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Irritable Bowel Syndrome in the Saudi Population

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ABSTRACT

Background: Irritable Bowel Syndrome (IBS) is a very common gastrointestinal dysfunction. Notwithstanding strong evidence of high prevalence of depression and anxiety in IBS there is very limited research on this topic in KSA.

Materials and Methods: Cases of irritable bowel syndrome and controls with non-ulcerative dyspepsia were employed between March 2016 to May 2017 from the gastroenterology department in King Abdulaziz hospital, KSA. Presence of anxiety disorder and depression were evaluated by utilizing the Hamilton Anxiety rating scale and Hamilton Depression rating scale respectively. Occurrence rates of anxiety and depression were established and Odds Ratio (OR) was calculated to determine the association of depression and anxiety disorders with IBS.

Results: In IBS cases, the prevalence of depression and anxiety disorder was 37.2% and 31.5% respectively. In patients with irritable bowel syndrome the OR for depression was 6.1 (95% CI 1.7-23.6, P=0.008) and the OR for anxiety disorder was 7.3 (95% CI 1.5-36.2, P=0.011).

Conclusion: The occurrence of depression and anxiety disorder in IBS is very high. As a result, screening of IBS patients for anxiety and depression would facilitate better interventions and consequently better outcomes and medical treatment.

Keywords: Anxiety, depression, irritable bowel syndrome.

INTRODUCTION

Irritable bowel syndrome (IBS) is a functional gastrointestinal (GI) disorder characterized by abdominal pain and altered bowel habits in the absence of a specific and unique organic pathology. Osler coined the term mucous colitis in 1892 when he wrote of a disorder of mucorrhea and abdominal colic with a high incidence in patients with coincident psychopathology. Since then, the syndrome has been referred to by sundry terms, including spastic colon, irritable colon, and nervous colon [1].Earlier, irritable bowel syndrome has been considered a diagnosis of exclusion; nevertheless, it is no longer considered a diagnosis of exclusion, but it does have a broad differential diagnosis [2]. No specific motility or structural correlates have been consistently demonstrated; however, experts suggest the use of available guidelines can minimize testing and aid in the diagnosis. IBS places a heavy burden on health services and accounts for 20-50% of referrals to gastroenterology clinics [3].However, a number of biological triggers have been suggested for beginning of IBS[4, 5], it has correspondingly been recommended that psychological factors, mainly those linked with the process of somatization play a significant role and can even act as markers of IBS onset[6].

Recent studies have shown that subjects with IBS have higher levels of depression, anxiety and neuroticism as compared to those without irritable bowel syndrome [7 ,8]. Several studies have shown that as many as 30-40% of patient with IBS have co-morbid depression or anxiety disorder[9,10].

It has similarly been described that patients who come to medical attention tend to have a greater number of symptoms and are more anxious and depressed[11].

On the other hand, most of the evidence on IBS and co-morbid depression or anxiety disorder comes from western studies. There is very little research looking into the pervasiveness of these psychiatric disorders in patients with IBS in other countries. Given the fact that there are significant socio-cultural differences, it is difficult to generalize research findings from developed countries. It consequently, warrants a requirement to undertake basic research in other countries.

Accordingly, the purpose of this study was to strengthen the limited evidence based on identifying the pervasiveness of common mental

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disorders, for example, depression and anxiety in patients with irritable bowel syndromein an Saudi population.

MATERIALS AND METHODS

Cases of IBS and controls with non-ulcerative dyspepsia were employed during the period from March 2016 to May 2017 from the gastroenterology department in King Abdulaziz hospital, KSA. Seventy patients diagnosed with irritable bowel syndrome eusing Rome's II diagnostic criteria [12] were randomly selected as cases. Another 70 patients diagnosed with non-ulcerative dyspepsia (NUD) from the same clinic were randomly selected as the control group. The only inclusion criterion was that all the respondents selected were between the ages of 16 and 60 years.

All the selected patients experienced a brief interview for socio-demographic details, for example, age, gender, education, employment, marital status and socioeconomic status. For the aim of this analysis, we converted age into a binary variable with a cut-off age of 35 years. Employment status was coded as a binary variable, with those who were currently employed were coded as economically active. Education status was likewise coded as a binary variable with respondents who were able to read or write were coded as literate. Marital status too was coded as a binary variable with two categories; married and single/post marital (divorced, separated, or widowed). This scale takes account of education, occupation and income of the family to classify study groups into high, middle and low socio-economic status. For our analyses we converted this polychotomous outcome variable into a binary outcome; low socio-economic status and middle/high socio-economic status. Presence of depression was diagnosed using the Hamilton depression rating scale [13] and anxiety disorder was diagnosed using the Hamilton Anxiety rating scale [14] respectively.

Pervasiveness of depression and anxiety disorder was calculated for the IBS and control groups. Comparisons were made initially between the socio-demographic characteristics of IBS and control groups using Chi-square tests. In order to determine the independent relations between IBS and depression/anxiety disorders, odds ratios (OR) with 95% confidence intervals were calculated. The threshold for statistical significance was set at the standard P value of 0.05.

