Assesment of Psychiatric Symptoms and Co-morbidities in Patients with Irritable Bowel Syndrome

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ABSTRACT

Aim: To determine the psychiatric symptom assesment of patients seeking treatment for irritable bowel syndrome (IBS) and to demonstrate the presence of more complicated psychiatric disorders.

Subjects and Method: The participants were recruited from patients who were attending internal medicine and gastroenterology clinics and who fullfilled the Rome III criteria for IBS. Fifty patients with IBS (IBS group) and 50 patients with complaints other than gastrointestinal symptoms (control group) were randomly selected. All participants were screened by the Structured Clinical Interview for DSM-IV (SCID-I), Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Symptom Check list – 90 (Revised) [SCL-90-R].

Results: Seventeen patients (34%) and three control subjects (6%) had at least one psychiatric diagnosis (p = 0.001). Global severity index (GSI) total scores and SCL-90-R items were significantly higher in the IBS group than the control group (0.92 ± 0.46 vs 0.358 ± 0.19, p < 0.001). Beck anxiety inventory and BDI scores were higher in the IBS group than the control group (p < 0.001). Axis-I psychiatric disorders diagnosed with SCID-I were significantly higher in the IBS group (34% vs 6%) [p = 0.001]. Among the Axis-I disorders, somatoform and anxiety disorders were higher in the patient group than in the control subjects (p = 0.002 and p = 0.0057) whereas there was no difference for mood disorders (p = 0.204). Seven (14%) of the patients and two (4%) of the control subjects had at least one Axis-II psychiatric disorder diagnosed with SCID-II without any significance (p = 0.159).

Conclusion: These findings suggest that except for mood and personality disorders, almost all psychiatric symptoms and disease co-morbities with IBS are higher than in the sample without IBS. We can easily use SCL-90-R, BAI and BDI in internal medicine and gastroenterology clinics to detect psychiatric symptom levels and then to refer patients to a psychiatrist for further evaluation and treatment.

Keywords: Irritable bowel syndrome, psychiatric co-morbidities, psychiatric symptoms

Evaluación de los Síntomas Psiquiátricos y las Comorbilidades en Pacientes con el Síndrome del Intestino Irritable

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RESUMEN

Objetivo: Determinar la evaluación del síntoma psiquiátrico de pacientes que buscan tratamiento para el síndrome del intestino irritable (IBS), y demostrar la presencia de trastornos psiquiátricos más complicados.

Sujetos y Método: Los participantes reclutados fueron pacientes que asistían a clínicas de medicina interna y gastroenterología, y satisfacían los criterios de Roma III para el IBS Cincuenta pacientes con IBS (grupo IBS) y 50 pacientes aquejados de otras dolencias no gastrointestinales (grupo control) fueron seleccionados al azar. Todos los participantes pasaron por el tamiz de la Entrevista Clínica Estruc-turada para DSM-IV (SCID-I), el Inventario de Depresión de Beck (BDI), el Inventario de Ansiedad de Beck (BAI), y el Listado de Síntomas-90 (Revisado) [SCL-90-R].

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Resultados: *Diecisiete pacientes (34%) y tres sujetos de control (6%) tenían al menos un diagnóstico psiquiátrico (*p = 0.001*). Las puntuaciones totales del índice de severidad global (GSI) y los ítems del SCL-90-R fueron significativamente más altos en el grupo de IBS que en el grupo control (0.92 ± 0.46 frente a 0.358 ± 0.19,* p < 0.001*). Las puntuaciones del Inventario de Ansiedad de Beck y BDI fueron más altas en el grupo IBS que el grupo control (p < 0.001). Los trastornos psiquiátricos del eje I diagnosticados con SCID-I fueron significativamente más altos en el grupo IBS (34% vs. 6%)* [p = 0.001]. *Entre los desórdenes del Eje I, los trastornos somatoformos y los trastornos de ansiedad fueron más altos en el grupo de pacientes que en los sujetos del control (*p = 0.002*) y (*p = 0.0057*), en tanto que no hubo ninguna diferencia en cuanto a los trastornos de estados de ánimo (*p = 0.204*). Siete (14%) de los pacientes y dos (4%) de los sujetos del control tuvieron por lo menos un trastorno psiquiátrico del eje II diagnosticados con el SCID-II sin ninguna significación (*p = 0.159*).*
Conclusión: *Estos hallazgos sugieren que salvo el caso de los trastornos de estados de ánimo y personalidad, casi todos los síntomas psiquiátricos y comorbilidades con el IBS son más altos que en la muestra sin IBS. Se puede usar con facilidad el SCL-90-R, el BAI y el BDI en las clínicas de medicina interna y gastroenterología para detectar los niveles de síntomas psiquiátricos, y remitir entonces a los pacientes a un psiquiatra para ulterior evaluación y tratamiento.*

