

**Mental Health Issues in Irritable Bowel Syndrome and their Management****Sushil Kumar SV**

Assistant Professor, Department of Psychiatry, Kannur Medical College, Anjarakandy, Kannur (Dt.), Kerala

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Corresponding Author: Dr. Sushil Kumar SV

Conflict of interest: Nil

**Abstract:**

**Background:** Irritable bowel syndrome (IBS) was described as a not uncommon GIT disease with a Psychosomatic pattern. It was considered as the most common functional GIT disorder. Nearly 50 85% of individuals with IBS suffer from psychiatric illness also.

**Aim of the Study:** To list out the co-morbid psychiatric conditions in patients with IBS and their management and its effect on IBS.

**Methods:** A cross sectional study was conducted at Kannur Medical College, Anjarakandy, Kannur, Kerala between Jan 2023 and June 2023. 57 patients with IBS who fulfilled the inclusion criteria and who gave written informed consent were selected as study cases. 30 subjects who were attendants of the patients and healthy were considered as the controls. Rome-III criteria were used to diagnose IBS. For diagnosing psychiatric disorders, Mini International Neuropsychiatric Interview Schedule Plus was used.

**Results:** Among the 57 patients the mean age of our IBS patients was  $41.23 \pm 09.25$  years and among the control group the mean age was  $40.51 \pm 3.4$  years. There were 19 males (15.78%) and 38 (19.29%) females with a male to female ratio of 1:2. Among the controls the male to female ratio was 1:1.72. In the IBS group 08 (08.77%) patients were educated below intermediate, 17 (12.28%) up to intermediate, 24 (24.56%) were graduates, 08 (08.77%) were post graduates. There was no significant difference between the IBS and control groups in regards to Age, employment, social status and marital status (p value more than 0.05) But in regards to Gender, education and BMI there was significant correlation statistically (p value less than 0.05).

**Conclusions:** Most of the patients with IBS have different types of co-morbid psychiatric disorders. Among the patients with IBS-M the commonest psychiatric conditions were MDE and GAD. To achieve better outcome in IBS patients, screening the patients for psychiatric conditions to be undertaken and also develop a holistic approach.

**Keywords:** Anxiety disorder, Co-morbidity, Depression, Gastrointestinal diseases, Irritable bowel syndrome.

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**Introduction**

Among the GIT disorders, IBS is identified as the commonest chronic inflammatory disease characterized by repeated and unaccountable symptoms such as diffuse or localized abdominal pain, constipation, diarrhea and urgency. [1] Approximately its prevalence ranges from 1.1–29.2% in the communities all over the world. [2,3,4] IBS is not only a burden for the individual but also on the Health sector accounting to nearly half of the referrals to the department of Gastroenterology. [6-8] The exact aetiology of IBS is not clear but many hypothesis are put forwards like, impaired gut motility, post-infectious inflammation, psychological pressures, unpleasant events in the life, and modification in the brain-gut axis. [9,10,11] The current management methods adopted are psychotherapy or psychotherapy in combination with psychotropic drugs. In addition symptom wise treatment is accepted for pain,

constipation, and loose stools. Cognitive behavioral therapy is accepted by all physicians as the most useful method of treating IBS. [12] 45 to 85% of the IBS patients have associated psychiatric ailments like anxiety disorders and depression. [13] The health related quality of life was also observed to be poor in patients with IBS. IBS patients with higher degree of severity also suffer from higher prevalence of quality of life impairment. [14] Mostly the IBS patients who come to seek remedies for the symptoms were found to have higher number and severity of psychiatric ailments like anxiety and depression. [15,16] In India not much research is done related to the psychiatric derivatives IBS and all the information available are from the western literature. There is always tendency of the socio-cultural differences that exists in the western populations and eastern populations in defining the psychiatric

manifestation of IBS. The aim of the study was to list out the co-morbid psychiatric conditions in patients with IBS and their management and its effect on IBS.

#### Methods:

**Type of study:** A cross sectional study

**Type of Study:** A descriptive-analytical cross-sectional study

**Institute of Study:** Kannur Medical College, Anjarakandy, Kannur, Kerala.

The present study was undertaken at the department of Psychiatry, Kannur Medical College, Anjarakandy, Kannur, and Kerala. An institution ethics committee approval was obtained and the consent and proforma were made. Patients attending the Gastroenterology department with a diagnosis of IBS were included.

