



In Which form of Inflammatory bowel Disease Is Reduction in Quality of Life more Common: Ulcerative Colitis or Crohn's Disease?

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Abstract

Background: Despite differences in histopathological features and prognostic characteristics between ulcerative colitis and Crohn's disease, the difference in the patients' quality of life with these two conditions remains unclear. Our goal was to evaluate the differences in various aspects of the quality of life with these two forms of inflammatory bowel disease (IBD).

Methods: This cross-sectional study was performed on patients with a confirmed diagnosis of IBD. The sample comprised 120 patients with ulcerative colitis and 120 with Crohn's disease, all of whom had been diagnosed for at least six months prior to the study. Baseline characteristics were collected by interviewing the patients. Quality of life was assessed using the Inflammatory Bowel Disease Questionnaire (IBDQ-32).

Results: Comparing different components of quality of life between the patients with ulcerative colitis and Crohn's disease showed a significantly higher mean score for emotional and social functioning; however, no difference was observed in the mean scores for systemic symptoms and bowel symptoms between the two groups. Overall, the comparison of general quality of life score between the groups with ulcerative colitis and Crohn's disease showed a significantly higher mean score for the latter group, even after adjusting baseline parameters. The overall quality of life score was significantly higher in patients with Crohn's disease compared to ulcerative colitis ($P < 0.001$), and this difference remained significant after multivariable adjustment ($P < 0.001$).

Conclusion: More severe disturbances in various aspects of quality of life should be expected in patients with ulcerative colitis compared to those with Crohn's disease. This difference remained significant after adjustment for baseline characteristics. Greater attention to psychosocial support in patients with ulcerative colitis may help improve quality of life.

Keywords: Inflammatory Bowel Diseases, Crohn Disease, Quality of Life, Ulcerative Colitis, Patient Reported Outcome Measures

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Introduction

Inflammatory bowel disease (IBD) is a disease that, because of its chronic and progressive nature, is associated not only with physical disabilities but also gradually with the occurrence of psychological

disorders such as depression and anxiety (1, 2). The occurrence of pain episodes, persistent gastrointestinal symptoms, and fear of cancer risk can create a concern among patients that they may not recover despite available treatments. This concern can adversely affect various aspects of patients' quality

of life (3, 4). Several studies have been conducted on impairment in different aspects of quality of life in patients with IBD, and almost all have emphasized the impairment of physical, social, and psychological functions in these patients (5). Therefore, even the severity of impairment in patients' quality of life appears to affect the treatment process and the type of treatment protocol (4, 6). The two distinct forms of the disease, Crohn's disease and ulcerative colitis, have different clinical, histopathological, and even therapeutic characteristics. Therefore, it can be hypothesized that changes in various aspects of the quality of life will also differ between these patient groups, although this issue remains a hypothesis and requires further investigation (7). The present study aimed to answer whether patients' quality of life and its various components differ between the two forms of IBD, including ulcerative colitis and Crohn's disease. Answering this question enables the design and implementation of various treatment and support protocols for these patients to improve their quality of life.

Materials and Methods

This cross-sectional study was performed on patients with a confirmed diagnosis of IBD. The sample comprised 120 patients with ulcerative colitis and 120 with Crohn's disease, all of whom had been diagnosed for at least six months prior to the study. All patients were over 18 years of age, signed written informed consent before participation, and had adequate literacy and autonomy to complete the evaluation questionnaire. Those who had a severe mental health condition or were in an acute phase of the disease were excluded from the study. Baseline characteristics, including demographics, medical history, medications (whether related to IBD treatment or not), marital status, and educational level, were collected by interviewing the patients. As the dependent variable, quality of

