



## Original Article

# Investigating the Mental Health Status of Patients with Ulcerative Colitis and its Relationship with Clinical and Demographic Variables

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### ARTICLE INFO

### A B S T R A C T

Received: 04 Mar 2017  
Accepted: 26 Mar 2017

**Introduction:** Psychological factors play a double role in the incidence of ulcerative colitis disease; on the one hand, mental disorders are among the causes of the disease and on the other hand, some studies have shown that psychological factors and stresses play an important role in its intensification. The present study was conducted to determine the mental health status of patients with ulcerative colitis, referred to teaching hospitals in the city of Ahvaz and its relationship with demographic variables.

**Methodology:** In this epidemiological and analytical study, patients with ulcerative colitis, referred to teaching hospitals of Ahvaz were evaluated in terms of mental health using demographic questionnaire and SCL-90R questionnaire and obtained data were analyzed using SPSS software version 22.

**Results:** Results of this study showed that 36.2% of patients with ulcerative colitis have suffered from mental health problems. Evaluation of nine dimensions of questionnaire showed that 14 patients have had somatic complaints, 3 patients have suffered from obsession and compulsion, 1 patient has suffered from interpersonal sensitivity, 45 patients have suffered from depression, 68 patients have suffered from anxiety, 31 patients have suffered from aggression, 15 patients have suffered from phobia, 18 patients have suffered from paranoid thoughts and no one has suffered from psychosis.

**Conclusion:** Patients with ulcerative colitis develop mental disorders and a decline in their mental health indicators is observed and this decline is not limited to a particular age or gender group or to a certain scientific or occupational class and it prevails in all classes and groups with ulcerative colitis.

**Keywords:** Ulcerative colitis, mental health, SCL-90R questionnaire

## 1. INTRODUCTION

WHO defines health as "a state of complete physical, mental and social well-being". A man is in a state of perfect health, when he is healthy in all physical, mental and social aspects. Mental health is defined as harmonious and coordinated behavior with the society, identification and acceptance of

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social realities and adaptability with them and development of innate talents. Improving mental health in the society improves the quality of life<sup>1</sup>. Patients are the most vulnerable group in any society; so their mental health is crucially important<sup>2</sup>.

Abnormal excitement levels are found in more than 40% of patients with inflammatory bowel disease<sup>3</sup>. Based on the studies conducted in the Europe and US, about 9-26 percent of women and 5-12 percent of men have suffered from a major depressive disease during their lifetime and about 4.5 to 9.3 percent of men suffer from this disorder in some periods<sup>4, 5</sup>. The American Cancer Society, behavioral research center studied 739 family members of cancer patients and found that high levels of mental tensions are associated with impaired physical, mental and social functioning<sup>6</sup>.

Infectious and non-infectious organisms (drugs, radiation, ischemia, etc.) can cause inflammatory bowel disease<sup>9-7</sup>. The term "inflammatory bowel disease" often refers to two idiopathic diseases; ulcerative colitis and Crohn's disease which is characterized by chronic inflammation<sup>10</sup>. Although the cause of the disease is unknown; however, recent developments have identified some genetic, immunological, environmental and personal factors effective in the development of this disease<sup>11, 12</sup>. The relationship between these factors also seems reasonable. When a person who is genetically susceptible to inflammatory diseases is exposed to environmental risks, the immune system will be impaired and this will result in development of disease. The incidence rate of ulcerative colitis is estimated 2/2-14/3 in one hundred people per year. This disease is diagnosable in late adolescence and early youth. The highest incidence of the disease was found in North American countries and in Europe in the second half of the twentieth century; however, evidence suggests that these diseases are growing in populations which were at low risk in the past, such as Japan and India<sup>12</sup>. The prevalence of these diseases in our country is increasing and since inflammatory bowel diseases cause different complications and affect the quality of life of people, authorities should pay special attention to it.

Death from inflammatory bowel disease is not common today; however, this disease causes disability, morbidity and psychological problems, especially in young adults who have the potential for growth, education and employment and this imposes significant social and economic burdens on society.

Psychiatric disorders are common in patients with inflammatory bowel disease. Psychological factors play a double role in the incidence of ulcerative colitis disease; on the one hand, mental disorders are among the causes of the disease and on the other hand, some studies have shown that psychological factors and stresses play an important role in its intensification. Yet, unfortunately, despite its great importance, the grounds of this mechanism are unknown<sup>13</sup> and there is limited understanding of the risk factors of

psychological disorders in patients with inflammatory bowel disease<sup>14</sup>. So far, few studies have not been conducted in this area in Iran and these patients are active people and their mental health is very important in the society, so, this study has investigated the mental health status of patients with ulcerative colitis, referred to teaching hospitals in the city of Ahvaz and its relationship with demographic variables.

