

# Demographic and Clinical Features of Patients with Irritable Bowel Syndrome: An Epidemiological Study in Kashmir

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## ABSTRACT

**Objective:** The objective of the study was to determine the irritable bowel demographics and its different clinical presenting features in Kashmir.

**Materials and Methods:** A questionnaire / interview schedule was used to collect the information from the patients attending the general OPD and during different mobile camps. Subjects satisfying the Rome III criteria for IBS were given questionnaires.

**Results:** In the present study; out of 100 individuals with IBS that met the Rome III criteria, (65%) were male individuals and 35% females. The average age of respondents was observed as 33 years, with majority of patients accounting for (45%) belonging to the age group of (18-30) years. We observed that (65%) individuals had their BMI between (18.5-24.9) kg/m<sup>2</sup> followed by (31%) with BMI (25-29.9) Kg/m<sup>2</sup>. Most of the respondents were from urban area accounting for 74% followed by (26%) belonging to rural area. Majority of respondents were from middle class background accounting for (55%) followed by lower class individuals (30%). Only 15% individuals were from affluent class background which implies that IBS is more evident in middle class and low class families. The most prevalent clinical features were abdominal pain accounting for (89%) followed by the symptoms of change of fecal consistency (78%) and change of bowel frequency (78%).

**Conclusions:** Using the Rome III criteria, we conclude that IBS poses a significant burden on the urban adults and male individuals are at high risk of developing IBS. The frequency of IBS in patients with abdominal pain, change of fecal consistency, change of bowel frequency, bloating, heartburn, constipation and diarrhea are high with no significant effect of gender, marital status. However, the prevalence of IBS has been found to be associated with socio-economic and educational status.

**Keywords:** Irritable bowel syndrome, IBS, Demographic and Clinical Features, Epidemiological Study, Kashmir

## INTRODUCTION

Irritable bowel syndrome is one of the most common functional gastrointestinal disorders. It is defined as a functional bowel disorder in which abdominal pain is associated with defecation or change in bowel habits with feature of disordered defecation.<sup>1</sup> IBS is the digestive disease most often diagnosed by gastroenterologists.<sup>2</sup> A survey of 704 GEs, all members of the American Gastroenterological Association, revealed that 28% of their patients have IBS.<sup>3, 4</sup> Symptoms of IBS are also one of the top 10 reasons why patients consult a primary care physician, and IBS accounts for 12% of diagnoses made in primary care practices.<sup>1</sup> IBS may also be the reason for the largest

percentage of referrals to GEs (30% to 50%).<sup>5</sup> Irritable bowel syndrome (IBS) is common disorder with a worldwide prevalence among general population ranging from 5.7%-34% and is more common in west than east.<sup>6</sup> In India prevalence of IBS is 4.2%.<sup>7</sup> Although IBS affects both sexes, 60% to 75% of sufferers are women. Younger patients are more likely to be affected by IBS than are the elderly, and patients with IBS symptoms typically present to a physician for the first time between the ages of 30 and 50 years.<sup>8</sup> IBS have been reported to be associated with increased morbidity, health care costs, and consultation rates and represent a big economic burden to society symptoms of irritable bowel syndrome follows a chronic relapsing course. The mean duration of gastrointestinal symptoms among IBS sufferers ranges between 5 and 13 years. The pathophysiology basis of symptoms is still incompletely understood but it features disturbances of motor and sensory function, subclinical inflammatory changes, altered microbiomes, associated psychological disorders and genetics. Diagnosis of IBS is through a set of criteria consisting of certain predefined symptoms experienced over duration of period. IBS has not been shown to lead to more serious conditions except for the negative effect on the quality of life. IBS-related symptoms negatively affect patient activities in daily living, social relationships, and productivity at work or school. Patients with IBS typically score lower on measures of quality of life compared to general population norms or patients with other chronic diseases. IBS also puts a heavy economic burden on the healthcare system, resulting in more than \$10 billion in direct costs and \$20 billion in indirect costs each.<sup>9</sup>

## **MATERIAL AND METHOD**

A questionnaire-based survey followed by cross sectional study was designed in which the patients attending the general OPD of RRIUM Srinagar and during different mobile camps were

diagnosed of IBS by Rome criteria III. These patients were asked to fulfill the questionnaire, the questionnaire enquired on demographic data (age, gender, residence, height, weight, body mass index [BMI – kg/m<sup>2</sup>] and duration of disease, income status, occupation). Family history, medication taken and the symptoms of IBS were inquired.

