Psychosocial background in irritable bowel syndrome

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Abstract  Objectives: To determine the psychological characteristics of patients with irritable bowel syndrome (IBS) and the associated stressful life events.

Methods: This preliminary study was conducted on 247 consecutive patients with IBS, who were seen in a Gastroenterology Clinic in Sana'a over a three year period. Their ages ranged from 18 to 62 years in men and from 18 to 64 years in women. Patients were diagnosed as having IBS if they had abdominal pain at any site accompanied by abdominal distension and altered bowel habit for which no pathological explanation could be found. Neurotic disorders and stressful life events were diagnosed according to standardized questionnaires. Data was collected on specially designed records for computer analysis.

Results: Constipation-predominant IBS was observed to be more frequent among women compared with men (p<0.001); whereas diarrhea-predominant form was noticed to be more frequent among men than in women (p=0.02). Neurotic or minor affective disorders were found in 93.1% of all IBS patients with no significant sex difference. The existence of one or more stressful life events was noticed among 84.6% of all IBS patients. Mean rank sum for stress index scores was found to be significantly higher in women compared with men (p<0.0001).

Conclusions: It can be concluded from this study that stressful life events were associated with IBS in most patients, especially women, and that minor affective disorders have characterized the majority of IBS patients regardless of gender.

Saudi Medical Journal 1996; Vol. 17 (3): 370 - 374

Keywords: Irritable bowel syndrome (IBS), neurotic disorders, stressful life events, Yemen.

Irritable bowel syndrome (IBS) is the most common disease category recognized by the gastroenterologist.1 It is a disorder characterized by abdominal pain, often associated with abdominal distension, and by altered bowel habit (either constipation or diarrhea or both), in the absence of demonstrable pathology.2

Psychological abnormalities are often prominent in patients with IBS. Increased scores for anxiety and depression have been reported by several authors.3,4 Epidemiological studies have shown that patients with IBS had consistently higher scores for various socio-cultural factors representing life stresses than either the patients with ulcerative colitis or the general population,5 and that the psychological factors previously attributed to IBS are associated with the patient himself rather than with the disorder per se.6 In addition, comparison of community and clinical samples in women have suggested that symptoms of psychological distress were unrelated to IBS but influence which patients would consult a doctor.7

Patients and methods  Two hundred and forty seven consecutive patients with IBS, 122 men and 125 women, were seen in a Gastroenterology Clinic in Sana'a over a three year period. Their ages ranged from 18 to 62 years in men and from 18 to 64 years in women. Data was collected on specially designed records.

Irritable bowel syndrome (IBS) was defined according to Thompson,11 as altered bowel habit and abdominal pain often accompanied by distension for which no biochemical, pathological,
or pathophysiological explanation can be proven. Patients were considered to have IBS if they fulfilled diagnostic criteria based on symptoms of which the three most important are abdominal pain at any site, abdominal distention, and altered bowel habit. The constipation-predominant, predominant variant of IBS (V₁) was defined as an inability to evacuate bowel at least once every two days without laxatives, enemas or suppositories in a patient who experienced abdominal pain. Diarrhea-predominant variant (V₂) was defined as frequent, more than two per day, loose or watery bowel movement in a patient who experienced abdominal pain. The third variant (V₃), alternating constipation and diarrhea, was suggested by us to describe IBS patients who have constipation variant with bouts of diarrhea from time-to-time. Symptoms were considered indicative of IBS if they were present, either constantly or intermittently, for at least three months. Exclusion criteria were those of organic bowel disease like severe weight loss, blood in stools, anemia and fever. In addition to general and abdominal physical examination and rectal examination all patients were investigated for hemoglobin, white cell count, ESR and stool examination. Further investigations included air contrast barium enema which involved 120 women (96%) and 110 men (90%). Sigmoidoscopy was carried out in men only, in particular those who were not investigated with barium enema. All patients of both gender were examined by abdominal ultrasonography.