**Inclusion Criteria:** Patients with IBS were included. Patients aged above 18 years and below 65 years were included. Patients of both the genders were included. Patients with symptoms of diarrhea, pain abdomen, and altered stools were included.

**Exclusion Criteria:** Patients with amoebiasis, Crohn's disease were excluded. Patients aged below 18 years and above 65 years were excluded. All the 57 patients were subjected to thorough history taking and physical examination. Patients not willing to participate in the study were excluded both in the study and control groups. 30 healthy attendants accompanying the patients were included as a control group. All the organic diseases were excluded producing similar symptoms as IBS were excluded. Appropriate investigations required were carried out. Demographic details of the patients, such as age, Gender, employment and educational level, marital status, and socioeconomic level were noted. For socio-economic class the standard Kuppuswamy's scale was used. This scale helps in assessing the socio-economic level of urban populations, based on the education, occupation of the head of the family, and total income of the family. (17) All

patients and the control group subjects were provided with a written informed consent for inclusion in the research. Rome III criteria was used in subjects aged 18 years or above as the diagnostic criteria for IBS. Upper GI endoscopy, colonoscopy, and abdominal ultrasonography were performed in all the patients to rule out organic diseases. Both the study group and control groups were matched in terms of age and gender with cases. IBS group patients with any of the psychiatric disorders mentioned above were sent to the department of psychiatry for evaluation. For the diagnosis of psychiatric co-morbidity, we used the Mini International Neuropsychiatric Interview Schedule Plus.

**Statistical Methods:** All the data was entered in the excel sheet and continuous variables were analyzed using mean and standard deviation. Categorical variables were analyzed by using frequency and percentages. Chi-square test was applied to analyze the relationship between categorical variables. Fisher's exact test was used wherever Chi-square test did not meet the Cochran criteria.

#### Results:

Among the 57 patients with IBS (study group), there were 6 (10.52%) aged between 18 and 25 years, 10 (17.54%) aged between 26 and 35 years, 13 (21.05%) aged between 36 and 45 years, 21 (10.52%) aged between 56 and 65 years. The mean age of our IBS patients was  $41.23 \pm 09.25$  years and among the control group the mean age was  $40.51 \pm 3.4$  years. There were 19 males (15.78%) and 38 (19.29%) females with a male to female ratio of 1:2. Among the controls the male to female ratio was 1:1.72. In the IBS group 08 (08.77%) patients were educated below intermediate, 17 (12.28%) up to intermediate, 24 (24.56%) were graduates, 08 (08.77%) were post graduates. There was no significant difference between the IBS and control groups in regards to Age, employment, social status and marital status (p value more than 0.05) But in regards to Gender, education and BMI there was significant correlation statistically (p value less than 0.05). (Table 1)

**Table 1: Showing the Demographic details related to IBS (n-57; Control group- 30)**

Observation	Number		Percentage		P value
	Study group	Control	Study group	Control	
<b>Age</b>					0.241
18 to 25	06	03	10.52	10.00	
26 to 35	10	07	17.54	02.33	
36 to 45	13	12	21.05	40.0	
46 to 55	21	06	10.52	20	
56 to 65	07	02	03.50	06.66	
<b>Gender</b>					0.001
Male	19	19	15.78	63.33	
Female	38	11	19.29	36.66	

<b>Parent's education</b>					
Below intermediate	08	05	08.77	16.66	<b>0.001</b>
Intermediate	17	07	12.28	02.33	
Graduate	24	14	24.56	46.66	
Post graduate	08	04	07.01	13.33	
<b>Social status</b>					<b>0.101</b>
Low	11	10	48.56	33.33	
Middle	34	13	24.46	43.33	
High	12	07	23.38	02.33	
<b>Employment</b>					0.211
Student	08	02	14.03	06.66	
Teacher	15	06	26.31	20.0	
Banker	16	04	28.07	07.01	
Business	09	12	15.78	40.0	
Labourer	09	06	15.78	20.0	
<b>Marital status</b>					0.310
Yes	43	26	75.43	86.66	
No	14	04	24.56	07.01	
<b>BMI</b>					<b>0.001</b>
18 to 25	32	15	56.14	50.0	
25 to 30	24	15	42.10	50.0	

