

## Original Article



# Irritable Bowel Syndrome is Comorbid with Psychiatric Disorders and is Associated with Psychosocial Stressors

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### Abstract

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**Background:** Irritable Bowel Syndrome (IBS) is a functional disorder. Invariably it is co-morbid with psychiatric disorder and is associated with psychosocial stressors. **Objectives:** To see the association of types of IBS with psychiatric disorders and to assess the association of psychosocial stressors. **Materials and methods:** It was descriptive, cross-sectional study carried out in the Department of Gastroenterology, Bangabandhu Sheikh Mujib Medical University, Dhaka from January 2014 to December 2014. Total 250 samples were included in this study those were diagnosed as IBS. Respondents were above 18 years of age of either sex. Sampling technique was consecutive. **Results:** The patients with psychiatric disorders among IBS patients were 86.4%. Maximum (35.2%) were IBS-D followed by 32.8% IBS-C and 32% IBS-M. Majority (93.2%) presented with stressful life events. Common stressful life events were changing eating habit (25.2%), change in sleeping habit (20.8%) and financial loss or problem (18.8%). **Conclusion:** Many people remain troubled by symptoms for long term. So, proper psychiatric evaluation is necessary for successful alleviation of the bothering symptoms of such incurable functional illness.

**Key words:** Irritable Bowel Syndrome, Psychiatric Disorders, Psychosocial Stressors.

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## Introduction

Irritable Bowel Syndrome (IBS) is a functional disorder. Invariably it is co-morbid with psychiatric disorder and is associated with psychosocial stressors. Estimated prevalence for the general population is 8% to 17%, while only half of these asked for medical attention.<sup>1</sup> The published literature indicates that 50% to 90% have psychiatric disorders, including panic disorder, generalized anxiety disorder, social phobia, posttraumatic stress disorder and major depression.<sup>2</sup>

Psychiatric morbidity is prevalent in outpatients with IBS. The lifetime prevalence of depressive and anxiety disorders is up to 76% and 54% respectively. The point prevalences of depressive and anxiety disorders range from 9.6 to 54% and from 11.1 to 52.4% respectively.<sup>3</sup> Studies on psychiatric co-morbidity in IBS have found between a quarter and a third of IBS patients to meet criteria for somatization disorder, which is much higher than in the normal population.<sup>4</sup>

Various studies in India have shown that as many as 30-40% of patient with IBS have co-morbid depression or anxiety

disorder.<sup>5</sup> Several studies have also reported a greater lifetime diagnoses of major depression, somatization disorder, generalized anxiety disorder, panic disorder and phobic disorder among IBS patients.<sup>6</sup>

Perveen et al. reported that the prevalence of IBS was 7.7% in urban populations (n=116, male:female= 1:1.36) in Bangladesh.<sup>7</sup> A rural community based study in Bangladesh reported the apparent prevalence of IBS was 24.4% with a prevalence of 20.6% in men and 27.7% in women. With strict Rome criteria, the overall prevalence was 8.5% (10.7% in women and 5.8% in men).<sup>8</sup>

A prospective hospital based study was conducted in Alim et al. using Rome-II clinical diagnostic criteria for irritable bowel syndrome.<sup>9</sup> They found 96.5% had different psychiatric illness. Among them generalized anxiety disorder (24.4%), depressive illness (27.8%), somatoform disorder (12.7%) and hypochondriasis (10.4%) were the predominant abnormalities.<sup>7</sup>

Mannapur et al. study reported 42.63% of the subjects were

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found to have experienced less/moderate stress and 47.01% of them had experienced severe stress.<sup>10</sup> A total of 89.64% of the study subjects had experienced stress. Another observation was made in a study from Pakistan, 90% stress was found.<sup>11</sup> Supe AN from India reported that 73% of the students had perceived stress.<sup>12</sup> Saipanish R reported that 61.4% of the students in a Thai medical school had experienced some degrees of stress, as measured by the Thai Stress Test.<sup>13</sup> Amr et al. in their study stress was reported by 94.5% of the subjects.<sup>14</sup> Abdulghani in his study stated that the 57% of the stressed and 20% were severely stressed.<sup>15</sup> EL-Ghilani AH et al. study found 95% of stress.<sup>16</sup>

### Materials and Methods

It was a descriptive and cross-sectional clinical study. It was conducted in the department of Gastroenterology, Bangabandhu Sheikh Mujib Medical University. Sampling technique was purposive consecutive. Diagnosed cases of IBS above 18 years of age of either sex were included in this study. Patients suffering from other co-morbid gastrointestinal disease and severe cognitive deficit difficult to interview were excluded.