Palabras claves: Síndrome del intestino irritable, psiquiátricos comorbilidades, síntomas psiquiátricos

INTRODUCTION

Irritable bowel syndrome (IBS) is a gastrointestinal syndrome characterized by abdominal pain and altered bowel habits in the absence of any organic cause. It is the most commonly diagnosed gastrointestinal condition. The prevalence of IBS in Turkey was found to vary between 6.2% and 19.1% (1−3). A population based study in Europe found the overall prevalance of IBS to be 11.5% (4).

The pathophysiology of IBS remains uncertain. Hereditary and environmental factors are likely to play a role (5). Many studies have reported abnormal gastrointestinal motility, visceral hypersensitivity, psychologic dysfunction and emotional stress in patients with IBS. Despite intensive investigations, the results have often been conflicting and no physiologic or psychologic abnormality has been found to be specific for this disorder. Of patients seeking treatment for IBS, 70−90% have psychiatric co-morbidity with increased anxiety, depression, phobias and somatization (6−7).

The purpose of this study is to determine the psychiatric symptom assesment of patients seeking IBS treatment and to show the presence of any diagnosis of more complicated psychiatric disorders.

SUBJECTS AND METHODS

The participants were recruited randomly from patients attending internal medicine and gastroenterology clinics and who fullfilled Rome III criteria for IBS. A total of 50 IBS patients were included in the study. The control group was selected from patients admitted to internal medicine clinics with complaints other than gastrointestinal symptoms. These patients were evaluated by experts in gastroenterology and internal medicine and referred to psychiatrists for further evaluation.

Due to lack of reliable biological markers for the diagnosis of IBS, symptom-based criteria were used. Irritable bowel syndrome was diagnosed after the exclusion of other diseases with similar clinical picture. After listening to the history of the patients and doing a physical examination, complete blood count, erythrocyte sedimentation rate and biochemical tests were performed. In patients with the alarm signs such as weight loss, advanced age of onset, night-waking symptoms and family history (cancer, inflammatory bowel disease) further investigations were done. Patients with an abdominal mass, hepatomegaly, fever, arthritis, dermatitis, signs of malabsorption found on physical examination, abnormalities on initial laboratory tests including anaemia, thyroid dysfunction, increased sedimentation rate, leukocytosis, presence of occult blood in stool or other abnormal biochemical findings were further evaluated. Rome III criteria were used for the diagnosis of IBS. According to the Rome III criteria (criteria fulfilled for the last three months with symptom onset at least six months prior to diagnosis), IBS can be diagnosed based on recurrent abdominal pain or discomfort at least three days per month in the last three months associated with two or more of the following: (i) improvement with defaecation, (ii) onset associated with a change in frequency of stool, (iii) onset associated with a change in form (appearance) of stool.

An experienced psychiatrist assessed the mental state of the patients and control subjects. All participants were screened by the Structured Clinical Interview for DSM-IV-(SCID-I/CV, SCID-II). Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI) and Symptom Check list – 90 (Revised) [SCL-90-R] were also administered to patients and control subjects.

Psychiatric assesment was based on:

> The Structured Clinical Interview for DSM-IV Axis-I Disorders, Clinical Version (SCID/CV) is a semistructured interview developed by First *et al* (8). This widely used interview serves as a diagnostic instrument for DSM-IV Axis-I psychiatric disorders.

> The Structured Clinical Interview for DSM-IV Axis-II Personality Disorders (SCID-II) is a semistructured interview developed by First *et al* (9). It serves as a diagnostic instrument for DSM-IV Axis-II personality disorders.

> Beck Depression Inventory: the BDI, a 21-item screening questionnaire com-prising 13 cognitive and eight somatic questions, was used to screen for depression. The BDI has been well validated in diverse patient populations (10, 11).

> Beck Anxiety Inventory: the BAI, a 21-item screening questionnaire comprising 13 subjective and eight somatic questions, was used to screen for anxiety (12).

> Symptom Check list–90 (Revised): psychological aspects of the participants were evaluated by the SCL-90-R, a 90-item self-report symptom inventory designed to reflect the psychological symptom patterns of community, medical, and psychiatric respondents. The SCL-90-R items are as follows: anxiety, hostility, somatization, obsessive-compulsive, depression, paranoid ideation, interpersonal sensitivity, psychoticism, phobic anxiety and supplement subscale. Symptom Check list – 90 (Revised) was used to evaluate the answers and the global severity index [GSI, a combined index for nine different psychometric measures were built into the test] (13).

