

Frequency of Irritable Bowel Syndrome in Patients Presenting with Abdominal Pain to Ayub Teaching Hospital

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ABSTRACT

The irritable bowel syndrome (IBS) is a chronic and sometimes disabling functional bowel disorder. The Rome IV criteria, derived from a consensus process by a multinational group of experts in functional gastrointestinal disorders, constitute the current standard for diagnosing IBS. According to defecation in association with a change in stool frequency or form. Bloating is a common accompanying symptom. Symptoms must be chronic, occurring at least once per week, on average, in the previous 3 months, with a duration of at least 6 months. IBS is 2-4 times common in females and genetic predisposition is suggested by evidence and 33% of patients have family history of IBS. Some dietary factors and psychological issues like anxiety and stress are also associated with IBS.

Objectives: The present study was conducted to determine the frequency of irritable bowel syndrome in patients presenting with abdominal pain in gastroenterology OPD Ayub Teaching Hospital Abbottabad.

Material and Methods: This Cross sectional (descriptive) study was carried out in the Department of Gastroenterology of Ayub Teaching Hospital Abbottabad from September 2018 to February 2019. The study population was included, Presenting with abdominal pain of either gender having age between 15 to 60 years. A detailed history was taken from the patient with clinical examination was performed on each participant. IBS was diagnosed by using ROME IV criteria. Strictly exclusion criteria were followed to control the confounders

Results: Mean age of the patients was 44.66±11.486 ranging from 15 to 60 years of age, mean duration of abdominal pain was 3.38±5.714 ranging from 1 to 48 months and mean duration of symptoms was 13.30±5.268 ranging from 8 to 20 days. In frequency of gender of patients there were 117(59.7%) male and 79(40.3%) female. In frequency of irritable bowel syndrome, there were 35(17.9%) had irritable bowel syndrome while 161(82.1%) had no IBS.

Conclusion: The diagnosis of IBS relies on the identification of characteristic symptoms and the exclusion of other organic diseases. Management of patients with IBS is optimized by an individualized, holistic approach that embraces dietary, lifestyle, medical, and behavioral interventions.

Keywords: Irritable bowel syndrome, abdominal pain

INTRODUCTION

IBS is a persistent, sometimes-disabling functional gastrointestinal illness. The Rome IV criteria, developed by an international committee of functional gastrointestinal disease specialists, are the current IBS diagnosis standard. Defecation or stool frequency/form change. Common side effect is bloating. Chronic symptoms must occur at least once per week for at least 6 months in the last 3 months.¹

IBS affects 15–20% of the world's population, mostly women. IBS is most common in South America (21%), least common in South Asia (7%).² IBS accounts for 25% of gastrointestinal outpatient burden. The prevalence of IBS in Pakistan is unknown. One research in Karachi college students found 34% IBS prevalence, while another in Bahawalpur and Karachi found 45%.³

2-4 times more prevalent in women, genetic susceptibility is suspected, and 33% of patients have family history of IBS. Dietary and psychological variables like worry and stress may also cause IBS.⁴ Four subtypes of IBS are based on stool pattern and primary symptoms: diarrhoea predominant (IBS-D), constipation predominant (IBS-C), mixed type (IBS-M), and unsubtyped (IBS-U). IBS pathophysiology unknown, however 50% of patients have post-prandial symptoms owing to this delayed response.⁵ Psychological variables disrupt brain-gut axis, autoimmune, neuroendocrine, and neurological pathways. IBS and poor sleep induce stress, which affects mood, behaviour, cognition, and GIT functions.⁶ Psychosocial stress during test activates bowel movements, which may be observed on manometer.⁷

Gut-based and central (e.g., aberrant brain responses to peripheral bowel signals) pathophysiologic pathways contribute to etiopathogenetics.⁸

Visceral hypersensitivity, motor system dysfunction of the gastrointestinal tract or after infection, and abnormal brain gut axis

are assumed to cause IBS, and many studies have found that 40-60% of IBS cases have a psychiatric disorder.³ Recently, IBS has been linked to intestinal immune system, mucosal permeability, and faecal microbiota changes. IBS symptoms are triggered by food, especially short-chain carbs. Psychological issues including physical, verbal, and sexual abuse are linked to IBS.⁹ National guidelines for IBS care recommend a positive diagnosis of IBS without testing in patients satisfying Rome IV criteria and without warning characteristics.^{1A} A patient with IBS needs a thorough medical history. Diet, therapies (especially drugs that alter bowel frequency and/or cause abdominal pain), physical activity, comorbidities, previous surgical interventions, anxiety or depression symptoms, and recent exotic trips must be addressed.¹⁰