## 2. METHOD

After obtaining permission from the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences, this epidemiological and analytical study was conducted to investigate the mental health status of patients with ulcerative colitis, referred to teaching hospitals in the city of Ahvaz and its relationship with demographic variables. For this purpose, the names of patients diagnosed with ulcerative colitis referred to clinics and teaching hospitals in the city of Ahvaz were extracted and after explaining the aims of the study and obtaining written informed consent, mental health questionnaires were given to the patients. Data were collected using a two-part questionnaire, including patients' demographic characteristics (age, gender, marital status and ) and the Mental Disorder Questionnaire(SCL-90R). This questionnaire contains 90 questions to evaluate mental symptoms. It is reported by respondents and it was first designed to show the psychological features of physical and mental patients. According to a study conducted by Taheri et al. in comparison of psychological health of patients with irritable bowel syndrome, the validity and reliability of SCL-90R in its Persian translation have been assessed several times and the validity coefficients have ranged from 0.36 to 0.73 and in calculation of reliability, the Cronbach's alpha coefficients have ranged from 0.77 to 0.90 (15). Also, it should be noted that in this test, each question has a 5 –point scale and scores range from zero to 4 (in terms of intensity). Questions have 9 different dimensions: 1. physical complaints, 2. obsession and compulsion, 3. interpersonal sensitivity, 4. depression, 5. anxiety, 6. aggression, 7. phobia, 8. paranoid thoughts and 9. psychosis. Finally, mean and standard deviation are used to describe quantitative variables and frequency is used to describe qualitative variables. Chi-square test was used to analyze the data. All analyzes were performed using SPSS software version 22.

## 3. RESULTS

94 patients with ulcerative colitis were enrolled in this study. Among them 19 patients aged 18-20 years, 43 patients aged 41-60 years and 32 others aged 21-40 years. Also, results showed that 54 patients were male and 40 were female. Among them, 52 patients were married and 42 others were single. Regarding their living place, it was found that 79 patients were living in urban areas and 15 patients lived in rural areas. Findings about smoking tobacco products showed that 34 patients were smokers and 60 patients were nonsmokers. Also, further investigation showed that 21

patients were consuming opioids and 73 patients were not consuming opioids. Regarding their medications, it was observed that 30 patients were taking steroids and 64 patients were not taking steroids. Regarding the history of their disease, findings showed that 38 patients were experiencing the disease (ulcerative colitis) for less than 5 years and 56 patients were suffering from it for over 5 years. Also, in terms of level of education, 15 subjects were illiterate, 25 subjects had diplomas, 19 subjects had associate degrees, 20 subjects had bachelor degrees and 15 subjects had master degrees. Also, their income levels showed that 30 patients had less than 1 million Tomans and 64 patients had above 1 million Tomans per month and regarding their jobs, 39 patients were unemployed, 6 of them were laborers, 29 of them were employees and 20 of them were self-employed.

In analyzing the test results, it was found that based on SCL-90R, in this study totally 34 subjects have suffered from the disease. Data were also analyzed on the basis of variables and according to the mental health questionnaire (SCL-90R) in the age range of 18-20 years, 5 subjects, in the age range of 21-40 years, 14 patients and in the age range of 41-60 years, 15 subjects have suffered from the disease (mental health problem); however, these differences have not been statistically significant ( $P = 0.26$ ). Also, regarding their gender, 24 men and 10 women have suffered from the disease, however, this difference has not been statistically significant ( $P = 0.052$ ). Regarding the history of their disease, 10 subjects with less than 5 years of experiencing ulcerative colitis and 24 subjects with over 5 years of experiencing ulcerative colitis, have suffered from the disease (mental health problem); however, this difference has not been statistically significant ( $P = 0.1$ ). Also, 15 smoking subjects and 19 non-smoking subjects have suffered from the disease; however, this difference has not been statistically significant ( $P = 0.22$ ). Regarding consumption of opioids, 6 subjects with a history of opioids consumption and 28 subjects without a history of opioids consumption have suffered from the disease; however, this difference has not been statistically significant ( $P = 0.41$ ). In addition, 14 subjects with a history of taking steroids and 20 subjects without a history of taking steroids have suffered from the disease; however, this difference has not been statistically significant ( $P = 0.14$ ). Also, information on marital status of patients showed that 23 married subjects and 11 single subjects have suffered from the disease; however, this difference has not been statistically significant ( $P = 0.07$ ).

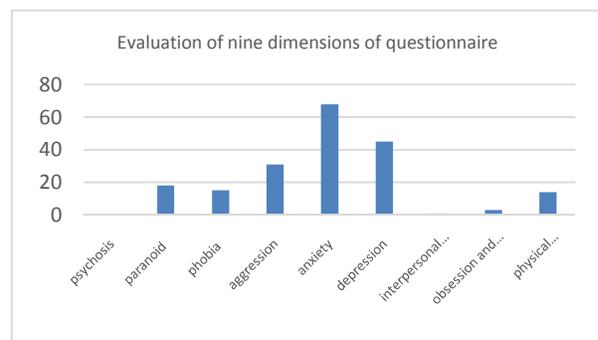
Regarding their living place, 29 subjects living in the city and 5 people living in rural areas have suffered from the disease; however, this difference has not been statistically significant ( $P = 0.8$ ). Also, 11 unemployed subjects, three laborers, 11 employees and 9 self-employed subjects have suffered from the disease; however, this difference has not been statistically significant ( $P = 0.51$ ). Evaluation of nine dimensions of questionnaire showed that 14 patients have

had somatic complaints, 3 patients have suffered from obsession and compulsion, 1 patient has suffered from interpersonal sensitivity, 45 patients have suffered from depression, 68 patients have suffered from anxiety, 31 patients have suffered from aggression, 15 patients have suffered from phobia, 18 patients have suffered from paranoid thoughts and no one has suffered from psychosis.