A semi-structured questionnaire was developed in English and Bangla version. The cases of IBS were selected by the consultant gastroenterologist according to Rome III criteria. Patients fulfilling the selection criteria, informed written consent were taken. Respondents were interviewed face to face by the researcher by using questionnaire for socio-demographic and relevant variables. After that SCID-CV was applied to assess psychiatric morbidity and confirmed by using DSM-IV criteria by the researcher. Analysis was done according to the Statistical Package for Social Science (SPSS) for windows version 20.

### Results

The patients with psychiatric disorders among IBS patients were 86.4% (Fig. 2). Maximum (35.2%) were IBS-D followed by 32.8% IBS-C and 32% IBS-M (Fig. 1). Majority (93.2%) presented with stressful life events (Table V). Common stressful life events were changing eating habit (25.2%), change in sleeping habit (20.8%) and financial loss or problem (18.8%) (Table III).

**Table I:** Association between socio-demographic characteristics and psychiatric illness (n=250)

Characteristics	Psychiatric illness				P value
	Present (n=216)		Absent (n=34)		
	No	%	No	%	
<b>Age in years</b>					
≤20	8	3.7	6	17.65	
21 -40	134	62.0	20	58.82	0.008
41 -60	68	31.5	8	23.53	
>60	6	2.8	0	00	
<b>Sex</b>					
Male	124	57.4	28	82.35	
Female	92	42.6	6	17.65	0.006
<b>Marital status</b>					
Married	160	74.1	22	64.71	
Unmarried	56	25.9	12	35.29	0.254
<b>Habit at</b>					
Urban	138	63.9	22	64.71	
Rural	78	36.1	12	35.29	0.926
<b>Education</b>					
Illiterate	18	8.3	0	0.00	
Primary	34	15.7	2	5.88	
Secondary	50	23.1	14	41.18	
Higher secondary	32	14.8	10	29.41	0.015
Graduation	46	21.3	4	11.76	
Post graduation	36	16.7	4	11.76	
<b>Occupation</b>					
Service	56	25.9	4	11.76	
Business	20	9.3	10	29.41	
Labour	22	10.2	4	11.76	0.117
Farmer	30	13.9	6	17.65	
House wife	57	26.4	7	20.59	
Student	23	10.6	5	14.71	
<b>Monthly income</b>					
≤10000	32	14.8	2	5.88	
10001 -20000	132	61.1	24	70.59	
20001 -30000	26	12.0	6	17.65	0.311
30001 -40000	14	6.5	2	5.88	
>40000	12	5.6	0	0.00	

Fig. 1: Types of IBS (n=250)

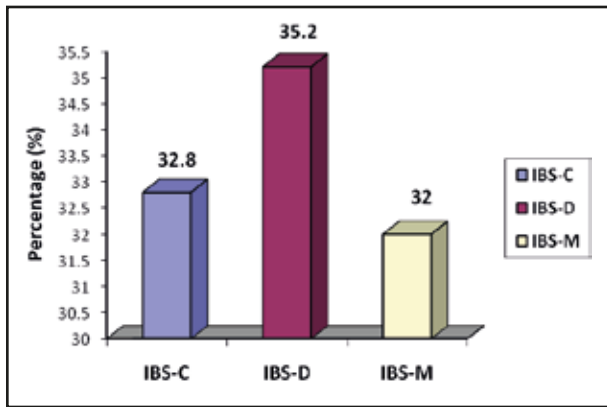


Fig. 2: Proportion of psychiatric disorders among IBS patients (n=250)

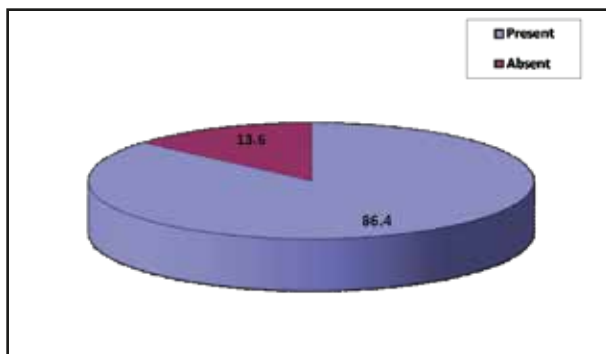


Table II: Association of types of IBS with psychiatric disorders (n=250)

Types	Frequency	Psychiatric illness				P value
		Present		Absent		
		No	%	No	%	
IBSC	82	63	76.8	19	23.2	0.001
IBSD	88	81	92.1	7	7.9	0.001
IBSM	80	72	90.0	8	10	0.001

