The influence of personality factors on health-related quality of life of patients with inflammatory bowel disease

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Abstract

Objective: The aim of the study was to examine the influence of personality factors on health-related quality of life (HRQOL) in patients with inflammatory bowel disease (IBD). Methods: A total of 120 individuals, 60 with ulcerative colitis and 60 with Crohn’s disease, filled out the Inflammatory Bowel Disease Questionnaire, the Rosenberg Self-Esteem Scale, the Neuroticism scale of the Eysenck Personality Inventory, and a scale about difficulty describing feelings to other people. Sociodemographic and clinical information was also collected. Results: Results of hierarchical regression analysis, after controlling for possible confounder effects of demographic and clinical variables, showed the predictive power of the block of personality variables, accounting for significant amounts (13–22%) of variance across the four HRQOL measures. Except for self-esteem, which was the factor most closely related to social functioning, neuroticism seemed to be the most closely related to the four indicators of quality of life. It was also found that greater difficulty in describing feelings was linked to poorer HRQOL. Conclusion: In summary, some personality factors are useful for understanding the process of HRQOL in patients with IBD. Recognizing these differences may enrich clinical research and may be crucial when designing interventions aimed at treatment effectiveness.

Keywords: Inflammatory bowel disease; Health-related quality of life; Personality factors

Introduction

Crohn’s disease (CD) and ulcerative colitis (UC) are inflammatory bowel diseases (IBDs) of unknown etiology, which affect approximately 2 out of 1000 and 1 out of 1500 individuals, for UC and CD, respectively, in Western populations [1]. These diseases are characterized by exacerbations and remissions of several symptoms such as abdominal pain and diarrhea. Furthermore, the chronicity of IBD, the effects of the treatments, and the consequences of its complications (e.g., hospitalizations) affect the daily lives of these patients and impair their health-related quality of life (HRQOL) [2]. In recent years, the importance of HRQOL in chronic diseases has been increasingly recognized because of its implications for patients’ psychological well-being, their social adjustment to the illness, and the use of health resources [3,4]. In this sense, both clinicians and researchers emphasize the importance of integrating HRQOL in the assessment of chronic disease outcomes and the impact of interventions.

The relationship between sociodemographic and clinical factors and these patients’ HRQOL has been investigated in several studies [5–7]. Some of them have suggested that variables related to disease activity, such as the presence of inflammatory activity or the need of hospitalization, were the most important variables for predicting HRQOL [8]. Other studies have indicated the importance of sociodemographic variables, such as age or educational level, with regard to HRQOL in IBD processes [4,9]. Apart from
these variables, in the last few years, there has been growing interest in identifying psychological factors associated with patients with IBD [10–12], hypothesized as risk factors in the course of the disease, mediating its occurrence and development.

One of them is neuroticism, considered as a broad dimension of individual differences in the tendency to experience negative, distressing emotions [13]. Findings suggest that neuroticism is related to a broad range of dysfunctions and diseases, such as depression, psychosomatic complaints, or pain syndromes [14–16], and with reduced psychological well-being [17]. Accordingly, some studies have highlighted that neuroticism scores were more prevalent in patients with IBD than in controls [18] and that this personality characteristic was similar in patients with CD or UC [19]. Neuroticism may influence psychological well-being through its impact on the way individuals react to a stressful situation [20]. In fact, a possible explanation for the effects of neuroticism in IBDs is that it may increase an individual’s susceptibility or exposure to stimuli that generate negative emotions [21], which, in turn, may exacerbate the IBD symptoms [18]. Moreover, individuals high in neuroticism tend to report more health complaints and to be more sensitive to aversive bodily symptoms than control groups [15].

Another personality variable that has been hypothesized to play a role in the IBD process is alexithymia [22,23], a construct that is considered to reflect a deficit in the cognitive processing and regulation of emotions [24,25]. In a comparative study between IBD patients and a control group of healthy participants, a higher rate of alexithymia was found among IBD patients [26]. One of the few attempts that have been made to investigate alexithymia as predictor of HRQOL revealed that it plays an important role in predicting HRQOL in patients with IBD [27] and that it is a stable personality characteristic [28]. One of its most important components refers to a limited ability to verbalize one’s own emotions [25,29]. The concept has been widely studied because it is seen as a risk factor for a variety of psychosomatic problems [30,31].

