The Quality of Life in Patients with Inflammatory Bowel Disease (Crohn's Disease and Ulcerative Colitis) and its Relation with Some Demographic and Clinical Variables in Ahvaz Hospitals

Masoumeh Nazarinasab, Forouzan Behrouzian, Abazar Parsi, Rezvan Khajavi*

Abstract

Background: recent researches suggested that IBD is associated with changes in patients' quality of life (QOL). This study aimed at evaluating the QOL in patients with Inflammatory Bowel Disease (Crohn's Disease and Ulcerative Colitis) and its relation with some demographic and clinical variables in Ahvaz hospitals. Methods: In this epidemiological and descriptive-analytical study, 260 hospitalized and outpatient adults with inflammatory bowel disease (Crohn's disease and ulcerative colitis) in Ahvaz educational hospitals were evaluated by WHOQOL-BREF and the Demographic Information Questionnaire. And at the end, the obtained data were analyzed by SPSS version 22 software. Results: The subscale of physical health was calculated as 10.80 ± 47.52, psychological subscale was 47.42 ± 16.07, the subscale of social relations was 49.04 ± 15.75, environment and the life status was 14.33 ± 47.05 and the total score of the QOL scale was 68.68 ± 12.47. The QOL of IBD patients in different age groups ($p = 0.08$) and gender ($p = 0.53$), as well as the type of disease ($p = 0.11$) did not show any significant differences while the variables such as marital status ($p = 0.01$), education ($P = 0.005$), income ($p = 0.004$), place of living ($p = 0.001$), duration of disease ($p = 0.00$), history of surgery ($p = 0.02$), and corticosteroid use ($p = 0.03$) had significant statistical changes in QOL of IBD patients. The QOL was higher in rural and single people, those with higher education and lower incomes, and those with corticosteroid use compared to the urban and married people with lower education and higher incomes ($P <0.05$). Conclusions: IBD patients need to manage the QOL because this disease can reduce the QOL. The risk factors such as marital status, education, income, place of living, duration of illness, history of surgery, and corticosteroid use have a statistically significant relationship with the QOL.

Key words: Quality of Life, Inflammatory bowel disease, Crohn's disease, Ulcerative colitis, WHOQOL-BREF questionnaire.

Introduction

Inflammatory bowel disease (IBD) is a disease mediated by the immune system and chronic bowel disease. Ulcerative colitis (UC) and Crohn's disease (CD) are the two main types of this disease having two age peaks at 15-30 and 60-70 and targeting two more vulnerable age groups. Statistical reports indicated an increase in the incidence of disease in children but an increase in the incidence of colon cancer in these patients and an increase in mortality. (Brassard et al., 2015; WGO, 2009; Kornbluth and Sachar, 2010) IBD is an inadequate immune response to intestinal microbial flora with or without some autoimmune components. The existence of genetic fields in individuals as multiplex disorder is a potentially predisposing factor for the disease. In addition, the genetic risk factors causing the incidence of this disease are common to some diseases such as rheumatoid arthritis, syryosis, Ankylosing spondyliti, type 1 diabetes, asthma, and lupus. Furthermore, it was proved that inflammatory bowel disease is associated with some genetic syndromes including Turner, Wiskott-Aldrich, and glycogen storage disease as well as immune deficiencies and entropy. (Kiran et al., 2011; Agrawal et al., 2007) This evidence suggested that a patient with IBD does not suffer from a disease in many cases and is likely to have other genetic problems affecting the quality of the disease and the physical, psychological and social health of the individual. (Thoreson and Cullen, 2007) Indigenous manifestations of inflammatory bowel disease cause many problems in the daily condition of life for patients who are most often at an early age, adolescence and aging. Such manifestations include ulcerative colitis includes diarrhea, rectal bleeding, aggression, crampy abdominal pain. Having diarrhea at night or after eating is a very annoying case for patients. Chronic obscure pain in

Masoumeh Nazarinasab, Forouzan Behrouzian

Department of Psychiatry, Golestan hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

Abazar Parsi

Department of internal medicine, Golestan hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

