

Psychiatric Illness, Personality Traits and the Irritable Bowel Syndrome

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Abstract

Introduction: Irritable bowel syndrome is a common functional gastrointestinal disorder. Although its aetiology is still unknown, visceral hypersensitivity, disorders of motility and psychosocial factors have been proposed as possible factors that affect the "gut-brain" function. The objective of this study was to determine if psychiatric disorders exist in patients with irritable bowel syndrome. **Patients and Methods:** During a 10-month period, 43 outpatients, after exclusion of organic bowel pathology and meeting Manning's criteria for the diagnosis of irritable bowel syndrome, were assessed using the Eysenck Personality Questionnaire. In addition, a psychiatric interview was conducted by two psychiatrists. Twenty patients with organic bowel disorders, who were age matched, were selected as patient control. **Results:** Psychiatric diagnoses (62.5%) were present in significantly more female patients with irritable bowel syndrome than female patients with organic bowel disorders (16.7%, $P < 0.05$). On Eysenck Personality testing, female patients with irritable bowel syndrome scored significantly higher on neuroticism (15.25 versus 8.58) and lower on need for social desirability (14.04 versus 17.0) than the organic disease group. Male patients with irritable bowel syndrome were comparable with male patients with organic bowel disorders in terms of presence of minor psychiatric morbidity, psychiatric diagnoses and Eysenck Personality scores. **Conclusion:** There is a difference between male and female patients with irritable bowel syndrome in terms of psychopathology.

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Key words: Extraversion, Irritable bowel syndrome, Lie, Neuroticism, Psychosocial, Psychoticism

Introduction

Irritable bowel syndrome (IBS) is the most common functional gastrointestinal disorder seen by gastroenterologists and has been found to account for 50% of referrals to a Gastroenterology clinic.¹ It has an estimated prevalence of between 15% and 25% in the non-patient population.^{2,3} It is frequently regarded as a psychophysiological disorder and between 72% and 100% of patients in reported series are found to have recognisable psychiatric disorders.^{4,5} Moreover, psychiatric illness episodes and/or anxiety provoking situations have been observed to precede the onset of bowel symptoms in two-thirds of patients with IBS,⁶ although stressful life events do not appear to be associated with IBS unless they provoked an anxiety state. Personality testing of patients with IBS revealed personality

profiles that include inadequate personality, dependency, somatisation, reactive depression, anger and denial.⁷ Most of these studies were performed exclusively on female patients with IBS. There is little data on male patients with IBS. This prospective study was carried out to determine if male patients with IBS have the same psychopathology as their female counterparts.

Materials and Methods

During the study period, 43 out of 48 patients diagnosed to have IBS on the basis of the presence of at least three of Manning's criteria (with symptoms for at least 3 months) and who consented to the interview were recruited. Organic disease was excluded by physical examination and investigations that included full blood count, erythrocyte

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sedimentation rate, colonoscopy or barium enema, stool culture, and when indicated dietary lactose restriction. The patients were required to complete questionnaires after being instructed by two psychiatrists. The questionnaire used was the Eysenck Personality Questionnaire. Twenty patients with organic bowel disease (13 with ulcerative colitis, 7 with Crohn's Disease), who were age and sex matched, were selected as clinical controls. They were on maintenance dosage of salazopyrine (in the case of ulcerative colitis) and in the case of Crohn's Disease, prednisolone and salazopyrine. They were in remission at the time of the study. We compared the presence of minor psychiatric morbidity, psychiatric diagnoses and personality traits of the two groups by gender. Statistical analyses were performed using the Wilcoxon Rank sum test and Fisher's exact test. The comparative Eysenck Personality Questionnaire was based on the work of Long and Eysenck on Singapore men and women in 1986.⁸

Results

The demographic data in Table I showed that the patient and patient control groups were comparable in terms of age, gender and marital status. There were more patients with IBS with tertiary education than the controls group.

There were significantly more female IBS patients with psychiatric diagnoses than the organic bowel disease group of patients (Table II). Such a difference was not seen in male IBS patients and male patient control group.

Personality testing using the Eysenck Personality Questionnaire showed that male patients with IBS did not differ from male patients with organic bowel disease or the male population control in their scores for psychoticism ($P = 0.38$), extraversion ($P = 0.48$), neuroticism ($P = 0.99$)

and lie (social desirability) ($P = 0.79$) (Table III). Female patients with IBS had a significantly higher neuroticism score ($P < 0.05$) and lower lie score (14.04 versus 17.0 $P = 0.005$) than female patients with organic bowel disorder (Table IV).

Discussion

Irritable bowel syndrome is a disorder that affects both sexes. Although it appears to be more common in females, in some countries such as India,⁹ it appears to be more common in males. However, reports of studies on IBS seldom consider the effect of gender. Gender effects in the diagnosis of IBS were not evaluated by Manning et al¹⁰ or Kruis et al.¹¹ The effect of gender was also not taken into consideration in the psychological assessment of patients with IBS.^{6,7,12} There was one study which reported that the stress index of male patients with IBS was significantly higher than in male patients with ulcerative colitis.¹³ Psychiatric diagnoses were also significantly higher in female patients with IBS (62.5%) compared to patients with organic bowel disorder (16.7%). On testing with the Eysenck Personality Questionnaire, female patients with IBS had a significantly higher mean score on neuroticism (15.25 versus 8.58) and significantly lower mean lie score (14.04 versus 17.0) compared with the organic disease group.