life was assessed using the Inflammatory Bowel Disease Questionnaire (IBDQ-32). The Persian version of this questionnaire was translated and validated previously (8). This questionnaire consists of 32 items categorized into four components of bowel symptoms (10 items), emotional function (12 items), social function (5 items), and systemic symptoms (5 items). Each item was scaled with a 7-point Likert scale, that 1 indicated the lowest quality of life and 7 the highest, and the total scale ranged 32 to 224 for overall quality of life (9). In the study procedure, potential participants were identified from the list of patients with a recent diagnosis of IBD at each hospital. They were first contacted by phone and then given an appointment for an in-person interview, which coincided with a follow-up appointment at the hospital. The assessment was performed by a single psychologist. The subjects were then categorized into two groups: patients with ulcerative colitis and Crohn's disease. Finally; the mean quality of life score and its main components were compared between the two groups. For statistical analysis, results were presented as mean \pm standard deviation (SD) for quantitative variables and summarized as frequency (percentage) for categorical variables. The normality of the data was checked using the Kolmogorov-Smirnov statistical test. Continuous variables were compared using *t*-test or Mann-Whitney U test whenever the data did not appear to be normally distributed or when the assumption of equal variances was violated across the study groups. Categorical variables were compared using the chi-square test or Fisher's exact test if required. A multivariable linear regression model was used to determine the difference in quality of life between patient groups after adjusting for baseline parameters. P values of ≤ 0.05 were considered statistically significant. For the statistical analysis, SPSS version 28.0 for windows (IBM, Armonk, New York) was used.

Table 1: Baseline characteristics of the study population

Characteristics	Ulcerative colitis (n=120)	Crohn's disease (n=120)	p-value
Age (years), mean \pm SD	38.92 \pm 3.92	39.45 \pm 3.56	0.272
Gender, n (%)			1.000
Male	80 (66.7)	80 (66.7)	
Female	40 (33.3)	40 (33.3)	
Marital status, n (%)			0.245
Single	30 (25.0)	19 (15.8)	
Married	72 (60.0)	76 (63.3)	
Divorced	12 (10.0)	19 (15.8)	
Widowed	6 (5.0)	6 (5.0)	
Educational level, n (%)			0.772
Primary	6 (5.0)	3 (2.5)	
Secondary	29 (24.2)	30 (25.0)	
Diploma	47 (39.2)	50 (41.7)	
University degree	38 (31.7)	37 (30.8)	

Values are presented as mean \pm standard deviation (SD) or number (%). P-values were calculated using the independent samples *t*-test for age and the chi-square test for categorical variables. *P < 0.05 was considered statistically significant.

Results

A total of 240 patients with IBD (120 patients with ulcerative colitis and 120 with Crohn's disease) were included in the study. Baseline characteristics are presented in Table 1. Comparison of baseline characteristics between the two disease groups revealed no differences in gender, mean age, marital status, or educational level. As shown in Table 2, comparing different components of quality of life between patients with ulcerative colitis and Crohn's disease showed a significantly higher mean score for emotional and social functioning; however, no difference was observed in the mean scores for systemic symptoms and bowel symptoms. Overall, comparison of general quality of life score between the ulcerative colitis and Crohn's disease groups showed a significantly higher mean score for the latter group (70.84±11.18 versus 110.43±13.62, $p<0.001$). Multivariate linear regression to determine the difference in quality of life between the two IBD forms (Table 3) showed a significantly higher mean general quality of life score in the Crohn's disease group compared to the ulcerative colitis group ($\beta=39.784$, $p<0.001$). A statistically significant difference was observed in the overall quality of life score between patients with ulcerative colitis and Crohn's disease, with a higher mean score in the Crohn's disease group (110.43±13.62 versus 70.84±11.18, $P<0.001$). This difference remained statistically significant after adjustment for baseline characteristics in the multivariable linear regression model ($\beta=39.784$, $P<0.001$).

Discussion

There are significant differences between the two forms of IBD, including Crohn's disease and

