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Research Article

Quality of Life Assessment in Ulcerative Colitis Patients: A Single Center Study

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Abstract

Inflammatory Bowel Disease (IBD) refers to a relapsing and remitting ulcerative colitis (UC) and Crohn's disease (CD). Ulcerative colitis is associated with increased morbidity and places a burden on patient populations. It can also associate with great impact on patients' quality of life, social and professional activities. The aim of the work is to study HRQol of Ulcerative Colitis patients and its relation to different variables among patients such as demographic data, disease activity and psychological problems in Mansoura Specialized Medical Hospital.

Introduction

Inflammatory Bowel Disease (IBD) describes a group of chronic gastrointestinal tract diseases that are relapsing and remitting; the term primarily involves Crohn's disease (CD) and ulcerative colitis (UC). The prevalence of these diseases has expanded in the past decades particularly in Western populations, up to 120-200/100000 and 50-200/100000 persons for ulcerative colitis and Crohn's disease, respectively [1]. The disease generally starts in young adulthood and due to its remitting and relapsing pattern, ulcerative colitis places a heavy burden on patient populations, resulting in reduced quality of life, reduced limit for work and potentially increasing disability [1]. Patients reported that ulcerative colitis had a substantial negative impact on their productivity at work and in daily non-work activities, and these impairments were larger for patients with active disease [2].

IBD patients with anxiety and depressive symptoms have a lower quality of life (3) and the course of disease is worse in patients with depression [4]. IBD appears to also affect coping [5]. In patients with ulcerative colitis, approach coping is linked to better psychological outcomes such as life satisfaction and lower psychological distress and depression [6]. In contrast, escape-avoidance coping is associated with poor results including psychiatric distress [7], helplessness and less illness acceptance [8].

Patients and Methods

A cross-sectional, non-interventional, observational study was conducted in Mansoura University. Recruited from IBD clinic in Specialized Medical Hospital. Written informed consent of acceptance has been obtained for each patient before entrance of the study. The study has been approved by the local Ethics Committee.

I. Patients

The study was conducted in fifty patients (28 males and 22 females) with a wide range of disease severity recruited during routine specialist consultations.

- Evaluations included the assessment of Quality of Life-8-dimesion (AQoL-8D), the disease-specific Inflammatory Bowel Disease Questionnaire (IBDQ)
- Mayo Score and Truelove and Witt's classification were used to assess disease severity.
- Hospital Anxiety and Depression Scale (HADS) was used to asses anxiety and depression of the patients.

Patients were under routine medical management and participation in the study did not influence care.

Patient's inclusion criteria

Males or females ≥ 18 years of age with diagnosed ulcerative colitis that were confirmed by a gastroenterologist were eligible to participate.

Patient's exclusion criteria

Patients were excluded if they had a colectomy or had any medical condition unrelated to ulcerative colitis that investigators believed could affect health-related QoL during the study.

II. Methods

All patients with ulcerative colitis were subjected to full history taking, complete physical examination then completed

two questionnaires {Quality of Life-8-dimision (AQoL-8D) for assessment Quality of life} and {Hospital Anxiety and Depression Scale (HADS) for assessment psychiatric aspect of the patients} and underwent a clinician assessment for disease severity using Mayo score and Truelove and Witt's classification.

Short Inflammatory Bowel Disease Questionnaire (SIBDQ)

The Short Inflammatory Bowel Disease Questionnaire (SIBDQ) [9] is a health-related quality of life (HRQoL) tool of measuring physical, social and emotional status (score 10-70, poor to good HRQoL).

The questionnaire measures impairment in work productivity and impairment in ability to perform daily activities other than work (e.g., shopping, housework, child care, exercising, and studying), emotional and social function. Assessment of psychiatric aspect of the patients.

Hospital Anxiety and Depression scale (HADS) was used to assess anxiety and depression of the patients [10].

The Hospital Anxiety and Depression Scale (HADS)

The HADS Anxiety only takes 2 to 5 minutes to complete.

Evaluation of disease activity: The assessment of the disease activity in ulcerative colitis by Mayo score [11] and Truelove and Witt's classification [12] was used.

Mayo Score / Disease Activity Index (DAI) for Ulcerative Colitis

The Mayo score or the disease Activity Index (DAI) for ulcerative colitis was developed in 1987 as a scoring mechanism to have the patient serve as their own control. The Mayo Score for ulcerative colitis disease activity provides an assessment of disease severity ad can be used to monitor patients during therapy.

It includes physician judgment of disease severity as well as patient-reported history; it also requires endoscopy findings.

Truelove and Witt's Classification

The index consists of a combination of Clinical findings and laboratory parameters, generating three stages of disease activity which are mild, moderate, and severe.

Laboratory Testing

- Complete Blood Count
- Erythrocytic sedimentation rate
- C Reactive Protein
- Serum Albumin

Endoscopy

The diagnosis of ulcerative colitis was established by previous endoscopy and included confirmatory histology.

Statistical analysis

Data were analysed with SPSS version 21. The normality of data was first tested with one-sample Kolmogorov-Smirnov test.

