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Evaluation of Quality of Life in Patients Treated for Inflammatory Bowel Disease: A Cross-Sectional Study of 100 Cases

Meyiz H[1*], Ait Ahmad Y[1], Ouaya H[1], Mellouki I[1]

[1]Gastroenterology Department, CHU Mohammed VI Tanger, Abdelmalek Esaadi University, Tétouan, Morocco

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***Corresponding author:** Meyiz H
Gastroenterology Department, CHU Mohammed VI Tanger, Abdelmalek Esaadi University, Tétouan, Morocco

Abstract **Original Research Article**

Chronic inflammatory bowel disease (IBD) is often accompanied by intestinal and systemic symptoms that are bothersome and impair the quality of life of patients and their families. The main objective ofthis study is to evaluate the quality of life of IBD patients followed in the hepato-gastroenterology department of the TANGER-TETOUAN-ALHOCEIMA university hospital. ***Materials and methods***: This isa descriptive cross-sectional study, carried out in the hepato-gastroenterology department of the TANGER-TETOUAN-ALHOCEIMA university hospital, which included all patients with IBD confirmed onendoscopic and histological criteria, and who presented for consultation during the period from March2022 to December 2022. Patients with psychiatric disorders were excluded from the study. Quality oflife was assessed using the Inflammatory Bowel Disease Questionnaire (IBDQ)**.** The version used in ourstudy has been translated into Moroccan dialectal Arabic and is currently being validated. Statistical and graphical analyses were performed using IBM SPSS Statistics 19 for Windows. ***Results:*** Our study included 100 patients with IBD. Crohn's disease was present in 62% of cases (n=62), and UC in 38% of cases (n=32). In our study, 24 patients (24%) were in remission at the time of data collection. The meanIBDQ-M score was 149.75, with extremes ranging from 66 to 217. Men had a higher mean score than women (155 versus 143; ***p=0***.12)**.** Patients aged over 50 had a lower score on average than patients aged under 50 (137 versus 150; *p=0*.3). CD patients had a better score than UC patients (152 versus 143; *p=0*.2). Patients in remission had a calculated sub-domain score of 61 versus 47 in relapsing patients, 28 versus 20 in the general symptoms sub-domain, 69 versus 50 for emotional functioning and 31 versus 25 for social functioning (p<0.001). ***Conclusion*****:** Our study confirmed the impact of disease activity on HRQoL in IBD patients, irrespective of disease type.

Keywords: Quality of life, inflammatory bowel disease, IBDQ score, disease activity.

INTRODUCTION

Chronic inflammatory bowel disease (IBD) is often accompanied by intestinal and systemic symptoms that are bothersome and impair the quality of life of patients and those around them. Recent studies have reported an increased risk of anxiety or depression in children and adults with IBD [1]. Psychological factors play a particular role in this disease because they can trigger, modify or aggravate IBD symptoms [2]. Quality of life (QoL) can be defined in many different ways, which makes it difficult to measure and incorporate into scientific studies. The World Health Organisation defines quality of life as "an individual's perception of his or her position in life in the context of the culture and value systems in which he or she lives and in relation to his or her goals, expectations, norms and concerns" [3]. IBD symptoms have a negative impact on patients' well-being and quality of life, as dysfunctions generally affect daily activities, school performance, ability to work and social life [4]. The main objective of this study is to evaluate the quality of life of IBD patients followed up in the hepato-gastroenterology department of the TANGER-TETOUAN-ALHOCEIMA university hospital.

MATERIALS AND METHODS

Our study was carried out in the hepato-gastroenterology department of the TANGER-TETOUAN- ALHOCEIMA university hospital. This is a descriptive cross-sectional study, which involved a series of 100 patients with IBD confirmed on endoscopic and histological criteria, who presented for consultation during the period from March 2022 to December 2022. Patients with psychiatric disorders were excluded from the study. Clinical and paraclinical data are collected from the patient's medical file and by

telephone if there is no information in the file. Crohn's disease (CD) activity was assessed by the Best score; a score <150 defines remission. While the activity of haemorrhagic rectocolitis (UC) was assessed by the Mayo score; UC-DAI score <150 defines remission.