ulcerative colitis. The two diseases differ in the location of intestinal involvement, the presence or absence of healthy areas among inflamed tissues, the involvement of different intestinal layers, and the treatment protocols. However, it seems to be no noticeable difference between the two forms of the disease regarding prognosis. In many cases, remarkable similarities between the two diseases have been observed even in terms of gastrointestinal complications. As shown by Berre et al (10), there are significant similarities between Crohn's disease and ulcerative colitis, including long-term complications, strictures, increased risk of cancer, pseudopolyps, functional abnormalities, and anorectal dysfunction. Although, according to the same study, the response rate to surgery for ulcerative colitis is lower than that for Crohn's disease, and since colonoscopy monitoring is used in suspected cases of Crohn's disease, it is possible to track dysplastic and cancerous changes (10). However, The majority of doctors do not agree with the worse prognosis of ulcerative colitis compared to Crohn's disease. Nevertheless, whether various aspects of patients' quality of life may also differ between the two forms of the disease remains unclear. However, the present study found that impairment in most aspects of quality of life, such as psychological disorders and social functioning, is observed more frequently in ulcerative colitis than in Crohn's disease. Similar to findings in another study, the major impairment in patients' quality of life was related to mental disorders and social activities, which are far more impaired in patients with ulcerative colitis. McCombie and colleagues (11) performed a study of patients diagnosed with IBD within six months prior to assessment and observed no statistically significant differences in quality of life between patients with Crohn's disease and ulcerative colitis.

Table 2: Quality of life component scores in study population

Characteristics	ulcerative colitis	Crohn's disease	p-value
Bowel symptoms	28.72±8.32	28.19±8.33	0.626
Emotional function	16.52±3.65	35.49±6.98	<0.001
Social function	10.06±4.36	18.08±1.62	<0.001
Systemic symptoms	15.93±3.20	16.38±3.21	0.278
General quality of life	70.84±11.18	110.43±13.62	<0.001

* p-value < 0.05 was considered statistically significant.

Table 3: Multivariate linear regression modeling in determining the difference in quality of life between inflammatory bowel disease forms

Item	Standardized beta	p-value	95% Confidence Interval for Beta	
			Lower Bound	Upper Bound
Group (Crohn's disease versus ulcerative colitis)	39.784	<0.001	36.608	42.960
Sex	-2.625	0.124	-5.979	0.728
Age	-0.151	0.484	-0.574	0.273
Education level	1.721	0.074	-0.169	3.612
Marital status	-1.129	0.312	-3.322	1.064

* p-value < 0.05 was considered statistically significant.

Burisch et al (12), in their ecological EpiCom study on IBD incidence in Europe, analyzed the quality of life of 1079 patients with IBD at diagnosis and after one year of living with the disease. They observed lower general and domain-specific quality of life in patients recently diagnosed with Crohn's disease compared to those with ulcerative colitis. In another study by Jaghult et al (13), differences across components of quality of life remained insignificant. Moreover, Andrzejewska et al (14), also reported non-significant differences when comparing quality of life between Crohn's disease and ulcerative colitis patients; in their sample, only 28.8% had been diagnosed within two years prior to assessment. Similarly, López et al (15), reported that subjects with Crohn's disease at the time of diagnosis had a general quality of life similar to that of subjects with ulcerative colitis. Therefore, there is considerable heterogeneity across studies regarding impairment in different aspects of quality of life in IBD patients. Various studies indicate that quality of life of in IBD patients may be affected by patient-related factors such as the disease duration, severity of involvement, disease stage, and even the treatments used (16, 17). In the current study, to eliminate the confounding effects of these factors, we used a regression model. It showed that even after adjusting for these factors, quality of life in patients with ulcerative colitis remained significantly worse than that in patients with Crohn's disease. In fact, the impairment in the quality of life in these patients may be explained by the nature of these diseases, especially the fear of malignant transformation.