Qualitative data were described using number and percent. Association between categorical variables was tested using Chi-square test.

Continuous variables were presented as mean ± SD (standard deviation) for parametric data and Median for non-parametric data. The two groups were compared with Student t test (parametric data) and Mann-Whitney test (non-parametric data).

Spearman correlation used to correlate continuous nonparametric data.

Results

Fifty U.C. patients (29 male representing 58.0%, 21 females representing 42.0%), Table 1 shows demographic data of the studied group.

Items	Study group (n=50)	
	No	%
Sex		
Male	29	58.0
Female	21	42.0
Age/y		
Mean ± SD	35.52±9.81	
Min-Max	20-62	
≤35y	29	58.0
>35y	21	42.0
Smoking		
Non-smoker	50	100.0
Marital status		
Not-married	12	24.0
Married	38	76.0
Family history of U.C		
Positive	4	8.0
Negative	46	92.0

Table 1: Demographic data of the studied group.

Table 2 shows clinical data and drugs used by the patients. Table 3 of Truelove and Witt's criteria shows twelve patients (63.2%) were mild, five patients (26.3) were moderate and two patients (10.5) were severe and the Median was 1.0.

Items	Study group (n=50)	
	No	%
Duration of Disease		
≤ 3 years	28	56.0
> 3 years	22	44.0
Mean ± SD	3.80 ± 1.70	
Median (Min-Max)	3.00 (1.00-8.00)	
Response		
Remission	31	62.0
Exacerbation / year	19	38.0

• All the time	3	15.8
• More than 6 episodes	2	10.5
• 4-6 episodes	2	10.5
• 2-3 episodes	5	26.4
• Less that 1 episode	7	36.8
Drugs		
Sulphasalazine, corticosteroid & azathioprine	44	88.0
Sulphasalazine, corticosteroid, azathioprine & infliximab	3	6.0
No steroid	3	6.0

Table 2: Clinical data and drugs used by the patients.

Truelove and Witt's	Study group (n=19)	
	No	%
Mild	12	63.2
Moderate	5	26.3
Severe	2	10.5
Median (Min-Max)	1(1-3)	

Table 3: Truelove and Witt's criteria.

Table 4 of Hospital Anxiety and Depression Scale (HADS) shows the median of anxiety scale 7.00 (1.00-18.00) with sixteen patients (32.0%) were abnormal and the median of depression 9.00 (5.00-15.00) with seventeen patients (34.0) were abnormal. Table 5 of Short Quality of Life domains shows that the mean and the median of bowel domain {the mean: 11.96 ± 2.91, the Median: 6.00-18.00} and that the mean and the median of emotional domain {the Mean: 11.84 ± 2.29, the Median: 8.00-17.00} are higher than the mean and the median of systemic domain {the Mean: 8.22 ± 2.15, the Median: 4.00-12.00} and social domain {the Mean: 7.98 ± 2.79, , the Median: 2.00-1400}. Table 6 shows that forty-three patients (86.0%) were with good quality of life and seven patients (14%) were with poor quality of life and the Mean of the total score was 40.00±8.66 and the Median of the total score was 21.00-53.00.

Items	Study group (n=50)	
	No	%
Anxiety		
Normal	27	54.0
Borderline	7	14.0
Abnormal	16	32.0
Median (Min-Max)	7.00 (1.00-18.00)	
Depression		
Normal	9	18.0
Borderline	24	48.0
Abnormal	17	34.0
Median (Min-Max)	9.00 (5.00-15.00)	

Table 4: of Hospital Anxiety and Depression Scale (HADS).

Items	**Study group (n=50)**	
	Mean ± SD	**Min-Max**
Systemic	8.22 ± 2.15	4.00-12.00
Social	7.98 ± 2.79	2.00-14.00
Bowel	11.96 ± 2.91	6.00-18.00
Emotional	11.84 ± 2.29	8.00-17.00
Total	40.00 ± 8.66	21.00-53.00

Table 5: Short Quality of Life domains.

SIBDDQ	**Study Group (n=50)**	
	No	**%**
Good ≥35	43	86.0
Poor<35	7	14.0
Mean ± SD	40.00 ± 8.66	
Min-Max	21.00-53.00	

Table 6: SIBDDQ.

Table 7 shows significant relation between disease severity and Anxiety of the patients, ten patients (52.6%) in exacerbation were abnormal in Anxiety scale while six patients (19.4%) in remission were abnormal in Anxiety scale with significant P value: 0.05 and the Median of patients in exacerbation (11.0) is more than that in remission (7.00) with significant P value 0.046.