Although there has been some research focusing on neuroticism and alexithymia in HRQOL of patients with IBD, the effects of self-esteem have practically not been studied previously, although it also appears to be an important aspect in need of empirical examination. Only one recent study has focused on this topic, where it was found that, among adolescents with IBD, self-esteem was an important predictor of HRQOL [32].

However, despite these investigations, the relative importance of psychological factors in HRQOL of patients with IBD has not been systematically established and needs to be studied in depth [33,34]. Furthermore, although the abovementioned studies have explored the influence of different psychological variables, an integrative model that includes different positive and negative personality variables at the same time is still lacking. Thus, the aim of the present study was to investigate the influence of personality factors such as neuroticism, self-esteem, and difficulty describing one’s feelings to other people on the HRQOL of patients with IBD by means of multivariate analysis. It was hypothesized that personality variables, after controlling for the effect of sociodemographic and clinical variables, would predict perceived HRQOL.

**Methods**

**Participants and procedure**

One hundred twenty participants meeting diagnostic criteria for IBD were recruited from the outpatient clinic at the Digestive Diseases Department of two public hospitals from the city of Madrid (Spain). Both centers have an adequate sample of the IBD population in this city. The diagnosis was established by a physician using conventional clinical, endoscopic, radiological, and histological criteria. Among the exclusion criteria were a history of psychiatric pathology and depression as a consequence of the disease. All patients were under 75 years of age. In the initial design of the study, we wanted to obtain homogeneous groups, matching the sample in disease and type of treatment. Thus, the total sample comprised 30 patients with CD and medical treatment, 30 with CD and surgical treatment, 30 with UC and medical treatment, and 30 with UC and surgical treatment. Once a physician had confirmed the diagnosis and the clinical history of IBD, the patients were informed about the aim of the research and asked to collaborate in the study, following the pertinent ethical recommendations. Of these patients, almost all of them who were asked agreed to participate; only 17% refused to participate in the study. After obtaining informed consent, participants then proceeded to complete the questionnaires. The assessment instruments used were administered by a specialist trained in these tasks. The different phases of the study took place from January 1999 to June 2003.

**Measures**

**Health-related quality of life**

HRQOL was assessed using the Inflammatory Bowel Disease Questionnaire (IBDQ), a disease-specific instrument to measure HRQOL in patients with IBD. The IBDQ used was a Spanish version of the 32-item self-administered version of Guyatt et al. [35]. The questionnaire is divided into four health subdimensions: bowel symptoms (e.g., loose stools, abdominal pain; 10 items), systemic symptoms (e.g., fatigue, sleeping problems; 5 items), social functioning (e.g., limited social activity, school or work attendance; 5 items), and emotional function (e.g., irritability, anger, depression; 12 items). The instrument also provides an overall IBDQ score. Responses are scored on a 7-point Likert scale where 7 corresponds to the best function and 1
to the worst. The reliability and validity of the scale are well established [36,37].

Self-esteem

The Rosenberg Self-Esteem (RSE) Scale was used to measure self-esteem [38]. The RSE is a 10-item scale measuring feelings of self-deprecation and self-worth. Response categories comprise a 4-point Likert scale of agreement, ranging from 1 (strongly disagree) to 4 (strongly agree). The maximum score is 40, with higher scores reflecting more positive self-esteem. This scale has been widely used in clinical practice, providing a reliable, internally consistent measure of global self-esteem [39].

Neuroticism

The Neuroticism scale from the Eysenck Personality Inventory (EPI) [40], which has a yes/no format, was used to assess negative trait emotionality due to its assumed link to the IBD process. The Lie subscale, which was developed as part of the EPI in order to assess social desirability, was also included in the current study. As to validity, the scale has shown suitable psychometric properties in the Spanish validation [41] and has been used in past studies carried out in Spain to measure these traits [42,43].

Difficulty describing feelings

This scale was based on the Schalling–Sifneos Personality Inventory (EPI) [44] and the Toronto Alexithymia Scale (TAS-20) [45]. Participants were asked to rate their responses along a 4-point Likert scale ranging from 1 (never) to 4 (always). Higher scores indicate higher levels of difficulty describing one’s feelings. A principal components factor analysis showed that the six items could be included in a single scale, with a coefficient alpha reliability of .73, and which contains items such as “I have difficulty describing what I am feeling to others” and “It is difficult for me to find the right words to describe my feelings.” Confirmatory factor analysis for the proposed scale yielded a good fit to the data: \( \chi^2/df = 2.61 \), comparative fit index = 0.92, goodness-of-fit index = 0.95, root mean square error of approximation = 0.06. For the purposes of our study, we only wanted to evaluate the influence of difficulty describing one’s feelings. Although the TAS-20 [42] is the most widely used instrument for assessing alexithymia and its components (difficulty describing one’s feelings, in our study), as Peck and Shapiro [46] pointed out, the use of complementary assessment techniques and instruments should be promoted whenever possible.