References

1. Bisgaard TH, Allin KH, Keefer L, et al. Depression and anxiety in inflammatory bowel disease: epidemiology, mechanisms and treatment. *Nature reviews Gastroenterology & hepatology*. 2022;19(11):717-26.
2. Neuendorf R, Harding A, Stello N, et al. Depression and anxiety in patients with Inflammatory Bowel Disease: A systematic review. *Journal of psychosomatic research*. 2016;87:70-80.
3. Kim B, Chae J, Kim EH, et al. Physical activity and quality of life of patients with inflammatory bowel disease. *Medicine*. 2021;100(27):e26290.
4. Calviño-Suárez C, Ferreiro-Iglesias R, Bastón-Rey I, et al. Role of Quality of Life as Endpoint for Inflammatory Bowel Disease Treatment. *International journal of environmental research and public health*. 2021;18(13).
5. Ferry GD. Quality of life in inflammatory bowel disease: background and definitions. *Journal of pediatric gastroenterology and nutrition*. 1999;28(4):S15-8.
6. Umanskiy K, Fichera A. Health related quality of life in inflammatory bowel disease: the impact of surgical therapy. *World journal of gastroenterology*. 2010;16(40):5024-34.
7. G. C. Inflammatory bowel disease. 2017 Mar. *Nurs N Z*. 2017 March;23(2):20-4.
8. Maleki I, Taghvaei T, Barzin M, et al. Validation of the Persian version of the inflammatory bowel disease questionnaire (IBDQ) in ulcerative colitis patients. *Caspian journal of internal medicine*. 2015;6(1):20-4.
9. Yaras A, Maher S, Bayliss M, et al. The Inflammatory Bowel Disease Questionnaire in Randomized Controlled Trials of Treatment for Ulcerative Colitis: Systematic Review and Meta-Analysis. *Journal of patient-centered research and reviews*. 2020;7(2):189-205.
10. Le Berre C, Ananthakrishnan AN, Danese S, et al. Ulcerative Colitis and Crohn's Disease Have Similar Burden and Goals for Treatment. *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*. 2020;18(1):14-23.
11. McCombie AM, Mulder RT, Geary RB. Coping Strategies and Psychological Outcomes of Patients with Inflammatory Bowel Disease in the First 6 Months After Diagnosis. *Inflammatory bowel diseases*. 2015;21(10):2272-80.
12. Burisch J, Weimers P, Pedersen N, et al. Health-related quality of life improves during one year of medical and surgical treatment in a European population-based inception cohort of patients with Inflammatory Bowel Disease — An ECCO-EpiCom study☆. *Journal of Crohn's and Colitis*. 2014;8(9):1030-42.
13. Jäghult S, Saboonchi F, Johansson UB, et al. Identifying predictors of low health-related quality of life among patients with inflammatory bowel disease: comparison between Crohn's disease and ulcerative colitis with

Conclusion

Patients with ulcerative colitis exhibited lower overall quality of life scores than those with Crohn's disease. This disparity was primarily observed in the emotional and social domains, while bowel and systemic symptoms were comparable between the two groups. Importantly, the association remained significant after adjustment for baseline characteristics, suggesting that quality of life is independently associated with disease type. These findings underscore the need for greater attention to the psychosocial dimensions of care in patients with ulcerative colitis. Integrating targeted supportive and psychological interventions into routine management may improve patient outcomes. Further longitudinal studies are warranted to better understand causal mechanisms and the influence of disease-related factors on quality of life in this population.

Authors' Contribution

Seyedehfatemeh Rasouli: contributed to study concept and design; manuscript drafting; data collection; statistical analysis; contributed substantially to the manuscript, approved the final version for submission; agreed to be accountable for all aspects of the work. Kamran Ebrahimizad: data collection; statistical analysis; contributed substantially to the manuscript, approved the final version for submission; agreed to be accountable for all aspects of the work.

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- disease duration. *Journal of clinical nursing*. 2011;20(11-12):1578-87.
14. Andrzejewska JT, D.; Michalak, M.; Linke, K. Quality of life in patients with Crohn's disease and ulcerative colitis. *Prz Gastroenterol*. 2009;4:251-5.
 15. López RM, B.; Hueso, C.; Escalada, P.; et al. Calidad de vida relacionada con la salud en pacientes con enfermedad inflamatoria intestinal(Quality of life in patients with inflammatory bowel diseases) *Anales del Sistema Sanitario de Navarra*. 2016;39:123-31.
 16. Casellas F, López-Vivancos J, Vergara M, et al. Impact of inflammatory bowel disease on health-related quality of life. *Digestive diseases (Basel, Switzerland)*. 1999;17(4):208-18.
 17. Burisch J. Crohn's disease and ulcerative colitis. Occurrence, course and prognosis during the first year of disease in a European population-based inception cohort. *Danish medical journal*. 2014;61(1):B4778.