Statistical analysis

Parameters were reported as mean and standard deviation; statistical testing of differences between groups was made by independent sample *t*-tests or Mann Whitney U test for quantitative data and by means of crosstable analysis (Pearson's χ^2 tests with Yate's correction or Fisher's exact test when appropriate) for dichotomous variables. Statistical tests were considered significant when the *p*-value result was < 0.05 and nonsignificant (NS) when the *p*-value was > 0.05. Analysis was carried out using SPSS 11.0.

RESULTS

Analysis was done on 100 individuals. Sociodemographic characteristics of the study participants are shown in Table 1. There was no gender and age differences between the IBS and control groups. Sixty-eight participitants were female (68%). The remaining thirty-two participitants were male (32%) for both groups (Table 1).

Table 1:   Sociodemographic characteristics of participitans

	n: 100	%	control n	%	IBS n	%	*p*
Sex:							
Male	32	40	16	32	16	32	
Female	68	60	34	68	34	68	NS
Age Groups:							
Under 30	22	22	11	22	10	20	
30–45	58	58	29	58	30	60	NS
Over 45	20	20	10	20	10	20	

IBS = irritable bowel syndome; NS = nonsignificant

Global severity index total scores were significantly higher in patients than in control subjects ($p < 0.001$). Somatization ($p < 0.001$), obsessive-compulsive symptoms ($p < 0.01$), interpersonal sensitivity ($p < 0.01$), depression ($p < 0.01$), anxiety ($p < 0.01$), hostility ($p < 0.01$), phobic anxiety, paranoid ideation ($p < 0.01$) and psychoticism ($p < 0.01$) were common in the patient group as well (Table 2).

Table 2:   Assesment of symptom check list – 90 (Revised) subscales and other variables in groups

SCL-90-R subscales and other variables	Patient	Control	*p*
GSI	0.92 ± 0.46	0.358 ± 0.19	< 0.01
Somatization	1.17 ± 0.77	0.35 ± 0.19	< 0.01
Obsessive-compulsive symptoms	0.88 ± 0.44	0.33 ± 0.23	< 0.01
Interpersonal sensitivity	0.96 ± 0.64	0.39 ± 0.27	< 0.01
Depression	0.99 ± 0.49	0.46 ± 0.30	< 0.01
Anxiety	1.37 ± 0.81	0.54 ± 0.35	< 0.01
Hostility	0.72 ± 0.46	0.38 ± 0.2	< 0.01
Phobic anxiety	0.73 ± 0.64	0.43 ± 0.35	< 0.01
Paranoid ideation	0.61 ± 0.36	0.17 ± 0.16	< 0.01
Psychoticism	0.42 ± 0.34	0.06 ± 0.09	< 0.01
Supplement subscale	0.93 ± 0.64	0.64 ± 0.39	< 0.01

GSI = global severity index; SCL-90-R = symptom check list – 90 (Revised)

Seventeen patients (34%) and three control subjects (6%) had at least one psychiatric diagnosis. There were significant differences between the two groups ($p < 0.01$). Depression and anxiety levels above the cut off point were significantly higher in patients than in the normal control ($p < 0.01$). Somatoform and anxiety disorders were statistically higher than in the control group ($p < 0.01$ and $p < 0.01$). Mood disorders were not significantly different between the IBS and control groups (Table 3).

Seventeen (34%) of the patients and three (6%) of the control group had at least one Axis-I psychiatric disorder diagnosed with SCID-I ($p < 0.01$). The most prevalent disorders of the patients were:- anxiety disorders: six with generalized anxiety disorder (12%); mood disorders: four with major depressive disorders (8%); somatoform disorders: three each with undifferentiated somatoform and somatization disorders (6%). The more prevalent Axis-I psychiatric diagnoses of the control subjects were:- anxiety disorders:

Table 3:   Assesment of psychiatric diagnoses of irritable bowel syndome

	Patient		Control		
	n	%	n	%	p
BDI points					
Lower cut-off point	22	44	46	92	< 0.01
Upper cut-off point	28	56	4	8	
BAI points					
Lower cut-off point	18	36	45	90	< 0.01
Upper cut-off point	32	64	5	10	
Psychiatric diagnoses					
with	17	34	3	6	< 0.01
without	33	66	47	94	
Anxiety disorders					
with	11	22	1	2	< 0.01
without	39	78	49	98	
Mood disorders					
with	5	10	1	2	NS
without	45	90	49	98	
Somatoform disorder					
with	8	16	0	0	< 0.01
without	42	84	50	100	
Personality disorder					
with	7	14	2	4	NS
without	43	86	48	96	

BDI = Beck depression inventory; BAI = Beck anxiety inventory; NS = nonsignificant

one subject with specific phobia (2%) and one with social phobia (2%). There was one subject with mood disorder of dysthymic nature (2%). There was no somatoform disorder in the control group (Table 4).