Results of this study showed that 36.2% of patients with ulcerative colitis have suffered from mental health problems, among which anxiety and depression were the most prevalent disorders and psychosis was not observed in patients (Table and Figure ).

**Table 1: Mental status sort by patients characterizations**

Variable	Indicators	Mental Health		P-Value
		Patient	Healthy	
Age	18-20	26.3%	73.7%	0.26
	21-40	32.6%	67.4%	
	41-60	46.9%	53.1%	
Gender	Male	44.4%	55.6%	0.052
	Female	25.0%	75.0%	
disease time	Under 5 years	26.3%	73.7%	0.1
	More than 5 years	42.9%	57.1%	
Smoking	Smoker	44.1%	55.9%	0.22
	Non-Smoker	31.7%	68.3%	
opioid	Use	28.6%	71.4%	0.41
	not use	38.4%	61.6%	
steroid	Use	46.7%	53.3%	0.14
	not use	31.3%	68.8%	
Marital Status	Married	44.2%	55.8%	0.07
	Single	26.2%	73.8%	
Location	Urban	36.7%	63.3%	0.8
	Rural	33.3%	66.7%	
job	Unemployed	28.2%	71.8%	0.51
	Working	50.0%	50.0%	
	Employee	37.9%	62.1%	
	other	36.2%	63.8%	



**Fig 1: Evaluation of nine dimensions of questionnaire**

#### 4. DISCUSSION AND CONCLUSION

Obviously, by conducting this research alone, we can not evaluate the mental health status of patients in this study and we need to compare and analyze the results with other similar studies to achieve a better understanding of the mental health status of our patients in comparison with other communities. Hence, we have reviewed other similar studies and their results and have compared their results with this

study to get a better understanding of mental health status of patients with ulcerative colitis. For example, a study was conducted by Mahvi Shiraziet al.(2008) entitled "comparison of mental health status of patients with irritable bowel syndrome and healthy individuals". In this causal-comparative study conducted among patients with gastrointestinal disorders, referred to Baqiyatallah Medical Clinic, Tehran, the hypothesis of "low level of mental health of patients with irritable bowel syndrome compared with healthy individuals" was confirmed. However, the hypothesis of "low level of mental health of patients with irritable bowel syndrome compared with IBD patients" was not confirmed in the dimensions of obsession and compulsion, depression, aggression, paranoid thoughts and general symptom index<sup>4</sup>. Also, another study was conducted in one of the health centers of Tehran, in 2011 entitled "comparing personality traits of patients with irritable bowel syndrome (IBS), inflammatory bowel disease and healthy individuals". This comparative study used convenience sampling method and was conducted among 90 patients (30 IBS patients, 30 patients with inflammatory bowel disease and 30 healthy subjects). Results showed that levels of neuroticism in IBS and IBD patients were higher than healthy subjects; while levels of openness in healthy subjects were higher compared with IBS and IBD patients. In terms of consistency, there was no difference between the three groups<sup>2</sup>. In fact, not only their study had examined IBS patients, but it had compared them with healthy individuals as well; yet in the present study, this comparison has not been performed. However, both studies have something in common that is low level of mental health of these patients. Another study was conducted by Zheng K and investigated Health-Related Quality Of Life (HRQOL) of patients with mild and moderate ulcerative colitis. In this study, 110 patients with mild ulcerative colitis and 140 patients with moderate ulcerative colitis were studied and Inflammatory Bowel Disease Questionnaire (IBDQ) was completed for them. Results showed that in patients with moderate ulcerative colitis, IBDQ score was significantly lower than those with mild ulcerative colitis ( $P = 0.001$ ). Also, this index was significantly lower in women, especially in the area of emotional functioning ( $P < 0.05$ ). According to the results of this study, ulcerative colitis has some negative effects on HRQOL and this index is lower in patients with moderate ulcerative colitis compared to those with mild ulcerative colitis. Also, psychological supports and care for women should be considered as a part of their treatment<sup>16</sup>. Although, in addition to mental health, their study has investigated the quality of life of subjects as well, yet their results were similar to the present study and showed that ulcerative colitis has affected mental indicators of patients and revealed the significant importance of conducting psychological supports and care for these patients as a part of their treatment.

In general, the results of this study and other similar studies show that patients with ulcerative colitis develop mental disorders and the decline in their mental health is observed in dimensions such as somatic complaints, obsession and compulsion, interpersonal sensitivity, depression, anxiety, aggression, phobia and paranoid thoughts and this decline is not limited to a particular age or gender group or to a certain scientific or occupational class and it prevails in all classes and groups with ulcerative colitis. Finally, it is suggested to conduct similar studies with larger populations and with other gastrointestinal inflammatory diseases and to compare the results with healthy individuals.

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**Conflict of Interest: None**

**Source of Funding: Nil**