Items	**Remission (n=31)**		**Exacerbation (n=19)**		**Test of sig.**	**p-value**
	No	%	No	%		
Anxiety						
Normal	20	64.5	7	36.8	X^2=6.01	0.05*
Borderline	5	16.1	2	10.5		
Abnormal	6	19.4	10	52.6		
Median (Min-Max)	7.00(1.00-13.00)		11.00(4.00-18.00)		Z=1.99	0.046*
Depression						
Normal	8	25.8	1	5.3	X^2=6.11	0.047*
Borderline	16	51.6	8	42.1		
Abnormal	7	22.6	10	52.6		
Median (Min-Max)	9.00 (5.00-15.00)		10.00 (7.00-15.00)		Z=2.56	0.01*
Short Quality of life Questionnaire						
Systemic	8.77 ± 1.97		7.31 ± 2.16		t=2.443	0.018*
Social	8.67 ± 2.79		6.84 ± 2.45		t=2.355	0.023*

Bowel	12.22 ± 2.82	11.52 ± 3.07	t=0.821	0.416
Emotional	12.45 ± 2.09	10.78 ± 2.37	t=2.590	0.013*
Total	43.58 ± 6.94	36.26 ± 8.89	t=3.246	0.002*

$\mathcal{X}^2$: Chi square test Z: Mann-Whitney test *significant $p \leq 0.05$

Table 7: Significant relation between disease severity and Anxiety of the patients.

There is also significant relation between disease severity and depression of the patients, ten patients (52.6%) in exacerbation were abnormal in depression scale while seven patients (22.6%) in remission were abnormal in depression scale with significant P value: 0.047 and the Median of the patients in exacerbation (10.0) is more that in remission (9.00) with significant P value 0.01. There is significant relation between disease severity and domains of SIBDQ, the mean systemic domain score of the patients in remission (8.77 ± 1.97) is higher than the mean systemic domain score of the patients in exacerbation (7.31 ± 2.16) with significant P value: 0.018.

Discussion

Several studies have demonstrated that certain clinical and demographic characteristics might be associated with different phenotypes and a poor prognosis in ulcerative colitis [13]. HR-QOL is presently a standard measure of the quality of care from the patient's viewpoint and is an important outcome measure in clinical trials in ulcerative colitis [14]. Regarding to the age in this study, the majority of the patients of ulcerative colitis are in the age group 30-40 years at diagnosis. This is consistent with the study conducted by Cosnes et al. [1].

Another study [15] observed that the average age at diagnosis is usually slightly higher in Asian countries contrasted with Western countries.

Regarding to the gender, similarity to the present study, most ulcerative colitis studies [15] have shown a male predominance among patients with ulcerative colitis. Later on publication [16] reported a female predominance among patients with ulcerative colitis.

As regard the disease severity, most ulcerative colitis patients were in mild score by Mayo score and Truelove and Witt's classification. This is in accordance with study conducted by [17].

In current study, about 32% of patients with IBD have anxiety and about 34% of patients with IBD have depression. Another study conducted by Bennebroek et al. [3] estimates that about 15% of patients with IBD have depression and over 20% of patients have symptoms of depression. which is higher than expected in the general population worldwide. And also estimates that about 20% IBD patients have anxiety and 35% have symptoms of anxiety which is more three to four times what is expected in the general population worldwide.

This study demonstrates that Ulcerative Colitis patients with disease in remission experience better HRQoL than patients with active disease. Furthermore, sex, age, anemia, and disease duration were not fount to contribute to lower scores of IBDQ in all subscales.

In this study, IBD patients in remission scored significantly higher QOL scores for all domains. Patients in exacerbation had statistically lower scores than those in remission for SIBDQ and systemic, social, emotional, and bowel domains. This finding is in accordance with other studies [18].

Pallis et al. [19] demonstrated results consistent with the present study, reporting disease activity as the major variable affecting QoL, whereas age, sex, and disease duration has no effect. High disease activity is the most imperative variable of decreased HRQoL in ulcerative colitis. This finding is in accordance with many other studies [18].

It seems that disease activity is related to the level of fatigue and sleep difficulties and that these factors are freely connected with an impaired IBDQ [20]. HRQoL has appeared to be more impaired in female contrasted with male patients with IBD [21]; however, similarly to the present study, this is not supported by others [22]. In this study, there is significant relation between sex and anxiety especially in females and significant relation between disease duration and depression. This is consistent with study conducted by [23].

However, in the current study there is no correlation of HRQoL with disease duration in the study population. This finding is in accordance with other studies [24]. In this study, similarly to other reports, [25] age was not found as a predisposing factor of impaired QoL, either in Crohn's disease or ulcerative colitis. The data regarding the effect of different treatments on HRQoL is conflicting [26].

In the present study, a non-significant difference was found among users and non-users of 5-ASA, corticosteroids and immunosuppressives. This finding is in accordance with the study conducted by [27].

Limitations

This study is limited by various factors. Firstly, the cross-sectional design and the small population size, secondly, most patients received combined medication and thus, there is a risk bias on the impact of various treatment regimens on HRQoL is, and lastly, the vast majority of our patients had disease in remission. However, our main conclusion on the association between disease severity and HRQoL is robust, considering the statistical significance in a rather small sample

size and the similarity of the current results with studies with larger population as conducted by [20].

Conclusion

Although disease activity causes significant impairment of health-related quality of life in ulcerative colitis patients but it is not the independent predictor for quality of life and anxiety and depression scores are best independent predictors for quality of life.

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