001$), and more often reported unemployment ($p = .001$). Results from a nationwide Danish study involving 12,713 adult patients revealed that the prevalence of clinically relevant anxiety symptoms was highest among patients with spondylarthrosis (34.5%), followed by psoriatic arthritis (32.1%), and lowest among those with rheumatoid arthritis (RA) (22.1%) (Vestergaard et al., 2024). Additionally, a systematic review of cohort studies revealed a decline in the employment rate among patients with RA. Initially, the employment rate was 78.8% at study entry, which decreased to 47.0% during the follow-up period, and further declined to 40.0% over time (Kirkeskov & Bray, 2023).

While it is established that poor mental health, typically assessed as depression and/or anxiety, correlates with reduced productivity, including absenteeism and presenteeism (de Oliveira, Saka, Bone, Jacobs, 2023), limited research has investigated the impact of anxiety disorders on work performance and impairment in patients with IMID. Consequently, there remains ambiguity regarding the distinction or comparability between IBD and RD. Our study addresses this gap by examining anxiety levels and job productivity to discern potential variations between these two disorders.

Methods

Design

This cross-sectional study was conducted in the Rheumatology and Gastroenterology Unit at an Italian University Hospital between February and September 2019. Results are reported according to the Strengthening the Reporting of Observational Studies in Epidemiology checklist for cross-sectional studies (von Elm et al., 2014).

Participants

All adult patients who met the following inclusion criteria and had access to outpatient follow-up visits were invited by the first author (T.M., clinical nurse, Master's student in Nursing Sciences) to participate in the study: (a) show willingness voluntary agreement to participate in the study; (b) be between the ages of 18 and 90; (c) have a verified diagnosis of one of the following diseases: Crohn disease (CD), ulcerative colitis (UC), RA, or AS; (d) be sufficiently proficient in the Italian language to complete a self-reported questionnaire; and (e) have no psychiatric disease or use of psychotropic drugs. We selected these specific conditions—CD, UC, RA, and AS—because they are the most prevalent within the data collection clinical setting. Each step of data collection occurred during the ambulatory care appointments.

Data Collection Instruments and Process

All patients who signed a written consent were included in the study. During follow-up visits, data about age, gender, education, occupation, marital status, disease, comorbidities, and working status (employed or unemployed) were collected.

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Disease activity was evaluated by a physician during the preceding follow-up visit, conducted jointly with a nurse, just before administering the questionnaires. The disease activity of rheumatologic patients was measured using the Disease Activity Score 28 (Cruyssen et al., 2005) for RA and the Ankylosing Spondylitis Disease Activity Score for AS (Machado et al., 2011). In patients with IBD, disease activity was measured with the Harvey–Bradshaw index (Best, 2006; Vermeire, Schreiber, Sandborn, Dubois, Rutgeerts, 2010) and the Modified Truelove and Witts Severity Index (Pabla & Schwartz, 2020) for CD and UC, respectively. Each of the four disease activity scales determines four categories: remission, mild, moderate, and high. While the specific clinical parameters used to define disease activity levels may vary slightly between conditions, the overarching framework of remission, mild, moderate, and high categories provide a common basis for evaluating disease severity across CD, UC, RA, and AS.

Patients were also asked to complete State–Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, Lushene, al., 1983) and Work Productivity and Activity Impairment (WPAI) (Reilly, Zbrozek, & Dukes, 1993; Zhang et al., 2010) questionnaires, which were used to assess anxiety and work impairment, respectively. The STAI questionnaire, which was used to measure by self-report the presence and severity of ongoing symptoms of anxiety and a generalized tendency to be anxious. The STAI is a self-assessment questionnaire that distinguishes between existing anxiety and a predisposition to anxious reactions as a personality characteristic. It consists of two subscales, each containing 20 questions that evaluate state and trait anxiety levels. The total score obtained on both scales ranges from 20 to 80. Higher scores indicate higher anxiety levels (Spielberger et al., 1983). The STAI has been referenced in more than 31,000 articles and translated into 70 languages and dialects, showcasing its acceptable test–retest reliability in normative samples (ranging from 0.73 to 0.88) and demonstrating a Cronbach's α ranging from .73 to .86 (Knowles & Olatunji, 2020; Spielberger et al., 1983).