Seven (14%) of the patients and two (4%) in the control groups had at least one Axis-II psychiatric disorder diagnosed with SCID-II but this was not statistically significant (Table 3). Personality disorders were: two patients with avoidant personality disorder (4%), two patients with narcis-

sistic personality disorder (4%), two patients with obsessive compulsive personality disorder (4%), one patient with borderline personality disorder (2%), one patient with dependent personality disorder (2%) and one with histrionic personality disorder (2%). Personality disorders in the control group were: one subject with avoidant personality disorder (2%) and one with obsessive compulsive personality disorder [2%] (Table 4).

DISCUSSION

When we compared both groups with SCL-90-R test, almost all psychiatric disorders of the patient group were more than in the control group. It was also obvious with the significantly higher GSI level which is designed to measure overall psychological distress. In the patient group, levels of somatization and anxiety symptoms were meaningfully at high levels (1.17 ± 0.77 and 1.37 ± 0.81). The other symptom levels of SCL-90-R were also higher than expected in the IBS group and warrant psychiatric consultation. We also used two other tests to see the anxiety and depression levels: the Beck Anxiety Inventory and Beck Depression Inventory. Depression and anxiety levels (56% and 64%) in the patient group were significantly higher than the control group (8% and 10%) similar to reports in the literature (14, 15).

The presence of more complicated psychiatric symptoms was evaluated with the structured clinical interview for DSM-IV (Axis-I and Axis-II): 34% of the IBS patients had one or more psychiatric diagnoses which was statistically higher than in the control group (6%). Anxiety and somatoform disorders were statistically higher than in the control group as expected from other studies (16−18). Among these anxiety and somatoform disorders, generalized anxiety disorder and somatization disorders were the most prevelant

Table 4:   Axis-I and Axis-II psychiatric diagnoses

Psychiatric Disorders			Irritable colon group (n = 50)	Control group (n = 50)
		Generalized anxiety disorder	6 (12%)	0
		Social phobia	2 (4%)	1 (2%)
	Anxiety	Specific phobia	2 (4%)	1 (2%)
	disorders	Panic disorder	2 (4%)	0
		Obsessive-compulsive disorder	2 (4%)	0
	Mood	Major depressive disorder	4 (8%)	0
Axis-I	disorders	Dysthymic disorder	1 (2%)	1 (2%)
		Undifferentiated somatoform disorder	3 (6%)	0
	Somatoform	Somatization disorder	3 (6%)	0
	disorders	Pain disorder	2 (4%)	0
		Body dysmorphic disorder	1 (2%)	0
		Conversion disorder	1 (2%)	0
		Avoidant personality disorder		
Axis-II	Personality	Narcissistic personality	2 (4%)	0
	disorders	Obsessive-compulsive personality	2 (4%)	1 (2%)
		Dependent personality	1 (2%)	0
		Borderline personality	1 (2%)	0
		Histrionic personality	1 (2%)	0

disorders, as in the literature (17, 19). Although there was no statistical significance between the mood disorders of IBS patients and the control group, when we looked at the subgroups, the frequency of major depressive disorders was significantly higher (8% *vs* 0%). A dysthymic disorder is characterized by chronic depression, but with less severity than major depression and this may be the reason for the nonsignificant frequency level between IBS patients and the control group. There is more association between IBS and major depression than with dysthymic disorders (16, 20, 21). Although in our study, the total personality disorders were not statistically different for IBS, avoidant personality, narcissitic personality and obsessive-compulsive personality disorders were higher than the other personality disorders.

Determination of high scores in BDI and BAI as well as in the SCL-90-R test should alert to the possibility of more complicated conditions in IBS patients. The BDI and BAI tests are very easy to implement in patients, however, implementation of SCID-I and SCID-II is very difficult and not practical. It may be difficult to implement these latter tests routinely in an outpatient basis. In suspicious conditions, help may be sought from the psychiatrists.

In conclusion, the present study showed that except for mood and personality disorders, almost all psychiatric symptoms and disease co-morbities with IBS are higher than in the population without IBS. We can easily use SCL-90-R, BAI and BDI in internal medicine (gastroenterology clinics) to detect psychiatric symptom levels and to refer patients for further psychiatric evaluation and treatment.

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