For male patients with IBS, the results were different. Twenty-one per cent had psychiatric diagnoses. The results were not significantly different from male patients with organic bowel disorders, although the small sample size makes a definite conclusion difficult. The scores of male IBS patients on the Eysenck Personality Questionnaire were not significantly different from male patients with organic bowel disorder on all four measures (neuroticism, psychoticism, lie and extraversion). Overall, psychopathology (psychiatric diagnoses and personality traits) was present more frequently in female patients with IBS than in female patients with organic bowel disorder. In contrast, there was no difference in the presence of psychopathology in male patients with IBS compared with male patients with organic bowel disease.

There are several possible explanations for this gender

TABLE I: DEMOGRAPHIC DATA

	Patients (n = 43)	Patient controls (n = 20)
Female:Male	24:19	12:8
Age (y)		
Mean	35.6 ± 9.2 yrs	37.2 ± 8.6 yrs
Male	33.3 ± 8.4 yrs	35.5 ± 8.4 yrs
Female	37.5 ± 9.6 yrs	38.3 ± 9.0 yrs
Marital status		
Married	65.1%	70.0%
Single	30.2%	20.0%
Divorced	4.7%	10.0%
Widowed	nil	nil
Educational level		
Primary	25.59%	35.0%
Secondary	60.46%	60.0%
Tertiary	13.95%	5.0%

TABLE II: PSYCHIATRIC DIAGNOSES

	Female psychiatric diagnoses		Male psychiatric diagnoses	
	No.	(%)	No.	(%)
Patients (n = 24)	15	(62.5)	Patients (n = 19)	4 (21)
Controls (n = 12)	2	(16.7)	Controls (n = 8)	2 (25)
	$P = 0.011$		$P = 0.59$	

TABLE III: MALE EYSENCK PERSONALITY SCORE

	Psychoticism		Extraversion		Neuroticism		Lie	
	Median	SD	Median	SD	Median	SD	Median	SD
Patient	4.52	2.48	8.31	3.10	9.89	6.09	13.00	3.97
Patient control	3.87	2.16	9.12	3.97	9.87	5.98	12.60	5.52
Population control*	2.92	2.53	13.26	4.36	8.56	5.01	10.05	4.26
	$P = 0.38$		$P = 0.48$		$P = 0.99$		$P = 0.79$	

* Reference 8; SD: standard deviation

TABLE IV: FEMALE EYSENCK PERSONALITY SCORE

	Psychoticism		Extraversion		Neuroticism		Lie	
	Median	SD	Median	SD	Median	SD	Median	SD
Patient	4.25	3.22	8.70	5.22	15.25	4.02	14.04	3.80
Patient control	2.84	2.44	12.25	4.88	8.58	6.50	17.00	2.73
Population control*	2.53	1.99	11.89	4.45	10.63	4.83	10.92	4.02
	$P = 0.239$		$P = 0.051$		$P = 0.003$		$P = 0.03$	

* Reference 8 SD: standard deviation

difference. Whitehead et al¹⁴ and Drossman et al¹⁵ have independently compared psychological factors in female irritable bowel patients and non-patients, and found that there was more psychopathology seen in the clinic sample than in the community sample. The conclusion was that psychopathology influences who will attend a medical clinic for bowel complaints. This hypothesis could account for the presence of more psychopathology among the female patients with IBS in our study. However, the same argument does not seem to apply to male patients with IBS in our study. This indicates that psychopathology is not the sole determinant for seeking health care. Other than psychosocial factors, symptom severity is likely to be a major determinant in determining health care consultation.¹⁶ In our study, we did not grade the severity of symptoms in each sex for comparison. It is possible that our male patients with IBS may have more severe symptoms than male non-patients in the community with symptoms of IBS. An extended study involving non-patients of both sexes with IBS could confirm this hypothesis.

Another possible explanation for the observed gender difference in psychopathology in our study is that a gender difference exists in the definition of IBS using Manning's criteria. Smith et al¹⁷ found that whilst correlation between Manning's criteria and IBS was significant in women patients, in men, the correlation was in the opposite direction. Their observation confirmed earlier reports that Manning criteria are less predictive of IBS in men than in women.¹⁸ Smith went on to suggest that IBS might be different disorders in the two sexes. Our study seems to support this as we have shown that in terms of psychopathology, a gender difference may exist.

One of the possible weaknesses of our study is the definition based on Manning's criteria. A more recent definition of IBS, based on Rome II diagnostic criteria, was proposed and accepted by consensus in 1999 which requires abdominal pain of 12 weeks' duration that need not be consecutive and that is relieved with defecation.¹⁹ All our patients in this study met with these new diagnostic criteria. The use of the Eysenck Personality Questionnaire is based on earlier experience that it was reproducible in the local population. The Minnesota Personality Test is available but was far too complex for the local population.

Although the value of psychotherapy in IBS has been reported by Svedlund and co-workers²⁰ and Hislop,²¹ the effect of gender has not been considered. One possible implication of our study is that psychotherapy may be likely to be beneficial in male patients with IBS. Recently, Tarum and Malt²² have shown that personality traits predict treatment outcome with antidepressants in patients with functional gastrointestinal disorder. If confirmed, personality trait assessment before initiation of treatment will be required.

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