The WPAI questionnaire measures absenteeism, presenteeism, and impairments in work activity due to health problems during the previous 7 days. The questionnaire consists of six questions that investigate the following domains: current employment status, hours missed due to health discomfort, hours missed due to other reasons, hours worked, impairment of productivity while working, and impairment of productivity in regular unpaid activities. Four main outcomes (absenteeism, presenteeism, work productivity loss [overall work impairment/absenteeism plus presenteeism], and activity impairment) can be generated from the WPAI and expressed as a percentage in which greater scores (range 0–100%) indicate greater impact on health (Reilly et al., 1993; Zhang et al., 2010). Prior research has affirmed the WPAI's enduring test–retest reliability (with less than 5% variance) and its precision in assessing multiple dimensions of quality of life, exhibiting strong agreement (convergence ≥ 0.40) with established measures like the Short Form-36 and self-reported health problem severity (Yarlas et al., 2018).

Data Analysis

Categorical data were reported as frequencies and percentages, whereas standard deviation (SD), minimum and maximum value (range), median, and first and third quartiles were used for continuous data. The chi-square or Fisher's test was used to evaluate the statistical significance of differences in frequency distribution. Student's t-test was applied to identify differences in parametric values between groups. Wilcoxon–Mann–Whitney tests were applied for non-parametric values. Univariate and multivariate analysis of variance (ANOVA and MANOVA) were performed to test the difference between the means anxiety and work impairment scores with demographic and clinical variables such as age, gender, pathology, and disease activity. SAS statistical software (release 9.4) was used to analyze data and a p-value $< .05$ was considered statistically significant.

Ethical Considerations

Before initiating the research process, this study was approved by a local ethics board. After the approval, we informed the nurse director of the local hospital before collecting data. This study guarantees compliance with the confidentiality and anonymity rights of participants and the protection of their data following the General Regulation on Data Protection 2016/679 of the European Union.

Results

Participants

Four hundred and eighty patients were recruited during the study period. Four (0.8%) were excluded due to their unwillingness to participate in the study. Ultimately, 476 patients were included in the final analysis. The majority of the sample (261/476, 54.8%) were IBD patients (164 CD and 97 UC), while 215 (45.2%) had RD (150 RA and 65 AS). When compared to RD patients, IBD patients were mostly male (62.8% vs. 37.7%, $p < .001$), younger (mean age: 46 vs. 57 years, $p < .001$), employed (73.2% vs. 50.7%, $p < .001$), and reported a higher level of education ($p < .001$).

Regarding the time of onset of the disease, IBD manifests mainly in the second and third decade of life

TABLE 1. Patients and Disease Characteristics

Demographics	IBD	RD	p-Value[a]
Patient, n (%)	261 (54.8)	215 (45.2)	–
Age, years, mean (SD)	45.8 (13.6)	57.2 (14.0)	<.001
Gender Female, n (%)	97 (37.2)	134 (62.3)	<.001

Occupations, n (%)
  Employed
  Retired
	191 (73.2)
	70 (26.8)
		109 (50.7)
		106 (49.3)
			<.001

Educational levels, n (%)
  Primary school
  Secondary school
  University
	96 (43.5)
	122 (46.7)
	43 (16.5)
		111 (51.6)
		70 (32.6)
		34 (15.8)
			<.001

Type of disease, n (%)
  UC
  CD
  RA
  AS
	97 (37.2)
	164 (62.8)
	–
	–
		–
		–
		150 (69.8)
		65 (30.2)
			–

Disease onset, patient's age, mean (SD)	31.9 (12.9)	40.9 (13.6)	<.001
Years of illness, mean (SD)	13.9 (8.4)	16.3 (7.7)	.001

Disease activity: Remission, n (%)
  UC
  CD
  RA
  AS
	69 (69.9)
	133 (80.8)
		68 (45.0)
		19 (28.6)
			–

Disease activity: Mild, n (%)
  UC
  CD
  RA
  AS
	15 (16.1)
	19 (11.8)
		37 (24.7)
		22 (34.9)
			–

Disease activity: Moderate, n (%)
  UC
  CD
  RA
  AS
	7 (7.5)
	11 (6.8)
		40 (26.9)
		21 (31.7)
			–

Disease activity: Severe, n (%)
  UC
  CD
  RA
  AS
	6 (6.5)
	1 (0.6)
		5 (3.4)
		3 (4.8)
			–

Note. IBD = inflammatory bowel diseases; RD = rheumatic diseases; SD = standard deviation; UC = ulcerative colitis; CD = Crohn disease; RA = rheumatoid arthritis; AS = ankylosing spondylitis.

