

A Comparative Study of the Psychological Characteristics of the Patients with and without Irritable Bowel Syndrome Referred to the Internal Specialists' Clinics of Arak in 2019

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Abstract

Introduction: Irritable Bowel Syndrome (IBS) is one of the 25 gastrointestinal tract functional disorders. The global prevalence of IBS is about 11% and its prevalence in Iran is at the range of 1.1-25%. However, the etiology of this disorder is complex and unclear and it is known as a multifactorial disease. However, it seems that psychological factors play a more important role in causing IBS symptoms. Hence, this study was conducted with the aim of evaluating the relationship between the psychological characteristics (depression, anxiety and stress) in the patients with IBS and comparing them with the control group. **Materials and Methods:** This study was conducted using case-control method. The case group consisted of 54 patients diagnosed by an internal specialist based on the checklist of Diagnostic Criteria for Irritable Bowel Syndrome (Rome-III). The control group consisted of 52 people without irritable bowel syndrome but suffered from a disease with a chronic pain. Two groups were matched in terms of age, gender, marital status, and education. DASS-21 test was used to assess the psychological problems. Finally, the data were analyzed by using SPSS software. **Results:** The participants of this study were homogenous in terms of age, gender, marital status, and education. Their mean age was 48.09 in the case group and 47.03 in the control group. According to the results, the people with IBS suffer from depression, stress, and anxiety more than the control group ($P = 0.001$). In addition, a significant relationship was found between gender, marital status, and IBS in the participants of this study; however, this relationship was not statistically significant for the variables of education and age. **Conclusion:** It seems that the psychological problems are involved in the onset and severity of irritable bowel syndrome symptoms. Thus, paying attention to psychological disorders can be helpful in the treatment of most patients with IBS.

Keywords: irritable bowel syndrome, IBS, depression, stress, anxiety

INTRODUCTION

Irritable Bowel Syndrome (IBS) is one of the 25 gastrointestinal functional disorders characterized by abdominal pain and altered bowel function, in the absence of any structural or biological abnormalities [1, 2]. Global prevalence of IBS is about 11% [3] and in Iran, it has been reported at the range of 1/1-256% [4]. The studies conducted in this regard have shown that this disease development chance increases the other gastrointestinal disorders development chance as well within 8 years [5]. However, the ontology of this disorder is complex and unclear and it is known as a multifactorial disease [6]. The results of the studies conducted in this regard have referred to various factors such as age [7], gender [8,9], genetics, family history, trauma [10], diet [11], bacterial overgrowth in intestine [12], reduced endocrine cells of the gastrointestinal tract, increased visceral sensitivity, local inflammation and abnormal intestinal fluoride [13-17] in IBS etiology. But, it seems that psychological factors play a more important role in causing IBS symptoms [18]. The results of the studies have shown that

anxiety, depression, and stress are common in these patients and they have significant relationship with onset and severity of IBS symptoms and over half of the patients reported that stressful events exacerbate their gastrointestinal symptoms [19-22]. Therefore, in order to evaluate the role of psychological

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characteristics in the patients with IBS and to compare it with the control group, this study was conducted on the patients referred to internal specialists' clinics of Arak in 2017.

METHODOLOGY

This study was conducted using case-control method. The case group consisted of 54 patients diagnosed by an internal specialist based on the checklist of Diagnostic Criteria for Irritable Bowel Syndrome (Rome-III). The control group consisted of the people without irritable bowel syndrome but suffered from a disease with a chronic pain. Two groups were matched in terms of age, gender, marital status, and education. DASS-21 test was used to assess the psychological problems in three domains of anxiety, depression, and stress. The studies that have been conducted using DASS-21, have shown that it has an acceptable validity and reliability to diagnose anxiety, depression, and stress [23]. After collecting the data and entering them into computer, they were analyzed using SPSS software.

RESULTS

Based on the descriptive indices of the study, the mean age of the participants was 48.09 (SD = 31.91) in the case group and 47.03 (SD = 12.85) in the control group. Out of 106 participants, 54 were in the case group and 52 were in the control group. In the case group, 16 were male and 38 were female. In the control group, 13 were male and 39 were female. The marital status of the case group was as follows: 2 were single, 50 were married, 1 was divorced, and 1 was widowed. The marital status of the control group was as follows: 5 were married, 44 were single, 1 was divorced, and 2 were widowed. In terms of education in the case group, 51 had diploma and 3 had degrees higher than diploma. In the control group, 49 had diploma and 3 had degrees higher than diploma.