Quality of life was assessed using the Inflammatory Bowel Disease Questionnaire (IBDQ)**.** The version used in our study has been translated into Moroccan dialectal Arabic and is currently being validated. The questionnaires were completed in the consultation room by the consulting physician. The analysis of the study data included a descriptive stage using a median calculation for quantitative results and a percentage calculation for qualitative results. The analysis of the IBDQ score included:

- Analysis of the reliability of responses in the same sub-domain using CRONBACH alpha.
- Comparison of percentages using Pearson's Chi-square and Fisher's exact test.
- Comparison of means using the STUDENT test.
- Comparison of several means using the one-factor ANOVA test.
- P values below 0.05 were considered to indicate statistical significance.

Statistical and graphical analyses were carried out using IBM SPSS Statistics 19 for Windows. The collection of sociodemographic, clinical and paraclinical data was carried out taking into consideration the global ethical rules relating to the respect of confidentiality and the protection of patients' own data.

RESULTS

a. Socio-demographic data

Our study included 100 patients followed for IBD. Crohn's disease accounted for 62% (n=62) and UC for 38% (n=32). There was a slight female predominance, with a sex ratio (M/F) of 0.8. The median age of our population was 34 years [25-44]. In our patients, the median duration of the disease was 4 years, with a maximum of 27 years and a minimum of 6 months. Immunosuppressive drugs were the most common treatment in our series (34.3%). In our study, 32 patients (32.3%) underwent surgery for IBD. Ileo-caecal resection was the most common surgical procedure in 46.9% of patients operated on (n=15). At the time of questioning, 11 of the patients had a stoma, i.e. 34% of the patients operated on. In our study, 24 patients (24%) were in remission at the time of data collection.

b. IBDQ score

The cronbach's test enabled us to check the internal consistency of the IBDQ score between the different responses in the same sub-domain (digestive symptoms, general symptoms, emotional function and social function). The alphas are all greater than 0.7, which testifies to the internal validity of the responses (Table 1). The mean IBDQ-M score was 149.75, with extremes ranging from 66 to 217. Men had a higher mean score than women (155 versus 143; $p=0.12$) (Table 2). Patients aged over 50 had a lower score on average than patients aged under 50 (137 versus 150; $p=0.3$). CD patients had a better score than UC patients (152 versus 143; $p=0.2$). Patients operated on for CD had a better score than those operated on for UC (145 versus 137; $p=0.6$). Patients on biotherapies scored better than patients on 5ASA or immunosuppressants (p=0.3) (Table 3). Patients in remission had a calculated sub-domain score of 61 compared with 47 in relapsing patients, 28 compared with 20 in the general symptoms sub-domain, 69 compared with 50 for emotional functioning and 31 compared with 25 for social functioning (Figure 1).

Table1: Results of Cronbach Alpha tests

	Cronbach's Alpha
Digestive symptoms	0.82
General symptoms	0.77
Emotional function	0.82
Social function	0.77
Total score	0.92

*An alpha is said to be reliable when it is greater than 0.7

Table 2: Impact of gender on quality-of-life domains

	Overall score	**Digestive symptoms**	**General symptoms**	**Emotional functioning**	**Social functioning**
Men Woman (Our study)	160 143	52 50	23 20	58 51	26 27
Men Woman (López *et al*. 2005)	189 169	58 53	29 25	68 61	31 28

Table 3: IBDQ score results

	MAX-MIN	Average (standard deviation)	Median [25, 75]	P-value
Gender				0.12
- Woman	214-66	143 (39.04)	143 [116,134]	
- Men	217-85	155 (33.07)	160 [126,179	
Age				0.3
- <50 years	217-66	150 (36.59)	155 [123,175]	
- >50 years	198-85	137 (38.00)	125 [109,179]	
Type of IBD				0.2
- MC	74-217	152 (35.35)	160 [121,179]	
- RCH	66-214	143 (38.72)	141 [120,165]	
TREATMENT				
- Mesalazine	66-205	148 (35.13)	146 [130,177]	0.3
- Immunosuppressants	122-176	149 (37,16)	155 [122,176]	
- Biotherapy	100-212	160 (38,31)	173 [123,191]	
- Methotrexate	130-175	157(23,81)	166	
- Corticoids	75-196	142(36,95)	154 [110,170]	
- Without treatment	85-203	144 (42,01)	135 [109,195]	
Remission				**<0.001**
- Yes= 24	169-217	188 (14.20)	186 [176,198]	
- No= 73	66-205	135 (32.20)	136 [112,161]	
Surgery				0.6
- MC	74-199	145 (34.30)	151 [118, 174]	
- RCH	85-203	137 (38.70)	127 [116, 172]	
Ostomy pouch				0.8
- Yes	66-198	147 (40.65)	154 [118,175]	
- No	74-217	149 (36.45)	163 [123,183]	
Total score	66-217	149 (36.73)	155 [121, 177]	