Table III: Type and frequency of stressful life events (n=250)

Type of stressful life events	Frequency	Percent
Change in eating habit	63	25.2
Change in sleeping habit	52	20.8
Financial loss or problem	47	18.8
Illness of a family member	41	16.4
Appearing for examination or interview	37	14.8
Marital conflict	31	12.4
Change in working conditions or transfer	29	11.6
Major personal injury or illness	27	10.8
Family conflict	23	9.2
Self or family member unemployed	19	7.6
Property or crops damaged	19	7.6
Change or expansion of business	19	7.6
Excessive alcohol or drug use by family member	18	7.2
Marital separation from mate or divorce	17	6.8
Sexual problems	17	6.8
Reduction in the number of family function	15	6.0
Broken engagement or love affair	14	5.6
Failure in examination	14	5.6
Conflict over dowry (self or spouse)	13	5.2
Lack of son	13	5.2
Son or daughter leaving home	12	4.8
Pregnancy of wife (wanted or unwanted)	10	4.0
External relation of spouse	9	3.6
Lack of child	9	3.6
Death of close family member	8	3.2
Robbery or theft	7	2.8
Change in residence	7	2.8
Marriage of daughter or dependent sister	7	2.8
Large loan	6	2.4
Death of spouse	5	2.0

Note : More than one stressful life event were considered for each patient

Table IV: List of stressful life events according to areas (n=250)

Areas of stressors	Frequency	Percent	Psychiatric illness		P value
			Present (n=216)	Absent (n=34)	
Biological change	115	46.0	39	16	0.001
Family affairs	190	76.0	87	4	0.001
Economical change	117	46.8	43	9	0.001
Environmental change	101	40.4	26	2	0.001
Illness	85	34.0	21	4	0.001

Note: More than one stressful life event were considered for each patient.

**Table V:** Association between stressful life events and psychiatric illness (n=250)

Stressful life events	No. (%)	Psychiatric illness				Odds ratio	P value
		Present		Absent			
		No	%	No	%		
Present	233(93.2%)	213	98.6	20	58.8	49.70	0.001
Absent	17(6.8%)	3	1.4	14	41.2		

**Table VI:** Severity of stress of study subjects (n=250)

Severity of stress	Frequency	Percent
No stress	66	26.4
Less/ Moderate stress	146	58.4
Severe stress	38	15.2

**Note:** No stress (0-40), Less/Moderate stress (41-200), Severe stress (>200) (Mannapur et al. 2010)

### Discussion

The prevalence of psychiatric diagnosis in IBS ranges between 40% and 100% depending on the population, setting and diagnostic criteria. Complaints of functional bowel symptom have been also found in 30-70% of patients with psychiatric disorder.<sup>17</sup> In this study 86.4% patients with psychiatric disorders were found among IBS patients. Among different types of IBS, IBS-D was found more (35.2%) and IBS-M was the least diagnosis (32%). Respondents of IBS-D showed more psychiatric illness (92%) and IBS-C showed the least diagnosis of psychiatric illness (76.8%).

In this study, 58.4% of the subjects were found to have experienced less/moderate stress and 15.2% of them had experienced severe stress. A total of 93.2% of the study subjects had experienced stressful life events. Among different areas of stressors, family affairs were found more (76%) and illnesses were found less (34%). Mannapur et al. study reported 42.63% of the subjects were found to have experienced less/moderate stress and 47.01% of them had experienced severe stress. A total of 89.64% of that study subjects had experienced stress.<sup>10</sup> Another observation was made in a study from Pakistan, 90% stress was found.<sup>11</sup> Supe AN from India reported that 73% of the students

had perceived stress.<sup>12</sup> Saipanish R reported that 61.4% of the students in a Thai medical school had experienced some degrees of stress, as measured by the Thai Stress Test.<sup>13</sup> Amr et al. in their study, stress was reported by 94.5% of the subjects.<sup>14</sup> Abdulghani in his study stated that the 57% of the stressed and 20% were severely stressed.<sup>15</sup> EL-Ghilani AH et al. study found 95% of stress.<sup>16</sup> In this study it was observed that common stressful life events were change in eating habit (25.2%), change in sleeping habit (20.8%), financial loss or problem (18.8%), illness of a family member (16.4%) and the lowest event was death of spouse (2%).

### Conclusion

The most common stressful life events were change in eating habit, change in sleeping habit, financial loss or problem, illness of a family member and the lowest event was death of spouse. Many people remain troubled by symptoms for long term. So, proper psychiatric evaluation is necessary for successful alleviation of the bothering symptoms of such incurable functional illness.

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