Diet treatment including avoiding fermentable carbs, behavioural therapy, excellent doctor-patient relationships, sleep, exercise, and probiotics help IBS. Antibiotics are not advised for IBS. Bulking agents and gastrointestinal motility modifiers treat IBS. Antidepressants and anxiolytics help IBS. Psychotherapy is useful for IBS patients who do not respond to medicines.¹¹

MATERIAL AND METHODS

The gastrointestinal department of Ayub Teaching Hospital, Abbottabad, performed the research. The Silk Road tertiary care hospital has a well-equipped 25-bed gastrointestinal section. It offers undergraduate and graduate instruction. Patients are transferred from Hassan Abdal to the north by the hospital.

This descriptive cross-sectional research was done from September 2018 to February 2019. The research recruited 196 patients using non-probability sequential sampling. Sample size estimated using WHO sample size tools with these assumptions: Confidence = 95% IBS prevalence = 15% 2 5% absolute precision Patients include men and women Abdominal

discomfort (duration) and 15–60 years old were studied. Everyone with a gastrointestinal diagnosis was excluded from the trial. The hospital's research and ethics board approved the project. All patients satisfying inclusion criteria gave written informed permission to participate in the trial. The patients were informed of the study's goal and advantages and ensured of data confidentiality. Name, age, sex, address, residence, IBS symptoms, etc., were entered on a predesigned proforma. History and clinical examination were done on each individual. ROME IV criteria diagnosed IBS. Exclusion criteria were strictly followed to control confounders. All data was put into SPSS 16.00. The mean \pm standard deviation was used to characterize quantitative data such as age and duration of stomach discomfort. Gender, stomach discomfort intensity, duration, diarrhoea, and constipation were described using frequencies and percentages. IBS was divided by age and gender to determine effect modifiers. Results were presented in tables and charts. After stratification, Chi-Square test was applied at 5% significance.

RESULTS

The Gastroenterology ward of Ayub Teaching Hospital Abbottabad studied 196 individuals for irritable bowel syndrome frequency. Out of 196 patients, the mean age ranged from 15 to 60 years, abdominal pain duration ranged from 1 to 48 months, and symptom duration ranged from 8 to 20 days (Table 1). Figure 1 shows 117 (59.7%) male and 79 (40.3%) female patients out of 196. Figure 2 shows that 116 (59.2%) of 196 patients were rural and 80 (40.8%) urban. Figure 3 shows that 41 (20.9%) of 196 patients had mild stomach discomfort, 95 (48.5%) moderate, and 60 (30.6%) severe. Figure 4 shows that 155 (79.1%) of 196 patients felt stomach discomfort before or during feces, whereas 41 (20.9%) did not. As indicated in figure 5, 95 (48.5%) of 196 patients reported stomach discomfort associated with stool form alteration, whereas 101 (51.5%) did not. As indicated in figure 6, 60 (30.6%) of 196 patients reported stomach discomfort related with stool frequency variation, whereas 136 (69.4%) did not.

Figure 7 shows that 155 (79.1%) of 196 individuals had pain improve after defecation, whereas 41 (20.9%) did not. Figure 8 shows that out of 196 patients, 136 (69.4%) reported stomach discomfort linked with bowel movements, whereas 60 (30.6%) did not. In stratification for irritable bowel syndrome by age, 1 (16.7%) were under 20, 9 (16.4%) were above 20. groups 21–40 years old and 25 (18.5%) 41–60 years old with IBS. Table 2 shows that this result is not significant at $p=0.937$ out of 196 cases. In gender stratification for irritable bowel syndrome, 16 (13.7%) were male and 19 (24.1%) were female. Table 3 shows that this result is not significant at $p=0.063$ out of 196 cases.

In stratification for irritable bowel syndrome by domicile, 35 people (30.2%) were rural and 0 were urban. Table 4 shows that this result is statistically significant at $p=0.000$ for 196 cases. In irritable bowel syndrome pain intensity categorization, 0(0%) had mild pain, 35(36.8%) had moderate pain, and 0(0%) had severe pain. Table 5 shows that this result is statistically significant at $p=0.000$ for 196 cases. Patients stratified for irritable bowel syndrome by abdominal pain and bowel habit change had discomfort associated with change. 35(25.7%) and no-change pain 0(0%). Table 6 shows that this result is statistically significant at $p=0.000$ for 196 cases. Irritable bowel syndrome patients with discomfort that improves with defecation were 35 (22.6%) and those without change were 0. Table 7 shows that this result is statistically significant at $p=0.001$ for 196 cases.