Rezvan Khajavi*

Student Research Committee, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

*Email: Rezavan_khajavii@yahoo.com

the lower abdomen and extreme tenderness of the anal area are the other painful problems in patients. Crohn's disease with leukulite, jejunovillitis and anesthetic diseases are commonly associated with severe symptoms in patients. Diarrhea in the above cases, loss of appetite and fear of eating are problems that lead to lower quality of life in patients. (Rioux et al., 2007; Tsianos et al., 2012) Systemic symptoms including weight loss, fever, lethargy, and arthralgia are common in IBD. Patients are commonly fatigued which is mostly due to pain, inflammation and anemia during the active phase of the disease. Return and relapse rates can lead to emotional stress, infections, or other acute illnesses requiring the re-treatment for problem patients. In 10-20% of patients, there is an extra-intestinal manifestation, including arthritis, uveitis, or liver disease. (Card et al., 2006; Jess et al., 2006) The standard mortality rate for IBD varies from approximately 1.4 to 5 times in populations. Most of such deaths are due to Crohn's disease while the ulcerative colitis has a moderate mortality rate similar to that of the general population. (Dorn and Sandler, 2007) The patients with h IBD are more likely to progress to malignancy. The patients with Crohn's disease have a higher rate of intestinal malignancies. Those with pancilitis and especially ulcerative colitis have a higher incidence of advanced colonic malignancies after 8-10 years of age. Screening these patients through colonoscopy after ten years of conflict is the best way to follow them up. (Solberg et al., 2007; Henriksen et al., 2006)

Since several studies were conducted on the quality of life in IBD patients worldwide and the quality of life in these patients was evaluated, and since such studies were tailored to the economic, social and cultural conditions in those societies and may be different from the livelihood and cultural issues associated with the Iranian society, which in turn can affect the final results of the study, the present study aimed at measuring the quality of life of patients with IBD clarifying the problems to take an effective step in improving the quality of life of patients and solving their problems.

Material and Methods

This study was an epidemiological and descriptive-analytical research that was approved by the University's Ethics Committee. The population of this study included the hospitalized and outpatient adults with inflammatory bowel disease (Crohn's disease and ulcerative colitis) in Ahvaz hospitals.

After selecting the patients, their medical history and records were studied and then they were asked to complete a questionnaire based on their goals.

Inclusion criteria

The patients with inflammatory bowel disease, confirmed by a gastroenterologist, with available medical history and records

Exclusion criteria

Having a history of psychiatric disorders and severe cognitive impairment and mental retardation, history of drug use and other chronic diseases (diabetes, cardiovascular problems, blood pressure, vascular diseases of the brain, etc.) and the instruments were two questionnaires. The first questionnaire included the demographic information of patients (age, sex, level of education, marital status, income, place of living, duration of disease, type of disease, corticosteroid use, history of IBD surgery), and the second questionnaire included 26 questions evaluating the quality of life in terms of physical health, environment and living conditions, social and psychological relationships of quality of life. All analyses were performed using SPSS Version 20 software.

Results

The majority of patients (43.8%) were in the age range of 25 and 35 while 161 (62.4%) patients were female. In addition, most patients were married (52.3%) and the majority of them had the educational level of diploma (36.2%) and under diploma (36.2%).studying the income level of patients showed that the majority of patients (55.8%) had average income. 89.1% of the patients were urban and the duration of the disease in 166 (64.3%) patients was in the range of 1 to 5 years. 78.1% of patients had ulcerative colitis. In addition, the score of the subscale of physical health was 47.52 ± 10.80, the psychological subscale was 47.42 ± 16.07, the subscale of social relations was 49.04 ± 15.75, the subscale of the environment and the life status was 14.33 ± 47.05, and the total score of the quality of life scale was 68.68 ± 12.47. The comparison of patients 'quality of life by age showed no significant difference between the total score of patients' quality of life in different age groups ($p = 0.08$). The comparison of the quality of life of patients by gender showed that the overall score of patients' quality of life in men was 69.52 ± 11.28 and in female subjects was 68.21 ± 13.18. There was no significant difference between the two genders ($p = 0.53$). The overall quality of life scale in single patients was 76.19 ± 8.23, in married patients was 67.91 ± 11.69, in divorced patients was 72.91 ± 18.47 and in widow patients was 65.50 ± 17.14, which was significantly higher in single subjects ($p = 0.01$). The data on the quality of life of patients by income showed that the total score of quality of life in patients with low income was 69.03 ± 13.13, in patients with average income was 70.58 ± 11.44, and in patients with high income was 58.93 ± 12.78 and the quality of life of patients with high income was lower than others ($p = 0.004$). Comparing the quality of life of patients by their place of living showed that the total score of quality of life in urban patients was 67.96 ± 12.01 but in rural patients was 79.85 ± 10.76. The quality of life of rural patients was significantly higher than that of urban patients ($p = 0.001$). Comparing the patients' quality of life by the duration of disease indicated that the total score of the quality of life of patients with a period of 1 to 5 years of age was 71.19 ± 12.47, the duration of the disease of 5 to 10 years was 68.93 ± 12.99 and the duration of the disease more than 10 years was 61.12 ± 8.50 which was significantly