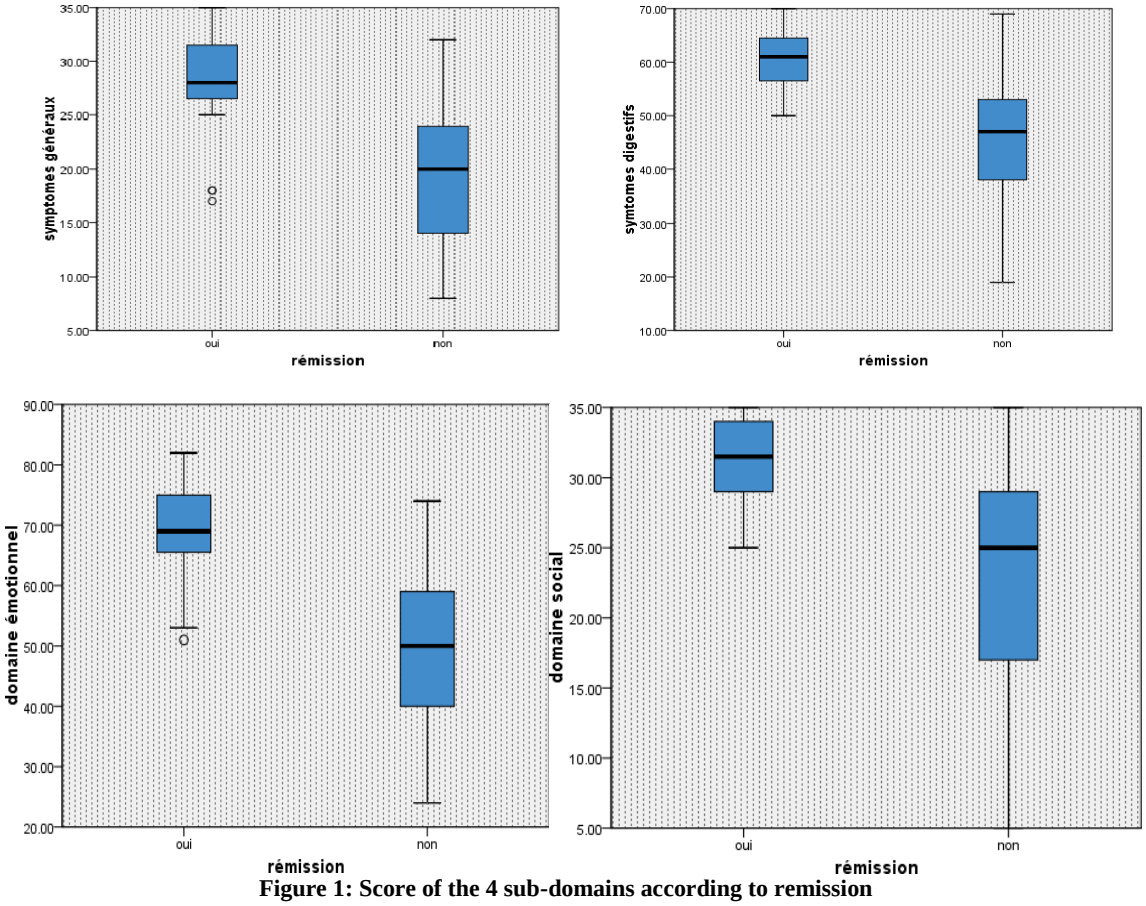

Figure 1: Score of the 4 sub-domains according to remission

DISCUSSION

The relationship between socio-demographic and clinical factors and patients' QoL has been extensively studied. The majority of studies have indicated the importance of age or gender with regard to the QoL of IBD patients [5,6]. It has been shown that quality of life is more impaired in women than in men with IBD [7]. However, this assertion is not supported by other authors. Women rate their symptoms as more severe [8] and are generally more affected by psychosocial factors [9]. Furthermore, even in the general population, women score lower than men in self-assessments of quality of life [10]. In fact, López *et al*., found that men had higher QoL scores for systemic, bowel, emotional and social symptoms and overall IBDQ, and that the differences were significant [11]. Similarly, our study shows that men outperform women in terms of quality of life, and that this difference is more marked when it comes to the emotional domain. However, gender did not have a significant impact on any of the quality of life domains in our study.