Patients with discomfort with stool frequency change were 19 (31.7%) and those without change were 16 (11.8%) in irritable bowel syndrome classification. This result is significant at $p=0.001$ out of 196 cases (table 8). For irritable bowel syndrome categorization, 35 patients (36.8%) had stool form pain and 0 had no stool form pain. Table 9 shows that this result is statistically significant at $p=0.000$ for 196 cases.

Irritable bowel syndrome patients with discomfort before or with defecation were 35 (22.6%) and those without change were 0

(0%). This result is significant at $p=0.001$ out of 196 individuals (table 10). In classification for irritable bowel syndrome by if yes then experience, diarrhoea saw 0 patients, constipation 19 patients, and warning signs 16 individuals. Table 11 shows that this result is statistically significant at $p=0.000$ for 196 cases.

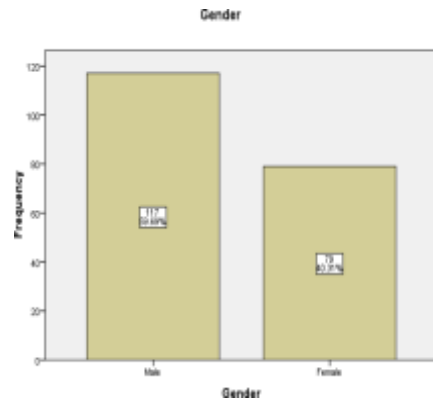


Figure 1: Frequency of gender of the patients (n=196):

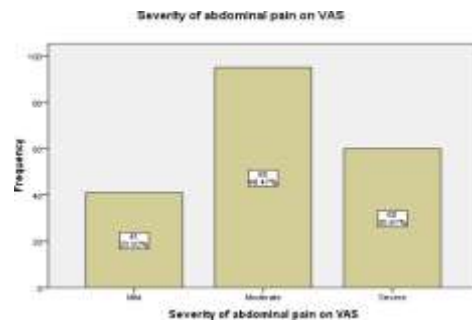


Figure 2: Frequency of residence of the patients (n=196)



Figure 3: Frequency of severity of abdominal pain on VAS (n=196):

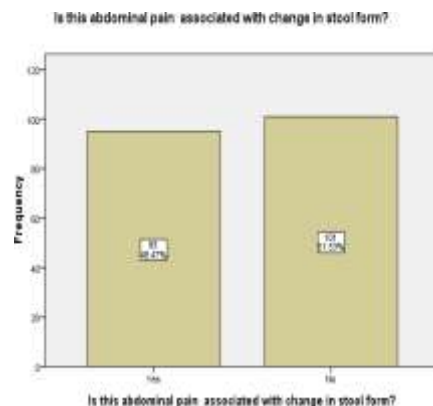


Figure 4: Frequency of abdominal pain before or with defecation (n=196):

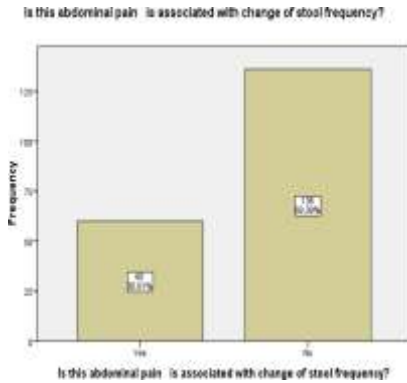


Figure 5: Frequency of abdominal pain associated with change in stool form (n=196):

