

Association Between Quality of Life and Dietary-Medical Factors in Individuals with Inflammatory Bowel Disease

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Abstract

Background: The quality of life in individuals with inflammatory bowel disease is variable. This study evaluated the association between quality of life and dietary-medical factors in individuals with inflammatory bowel disease during confinement by COVID 19 in Chile.

Methods: online surveys of quality of life, diet and pharmacological aspects of the disease were applied to adults with inflammatory bowel disease.

Results: 364 people were surveyed. The average quality of life score of the whole group was low (4.71 points), for Crohn's disease was 4.64 points and for ulcerative colitis was 4.73 points. The quality of life is low and worsens when there is a crisis of the disease. Dietary and pharmacological factors have a negative impact on quality of life.

Conclusion: the quality of life in patients with inflammatory bowel disease is low and worsens when there is a crisis of the disease.

Keywords: Ulcerative colitis; Crohn disease; Inflammatory bowel disease; Quality of life; Diet

Introduction

Inflammatory Bowel Disease (IBD) is a group of pathologies characterized by chronic and uncontrolled inflammation of the intestine, including Crohn's Disease (CD) and Ulcerative Colitis (UC). People with IBD present a dysregulation of the innate and adaptive immune response that affects the gut with periods of crisis and remission [1]. Treatment has focused on nonspecific anti-inflammatory and immunosuppressive therapies with varied results [2]. For IBD patients point of view, diet is considered as important as pharmacological treatment, because many foods increase gastrointestinal symptoms, decrease Quality of Life (QoL) and alter nutritional status [3]. The objective of this study is to evaluate the association between QoL and dietary-medical factors in individuals with IBD during periods of crisis and remission of the quarantine disease decreed for COVID 19 in Chile.

Methods

Participants

In this cross-sectional study, individuals with IBD were convocated to participate in a survey posted online in the Carlos Quintana Crohn Colitis Ulcerosa Foundation website, this is a Chilean organization for IBD. The survey was available online during May 2020, which

corresponded to the first lockdown period in Chile. The inclusion criteria were: 1) diagnosis of IBD (Crohn's disease and ulcerative colitis), 2) older than 15 years. Before starting the survey, all participants read and signed the informed consent online. This survey was approved by the Ethic Committee of the Pontificia Universidad Católica de Chile. The study protocol complies with the ethical guidelines of the Declaration of Helsinki.

Questionnaires

The questionnaires were a) sociodemographic and general health history, b) problems associated with the diet and medical treatment, and c) quality of life. The QoL survey of IBD (IBDQ-32) translated and validated into Spanish by Maschas et al. [4] was applied. This survey includes 32 questions, responses to every question were scored on a 7-point scale where 7 is the best and 1 the poorest perceived QoL.

Statistical analysis

The results are presented as percentage, mean and standard deviation. The Shapiro-Wilk test was used to test the normality

assumption. The Chi-square test was used to determine the association between categorical variables. A significant result was set at $p < 0.05$. Statistical analyses were performed with STATA15.1

Results

Four hundred and sixty-two individuals with IBD answered the survey and 369 of them met the inclusion criteria. 75% were women and 25% men and the age of diagnosis was 29.26 years (SD: 10.5). 70.2% and 25.5% were in remission and crisis, respectively. The most frequently reported pharmacological treatments for CD were biological (14%), immunomodulator (21%), and 5ASA (20%). The quality of life was significantly lower during the crisis period than during the remission period (Table 1). Regarding problems related to feeding, the question that obtained the highest percentage of response was "monotony in feeding", with 66% for CD and 57% for UC, and to the problems related to medical treatment, was "not being able to attend medical check-ups", with 58% for CD and 55% for UC. UC patients report greater problems than CD patients in relation to diet and medical treatment. These problems have an impact on the quality of life (Table 2).

Table 1: General characteristics of people with inflammatory bowel disease.