higher in patients with a duration of 1 to 5 years (p = 0.00). The comparison of patients' quality of life by type of disease indicated that the total score of quality of life score in Crohn's patients was 73.18± 5.90 and in ulcerative colitis patients was 67.74±13.72. There was no significant difference between the two types of diseases (p = 0.11). Comparing the patients' quality of life by the history of surgery indicated that the total score of quality of life in patients with a history of surgery was 76.7± 11.57 but in patients without a history of surgery was 67.89± 12.34 which was significantly higher in patients with a history of surgery (p = 0.02). Comparing the quality of life of patients by history of corticosteroid use showed the total score of quality of life in patients with corticosteroid use was 70.45±10.44 but and in patients without corticosteroid use was 66.58±14.49 which was significantly higher in subjects with history of corticosteroid use (P = 0.03).

Discussion and Conclusion

The present study aimed at evaluating the quality of life among 260 patients with inflammatory bowel disease (Crohn's disease and ulcerative colitis) and its relation with some demographic and clinical variables in Ahvaz hospitals. As the results of the present study showed he quality of life of IBD patients in different age and genders as well as the type of disease (Crohn's disease or Ulcerative colitis), was not statistically significant, but the variables such as marital status, education, income, place of living, duration of disease, surgical history and corticosteroid use had a significant statistical effect on the quality of life of IBD patients. In this study, the rural patients had a higher quality of life than urban patients indicating the role of rural life as well as unique food and cultural habits in villages which led to an increase in the quality of life of these patients compared to urban patients. In addition, the quality of life of single indivdiuals and even divorced individuals was higher among married ones and this finding could lead to different assumptions in order to investigate these patients with regard to their marital status and their impact on quality of life. Obviously, using an evaluation instrument in this dimension is required for finding more realistic answers.   In case of education, it was observed that the quality of life was higher in people with higher education, and this finding could indicate a direct effect of the level of education on an individual's ability to improve their quality of life in relation to increased awareness as well as the advancement of different individual needs while suffering the disease. Other significant findings in this study were the income variable indicating that the increase in income was not associated with the increase in quality of life in these patients and higher income people had lower quality of life which was important in effective teaching and awareness. In addition, the duration of disease was one of the most important variables in this study. It was observed that with an increase in the duration of disease, the quality of life of the patients was reduced and this finding that was expected in IBD patients was consistent with the findings raising more emphasis on quality of life for patients with continuity of IBD disease. Furthermore, it was found that corticosteroid users had higher quality of life, which, given the pharmacophysiologic effects of these drugs, should be more carefully reviewed and then proposed to treatment management teams. Then, the quality of life of IBD patients was studied to better understand the conditions of the patients in this study and compare them with other investigated population and find more general results and a deeper understanding of the relationship between this disease and quality of life. Eygliasis and colleagues conducted a study on the physiological factors associated with quality of life in patients with IBD showing that the patients with IBD had lower quality of life than the general population, except for physical, social and emotional performance. The presence of depression and stress was associated with a low level of quality of life. (Brown et al., 2004) The difference between the study of Eygliasis and the present study was to place the control group on the side of the patients and investigate the depression and stress of the patients but what is similar to the results of this study is the reduction in quality of life. Cassell and colleagues conducted a study on improving the quality of life in patients with IBD after one year of treatment with anti-TNF drugs and reported that improved health was significantly higher in patients with ulcerative colitis than in the patients with Crohn's disease. in most patients with IBD, one-year anti-TNF treatment will improve patients' health. (Casellas et al., 2012) Their study, unlike the present study, which showed no significant difference between the type of Crohn's disease and ulcerative colitis, reported that the treatment process of ulcerative colitis patients was more than Crohn's disease patients. Indeed, in our study, the recovery process was not based on the type of disease, but the obtained data did not show a significant difference between the type of disease and quality of life. The study of Kaslass et al., along with the findings of this study, could be a new hypothesis to track the role of the disease on starting, continuing, and treating the disease, which is a suggestion for future studies. Zhank et al. conducted a study on the effect of depression on quality of life in patients with IBD. The results of their study showed that the prevalence of depression in the studied population was 25% and depression was a predictor of poor quality of life in patients with IBD. (Zhang et al., 2013) This study showed the importance of simultaneous attention to depression and its relation with quality of life in IBD patients and indicated the importance of various variables affecting quality of life. The overall review of the studies showed the attention to the confounding variables along with the variables under consideration, so that the researchers can achieve more realistic outcomes by eliminating all non-main factors. As a result, the quality of life of IBD patients in different age and genders as well as the type of disease (Crohn's disease or ulcer colitis) was not statistically significant, but the variables such as marital status, education, income, place of living duration of disease, surgical history and corticosteroid use had a significant statistical effect on the quality of life of IBD patients.