In the present study all the patients had one or the other psychiatric disorders (100%). The psychiatric illnesses were also present in both the genders (100%) of the study group. But among the control group subjects the psychiatric illnesses were observed in only 16/30 (53.33%) Among these 16 subjects of control group only 06 (37.5%) male patients and 10 (62.5%) females had psychiatric illnesses. Among the psychiatric disorders in the present study GAD was noted in 14 (24.56%) of study group and 05 (16.0%) of the control group. MDE was observed in 18 (31.57%) of the study group and 04 (13.33%) of the control group. (Table

2) Mixed anxiety depression was observed in 09 (15.78%) of the study group and 01 (03.33%) of the control group. Somatisation was noted in 03 (9.52%) of the study group and 02 (06.66%) of the control group. The other common psychiatric diseases observed were OCD, PTSD and other accounted for 13 (22.80%) in the study group and 04 (13.33%) of the control group. (Table 2) There was statistical significant difference between the study group and control group in regards to prevalence of GAD, MDE, generalized anxiety disorders. But there was no significant difference in regards to the other illnesses.

**Table 2: Showing the associated psychiatric conditions in the IBS and control groups (n-IBS-57; Control-30)**

Observation	Study group- 57	Control group- 30	P value
<b>MDE</b>	14 (24.56%)	05 (16.0%)	0.011
<b>GAD</b>	18 (31.57%)	04 (13.33%)	0.001
<b>Mixed-anxiety depression</b>	09 (15.78%)	1 (03.33%)	0.001
<b>Somatization</b>	03 (05.26%)	2 (06.66%)	0.063
<b>OCD</b>	01 (01.75%)	3 (03.33%)	0.047
<b>PTSD</b>	02 (03.50%)	0 (0.0%)	0.196
<b>Others</b>	10 (17.54%)	1 (03.33%)	0.037

(MDE: Major depressive episode, GAD- Generalized anxiety disorder, OCD: Obsessive compulsive disorder, PTSD- Post traumatic stress disorder; PTSD- post traumatic stress disorder; others: Panic disorder, adjustment disorder and dysthymia)

Among the 57 IBS patients the commonest one noted was IBS- Mixed type 26 (45.61%) was the commonest followed by GSD 18 (31.57%) patients, Mixed anxiety depression was noted in 09

(15.78%) patients, summarization in 03 (05.26%) patients and other types in 10 (17.54%) patients. IBS- U (unknown variety was noted in 10 (17.54%) patients.

IBS-D (diarrhea) type was noted in 09 (15.78%) patients. IBS-C (constipation) type was noted in 12 (21.05%) patients. There was no correlation between psychiatric disorders and various subtypes of IBS in the present study. (Table 3)

**Table 3: Showing the various psychiatric conditions observed in different types of IBS (n=57)**

Psychiatric conditions	IBS-D	IBS-C	IBS-M	IBS-U	P-value
<b>MDE- 14</b>	04 (07.10%)	03 (05.26%)	06 (10.52%)	01 (01.75%)	0.531
<b>GAD- 18</b>	03 (05.26%)	04 (07.10%)	08 (14.03%)	03 (05.26%)	0.236
<b>Mixed anxiety depression- 09</b>	01 (01.75%)	02 (03.50%)	04 (07.10%)	02 (03.50%)	0.414
<b>Somatisation-03</b>	00 (00)	01 (01.75%)	01 (01.75%)	01 (01.75%)	0.287
<b>OCD- 01</b>	00 (00)	00 (00)	00 (00)	01 (01.75%)	0.714
<b>PTSD- 02</b>	00 (00)	00 (00)	01 (01.75%)	01 (01.75%)	0.770
<b>Others- 10</b>	01 (01.75%)	02 (03.50%)	06 (10.52%)	01 (01.75%)	0.237
<b>Total- 57</b>	09 (15.78%)	12 (21.05%)	26 (45.61%)	10 (17.54%)	-----

(IBS; Irritable Bowel syndrome, IBS-D- diarrhea predominant IBS, IBS-C- Constipation predominant IBS, IBS-M- mixed IBS, IBS-U- Unclassified IBS, MDE- Major depressive episode, GAD- Generalized anxiety disorder, OCD- obsessive compulsive disorder, PTSD- post-traumatic stress disorder, Other- Panic disorder, adjustment disorder, and dysthymia. P value was not significant in the study of IBS with any mental disorder. Fisher's exact test was used between different forms of IBS and psychiatric illnesses for positive psychiatric illness.