Sociodemographic and clinical information

In the present study, sociodemographic and clinical information was also collected: Patients were asked to report, among other things, their gender, age, educational level, marital status, work situation, diagnosis, treatment, disease duration, smoking status, extraintestinal manifestations, number of relapses per year (total number of clinical relapses divided by the disease duration in years), need of psychological support, and satisfaction with surgical intervention.

Statistical analyses

The study variables were initially described in terms of means, standard deviations, and correlation coefficients. To test the influence of personality on HRQOL, we performed four hierarchical regression analyses. The demographic and clinical variables that reached significance in a prior multivariate analysis [multivariate analysis of variance (MANOVA)] were entered in Step 1 as control variables. Personality variables (neuroticism, difficulty describing one’s feelings, and self-esteem) were entered in Step 2. The IBDQ scores (bowel symptoms, systemic symptoms, social functioning, and emotional functioning) served as criterion variables. The magnitude of the \( R^2 \) change at each step of the hierarchical regression analysis was used to determine the variance explained by each set of variables. All analyses were carried out using the SPSS statistical package, version 12.5. A level of .05 was considered statistically significant.

Results

Patients’ characteristics

The sociodemographic and clinical characteristics of patients included in the study, as a function of type, are summarized in Table 1.

Of the total sample, 64 were men (53%) and 56 were women (47%), with more women in the CD group of patients. Average age was similar in both groups. Mean disease duration was also similar in the groups, with no significant differences. As regards smoking, significant differences were found: Most of the patients with UC were nonsmokers, whereas a high percentage (69%) of CD patients were active smokers (\( P < .01 \)). No significant differences in extraintestinal symptoms suffered in the groups were found, with both groups presenting a similar number of dermatological, ophthalmic, and osteoarthropathic symptoms. The number of relapses in the past year also showed a similar pattern: Although patients with CD had a slightly higher mean, the difference was not significant. The educational level was similar for both groups, with secondary studies predominating among the patients with UC and primary studies among the CD patients. Of the patients who underwent surgery, those from the CD group were more satisfied with the intervention than patients with UC (83% vs. 67%), albeit without reaching significance. As regards the need for psychological support as a result of the suffering from the disease, no significant differences were observed (33% and 38% of the patients required such support, for the CD and UC groups, respectively).
Influence of personality variables on HRQOL

The means and standard deviations of the scales used in this study are reported in Table 2.

According to Table 2, the means in the psychological scales are similar in both groups. An independent t test was performed on the psychological scales to determine whether there were any statistical differences between the UC group and the CD group; no significant differences were found. Furthermore, to determine whether there were any differences in IBDQ scores depending on the disease type (UC vs. CD), a MANOVA was performed on the scores of bowel symptoms, systemic symptoms, social functioning, and emotional functioning. Wilks’ criterion analysis revealed that there was no multivariate main effect for disease type, $F(3, 116)=1.824$, $P>.05$. As no significant differences were found, statistical analysis was performed in the entire group of 120 patients, independently of the type of disease. However, the results of the multivariate analysis showed that gender, treatment (medical vs. surgical), extraintestinal manifestations, number of relapses per year, need of psychological support, and satisfaction with surgical intervention were all significantly associated with HRQOL. Age, disease duration, smoking status, and educational level had no significant effect on HRQOL.

Influence of personality variables on HRQOL

In Table 3, it can be seen that neuroticism had significant and negative correlations with all four IBDQ dimensions, especially with systemic symptoms ($r=-.52$, $P<.01$) and emotional functioning ($r=-.62$, $P<.01$). Similarly, self-esteem had significant and positive correlations with all four IBDQ dimensions and was more closely related to emotional ($r=.56$, $P<.01$) and social functioning ($r=.49$, $P<.01$). Finally, difficulty describing one’s feelings was negatively associated with systemic symptoms ($r=-.25$, $P<.05$) and social functioning ($r=-.30$, $P<.01$).