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Table 1. The score of the subscales by physical health, psychological, social relations, environment and the life and total score

Variable	Indexes				
	Number	Minimum	Maximum	Mean	SD
physical health	260	17.86	96.43	47.5221	10.80150
psychological	260	16.67	91.67	47.4260	16.07300
social relations	260	8.33	100.00	49.0476	15.75214
environment and the life	260	9.38	87.50	47.0574	14.33137
total score	260	46.00	113.00	68.6800	12.47666

Table 2. Comparison of quality of life by Age(years), Gender, Marital Status, Education, Income, Location, Disease duration (year), Disease Type, Surgery History, Corticosteroids History

Variables		Indexes				P-Value
		Number	Percent	Mean	SD	
Age (years)	15-25	49	18.8	70.0000	9.27362	0.08
	25-35	114	43.8	70.1944	12.90991	
	35-45	51	19.6	69.4894	14.89072	
	>45	46	17.7	65.1957	8.82829	
Gender	Male	97	37.6	69.5254	11.28068	0.53
	Female	161	62.4	68.2193	13.18202	
Marital Status	Single	102	39.2	76.1905	8.23783	0.01
	Married	136	52.3	67.3134	11.69308	
	Divorced	13	5.0	72.9167	18.47582	
	Widow	9	3.5	65.5000	17.14643	
Education	<Diploma	72	27.7	71.1136	12.56095	0.005
	Diploma	94	36.2	65.1486	11.63330	
	>Diploma	94	36.2	71.3860	12.55097	
Income	Low	91	37.6	69.0333	13.14839	0.004
	Middle	135	55.8	70.5862	11.44405	
	High	16	6.6	58.9375	12.78785	
Location	Urban	230	89.1	67.9686	12.01551	0.001
	Rural	28	10.9	79.8571	10.76216	
Disease duration (year)	1-5	166	64.3	71.1957	12.47876	0.00
	5-10	59	22.9	68.9388	12.99264	
	>10	33	12.8	61.1212	8.50278	
Disease Type	Crohn's	55	21.9	73.1892	5.90121	0.11
	Ulcerative colitis	196	78.1	67.5489	13.72151	
Surgery History	Yes	21	8.1	76.0000	11.57044	0.02
	No	239	91.9	67.8924	12.34720	
Corticosteroids History	Yes	132	50.8	70.4526	10.44415	0.03
	No	122	46.9	66.5897	14.49446	