Assessment included questionnaire on gastrointestinal symptoms; symptoms of neurosis or altered affect; and stressful life events. The diagnostic of minor affective disorders in our IBS patients were made by a consultant psychiatrist (one of us). Patients were stratified into three groups: those with predominant depressive symptoms; those with predominant anxiety and those with combined anxiety and depression. The diagnostic criteria for depression included:

Lowering of the mood (subjective depression); preoccupation; fleeting suicidal feelings; fatigue; loss of appetite; insomnia of the early awakening type; loss of interest in social environment; feelings of inadequacy and loss of libido. The diagnostic criteria for anxiety included: Anxious mood; apprehension and fearful anticipation; distractibility and difficulty in concentrating; worrying; palpitations; dizziness; tremors; headaches; sweating and difficulty in inhaling air.

Stressful life events were assessed using a locally designed standard questionnaire derived from the scaling suggested by Menderoff et al. and Paykel et al. Copies of our locally designed scale for estimating the stress index are available on request from the publisher, or the first author.

Statistical analysis of data was performed with a personal computer using the Statistical Package for Social Sciences (SPSS software package). Results were analyzed using Student's (unpaired) t-test of significance for continuous variables, Pearson's chi-square with Yates' correction for categorical data, Z-test for comparing proportions, and Mann-Whitney U Wilcoxon rank sum test for comparing the non-parametric ordinal (ranked) stress index data. Odds ratio (OR) with 95% confidence interval (CI) were calculated from 2x2 tables to assess the relative risk. Significance was taken as just less than 0.05.

Results

Comparison of the mean age (mean ± SE) in years between men (34 ± 0.9) and women (35 ± 1.0) with IBS did not show any significant statistical difference (p=0.3).

As shown in Table 1, the occurrence of constipation-predominant, IBS (V₁) was noticed to be significantly higher in women compared with men (p<0.0001). In contrast, diarrhea predominant IBS (V₂), was observed to be significantly more frequent in men than in women (p=0.02). No significant sex difference was observed in the occurrence of the alternating

| Table 1 - Clinical variants of irritable bowel syndrome (IBS) |
|-----------------------------|-----------------|-----------------|-----------------|-------------------|
| Variants of IBS             | Men n (%)       | Women n (%)     | Row total number | Z-test p-value   |
| * Constipation predominant (V₁) | 64 (52.5)       | 99 (79.2)       | 163              | p<0.001          |
| * Diarrhea predominant (V₂)  | 46 (37.7)       | 16 (12.8)       | 62               | p=0.02           |
| Alternating constipation and diarrhea (V₃) | 12 (9.8)       | 10 (8)          | 22               | p=0.88           |
| * Column total               | 122             | 125             | 247              |                  |

| Table 2 - Types of neurotic disorders (n=sample size) |
|-----------------------------------------------|-----------------|-----------------|-----------------|-------------------|
| Types of neurotic disorders                    | Men n (%)       | Women n (%)     | Row total number | Z-test p-value   |
| * Anxiety                                     | 76 (62.3)       | 63 (50.4)       | 139              | p=0.25           |
| * Depression                                  | 7 (5.74)        | 9 (7.2)         | 16               | p=0.93           |
| * Combined anxiety and depression             | 32 (26.22)      | 43 (34.4)       | 75               | p=0.44           |
| * No neurotic disorder                        | 7 (5.74)        | 10 (8)          | 17               | p=0.86           |
| * Column total                                | 122             | 125             | 247              |                  |

* Column total number
diarrhea and constipation IBS (V₁) (p=0.88).

Neurotic or minor affective disorders were recognized in 93.1% of all IBS patients with no significant sex difference as indicated in Table 2. In addition, neurotic disorders experienced a weak relative risk for IBS in men compared with women (OR=1.43; 95% CI: 0.5256 to 3.883; X²: p>0.2).

Psychological characteristics of patients with different variants of IBS are shown in Table 3. Using Fisher exact test, no significant differences were noticed (p>0.2) in frequency distribution of psychological characteristics of patients among the three variants of IBS.