The characteristics of the subjects according to the study groups are presented in Table 1. It shows that the subjects were homogenous in terms of age, gender, marital status and education, and there was not a statistically significant difference between them ($p < 0.5$).

Table 1: The descriptive indices of the subjects studied based on the study groups

variable		Case Group (IBS) (n = 54)	Control group (non-IBS) (n = 52)
age		(13.91) 48.09	(12.85)47.03
gender	female	38	39
	male	16	13
Marital status	single	2	5
	married	50	44
	divorced	1	1
	widowed	1	2

Education status	Case Group (IBS) (n = 54)	Control group (non-IBS) (n = 52)
Diploma and lower	51	49
Bachelor and higher	3	3

Table 2 presents the indicators of the psychological problems according to the study groups. Based on the results, the people with irritable bowel syndrome suffer from depression, stress and anxiety more than the other participants in the study and this difference is statistically significant ($P = 0.001$).

Table 2: The indicators of the psychological problems separately based on the study groups

variable	Case Group (IBS) (n = 54)		Control group (non-IBS) (n = 52)		T test	P
	SD	mean	SD	mean		
depression	15.16	46.11	76.7	61.7	05.7	001.*0
Anxiety	07.16	15.9	26.6	07.4	39.7	001.*0
stress	30.21	44.10	03.11	43.8	51.50	001.*0

Table 3 presents the results of the relationship between the demographic characteristics and IBS. Accordingly, there is a significant relationship between gender, marital status, and IBS in the study participants, but this relationship is not statistically significant for education and age variables.

Table 3: The relationship between the demographic characteristics and IBS

demographic characteristics	Chi-square test	df	P
gender	47.4	2	005.*0
age	71.16	3	021.0
Marital status	05.20	1	001.*0
education	58.6	1	580.0

DISCUSSION

The aim of the present study was to evaluate the relationship between the psychological characteristics in the patients with IBS and to compare them with the control group. The results of this study are consistent with those of the studies conducted on anxiety and depression in the patients with IBS in India [24], but are not consistent with those of the studies conducted in Italy [25]. Based on the results, there was a significant difference between the level of depression, stress and anxiety in the patients with IBS compared to the control group, which was statistically significant at the level of 0.001. Moreover, the relationship between the demographic characteristics (gender and marital status) and IBS is significant in the sense that the proportion of females with IBS is more than males, and other studies confirm this

finding. There is evidence that gender is an important factor in the pattern of symptoms, physiological response, and possibly therapeutic response in patients, so that 2.3% of the affected people are female [26], since psychological factors beside the physiological factors play an effective role in onset and exacerbating the gastrointestinal disorders.

Depression is one of the psychological factors destroying the sense of mastery and affection in the person, which can lead to a greater sense of pain and suffering in the affected person. In patients suffering from depression, decreased energy and interest, feeling guilt, difficulty in concentrating, low self-esteem, decreased appetite, negative thoughts, and suicide ideas are observed. These symptoms can lead to experience of negative emotions, impaired interpersonal, occupational, and social functioning and may cause continuous physiological arousal of the nervous system. The intestinal nervous system is highly sensitive to emotional states, so that negative emotions cause changes in bowel movement activity, which might cause intestinal symptoms such as IBS symptoms [27]. In addition, patients with IBS may experience more anxiety and stress throughout their lives. Studies have indicated that among 65 stressful life events, spouse and child death, death of a family member except for spouse and child (parents, siblings), divorce, being sentenced to prison, abortion, spouse infidelity, material problems, fail in achieving the goals, and losing something valuable in life are top ten stressors in patients with IBS. Among these ten factors, rising cost of living is the most frequent stressor among the 65 stressful events for patients with IBS [28].

CONCLUSION

The results of this study suggest that in the treatment of patients with IBS, special attention should be paid to the severity and prevalence of depression, anxiety and stress. After accurately diagnosing and rejecting the organic causes, it is recommended to refer these patients to specialists in the psychological area so that they can take advantage of the effective psychological treatments along with drug treatments. It requires more cooperation between gastroenterologists, psychiatrists, and psychologists.

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