### **Rome III Criteria for IBS are established as follows**

Recurrent abdominal pain or discomfort (uncomfortable sensation which is not described as pain) at least 3 days per month in the last 3 months and is associated with 2 or more of the following:

1. Improvement with defecation
2. Onset associated with a change in frequency of stool.
3. Onset associated with a change in form (appearance) of stool.

### **IBS can be subtyped by predominant stool pattern:**

1. IBS with constipation (IBS-C): hard or lumpy stools at least 25% and loose or watery stools <25% of bowel movements.
2. IBS with diarrhoea (IBS-D): loose (mushy) or watery stools at least 25% and hard or lumpy stool < 25% of bowel movements.
3. Mixed IBS (IBS-M): hard or lumpy stools at least 25% and watery stools at least 25% of bowel movements.
4. Unsubtyped IBS.

According to Rome III criteria, IBS symptoms must occur for the first time  $\geq$  6 months before the patient presents and their presence on  $\geq$  3 day a month during the last 3 months that means current activity.<sup>10</sup>

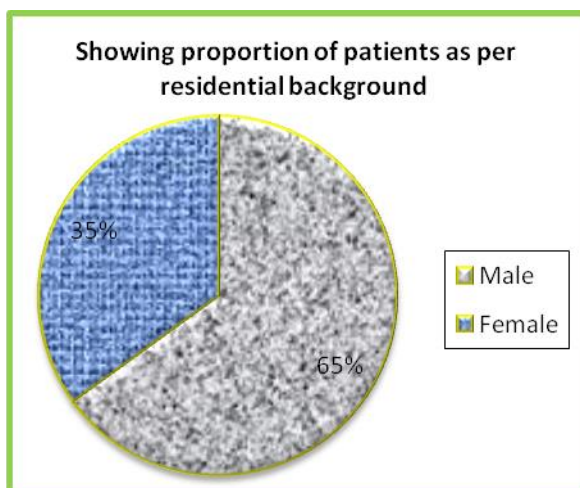
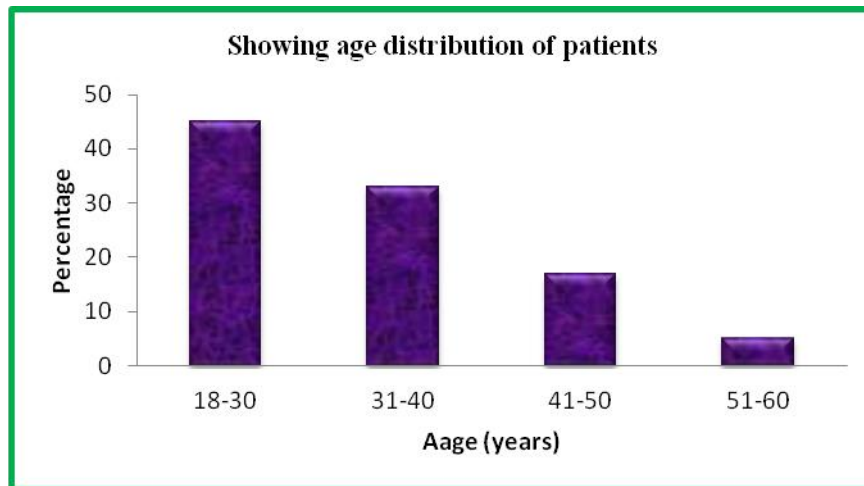
## **RESULT**

There were 100 completed questionnaires filled in OPD of RRIUM Srinagar and different mobile camps conducted for the purpose of the survey

giving a response rate of 100%. Following results were obtained:

Showing age distribution of patients		
Age (years)	N	%age
18-30	45	45
31-40	33	33
41-50	17	17
51-60	5	5
TOTAL	100	100

We observe that majority of patients accounting for (45%) belong to the age group of (18-30) years followed by (33%) falling in the age group of (31-40). The average age of respondents was observed as 33 years.



Distribution of patients as per their BMI		
BMI	BT	
	No.	%age
18.5-24.9	65	65
25-29.9	31	31
30-34.9	4	4
Total	100	100

We assessed BMI among studied subjects and found that 65% patients had their BMI between (18.5-24.9) kg/m<sup>2</sup> followed by (31%) with BMI (25-29.9) Kg/m<sup>2</sup>.