[a]Chi-square test, Fisher's test, Student's t-test.

(31.9 years), while RD in the third and fourth decade of life (40.9 years, $p < .001$). At the time of study enrollment, the duration of illness in years was longer for patients with RD compared to those with IBD (16.3 vs. 13.9 years, $p < .001$). The disease activity was significantly different between IBD and RD patients. Indeed, patients with IBD were more frequently in remission compared to those with RD, with rates of 69.9% for UC and 80.8% for CD versus 45.0% for RA and 28.6% for AS ($p < .001$). The main demographic and disease status characteristics of the patients enrolled in the study are shown in Table 1.

Magnitude of Anxiety Disorder

Table 2 illustrates the divergent perceptions of anxiety levels among patients with RD and IBD, measured with

TABLE 2. STAI Scores

	Disease	n	Mean (SD)	p-Value[a]
STAI— Trait	IBD	257	50.5 (2.8)	<.001
	RD	215	42.3 (10.2)	
STAI— State	IBD	257	47.4 (3.0)	<.001
	RD	215	41.5 (10.7)	

Note. STAI = State–Trait Anxiety Inventory; IBD = inflammatory bowel diseases (ulcerative colitis and Crohn disease); RD = rheumatic diseases (rheumatoid arthritis and ankylosing spondylitis); SD = standard deviation.
[a]Wilcoxon–Mann–Whitney test.

the STAI tool and represented as mean scores. Patients with IBD exhibited higher levels of anxiety, both in terms of trait and state anxiety, compared to patients with RD ($p < .001$). In univariate analysis (Table 3), age and type of disease were significantly associated with state anxiety ($F = 8.46$; $p = .004$ and $F = 34.5$; $p < .001$, respectively). Furthermore, the type of disease and the interaction between type of disease (e.g., CD) and disease activity (e.g., remission status) were significantly associated with trait anxiety ($F = 75.5$; $p < .001$ and $F = 7.94$; $p = .005$, respectively).

Work and Activity Impairment

We conducted univariate and multivariate analyses to assess the relationship between work productivity loss and several independent variables, including trait and state anxiety (Table 4). Univariate analysis showed that only disease activity ($r = .287$; $p = .004$) was significantly associated with work productivity; specifically, this correlation was higher in patients with IBD

TABLE 3. Univariate and Multivariate Analysis of Variance Examining STAI Scores

	State Anxiety p-Value[a]	Trait Anxiety p-Value[a]
Type of disease	$F = 34.5$; $p < .001$	$F = 75.5$; $p < .001$
Age	$F = 8.46$; $p = .004$	$F = 3.61$; $p = .058$
Gender	$F = 1.77$; $p = .183$	$F = 2.04$; $p = .154$
Disease activity	$F = 2.73$; $p = .099$	$F = 0.10$; $p = .746$
Disease activity × Type of disease	$F = 1.50$; $p = .223$	$F = 7.94$; $p = .005$

Note. ANOVA = analysis of variance; MANOVA = multivariate analysis of variance; STAI = State–Trait Anxiety Inventory.
[a]ANOVA test, MANOVA test.

TABLE 4. Work Productivity Loss

Dependent Variable: Score 3 (Work Productivity Loss) > 0		
Independent Variables	Univariate Analysis: (sign); p-Value[a]	Multivariate Analysis: F-statistic; p-Value[b]
Disease type (IBD vs. RD)	(+); .238	.732
Age	$r = .046.571$	.081
Gender (male vs. female)	(−); .276	.427
Disease activity	$r = .287.004$	<.001
Disease activity × Disease type	−	.184
Time to diagnosis (more vs. less) than 5 years	(−); .156	−
State anxiety	$r = .153.060$	−
Trait anxiety	$r = .163.046$	−

Note. IBD = inflammatory bowel diseases (ulcerative colitis and Crohn disease); RD = rheumatic diseases (rheumatoid arthritis and ankylosing spondylitis); MANOVA = multivariate analysis of variance.
[a]Wilcoxon test and Pearson Correlation index.
[b]MANOVA test.

($r = .412$; $p = .002$) than in patients with RD ($r = .263$; $p = .028$). Multivariate analysis corroborated this finding. Regarding anxiety, only trait anxiety showed a low positive correlation with work productivity loss ($r = .163$; $p = .046$).