The study was done according to the ethical board of King Abdulaziz university.

RESULTS

In total there were 70 respondents with irritable bowel syndrome and 70 controls. The prevalence of depression and anxiety disorder in irritable bowel syndrome was 37.2% and 31.5% respectively. The prevalence of depression and anxiety disorder in the control group was 8.7% and 5.8% respectively.

Table 1. Prevalence of depression in patients with irritable bowel syndrome

	Depression N (%)	**Odds Ratio**	**95% CI**	**P**
Control (N= 70)	6 (8.7)	1		0,008
IBS (N= 70)	26 (37.2)	6,1	1,7 - 23,6	

Table 2. Prevalence of anxiety in patients with irritable bowel syndrome

	Anxiety N (%)	**Odds Ratio**	**95% CI**	**P**
Control (N= 70)	4 (5.8)	1		0,011
IBS (N= 70)	11 (31.5)	7,3	1,5 – 36,2	

Table 1& 2 describe the socio-demographic characteristics of respondents with and without irritable bowel syndrome. Compared to the controls, a higher proportion of respondents with IBS were female (44.6% vs. 43.2%), older than 35 years (36.9% vs. 29.1%) and economically inactive (28.2% vs. 17.5%). A significantly higher proportion of respondents with irritable bowel syndrome were illiterate (11.3% vs. 0%), single or post-marital (36.9% vs. 11.3%) and were from a lower socio-economic strata (56.9% vs. 26.1%).
The OR for depression in respondents with IBS was 6.1 (95% CI 1.7-23.6, P=0.008). The OR for anxiety disorders in respondents with IBS was 7.3 (95% CI 1.5-36.2, P=0.011).

DISCUSSION

Previous studies from developed countries have reported similar high prevalence rates of anxiety and depression in IBS [15, 16]. This prevalence of depression or anxiety in IBS is higher than in primary care population in KSA and other developing countries (6.2% depression-

25% anxiety)[17–19]. In an earlier study, irritable bowel syndrome patients presented an overall higher degree of psychological symptoms in general[20] and anxiety symptoms in particular[21]. In one study the mean scores on Symptom Checking List questionnaire-90 (SCL90) for depression and anxiety in diarrhea predominant IBS (1.1 and 1.0), constipation predominant IBS (1.6 and 1.3), and alternating IBS (1.5 and 1.2) subtypes were higher than in healthy controls (0.4 and 0.4)[20]. Alternatively, in a study comparing irritable bowel syndrome, Inflammatory bowel disease and chronic hepatitis C (HCV) there was no significant difference between groups in the pervasiveness of anxiety but irritable bowel syndrome group had a statistically significant lower pervasiveness of depression compared to HCV (15% vs. 34%)[22].

The current findings of a high proportion of respondents with IBS (44.6%) than controls (43.2%) being female has also been reported in a previous studies [22, 23]. In the same studies irritable bowel syndrome respondents were significantly older than those with HCV (Mean age 54 vs. 45) which agree with the current findings; even though in the current study this age effect is not statistically significant. The high proportion of economically inactive IBS respondents is in accordance with previous results which reported that people with IBS are more probable to be incapable to work[24]. Comparable to the current study findings, **Wilson *et al*.(25)** reported a higher risk of IBS in the more destitute but did not report any significant influence of level of education on pervasiveness of IBS.

Even though the current study has a comparatively modest sample size, these are fairly severe cases that were either referred or self-presented to the gastroenterology clinic. Another shortcoming of our study is its cross-sectional design, which does not allow us to determine direction of causality in the relationship between IBS and depression/anxiety.

With the purpose of clarify the temporal relationship prospective studies with a bigger sample size are essential to be done in the future. Additionally, we have utilized standardized and validated rating scales to make a diagnosis of anxiety and depression.

The results of the current study can be summarized as follows:

(1) Irritable bowel syndrome is significantly associated with lower education, low socio-economic status and being single or post-marital state .

(2) There is an increased risk of depression and anxiety disorders in IBS as compared to the controls with non-ulcerative dyspepsia.

(3) Almost a third of the patients with IBS had depression or anxiety disorders.

IBS accounts for a huge proportion of referrals to gastroenterology clinics and the cost related with IBS to an individual and to the society are substantial. Psychological disorders comorbid with irritable bowel syndrome adds to their disability, in addition to the cost to the individual and the society. Consequently, the high pervasiveness of anxiety and depression in IBS in the current study supports a case for screening of these disorders in gastroenterology clinics. Additionally, recognition and management of these co-morbidities could improve patient results. Forthcoming studies ought to focus on replicating or refuting these results in larger samples along with testing involvements intended at targeting psychological morbidities in this patient group.

CONCLUSION

Irritable bowel syndrome is significantly associated with lower education, low socio-economic status and being single or post-marital. There is an increased risk of depression and anxiety disorders in irritable bowel syndrome as compared to the controls with non-ulcerative dyspepsia. Almost a third of the patients with irritable bowel syndrome had depression or anxiety disorders.

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