PREVALENCE OF IRRITABLE BOWEL SYNDROME & ITS ASSOCIATED PSYCHOLOGICAL DISORDERS IN QAZVIN MEDICAL STUDENT

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ABSTRACT: Background: Irritable Bowel Syndrome (IBS) is a common digestive problem, characterized by abdominal pain and change in bowel habits which is not associated with any organic cause. The prevalence of IBS is more than 10% to 15% in Western countries. Psychological problems in these patients are much more common than in others. Objectives: This study is aimed to evaluate the prevalence of IBS and its accompanying psychological disorders (such as psychosomatic disorders, anxiety & etc.) in Qazvin medical students. Material & Methods: This epidemiologic qualitative study was performed by census method on clinical medical students of Qazvin University of Medical Sciences in 2013. IBS was evaluated by ROME III Criteria questionnaire which was standardized by alpha Cronbach and the Goldberg General Health Questionnaire was used to evaluate the emotional stress. Data was analyzed by using Chi-square test and logistic regression analysis. Results: Both questionnaires were completed by 94 clinical medical students (64 stagers, 30 interns), of whom 68(72.3%) were females and 26(27.7%) were males with mean age of 24.3± 3.2 years. Based on ROM III criteria and Goldberg General Health Questionnaire, 23 (24.5%) of persons suffering from IBS and 24(25.5%) of persons had criteria of emotional stress respectively. Based on results of test, odds of IBS in persons suffering from emotional stress was 3.2 times higher than of that in persons free of stress (P<0.05) but no significant relation was observed in persons with depression. Conclusions: In this study, the prevalence of IBS and psychosomatic symptoms were high in Qazvin medical students, but persons with emotional stress were more exposed to risk of IBS.

Keywords: Irritable Bowel Syndrome, Psychological Disorders, Medical Student.

BACKGROUND
Irritable bowel syndrome (IBS) is the commonest gastrointestinal problem which presents with chronic or recurrent abdominal pain and altered bowel habits without any organic cause [1, 2]. Diagnosis of IBS based on ROME III (consensus in Rome-Italy) is characterized as recurrent abdominal pain or discomfort in three days of each month for the past three months accompanied by two or more of the following symptoms; Improvement with defecation, change in bowel habits (less than three times in a week or more than three times in a day) and change in stool consistency (becoming looser or harder). In IBS the type of abdominal pain is usually crampy and its location in more often in lower and left lower abdomen whose intensity varies from mild to severe. Emotional stress and eating increase the pain (increment of gastro colic reflex) and defecation decrease the pain. Alarming sign as severe anorexia, weight loss, anemia, blood in stool, dysphagia, progressive pain awakening the patient or hampering him or her to fall asleep are against the diagnosis of IBS[2-4]. IBS is divided into four types[2, 4]:
Irritable Bowel Syndrome (IBS) is a common gastrointestinal disorder affecting millions of people worldwide. IBS is characterized by symptoms such as abdominal pain, bloating, altered bowel habits, and changes in bowel consistency. The classification of IBS includes:

- **Diarrhea predominant IBS**: As increased frequency or decreased consistency of stool to more than three times a week.
- **Constipation predominant IBS**: As decreased frequency or increased consistency of stool to more than three times a week.
- **Mixed IBS**: Alternating constipation or diarrhea.
- **Fourth type of IBS**: Dearrangement in frequency or consistency of stool is not to the extend which would fit into above mentioned categories.

Prevalence of IBS in Western countries is more than 10 to 15% [1, 2], in Japan, China, India and Africa IBS is also very common [3]. The actual cause of IBS is unknown, but many of theories believe that IBS is a disorder of brain and gut interaction. Its risk factors may be young age, female sex [4], family history of IBS in the first degree, psychiatric disease include anxiety, depression and generally stress can be mentioned [1-3]. Complications of this disorder can be enumerated as hemorrhoid, fissure, malnutrition, decreased social activity, dyspareunia, decreased quality of life, increased rate of abdominal surgeries because of acute abdominal pains and loss of working hours [2, 3, 5].

Several studies have shown that psychosomatic disorders in the sufferers from IBS are very commoner than in other gastrointestinal patients to the extended that 42-62% of these patients have at least one of the psychosomatic disorder while in other gastrointestinal patients this number is about 20% commonest disorder has been anxiety and depression and other disorders include somatization and hypochondriasis [3, 4].

Quality of life of the sufferers from IBS in as low as is seen in patients from chronic disarms like gastroesophageal reflex disease or asthma [6].

IBS has negative impact in general health, social function, dietary regimen, sexual function and sleep [7].