The regression models for the four IBDQ dimensions are presented in Table 4. To test for possible presence of multicollinearity, we followed the recommendations of Kleinbaum et al. [47]. In this sense, variance inflation factor values greater than 10 and tolerance values smaller than .10 may indicate the presence of multicollinearity. The results revealed no violations of assumptions underlying the regressions. The models for all four dimensions of IBDQ were significant: bowel symptoms, $F(9, 110)=8.93$, $P<.001$; systemic symptoms, $F(9, 110)=10.83$, $P<.001$; emotional functioning, $F(9, 110)=14.91$, $P<.001$; and social functioning, $F(9, 110)=7.57$, $P<.001$. Consistent with the hypothesis, after statistically controlling for the variance explained

### Table 1

<table>
<thead>
<tr>
<th>Sociodemographic and clinical characteristics</th>
<th>CD (n=60)</th>
<th>UC (n=60)</th>
<th>Total sample (N=120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender, n (%)</td>
<td>31 (52)</td>
<td>25 (42)</td>
<td>56 (47)</td>
</tr>
<tr>
<td>Age, mean±S.D. (range)</td>
<td>42±15 (18–75)</td>
<td>45±11 (29–68)</td>
<td>43±13 (18–75)</td>
</tr>
<tr>
<td>Disease duration, mean±S.D. (range)</td>
<td>8.17±8 (1–19)</td>
<td>8.78±6 (2–29)</td>
<td>8.48±6 (1–29)</td>
</tr>
<tr>
<td>Smoker*, n (%)</td>
<td>41 (69)</td>
<td>11 (31)</td>
<td>55 (46)</td>
</tr>
<tr>
<td>Extraintestinal symptoms, n (%)</td>
<td>21 (35)</td>
<td>25 (42)</td>
<td>46 (38)</td>
</tr>
<tr>
<td>Mean number of relapses per year (range)</td>
<td>1.02 (0–5)</td>
<td>0.72 (0–3)</td>
<td>0.87 (0–5)</td>
</tr>
<tr>
<td>Satisfaction with surgery, n (%)</td>
<td>25 (83)</td>
<td>20 (67)</td>
<td>45 (37)</td>
</tr>
<tr>
<td>Need for psychological support, n (%)</td>
<td>20 (33)</td>
<td>23 (38)</td>
<td>43 (36)</td>
</tr>
<tr>
<td>Educational level, n (%)</td>
<td>Primary 27 (45)</td>
<td>19 (28)</td>
<td>46 (33)</td>
</tr>
<tr>
<td></td>
<td>Secondary 20 (33)</td>
<td>34 (58)</td>
<td>54 (49)</td>
</tr>
<tr>
<td></td>
<td>University 13 (22)</td>
<td>7 (14)</td>
<td>20 (18)</td>
</tr>
</tbody>
</table>

* $P<.01$.

### Table 2

<table>
<thead>
<tr>
<th>Descriptive statistics for personality and HRQOL scales, by group</th>
<th>CD (n=60)</th>
<th>UC (n=60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>18.53</td>
<td>4.27</td>
</tr>
<tr>
<td>Difficulty describing feelings</td>
<td>19.13</td>
<td>4.76</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>13.02</td>
<td>4.48</td>
</tr>
<tr>
<td>Lie scale</td>
<td>5.60</td>
<td>1.79</td>
</tr>
<tr>
<td>HRQOL</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Bowel symptoms</td>
<td>56.28</td>
<td>13.52</td>
</tr>
<tr>
<td>Systemic symptoms</td>
<td>26.52</td>
<td>7.45</td>
</tr>
<tr>
<td>Emotional functioning</td>
<td>64.57</td>
<td>16.57</td>
</tr>
<tr>
<td>Social functioning</td>
<td>29.72</td>
<td>7.52</td>
</tr>
</tbody>
</table>

### Table 3

Correlations among measures of personality and HRQOL (as measured by IBDQ)

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Neuroticism</td>
<td></td>
<td>-.50***</td>
<td></td>
<td>-.45***</td>
<td>-.36***</td>
<td>-.17</td>
<td></td>
</tr>
<tr>
<td>2. Self-esteem</td>
<td></td>
<td></td>
<td>-.47***</td>
<td></td>
<td>-.44***</td>
<td>-.25*</td>
<td>.80***</td>
</tr>
<tr>
<td>3. Difficulty describing feelings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Bowel symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Systemic symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Emotional functioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Social functioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $P<.05$.  
** $P<.01$.  
*** $P<.001$. 