	Crohn's Disease (n=71)	Ulcerative Colitis (n=292)	p-value
Sex. n (%)			0,760
Male	19 (27)	73 (25)	
Female	52 (73)	219 (75)	
Age. years (standard deviation)	38,2 (10,7)	36,6 (11,1)	0,138
Disease status. n (%)			0,951
Crisis	19 (26,8)	73 (25)	
Remission	49 (69)	207 (70,9)	
Does not know	3 (4,2)	12 (4,1)	
Quality of life. Score (standard deviation)			
Total	4,64 (1,4)	4,73 (1,4)	0,530
Remission	4,93(1,1)	5,11(1,2)	
Crisis	4,09(1,5)	3,69(1,2)	
	p-value=0,007	p-value=0,000	

Table 2: Association between Quality of life and problems with diet and medical treatment for Crohn's disease and ulcerative colitis, in the COVID-19 period.

Problems Associated with Diet and Medical Treatment. n (%)	Quality of Life					
	Means (Standard Deviation)					
	Crohn Disease			Ulcerative Colitis		
	SI	NO	p-value	SI	NO	p-value
Diet						
Low availability of food in commerce	4,11 (1,59)	4,75 (1,22)	0,1581	4,03 (1,46)	4,98 (1,23)	0,000
It does not have enough economic resources to buy food	4,12 (1,52)	4,75 (1,25)	0,1053	4,14 (1,34)	4,99 (1,26)	0,000
Lack of knowledge of the food to eat in this period	4,13 (1,35)	4,90 (1,21)	0,021	4,23 (1,33)	5,10 (1,24)	0,000
Lack of knowledge to cook or prepare food	4,42 (1,33)	4,80 (1,28)	0,2041	4,34 (1,40)	5,11 (1,18)	0,000
Monotony in the diet	4,30 (1,35)	5,41 (0,82)	0,000	4,41 (1,35)	5,20 (1,22)	0,000
Has not had difficulty eating adequate food	4,88 (1,06)	4,43 (1,48)	0,276	4,72 (1,42)	4,78 (1,31)	0,909

Medical treatment						
Little availability of medications	4,47 (1,58)	4,68 (1,23)	0,8184	4,34 (1,31)	4,89 (1,32)	0,0012
You cannot go to medical control	4,13 (1,36)	5,28 (1,00)	0,000	4,54 (1,36)	4,93 (1,30)	0,0169
Routine changes that result in forgetting to take medications	4,26 (1,54)	4,72 (1,21)	0,3134	4,35 (1,35)	4,92 (1,30)	0,0007
It has been easy to keep on treatment	4,97 (1,14)	3,96 (1,35)	0,005	4,94 (1,28)	4,52 (1,38)	0,0083

Discussion

This study shows that the QoL in Chilean patients with IBD is lower than that reported in other groups that have used this survey [4]. Moreover, QoL is lower when there is a crisis than the remission period, for CD and UC. In a pandemic, the QoL in IBD can be altered by periods of confinement or by the difficulty in attending medical appointments. However, Azzam et al. showed that in people with IBD from Saudi Arabia, there were no significant differences in QoL in the pre-and post-COVID-19 pandemic period [5]. Problems associated with feeding are present in CD and UC. However, when analyzing these problems according to the state of the disease, a higher frequency of feeding problems is observed in UC in crisis. Knowledge of diet can improve QoL [6,7]. Moreover, there is evidence that inadequate food intake can alter the nutritional status and the immune system, and this is associated with an increased risk of infections in patients with IBD [8]. All patients with IBD report problems related to medical treatment. Factors such as not attending medical appointments and suspension of face-to-face consultations are described as difficult for these patients. Fortunately, the evidence shows an increase in telephone and telemedicine care in the world [9] would improve the QoL of patients.

The results of this study highlight that problems related to diet and drug treatment worsen the quality of life in UC. One of the reasons is the suboptimal drug treatment these patients receive. When analyzing the drugs, it is observed that UC patients that use corticosteroids have a lower QoL score than the rest of the patients (3.93 points vs 4.81 points, with a p-value < 0.000 (Data not shown)) One explanation for these results is because patients who use corticosteroids have active disease or suboptimal management of their disease [10]. This study has limitations including a small sample size and lack of a control group, as well as potential confounders not related to diet and drugs about quality of life. However, it is the first study in Chilean IBD.

Conclusion

In conclusion, the QoL in Chilean patients with IBD is low and worsens when there is a crisis of the disease, especially in individuals with UC. In addition, dietary and pharmacological factors have a negative impact on QoL.

Conflict of Interest

The authors declare that they have no conflict of interest.

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