Diarrhea predominant IBS as compared to the constipation predominant type have an evident decrease in quality of life [8]. This study is conducted in order to evaluate the prevalence of irritable bowel syndrome and psychological disorders in clinical medical students of Qazvin medical college.

**MATERIAL & METHODS**

This epidemiologic qualitative study was performed by census method on clinical medical students of Qazvin University of medical sciences in 2013.

Aim of this study was to determine the prevalence of IBS and was also to evaluate its accompanying emotional stress in the population studied. In this study two standard questionnaire were provided to the undergraduate trainees of different wards. To evaluate prevalence of IBS, standard questionnaire of Douglas based on Rome III criteria was used which standardized by alpha Cronbach after being translated (in this study internal validity of study has been equal to 0.79).

To evaluate of emotional stress and its other constituents including physical symptoms, sleep disorder, social dysfunctions from anxiety and depression, the questionnaire of Goldenberg general health (GHQ: 28 General Health Questionnaire) of 28 questions form was used which is also a standardized questionnaire. After data collection, data analysis was done using Chi-square test and logistic regression analysis by SPSS 16. Significant level was considered less than 0.05.

**RESULTS**

In this study both questionnaires completed by 94 clinical medical students (64 of stagers and 30 of interns) of whom 68 subjects were female (72.3%) and 26 subjects were male (27.7%) and their mean age was 24.3±3.2 years.

Of their marital status, 80 were single (85.1%) and 14 were married (14.9%). Of their residential characteristics 59 (62.7%) were residing at hostels, 17 (18.1%) were living with their families and 18 (19.2%) were living at their own private house.

Based on Rome III criteria 23 (24.5%) persons from the total of 94 studied individuals were suffering from IBS. Regarding to the type of IBS, 10 (43.5%) persons had constipation predominant IBS and 8 (35%) persons had mixed IBS and 5 (22%) persons had diarrhea predominant IBS. In the study of abdominal pain symptom of IBS 11 (48%) persons had 2-3 per month and in the other 10 (43.5%) persons more often than once a week and in 2 persons (8.5%) was in every day.
In the evaluation of general health from the total of studied individuals, 24 (25.5%) persons had criteria of emotional stress. In the simultaneous investigation of IBS and emotional stress, 15 (16%) persons had both of them together.

In the accompany evaluation of two variables of IBS and emotional stress a significant relation observed ($X^2=5/6$ and $P=0.018$) (Fig1). Besides in the evaluation of IBS affection on emotional stress and depression, the results of logistic regression analysis indicated that the odds of IBS in persons with emotional stress was 3.2 times higher than of that in persons free of stress ($P<0.05$) but no significant relation was observed in persons with depression (Odds Ratio=1.7, $P=0.26$).

**DISCUSSION**

Irritable Bowel Syndrome is the commonest gastrointestinal problem which besides affection the quality of life[6] and efficiency at work[9] forces the person to attend at treatment centers repeatedly.

In the study of Lu & Chang in Taiwan the prevalence of IBS was found to be about 5-10%[10]. In the study conducted by Tan et al on 610 medical students in koalalampour, 84 persons equal to 15.8% had IBS criteria. Most of the suffers were female. About 77.4% had constipation predominant IBS and 71% had diarrhea predominant IBS. In this study anxiety and depression was also significant[11]. In another study by sheen and his colleagues with title of “Prevalence of irritable bowel syndrome and its relationship with psychological stress status in Chinese university students” prevalence of IBS has been 15.7%[12]. In the study by Tan & Chang on Malaysian& Chines medical students prevalence of anxiety and depression was more often in the sufferers from IBS[10, 11].

In our study the prevalence of IBS in Qazvin medical students has been more than the international statistics and has been about 24.5% and its commonest subtype has been constipation predominant type (43.5%) which is in accordance to the study by Tan in Malaysia[11] and change in China[10] and is also similar to that of one conducted by Sorouri in Tehran[13].

Studies have shown that the psychosomatic disorders are commoner in the sufferers from IBS[3, 4] to the extent that 42% of patients also suffer from a psychosomatic disorder. In our study to 25.5% of the total of students studied suffered from emotional stress and this number was 65.5% in the suffers from IBS.

Study of Maxiom in both America & England showed that direct and indirect annual cost of this disease is equal to 1230 to 3700 Dollars for each patient and the total of days lost for each patient has been 8-21 days per year[9] and affection of medical society would bear a still higher cost and total of days lost as it would affect their role of health provision thereby causing still more harmful effect.

**Legend of figure:**

![Figure 1. Prevalence of emotional stress in the suffers of IBS](image)

**REFERENCES**