4. Bowel symptoms
5. Systemic symptoms
6. Emotional functioning
7. Social functioning
by the demographic and clinical factors, the personality variables, entered in Step 2, explained an additional 13%, 18%, 22%, and 16% of the variance in bowel symptoms, systemic symptoms, emotional functioning, and social functioning, respectively ($P<.001$ for all).

Except for self-esteem, which was the factor most closely related to social functioning, neuroticism seemed to be the most highly related to the four HRQOL dimensions. Higher levels of neuroticism were associated with bowel symptoms ($\beta=-.46$, $P<.001$), systemic symptoms ($\beta=-.49$, $P<.001$), emotional functioning ($\beta=-.48$, $P<.001$), and social functioning ($\beta=-.33$, $P<.001$). Self-esteem was positively related to systemic symptoms ($\beta=.20$, $P<.05$), emotional functioning ($\beta=.28$, $P<.01$), and social functioning ($\beta=.35$, $P<.001$). It can thus be stated that a higher level of neuroticism was associated with lower levels of HRQOL and that higher self-esteem was associated with higher levels of HRQOL as measured by the IBDQ dimensions of systemic symptoms, emotional functioning, and social functioning. Regarding difficulty describing one’s feelings, its effect was significant on two dimensions: systemic symptoms and social functioning. Difficulty describing one’s feelings negatively predicted systemic symptoms ($P<.05$) and social functioning ($P<.05$). In short, patients experiencing more difficulty describing their feelings reported lower HRQOL, as measured specifically in the systemic symptoms and social functioning dimensions of the IBDQ. Moreover, clinical variables (type of treatment and number of relapses per year) were significantly associated with HRQOL (see Table 4).

<table>
<thead>
<tr>
<th>Steps and variables</th>
<th>Bowel symptoms</th>
<th>Systemic symptoms</th>
<th>Emotional functioning</th>
<th>Social functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls</td>
<td>$\beta$ Step 1</td>
<td>$\beta$ Step 2</td>
<td>$\beta$ Step 1</td>
<td>$\beta$ Step 2</td>
</tr>
<tr>
<td>Gender</td>
<td>-.10</td>
<td>-.05</td>
<td>-.17*</td>
<td>-.08</td>
</tr>
<tr>
<td>Treatment</td>
<td>-.25**</td>
<td>-.33***</td>
<td>-.13</td>
<td>-.21**</td>
</tr>
<tr>
<td>Extraintestinal manifestations</td>
<td>-.06</td>
<td>-.03</td>
<td>-.16$^i$</td>
<td>-.04</td>
</tr>
<tr>
<td>Satisfaction with surgical intervention</td>
<td>.06</td>
<td>.04</td>
<td>.10</td>
<td>.08</td>
</tr>
<tr>
<td>Number of relapses per year</td>
<td>-.31***</td>
<td>-.26***</td>
<td>-.29***</td>
<td>-.22**</td>
</tr>
<tr>
<td>Need of psychological support</td>
<td>.10</td>
<td>.02</td>
<td>.07</td>
<td>.07</td>
</tr>
<tr>
<td>Personality factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.46***</td>
<td>-.49***</td>
<td>-.48***</td>
<td>-.33**</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>.09</td>
<td>.20*</td>
<td>.28**</td>
<td>.35***</td>
</tr>
<tr>
<td>Difficulty describing feelings</td>
<td>-.13</td>
<td>-.22*</td>
<td>-.10</td>
<td>-.21*</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.29</td>
<td>.42</td>
<td>.47</td>
<td>.55</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.29***</td>
<td>.13***</td>
<td>.29**</td>
<td>.18***</td>
</tr>
</tbody>
</table>

Gender was coded as 1=male, 2=female; treatment as 1=medical, 2=surgical; extraintestinal manifestations as 1=no, 2=yes; satisfaction with surgical intervention as 1=yes, 2=no; need of psychological support as 1=yes, needed, 2=not needed.

* $\beta$ are the standardized regression coefficients.

$^*$ $P<.05$.

$^{**} P<.01$.

$^{***} P<.001$.

$^i P<.10$.

**Discussion**

The present study explored the influence of personality factors on HRQOL in patients with IBD. As expected, in all analyses, the inclusion of personality variables in Step 2 resulted in a significant 13–22% increase of explained HRQOL variance. The significant contribution of personality factors to HRQOL remains when the influence of clinical and demographic variables is controlled. Our approach in testing the impact of personality variables was conservative in the sense that we statistically controlled demographic and clinical variables and we matched the groups for gender, disease type, and treatment. As for clinical factors, the number of relapses per year was the variable that was most significantly related to HRQOL.