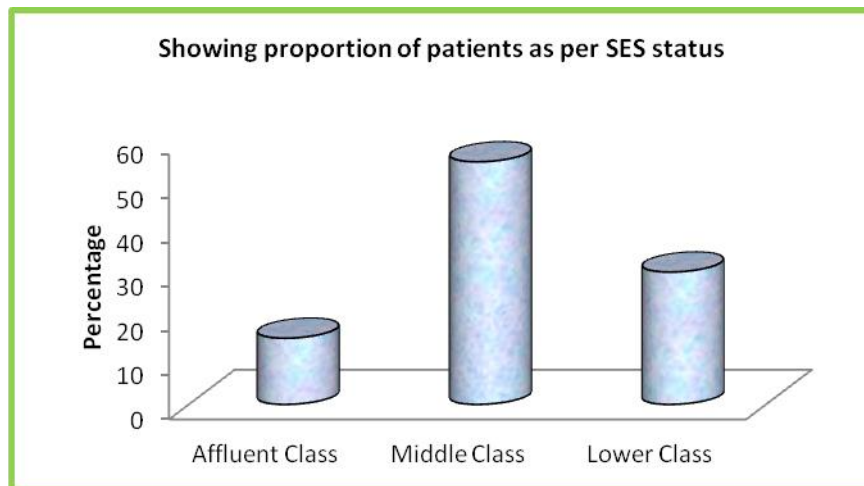
We observe that majority of patients were male constituting about 65% followed by female accounting for 35%

Showing proportion of patients as per SES status		
SES	N	%age
Affluent Class	15	15
Middle Class	55	55
Lower Class	30	30
TOTAL	100	100

Showing proportion of patients as per their residence		
Status	N	%age
Rural	26	26
Urban	74	74
TOTAL	100	100

We observe that majority of respondents were from middle class background accounting for (55%) followed by lower class individuals (30%).

Most of the respondents were from urban area accounting for 74% followed by (26%) belonging to rural area



BMI	N	%age
Abdominal pain	89	89
Change of bowel frequency	78	78
Change of fecal consistency	82	82
Constipation	59	59
Diarrhea	35	35
Bloating	61	61
Heart burn	52	52
Anal pain	16	16
Bloody stool	12	12
Vomiting	13	13
weight loss	28	28

We observed that the commonest clinical presentation among studied subjects was abdominal pain accounting for (89%) followed by the symptoms of change of fecal consistency (78%), change of bowel frequency (78%), constipation (59%), bloating (61%), heartburn (52%) diarrhea (35%), weight loss (28%), anal pain (16%), vomiting (13%), bloody stool (12%)

## DISCUSSION

There were 100 completed questionnaires filled in OPD of RRIUM Srinagar and different mobile camps conducted for the purpose of the survey giving a response rate of 100%. In the presents study, we observed that males outnumbered the females, majority of patients were male constituting about 65% followed by females accounting for 35% which gives rise the male to female ratio as (1.95:1). Contrary to our study, empirical studies from West have consistently shown female to have higher prevalence of IBS than males.<sup>11</sup> However, studies from the East have reported that IBS is more

prevalent among men (Hong Kong 6.6% vs. 6.5), or (India 7.9% vs.6.9%, Korea 7.1% vs. 6.0%). In some non-Western countries, such as India and Sri Lanka, IBS is reported more frequently in men which is in consonance to our results.<sup>12</sup> Likewise to our study, earlier studies of IBS patients attending the specialist clinic of India have consistently reported 2-4 fold predominance of men than women. The reason for male predominance in IBS may be ascribed to the fact that India is a male dominant society; health seeking behavior of males is probably the best explanation for difference in the prevalence of IBS in the studies conducted in hospital setting and those done in the community. We observed that majority of patients accounting for (45%) were belong to the age group of (18-30) years followed by (33%) falling in the age group of (31-40). The average age of respondents was observed as 33 years. There is no age bar for the development of IBS, it can occur in all age groups; however, 50% of patients with IBS report their symptoms before the age of 35 years,<sup>13</sup> and prevalence is 25% lower in those aged over 50 years than in those who are younger which is almost similar to our observation.<sup>14</sup> This would suggest that symptoms remit over time, and is contrary to the belief that IBS is a chronic lifelong condition, because, if this were the case, then prevalence should remain constant or increase with age which is not evident in the present study. Patients aged over 50 years also report milder pain, but their overall