Age has not been found to be a significant factor predisposing to impaired quality of life, although some reports indicate that IBD progresses more aggressively in older patients [12,13]. Our study showed that patients aged under 50 had a non-significantly better QoL score. This could be explained by the fact that individuals in this age group had fewer defects associated with their IBD. In our study, the type of disease did not affect any of the IBDQ subdomains, however a slight difference was noted in the global score results in favour of CD. This result is in agreement with the work of MAHALLI et al, where the IBDQ subdomain scores were similar for both diseases [14]. Disease activity is often considered to be a significant predictor of QoL in IBD patients. These results were confirmed by our study. Indeed, in the presence of active IBD, patients may present with more gastrointestinal or extra-intestinal symptoms, invasive treatments and complications likely to increase anxiety and depression. These negative emotions are likely to interfere with day-to-day functioning. It seems that the severity of the disease is linked to higher levels of fatigue and poor sleep quality, and that these factors are independently correlated with lower quality of life [15-17]. Gray *et al.*, suggest that behavioural dysfunction is the mechanism by which the severity of the disease partially alters quality of life [18].

In addition, the clinical course of the disease is characterised by unpredictable periods of relapse and remission despite conventional therapies. Many patients fail to maintain a sustained remission [19]. Patients in relapse had more concerns, greater impairment of functional status and a reduced subjective sense of well-being compared to patients in clinical remission [20]. The effect of treatment on HRQoL has been evaluated by other authors, who have demonstrated that IBDQ is a valid measure of therapeutic efficacy in the treatment of IBD, and that effective treatment improves IBDQ overall. Data concerning the impact of different treatments on HRQoL are contradictory [15,21,22]. In our study, patients taking biotherapy had a better score compared with other treatments. This result is shared with the study by Kalafateli *et al.* after analysing the disease characteristics of this subgroup of patients, we observed a longer duration of disease and a lower rate of previous surgery. Thus, this association probably illustrates a lesser severity of the disease in this subgroup, and therefore the improved QoL score is not a direct impact of the biotherapy.

Willi *et al.*, suggest that the deterioration in quality of life observed in their study in patients on biotherapy is probably due to the fact that this type of treatment is initiated in patients with more severe disease [23]. However, our study shows no statistically significant effect of treatment on HRQoL in IBD patients. By comparing our study with others [24,25] the IBDQ dimensional scores were decreased. The mean IBDQ total score was 149, showing that our sample of IBD patients had a relatively poor quality of life. Different populations, culturally diverse attitudes and priorities, distinct economic means and the severity of the disease could explain this discrepancy. Our study examined various dimensions likely to affect HRQoL in IBD patients: socio-demographic variables, disease characteristics, history of surgery, medical treatments and remission. However, the small sample size and monocentric recruitment raises questions about the representativeness of this sample on a regional or even national scale.

CONCLUSION

Our study confirmed the impact of disease activity on HRQoL in IBD patients, irrespective of the type of disease. In fact, patients in remission have a better perception of life and less emotional and social dysfunction than patients in the active phase of the disease. Given that disease activity is the main factor predisposing to impairment of quality of life, the use of effective treatment regimens aimed at keeping patients in remission is of great importance. These must be introduced in collaboration with patients, to ensure good compliance with treatment and long-term adherence to requests for care and medical monitoring. This prompts us to ask questions about the usefulness of therapeutic education in IBD patients: does it have a role in maintaining remission and therefore an impact on quality of life? uture research is needed to conclude on the impact of other factors, apart from disease activity, on HRQoL for which there are discrepancies between studies, in order to define the subgroup of patients who are more likely to have impaired HRQoL.

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