An Epidemiological Study of Irritable Bowel Syndrome among Students of Medical and Nursing Colleges in Kirkuk University

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Abstract:

Background: Irritable Bowel syndrome is a functional bowel disease characterized by abdominal pain associated with change in the frequency and consistency of stool, this study was carried out to study the prevalence and the clinical characteristics of irritable bowel syndrome among students of medical school of Kirkuk university.

Subjects and Methods: This is a cross sectional study done among students in medical and nursing college of Kirkuk university from September 2012 to March 2013 according to a standardized questionnaire based on Rome II criteria for the diagnosis of IBS.

Results: This study showed that symptoms of IBS is present in (35%) of students in nursing college and (31%) of students in medical college with overall frequency of (33%), also this study showed a frequency of IBS among (24.3%) of female and (11.2%) of male in nursing college while (18.6%) among female, (12.9%) of male in college of medicine. Regarding the type of IBS according to the bowel motion, diarrheal type was present in (41.6%), constipation type in (30.5%) and the mixed type in (27.7%).

Conclusion: The present study showed that symptoms of IBS are frequent among students in medical and nursing college and it is commoner in females more than males.

Key words: Irritable bowel syndrome, Epidemiology, Medical and Nursing College students.

Introduction:

Irritable bowel syndrome (IBS) is a type of functional gastrointestinal disorder that affects a large number of people worldwide especially in western countries [1]. IBS is characterized by changes in bowel motility and abdominal pain in the absence of unrecognizable physical disorder [2].

The prevalence of IBS in western countries has been variously reported as (15-24%) [3,4], and in most Asian communities is (5-10%) which is lower than in the western countries [5], It is generally recognized that IBS occurs more frequently in females than in males [6,7]. The definite cause of the disease is not yet clear however hyperalgesia (decreased pain threshold), abnormal intestinal motility and psychological factors are considered in the etiology of this disorder [8]. It has been shown that some factors especially psychological factors [9], and dietary habits [10] are associated with the onset and the course of IBS, and many colleges and university students have psychological problems such as anxiety and depression which can be predictive of IBS [11].

Around (10-56%) of adults with symptoms of IBS presents for medical evaluation [12] and this may be related to cultural factors [13], the presence and the degree of the pain and psychological

disturbances and access to health care [14].

The aim of the present study is to find out the prevalence and the clinical characteristics of IBS among students of medical and nursing college in Kirkuk University.

Patients and Methods:

A cross-sectional study was done in the medical and nursing college of Kirkuk university during the period from first of September 2012 to the first of March 2013, the study sample was chosen randomly among students in the medical college (3rd, 4th, 5th and 6th class) and in the nursing college (3rd and 4th class).A total of 215 students responded to the questionnaire (unstructured questionnaire), 90(42%) were males and 125(58%) were females with 108 students from the college of Medicine and 107 from the college of Nursing with the age range of 20-26years.

A standardized questionnaire was designed for the study based on Rome II criteria for the diagnosis of irritable bowel syndrome [15]; the questionnaire evaluated demographic characteristics, general gastrointestinal symptoms comprising items from the Rome II criteria. Data was collected and Statistical methods such as Chi-square test were used and P value ≤ 0.05 was considered significant.

Rome II criteria have been widely used in the diagnosis of irritable bowel syndrome, the diagnosis of irritable bowel syndrome was based on the presence of abdominal pain or discomfort for at least 3 months in the preceding 12 months with 2 or all of the following symptoms: pain improved after defecation, symptoms associated with change in the consistency of the stool and symptoms associated with changes in frequency of the stool. Patients with irritable bowel syndrome were divided into constipation predominant type, diarrhea predominant type and mixed type according to the proportion of lumpy and hard stool.

Red flag items: according to the recent guidelines of IBS from published studies [16], there are 7 red flag items used to distinguish organic bowel disease from IBS and these are: weight loss, history of organic bowel disease, history of bowel surgery, awakening due to abdominal pain during night, blood in the stool, fever and arthralgia. Participants who had one or more of the 7 items were excluded from the diagnosis of IBS.