quality of life is worse.<sup>14</sup> Those aged over 65 years are also likely to have had their symptoms for longer than 1 year before they consult, whilst those under 65 years report significantly shorter duration of symptoms.<sup>15</sup> Likewise to our study the prevalence of IBS has been reported highest between 20 to 40 years old, and usually decreases with age.<sup>16, 17</sup> In the present study, most of the respondents were from urban area accounting for 74% followed by (26%) belonging to rural area. Usai et al have also reported significantly higher percentage of urban individuals with IBS compared to rural individuals.<sup>18</sup> We assessed BMI among studied subjects and found that 65% patients had their BMI between (18.5-24.9) kg/m<sup>2</sup> followed by (31%) with BMI (25-29.9) Kg/m<sup>2</sup>. We found that almost 35% of patients with IBS were not in the normal weight range, which is consistent with previous results.<sup>19</sup> In the present study, (31%) individuals were overweight and 4% were obese. Notably, the overweight and obesity rates in the general adult population in Germany are higher than those found in our IBS cohort. According to the German Health Update, in 2012, the overweight rate of adults was 36.2%, and the obesity rate was 16.5%.<sup>20</sup> Being overweight is a common phenomenon in patients with IBS regardless of IBS subtypes. Our data further suggest that overweight and obesity may have a relevant influence on IBS. Patients with higher BMI were more frequently in poor physical health. Clinical doctors should pay special attention to abnormal weight in patients with IBS as this maybe an indicator of a poor quality of life, especially with regard to the physical health. In the present study, SES was measured by family income, education, occupation, family effluence, and physical assets because these factors determine the health and nutritional status of a family. We observed that majority of respondents were from middle class background accounting for (55%) followed by lower class individuals (30%). Only 15% individuals were from affluent class background which implies that IBS is

more evident in middle class and low class families. Previous studies have reported a relationship between socioeconomic status and IBS; people with a lower household income had a higher prevalence of IBS.<sup>21</sup> Yet another study reported the prevalence of IBS decreased from lower to higher income group and that risk of IBS was also lower among educated patients.<sup>22</sup> Most of the patients with IBS in our study were educated, holding a graduate or postgraduate degree. We observed that the commonest clinical presentation among studied subjects was abdominal pain accounting for (89%). This pain or discomfort must have at least two of the following three features: relief with defecation, association with a change in stool frequency, or association with a change in stool consistency. In the present study, the symptoms of change of fecal consistency was observed in (78%), change of bowel frequency was observed in (78%). The other symptoms were bloating (61%), constipation (59%), heartburn (52%) diarrhea (35%), weight loss (28%), anal pain (16%), vomiting (13%), bloody stool (12%). Contemporary to the literature; Fukodo et al reported that majority (33.4%) of East Asian physicians considered abdominal pain to be the most important symptom. This was followed by 24.3% who considered alternating diarrhea and constipation as the most important symptoms, whilst abdominal discomfort, diarrhea, constipation, abdominal bloating, gas and urgency were viewed as the most important by 22.7, 14.3, 2.0, 1.6, 0.4 and 0.4%, respectively much similar to what we observed.<sup>23</sup> Similarly, Ghoshal et al have reported that the commonest symptoms of likewise patients are: abdominal pain or discomfort (1958; 70%), abdominal fullness (1951; 70%); subjective feeling of constipation (1404 of 2656; 53%), or diarrhea (1252 of 2656, 47%), incomplete evacuation (2134; 77%), mucus with stools (1506; 54%), straining at stools (1271; 46%), epigastric pain (1364; 49%) and milk intolerance (906; 32%) in agreement to our

results.<sup>24</sup> Patients with IBS may present with recurrent and episodic abdominal pain, altered bowel habits (constipation, diarrhea, or mixed), or other gastrointestinal or extraintestinal symptoms.<sup>25</sup>

## CONCLUSION

Using the Rome III criteria, we conclude that IBS poses a significant burden on the urban adults and male individuals are at high risk of developing IBS. The frequency of IBS in patients with abdominal pain, change of fecal consistency, change of bowel frequency, bloating, heartburn, constipation and diarrhea are high with no significant effect of gender, marital status. However, the prevalence of IBS has been found to be associated with socio-economic and educational status.

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