Exposure to one or more stressful life events was reported by 84.6% of all IBS patients. Stress index scores, as expressed in Table 4, were noticed to be significantly higher in women compared with men, within each age group (p=0.0001) and for the whole IBS population (p<0.0001) as assessed by Mann-Whitney-U Wilcoxon rank sum test. In addition, stressful life events experienced a significant relative risk to IBS in women compared with men, although 95% CI was relatively wide (OR=7.052; 95% CI: 2.827 to 17.588; X²: p<0.0001); and a negative risk in men compared with women (OR = 0.142; 95% CI: 0.0568 to 0.3536; X²: p>0.2).

Discussion The finding in our study, that constipation predominant IBS was significantly more frequent among women and that diarrhea predominant IBS was more frequent among men, is consistent with what was mentioned by Holdsworth and Cann.15

Neurotic disorders observed in the majority of our patients were also noticed by other authors.2,14 We have also noticed what has been mentioned by Palmar et al.,5 that these disorders have not exhibited a significant risk to IBS in either sex. However, several other studies have shown that illness-related beliefs and attitudes may influence the way that symptoms are experienced and acted upon, and that anxiety and depression are prevalent among those who consult a doctor.8,10 Thompson and Heaton,17 have reported the existence of IBS in apparently healthy people, and have assumed that the majority of IBS sufferers are silent and never become patients; and that psychoneurotic individuals are simply the minority who like to bring their irritable bowel to a doctor.

Anxiety symptoms were prominent in many of our patients, accounting for 62.3% in men and 50.4% in women. This finding may be explained by the potentiating effect of anxiety on pain, as many fear the presence of organic disease.13 Diarrhea predominant IBS has been reported by some authors to be associated with elevated anxiety.6 On the contrary, we noticed no significant difference between the frequencies of constipation predominant IBS and diarrhea predominant IBS among patients with anxiety, depression or
combined anxiety and depression.

The reported association, in this study, between stressful life events and IBS, has also been observed by Menderoff et al., Hislop, and Drossman et al. Moreover, stressful life events were recognized as a significant relative risk in women compared with men.

**Conclusion** It can be concluded from this study that neurosis or altered affect characterized the majority of IBS patients and that exposure to stressful life events was a relative risk to IBS in women compared to men. All these results suggest that IBS among this Yemeni group of patients might have been provoked by life stresses associated with modernization. However, to gain further insight into the psychosocial background in IBS, a case control study is now underway.

**References**


عنوان البحث:
«الخلفية النفسية والاجتماعية لمتلازمة الأمعاء المتهجية»

الهدف: دراسة العلاقة بين التعرض لضغوط الحياة المعاصرة وبين متلازمة الأمعاء المتهجية. كذلك معرفة الخصائص النفسية للمرضى المصابين بهذه المتلازمة.

الطريقة: لتحقيق هذه الأهداف قمنا بدراسة (247) مريضاً مصاباً بتلازمة الأمعاء المتهجية (122 رجلاً، 125 امرأة)، من المترددين على عيادة أمراض الجهاز الهضمي في صنعا، على مدى ثلاث سنوات، وتم تدويل معلوماتهم على ماذين خاصة أعدت لذلك.

النتائج: لوحظ أن نمط متلازمة الأمعاء المتهجية الذي يتميز بالإمساك كان أكثر حدوثاً في النساء عنه في الرجال، بينما كان نمط المتلازمة الذي يتميز بالإسهال أكثر حدوثاً في الرجال عنه في النساء، وكان الفرق ذا دلالة إحصائية محسّنة بين الجنسين في النمطين، كذلك لوحظ تفشي الاضطرابات العصبية (الوجدانية) بنسبة عالية في المرضى المصابين بهذه المتلازمة من كلا الجنسين.

كما اتضح لنا أن النساء كن أكثر تعرضاً من الرجال للضغوط الحياة، وأن هناك علاقة إحصائية مهمة بين هذا التعرض وحدوث المتلازمة.

الاستنتاج: تدل هذه الدراسة أن الاضطرابات العصبية أو الوجدانية كانت من خصائص المرضى الذين يعانون من أعراض متلازمة الأمعاء المتهجية، وأن التعرض لضغوط الحياة الحديثة كان ذا أثر بالغ، خاصة في النساء، في ظهور أعراض هذه المتلازمة.