Results:

This study shows that (31.5%) of medical students (12.9%) males and (18.6%) females and (35.55%) of nursing students (11.2%) males and (24.3%) females had irritable bowel syndrome, with overall frequency of IBS among student to be (33.4%) (table 1and 2).

This study shows the frequency distribution of the study sample by type of bowel motion and college. Regarding the type of IBS, according to the bowel motion (41%) of the cases was of diarrheal D-type, (30%) of the constipation C-type and (27%) of the mixed M-type (Table 3).

This study Shows the frequency distribution of the study sample by the symptoms of IBS, type of college and sex, among students with IBS 37 (51%) have straining, 30 (41%) have urgency, 39 (54%) have feeling of incomplete emptying, 26 (36%) have mucous in the stool and 37 (51%) have bloating (Table 4).

Table (1): Percent distribution of the study sample by the type of college & existence of irritable bowel syndrome (IBS).

Type of college	IBS positive No. (%)	IBS negative No. (%)	Total No. (%)
Medicine	34(31.5%)	74(68.5%)	108(100%)
Nursing	38(35.5%0	69(64.5%)	107(100%)
Total	72(33.5%)	143(66.5%)	215(100%)

X^2=0.39 d.f=1 p>0.05

Table (2): Percent distribution of the study sample by sex & existence of IBS

Sex	IBS positive No. (%)	IBS negative No. (%)	Total No. (%)
Male	26(28.9%)	64(71.1%)	90(100%)
Female	46(36.8%)	79(63.2%)	125(100%)
Total	72(33.5%)	143(66.5%)	215(100%)

X^2=1.44 d.f=1 p>0.005

Table (3): Percent distribution of the study sample by the type of bowel motion, sex and college

Type of bowel motion	College Of medicine		College Of Nursing		Total	
	Male No.*	Female No.	Male No.	Female No.	Medicine No. (%)**	Nursing No. (%)
Constipation Type	7	6	0	9	13	9
Diarrheal Type	4	7	6	13	11	19
Mixed Type	3	7	0	10	10	10

**The percentage is computed out of the total

Table (4): percent distribution of the study sample by the symptoms of IBS, type of college and sex.

Symptoms of IBS	College of medicine		College of nursing		Total		Total No. %
	Male No.	Female No.	Male No.	Female No.	College of Medicine	College of Nursing	
Straining	9	10	3	15	19	18	37 (51.1%)
Urgency	6	7	4	13	13	17	30 (41.6%)
Incomplete emptying	10	11	4	14	21	18	39 (54.1%)
Mucous in the stool	6	8	3	9	14	12	26 (36.1%)
Bloating	10	16	1	10	26	11	37 (51.1%)

Discussion:

The present study suggest that symptoms of IBS are frequent among medical and nursing college students, the prevalence of IBS was (35%) among students in the nursing college and (31%) among students in the medical college with overall frequency of (33%), this is similar to other studies done by Wasim et. al. and Okami Yukikoy et al [17,18] Whereas other studies done by Davitat D. et al. and Yang Yang Dong et al [19,21] in Thailand, Singapore and China showed lower prevalence of IBS in these students; the reason for the discrepancy may be due to the use of different populations from different countries and the use of different clinical criteria for the diagnosis of IBS, the students in the medical and nursing college may be under more stress and because of their medical background may be more aware of their somatic symptoms.

The present study also showed a higher frequency of IBS among female more than male and this is consistent with other studies done [22,26].

Regarding the type of IBS, this study showed that the diarrheal type is the commonest type of IBS and this is similar to other studies done [27, 28].Whereas Thomson et al reported almost equal prevalence of diarrheal or constipation subtype in a Canadian population [25]. The reason for the higher prevalence of the diarrheal type in our study may be due to different dietary habits, irregular meal time and the stressful life situations of the students in the medical schools.

Regarding the other symptoms of IBS (bloating, straining, urgency, feeling of incomplete emptying and mucous in the stool), this study results was similar to other studies [29, 30].

Conclusion:

This study showed a high frequency of IBS among students in the medical and nursing college with a female predilection.

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