Table 5 displays the relationships investigated between activity impairment and various independent variables, including trait and state anxiety. Univariate analysis revealed significant associations between activity impairment and various factors including disease type ($p = .0294$), age ($p < .001$), gender ($p < .001$), and disease activity ($r = .330$; $p < .001$). All these associations were confirmed in the multivariate analysis, except for disease type. Finally, a positive correlation was found between activity impairment and state anxiety ($r = .243$; $p < .001$), as well as trait anxiety ($r = .206$; $p = .002$).

Discussion

The purpose of this study was to identify how patients with two immune-mediated inflammatory disorders (IBD and RD) deal with anxiety and work impairment caused by their chronic disease. Patients diagnosed with IBD demonstrated elevated levels of anxiety,

TABLE 5. Activity Impairment

Dependent Variable: Score 4 (Activity Impairment) > 0		
Independent Variables	Univariate Analysis: (sign); *p*-Value[a]	Multivariate Analysis: F-statistic; *p*-Value[b]
Disease type (IBD vs. RD)	(−); .029	.178
Age	ρ = .210 <.001	.002
Gender (male vs. female)	(−); < .001	.003
Disease activity	ρ = .330 <.001	<.001
Disease activity × Disease type	−	.004
Time to diagnosis (more vs. less) than 5 years	(−); .935	−
State anxiety	ρ = .243 <.001	−
Trait anxiety	ρ = .206 .002	−

Note. IBD = inflammatory bowel diseases (ulcerative colitis and Crohn disease); RD = rheumatic diseases (rheumatoid arthritis and ankylosing spondylitis); MANOVA = multivariate analysis of variance.
[a]Wilcoxon test and Pearson Correlation index.
[b]MANOVA test.

both in terms of trait and state anxiety, in comparison to those with RD. The result is intriguing because patients with IBD are also those in whom the disease is more frequently in remission. However, some factors such as uncertainty surrounding the condition, pharmacological treatments, and concerns about surgery and cancer risk (Zangenberg & El-Hussuna, 2017) may contribute to higher anxiety levels in IBD patients compared to those with RD. Moreover, among IBD patients with an anxious disposition, there is an increased risk of deteriorating psychological conditions over the course of the illness.

Jordan et al. conducted a systematic review that emphasized the importance of various personality traits in IBD patients' positive or negative psychosocial adjustment, such as psychological or emotional well-being, social and role functioning, quality of life (QoL), and self-reported perceptions of health and well-being (Jordan, Sin, Fear, Chalder, 2016). This review emphasizes the relevance of personality traits in mediating the psychosocial burden of chronic physical illness in

greater depth. Furthermore, common mental illnesses, such as anxiety, are difficult to assess in patients since no disease-specific instrument to test these diseases has been validated yet. This may have contributed to the considerable range of anxiety symptoms reported in studies (Barberio et al., 2021). Furthermore, a recent retrospective study found that age and gender had a substantial impact on the development of psychiatric problems after an IMID diagnosis (Marrie et al., 2017). Our research found a link between the type of disease, age, and disease activity, as well as pathology and psychological well-being.

It is worth noting that in our sample, anxiety levels are generally high, despite an average of 14 years of illness for IBD and 16 years for RD. This result is consistent with the findings of Marrie et al., (2017) who established that the delay from diagnosis was not only related to the patient's emotional condition. Unlike what was reported in other literature (Durmus et al., 2015), no correlation between disease activity and state anxiety (which reflects psychological and physiological transient reactions exist) was found. In contrast, our study demonstrated that trait anxiety (i.e., describing individual differences related to a tendency to present state anxiety) appeared to be slightly related to disease activity.

In our study, work productivity loss was found to be related with disease activity, meaning that the more advanced the disease state, the worse the patient is in terms of work ability. Our findings are consistent with those published by Zhang et al. (2010). Several studies have shown the impact of chronic inflammatory diseases on work activity (Sciberras et al., 2022). According to most of these investigations, the rate of work disability in patients with IBD is between 5.3% and 27.1%, while the percentage of absenteeism is around 25.9% (Michael et al., 2014). Furthermore, from both a societal and a therapeutic point of view, occupational impairment and disability are crucial indicators of poor health (Durmus et al., 2015).