Results from the hierarchical regression analyses show that neuroticism was inversely associated with the four indicators of quality of life. In line with this, some studies have found an association between IBDQ scores and neuroticism [18], whereas Barrett et al. [19] found that this personality trait was similar in patients with CD or UC. Furthermore, Robertson et al. [18] stated that IBD patients believed that there was a close link between personality and their disease, something that they called a “nervous personality.” In a recent study on the effects of coping in IBD patients, it was found that psychological variables, particularly depressive coping, were more predictive than medical variables of disease-related concerns and other HRQOL variables [48].

This finding is consistent with prior studies that found that neuroticism was associated with low psychological well-being, independently of objective stressful life events.
such as a chronic disease [17,49]. It is a well-known fact that personality may affect the way that people react when they are in stressful situations; under stress, some people may habitually cope ineffectively. In this sense, neuroticism reflects feelings of distress and nervousness and underlies chronic emotional experiences of guilt and frustration [50]. This association may be due to the fact that individuals higher in neuroticism possess more negative views of themselves and others [51]. In line with the above, it is thus reasonable to hypothesize that individuals higher in neuroticism are predisposed to perceive their situation more negatively than individuals lower in neuroticism. Research has indicated that individuals high in neuroticism think and act in ways that encourage negative emotional experiences across time and situations [16,52,53]. It has also been found that individuals with high levels of neuroticism are prone to misinterpretations of somatic symptoms as serious signs of body pathology [54].

The present results show that HRQOL is related not only to the presence of negative aspects such as negative affectivity but also to the absence of positive personality indicators. In this sense, this study highlights the importance of self-esteem in the prediction of HRQOL. Self-esteem was positively related to systemic symptoms and emotional and social functioning. As mentioned in the Introduction, whereas there has been some literature about the role of neuroticism in IBD, the issue of self-esteem and IBD patients’ HRQOL has practically not been addressed. This finding is consistent with the only study that reports that self-esteem is a predictor of HRQOL in adolescents with IBD [32].

Also in line with previous research, we found that greater difficulty in describing one’s feelings was linked to poorer HRQOL. The construct of alexithymia has been associated with IBD in earlier studies [26,27], and the current results partially confirm these findings. A review article on pathways linking alexithymia and illness stated that alexithymia was associated with several unhealthy behaviors such as sedentary lifestyle and sleep loss [24]. This may explain the association of the difficulty in describing one’s feelings and the systemic dimension of the IBDQ. Furthermore, difficulty in describing one’s feelings was related to social functioning. It has also been found that alexithymia is related to socially avoidant behaviors [55], fewer close relationships, and poor social skills [56]. So far, the present findings are consistent with previous studies that have reported that poor HRQOL in IBD patients is related to nondisease aspects such as personality and coping skills [57]. In this line, Porecelli et al. [58] found that alexithymia was a stable predictor of treatment outcome in patients with functional gastrointestinal disorders.

The findings of this study should be viewed in the light of its limitations. As is true for cross-sectional surveys and correlational designs in general, we could neither completely rule out recall bias nor demonstrate causal directions. Exploring the predictive power of personality factors would require placing a greater emphasis on longitudinal designs. Another limitation is that IBD patients were recruited from an outpatient clinic and may therefore represent more severe groups of IBD patients than those in the general community and may not be representative of IBD patients in general. Thus, the understanding of quality of life of these patients may not reflect the experience of samples of community studies, where higher levels of HRQOL have been found [59–61]. Furthermore, the methodology of the study was limited by the absence of clinical standard measures of clinical activity, such as the Harvey–Bradshaw index [62] or the Rachmilewitz index [63].

In summary, this study found that personality factors, specifically neuroticism and, to a lesser degree, self-esteem and difficulty in expressing one’s emotions, play an important role in predicting HRQOL in patients with IBD and are useful traits to aid in understanding the process of IBD. These findings will add to the growing body of literature about the influence of psychological factors on HRQOL, which helps us to better understand how to minimize the negative impact of IBD and improve these individuals’ personal quality of life. Furthermore, recognizing these differences may enrich clinical research and is crucial when designing interventions aimed at treatment effectiveness.

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