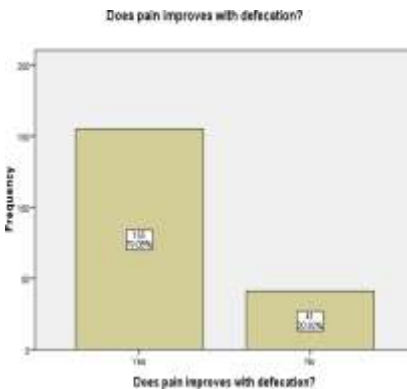


Figure 6: Frequency of abdominal pain associated with change of stool frequency

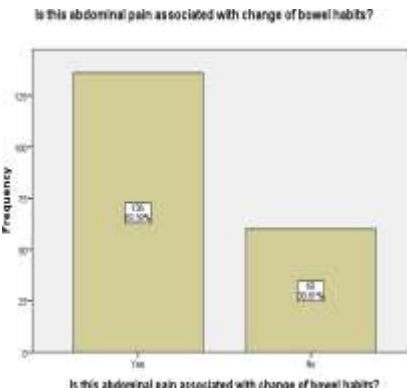


Figure 7: Frequency of pain improves with defecation (n=196):

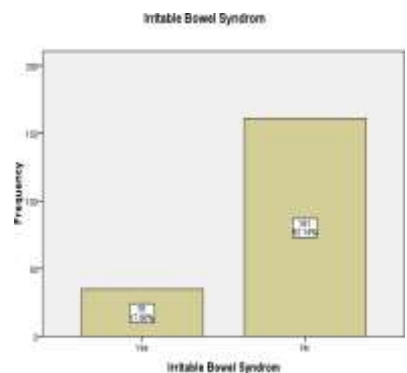


Figure 8: Frequency of abdominal pain associated with change of bowel habits (n=196):

Table 1: Descriptive Statistics:

	n	Minimum	Maximum	Mean	Std. Deviation
Age (years)	196	15	60	44.66	11.486
Duration of abdominal pain(months)	196	1	48	3.38	5.714
How many days of a month you have such symptoms?(days)	196	8	20	13.30	5.268

Table 2: Stratification for irritable bowel syndrome with respect to age group:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Age group	Below 20 years	1	5	6	0.937
		16.7%	83.3%	100.0%	
	21 to 40 years	9	46	55	
		16.4%	83.6%	100.0%	
	41 to 60 years	25	110	135	
		18.5%	81.5%	100.0%	
Total		35	161	196	
		17.9%	82.1%	100.0%	

Table 3: Stratification for irritable bowel syndrome with respect to gender:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Gender	Male	16	101	117	0.063
		13.7%	86.3%	100.0%	
	Female	19	60	79	
		24.1%	75.9%	100.0%	
Total		35	161	196	
		17.9%	82.1%	100.0%	

Table 4: Stratification for irritable bowel syndrome with respect to residence:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Residence	Rural	35	81	116	0.000
		30.2%	69.8%	100.0%	
	Urban	0	80	80	
		0%	100.0%	100.0%	
Total		35	161	196	
		17.9%	82.1%	100.0%	

Table 5: Stratification for irritable bowel syndrome with respect to severity of pain:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Severity of abdominal pain on VAS	Mild	0	41	41	0.000
		0%	100.0%	100.0%	
	Moderate	35	60	95	
		36.8%	63.2%	100.0%	
	Severe	0	60	60	
		0%	100.0%	100.0%	
Total		35	161	196	
		17.9%	82.1%	100.0%	

Table 6: Stratification for irritable bowel syndrome with respect to abdominal pain and change of bowel habits:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Is this abdominal pain associated with change of bowel habits?	Yes	35	101	136	0.000
		25.7%	74.3%	100.0%	
	No	0	60	60	
		0%	100.0%	100.0%	
Total		35	161	196	
		17.9%	82.1%	100.0%	

Table 7: Stratification for irritable bowel syndrome with respect to pain improves with defecation:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Does pain improves with defecation?	Yes	35	120	155	0.001
		22.6%	77.4%	100.0%	
	No	0	41	41	
		0%	100.0%	100.0%	
Total		35	161	196	
		17.9%	82.1%	100.0%	

Table 8: Stratification for irritable bowel syndrome with respect to abdominal pain with change of stool frequency:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Is this abdominal pain associated with change of stool frequency?	Yes	19 31.7%	41 68.3%	60 100.0%	0.001
	No	16 11.8%	120 88.2%	136 100.0%	
Total		35 17.9%	161 82.1%	196 100.0%	

Table 9: Stratification for irritable bowel syndrome with respect to abdominal pain with change in stool form:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Is this abdominal pain associated with change in stool form?	Yes	35 36.8%	60 63.2%	95 100.0%	0.000
	No	0 0%	101 100.0%	101 100.0%	
Total		35 17.9%	161 82.1%	196 100.0%	