Many factors have been associated with work impairment, including gender, type of treatment, age, type of disease, activity of disease, hospitalization, need for surgery, education level, and QoL (Michael et al., 2014). Workers presenting psychological distress contribute to more absenteeism and lower productivity rates. Work withdrawal is three times more common in rheumatic patients than in the general population, increasing from 5% during the first year of diagnosis to more than 20% at 10 years and 30% at 20 years. Of these, 26% had more than 25 days of absence due to IBD and 56% of the underemployed respondents worked only part-time. All things considered, a deeper understanding of patients' characteristics could

enhance the support provided to employees experiencing psychological distress, ultimately aiding in mitigating productivity loss (Plaisier et al., 2010).

We found a positive relationship between disease activity and activity impairment. Disease activity was thought to be a predictor of impairment in daily activities and work performance, as well as health care costs (Michael et al., 2014). Our results suggest that disease activity alone is not sufficient as an indicator to assess patient disability. In fact, clinical remission does not always correspond to a patient's physical and psychological well-being. All these factors must be considered due to their negative impact on the functional conditions of the subject and their daily activities. According to Haglund et al., there is a link between low job productivity and patient views of physical function, disease activity, QoL, anxiety, and depression (Haglund, Bremander, Bergman, Jacobsson, Petersson, 2013).

Our findings affirm a positive correlation between state–trait anxiety and activity impairment. While the determinants of workplace productivity are diverse, encompassing psychological, social, coping, occupational, and lifestyle factors, these findings carry significant clinical implications in comprehending the factors contributing to work impairment and enhancing work-related outcomes in chronic diseases. Furthermore, there has been a growing focus in both research and clinical practice on addressing fatigue, pain, depression, and anxiety in IMIDs as evidenced by the abundance of recent publications and reviews evaluating the efficacy of psychosocial and biomedical interventions targeting these crucial disease manifestations (Enns et al., 2018).

Limitations
The study has several limitations that should be acknowledged. First, its monocentric nature restricts the generalizability of the findings to broader populations. Second, the study focused exclusively on patients with CD, UC, RA, and AS, potentially limiting the applicability of the findings to patients with other chronic conditions or those without IMIDs. Additionally, the assessment of anxiety and work impairment relied solely on self-report measures, which may be susceptible to recall bias or social desirability bias. Incorporating objective measures or clinician-rated assessments could enhance the accuracy of psychological and functional assessments. Lastly, the use of a cross-sectional design in the study limits our ability to establish causal relationships between variables.

Implications for Nursing Practice
We found that anxiety symptoms are often associated with IBD and can persist during periods of remission.

While, on the one hand, they can lead to diminished QoL, on the other hand, they can exacerbate physical symptoms. Given their proximity to patients, nurses should possess the skills to identify anxiety disorders and participate in their treatment within a multidisciplinary team. Furthermore, nurses should not underestimate the importance of this phenomenon, regardless of the duration of illness experienced by patients.

Regarding functional impairments, considering the detrimental impact of chronic inflammatory diseases on occupational functioning, appointments should incorporate clinical assessments alongside a comprehensive evaluation of the physical and psychosocial dimensions of the disease. Nurse-led follow-up care should include patient counseling on self-management strategies and lifestyle modifications, with the aim of achieving cost-effective outcomes and reducing work absenteeism.

Recommendations for Future Inquiry
Future research can deepen our understanding of the psychological and functional impacts of IMIDs and guide the development of targeted interventions to improve patient well-being. Recommendations include expanding sample sizes and conducting multicenter studies for broader insights, implementing longitudinal assessments to track changes in psychological distress over time, and exploring qualitative approaches to understand patients' perceptions of disability. Additionally, investigating factors such as personality traits, coping strategies, social support, and lifestyle can provide further insights. Follow-up examinations can also assess changes in mental health and functional status, aiding in the evaluation of interventions aimed at reducing distress and enhancing productivity.

Conclusion
In conclusion, people with IBD exhibit higher levels of psychological and occupational suffering. The impact of psychological factors on job performance should not be underestimated because it could increase the likelihood of unemployment, absenteeism, and social costs. Furthermore, in both RD and IBD, stigmatization for disease-related concerns can discourage the individual from communicating their distress to the management and the colleagues. The findings of our investigation revealed that clinical remission had no clear relationship with the physical and psychological well-being of the IMID patient.

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