### Discussion

Irritable Bowel syndrome is a functional disorder of the GIT with 45 to 85% of the patients having associated psychiatric illnesses as co-morbidity. [22] It was observed by many authors that the IBS patients who seek medical help with a qualified physician were found to have more psychiatric illnesses as co-morbid conditions than other who do not seek medical help. [15] As IBS is a chronic disease in the due course of its suffering many patients acquire psychiatric conditions. [23] As they acquire these illnesses the prognosis of IBS changes to a large extent; [23] Hence increasing the costs of treatment. There were 19 males (15.78%) and 38 (19.29%) females with a male to female ratio of 1:2. In the IBS group 08 (08.77%) patients were educated below intermediate, 17 (12.28%) up to intermediate, 24 (24.56%) were graduates, 08 (08.77%) were post graduates. There was no significant difference between the IBS and control groups in regards to Age, employment, social status and marital status (p value more than 0.05) But in regards to Gender, education and BMI there was significant correlation statistically (p value less than 0.05). (Table 1) The male to female ratio observed in this study was similar to other studies and it showed the preponderance of IBS among women. [24,25] Some researchers have theorized that sex hormones (regulating the brain-gut-microbiota axis) have certain role to play in women to induce IBS. [26] It was also reported by psychiatric researchers that IBS is related to few other functional and psycho-somatic illnesses. [27] As it was usually observed that women display somatic complaints when affected by psychiatric diseases. Haug et al [28] reported that female

patients have higher number of somatic symptoms than the male patients; also, their study showed stronger relation between functional somatic symptoms with anxiety and depression. In the present study there was statistical significant difference between the study group and control group in regards to prevalence of GAD, MDE, generalized anxiety disorders in patients with IBS. But there was no significant difference in regards to the other illnesses. (Table 3) In a study by Kawoos Y, Wani ZA [29] similar to the present study, the majority of patients had IBS-M with depression and anxiety as the major psychiatric co-morbidities, but no major differences were seen between the various types of IBS. This reporting of findings by few European and few American studies was similar to the present study findings. [30,31] But our findings differ from certain studies also [32,33] It can be concluded that the type of IBS observed depends upon the population under study and varies among different regions. [34] In the present study psychiatric illnesses were found in all the patients (100%). This seems to be quiet higher than certain western studies wherein the reporting was only between 40.0–60.0%. [35] But our studies are comparable to Indian study. [36] A study by Prashant Singh et al [36] conducted in 2012 the psychiatric illnesses were in the range 79.9%. None of the control group subjects of this study had symptoms of IBS. But the incidence in the study by Prashant Singh et al [36], it was 34.3%. Mayer et al, [37] reported GAD in 32.0% of the patients with IBS. In Hong Kong an epidemiological study was conducted with the prevalence of GAD higher in IBS symptom patients than in non-IBS symptom patients. [37] Kabra and Nadkarni [38] from India, showed the prevalence of depression as high as 37%, but in this study it was 18/57 (31.57%) of IBS patients. The difference in the prevalence could be due to different scales that were used to assess depression in these two studies. In a study by conducted in 2016 analyzing the data of IBS patients it was found that among the different types of IBS, anxiety was predominantly seen in the IBS-M sub-type but the sub-types did not differ significantly in depressive features. [39]

## Conclusions

Most of the patients with IBS have different types of co-morbid psychiatric disorders. Among the patients with IBS-M the commonest psychiatric conditions were MDE and GAD. To achieve better outcome in IBS patients, screening the patients for psychiatric conditions to be undertaken and also develop a holistic approach.

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