Table 10: Stratification for irritable bowel syndrome with respect to abdominal pain before or with defecation:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
Do you feel abdominal pain before or with defecation?	Yes	35 22.6%	120 77.4%	155 100.0%	0.001
	No	0 0%	41 100.0%	41 100.0%	
Total		35 17.9%	161 82.1%	196 100.0%	

Table 11: Stratification for irritable bowel syndrome with respect to if yes, experience:

		Irritable Bowel Syndrome		Total	P-value
		Yes	No		
If Yes then do you experience	Diarrhoea	0 0%	161 100.0%	161 100.0%	0.000
	Constipation	19 100.0%	0 0%	19 100.0%	
	Any history of Warning signs	16 100.0%	0 0%	16 100.0%	
	Total	35 17.9%	161 82.1%	196 100.0%	

DISCUSSION

The Gastroenterology ward of Ayub Teaching Hospital Abbottabad studied 196 individuals for irritable bowel syndrome frequency.

This research found that patients ranged in age from 15 to 60 years, with abdominal discomfort lasting from 1 to 48 months and symptoms lasting from 8 to 20 days. The patient population was 117 (59.7%) male and 79 (40.3%) female. Patient residences were 116 (59.2%) rural and 80 (40.8%) urban. The frequency of stomach discomfort intensity was 41 (20.9%) mild, 95 (48.5%) moderate, and 60 (30.6%) severe. In terms of stomach discomfort before or after feces, 155 (79.1%) reported pain and 41 (20.9%) did not.

Our investigation found 95 (48.5%) cases of stomach discomfort related with stool form alteration, whereas 101 (51.5%) did not. Abdominal discomfort was linked with stool frequency in 60 (30.6%) of the cases, whereas 136 (69.4%) were not.

The research found that defecation reduces pain frequency, with 155 (79.1%) experiencing improvement and 41 (20.9%) not experiencing improvement. In terms of stomach discomfort connected with bowel movements, 136 (69.4%) experienced it, whereas 60 (30.6%) did not. This research showed that 35 (17.9%) had IBS and 161 (82.1%) did not. Our IBS research findings are comparable to Costanian C et al. University students had 20% IBS prevalence. Bivariate analysis revealed a higher prevalence of IBS

in females compared to men (29.1% vs 18.2%, $P < 0.01$). Living in a school dormitory or private house (39.5%) was more likely to develop IBS than with family (16.3%). IBS, a functional gastrointestinal condition that affects 10% to 20% of adults in Europe and the Americas, is characterized by stomach discomfort and changed bowel patterns without symptoms. This Hayes PA et al. research. Irritable bowel syndrome was observed in 1 (16.7%) those under 20, 9 (16.4%) between 21 and 40, and 25 (18.5%) between 41 and 60. This result is insignificant ($p=0.937$). In our research, 16 (13.7%) men and 19 (24.1%) females had IBS. This result is insignificant ($p=0.063$). In stratification for irritable bowel syndrome by domicile, 35 people (30.2%) were rural and 0 were urban. Statistically significant at $p=0.000$. 0(0%) of irritable bowel syndrome patients experienced mild pain, 35(36.8%) had moderate pain, and 0(0%) had severe pain. Statistically significant at $p=0.000$. This research stratifies irritable bowel syndrome by abdominal pain and bowel habit change. Patients with pain associated with change were 35 (25.7%) and those without change were 0. Statistically significant at $p=0.000$. In this research, 35 (22.6%) of irritable bowel syndrome patients had discomfort that improved after defecation, whereas 0 (0%) had no change. This is significant at $p=0.001$.

In this research stratified for irritable bowel syndrome by stool frequency change pain, 19 (31.7%) patients had stool frequency change pain and 16 (11.8%) did not. This is significant at $p=0.001$. This research stratified irritable bowel syndrome by stool form pain: 35 (36.8%) and 0 (0%). Statistically significant at $p=0.000$. In this research, 35 (22.6%) of irritable bowel syndrome patients had discomfort before or during feces, whereas 0 (0%), had no change. This is significant at $p=0.001$. In our research, individuals with irritable bowel syndrome who had diarrhoea had 0%, constipation had 19.0%, and warning signs had 16.0%. Statistically significant at $p=0.0005$.

CONCLUSION

The diagnosis of IBS relies on the identification of characteristic symptoms and the exclusion of other organic diseases. Management of patients with IBS is optimized by an individualized, holistic approach that embraces dietary, lifestyle, medical, and behavioral interventions.

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