THE PREVALENCE OF IRRITABLE BOWEL SYNDROME AND ASSOCIATED FACTORS AMONG A SAMPLE OF MEDICAL COLLEGE STUDENTS IN BAGHDAD.

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ABSTRACT
Background: Irritable bowel syndrome is a multi-factorial functional gastrointestinal disorder in which abdominal pain and change in frequency and consistency of stool are symptoms of IBS (but not specific) this disorder appear to be common in the third world.

Aim: to shed light on prevalence of IBS among medical students and to assess the risk factors.

Methodology: A cross sectional study was conducted at a college of medicine in Baghdad, the study was done on convenient sample of students, both male and female. To achieve this study a questionnaire form was designed according to Rome’s III criteria, and questions regarding lifestyle. Excel was used for data entry and presentation, Chi square test for risk assessment.

Result: The prevalence of IBS among 300 medical students was 20%. Female sex was significantly associated with IBS.

Conclusion: One fifth of medical students suffer from irritable bowel syndrome with females were more likely to develop it.

Key words: IBS–medical students

1 INTRODUCTION

Irritable bowel syndrome (IBS) is defined as "a functional gastrointestinal (GI) disorder characterized by abdominal pain and altered bowel habits in the absence of a specific and unique organic pathology, although microscopic inflammation has been documented in some patients. [1] "

The diagnostic criteria for irritable bowel syndrome have evolved since 1979 till 2016 starting from Manning passing through Rome’s criteria I, II, III till IV. [2, 3] .

Prevalence of irritable bowel syndrome have been estimated to be 30% globally, 30% of them seek medical help. [4]

Irritable bowel syndrome has been linked to stress & anxiety which represent a major problem in medical students, it might reflect its high prevalence in this group of people. This makes the screening for irritable bowel syndrome among medical students and the management of stress are necessary. [5, 6].

Aim of study:
To shed the light on prevalence of irritable bowel syndrome among medical students and to assess risk factors

Subjects and methods:
A cross section study is conducted that include a convenient sample of medical college students both males and females during a period starting from march 2017 till October 2018.

Data collection was done by using a preformed questionnaire that is composed of questions based on Rome’s III criteria & other questions assessing the habits of students as practicing sports and cigarette smoking, sufficient sleeping hours.

Then data entry was done by Excel, percentages were calculated, tables and figures drawn and association using Chi square test was calculated.
2 RESULTS & DISCUSSION:
The sample included 300 college students with age range 18-22 years old.
122 students were males, while females were 178, Figure 1.

The prevalence of irritable bowel syndrome in the total sample was 20% as shown in Figure 2 below.

The association between irritable bowel syndrome and gender was assessed using Chi square test in Table 1.

<table>
<thead>
<tr>
<th>Gender</th>
<th>IBS</th>
<th>No IBS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>15</td>
<td>107</td>
<td>122</td>
</tr>
<tr>
<td>Female</td>
<td>45</td>
<td>133</td>
<td>178</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>240</td>
<td>300</td>
</tr>
</tbody>
</table>

The chi square statistics is 7.6292. The p-value is 0.005743. the result is significant at p<.05.

Women show higher prevalence of irritable bowel syndrome than men, this had been documented by a meta-analysis of several studies showed comparable results. [12, 13].

The association between smoking and Irritable Bowel Syndrome (IBS) was calculated using Chi square test in Table 2.

Smoking occurred in 15% in the total sample, in which 10 of them were among irritable bowel syndrome sufferers, Figure 3.

The association between IBS and smoking was calculated by Chi square test in Table 2.

The association of irritable bowel syndrome with smoking is also not confirmed, supported by a meta-analysis results. [14, 15].

While in Lebanese irritable bowel syndrome is associated with water pipe smoking. [16].

Sport practice among total sample is shown in Figure 5.
Table 2. The association between Irritable Bowel Syndrome (IBS) and smoking

<table>
<thead>
<tr>
<th>Smoking</th>
<th>IBS</th>
<th>No IBS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoker</td>
<td>10</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>Non-smoker</td>
<td>50</td>
<td>205</td>
<td>255</td>
</tr>
</tbody>
</table>

The chi-square statistic is 0.1634. The p-value is 0.686047. The result is not significant at p<.05.

Table 3. The association between irritable bowel syndrome and physical exercise

<table>
<thead>
<tr>
<th>Physical exercise</th>
<th>IBS</th>
<th>Non-IBS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>With</td>
<td>18</td>
<td>101</td>
<td>119</td>
</tr>
<tr>
<td>With out</td>
<td>42</td>
<td>139</td>
<td>181</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>240</td>
<td>300</td>
</tr>
</tbody>
</table>

The chi-square statistic is 2.9284. The p-value is 0.087033. The result is not significant at p<.05.

On the contrary of our results, several studies showed a significant association with OR: 1.27, 95% CI: 1.08–1.49, (OR, 6.297). [17, 18]

The recommended Sleeping hours/day is 8 hours/day, their percentage among the total sample was shown in Figure 6.

Only 18 reported physical exercise out of the total 6 IBS subjects, so to assess the association between them, Chi square test was calculated in Table 3.

Table 4. Sleeping hours and IBS association

<table>
<thead>
<tr>
<th>Sleeping hours</th>
<th>IBS</th>
<th>Non-IBS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 hours</td>
<td>19</td>
<td>73</td>
<td>92</td>
</tr>
<tr>
<td>&lt;8 hours</td>
<td>41</td>
<td>167</td>
<td>208</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>240</td>
<td>300</td>
</tr>
</tbody>
</table>

The chi-square statistic is 0.0353. The p-value is 0.851023. The result is not significant at p<.05.

A meta-analysis showed a high prevalence of sleeping disorders among those with IBS.. [19–21]

240 students expressed symptoms during stress of examination. Figure 7

Also supported by other studies showing similar results and showing benefits with Psychopharmacological agents. [22, 23]
3 CONCLUSION:
Prevalence of irritable bowel syndrome was 20% among medical students, which was significantly associated with female sex and stress during examinations while smoking, sport activity & enough sleeping hours showed no association.

REFERENCES
[10] Wissam Abdullatif Alsawalm et al Irritable Bowel Syndrome among Medical Students and Interns in King Faisal; 2017. Vol.7 No.11.