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IMPACT OF LIFESTYLE MODIFICATIONS ON HEALTH-RELATED QUALITY OF LIFE IN IRRITABLE BOWEL SYNDROME PATIENTS

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ABSTRACT

A hospital-based prospective study was conducted on patients with Irritable Bowel Syndrome for 6 months in the Gastroenterology Department. Based on the diagnosis, 105 patients were enrolled in the study and interviewed to record their age, sex, symptoms, and diagnosis with laboratory parameters and treatment. The prevalence of the type of IBS was calculated and risk factors associated with IBS were assessed. Impact of lifestyle modification on quality of life of IBS patients was also assessed. Patients were admitted in the age groups between 21-30 years (24.76%), 31-40 years (24.76%), and 41-50 years (25.71%). Abdominal pain, weight loss, and epigastric pain were the most common symptoms. The common risk factors are consuming alcohol (38.09%), stress (20.95%), and smoking (21.90%) among patient profiles recorded. Constipation-predominant IBS was the most occurring type. Males are twice affected (61%) out of 105 patients, 82 patients were followed up, of which 27 patients did not respond to lifestyle modifications but were on pharmacotherapy. Other 55 patients who followed lifestyle modifications improved a better QoL**.** With the proper counselling of patients, bringing awareness in them to follow lifestyle modifications that may help to increase their QOL.

Keywords: Irritable bowel syndrome, Quality of Life, Lifestyle modifications, Prospective and Prevalence

INTRODUCTION:

Irritable Bowel Syndrome (IBS) is a functional gastrointestinal condition that manifests as a persistent illness of the lower gastrointestinal tract. IBS is sometimes known as spastic colon disease or irritable bowel syndrome. IBS is characterized by abdominal pain or discomfort, as well as changes in the consistency and/or frequency of bowel movements; the reasons for IBS are unknown. A combination of reasons, including visceral hypersensitivity, decreased intestinal motility, neurotransmitter imbalance, infections, and psychosocial factors, are thought to be to blame for the symptoms **[1]**.

Symptoms differ from person to person. While IBS may be a mere irritation for some, it may be a source of agonising pain for others, reducing their quality of life.

Although IBS is associated with emotional and social stress, which can influence the onset and severity of symptoms, it is not a psychiatric disorder. The syndrome's key characteristics include motility, sensitivity, and central nervous system dysfunction. Muscle spasms can indicate motility failure, and contractions might be gradual or fast. Increased sensitivity to stimuli can induce pain and discomfort **[2]**.

Abdominal discomfort, nausea, diarrhoea, constipation, urgency, flatulence, cramping, bloating, a sense of incomplete evacuation, and dyspepsia are some of the symptoms. The most significant risk factors are smoking, alcohol, age, gender, family history, and mental health issues. The most prevalent problems are mood disorders, impacted intestines, dehydration, low quality of life, and hemorrhoids.

Classification of IBS: Three sub categories of IBS are IBS-D, IBS-C and IBS-M **[3]**.

Pathophysiology: IBS is a syndrome characterized by visceral hypersensitivity (abdominal pain and discomfort) and gastrointestinal motor irregularities (resulting in diarrhea and constipation). Patients with serotonin dysregulation, bacterial overgrowth, central dysregulations, brain-gut infections, genetics, infections, and immunological activations can also be identified with this gastrointestinal illness.

Treatment: Self-care and therapy are used in treatment; Some people can manage their symptoms by adjusting their food, lifestyle, and stress levels. Others will require drugs as well as counseling. Antispasmodics, tricyclic antidepressants, SSRIs, probiotics, laxatives, antibiotics, and antimotility medicines are examples of pharmacological

treatments.

Lifestyle Modifications: Lifestyle changes entail changing long-term habits, generally eating or physical activity, and sticking with the new behavior for months or years. A variety of disorders can be treated with lifestyle changes. Sleeping disruptions, Level of physical activity, Hydration habits, Eating preferences, and Stress management practises. There are three types of lifestyle changes: psychological changes, behavioural changes, and dietary adjustments. IBS-related gastrointestinal problems have both physical and psychological consequences. It is critical to personalise treatment for each patient. Although therapeutic approaches for IBS focus on symptom relief, lifestyle changes emphasise the impact of nutrition, exercise, and sleep alterations in IBS patients **[4]**.

Dietary Strategies: High-fibre diet, Low fibre diet, Gluten-free diet and Low-fat diet.

Avoid triggers: Avoid caffeine, alcohol, smoking, dairy products and canned foods. Some medications can also trigger your symptoms **[5]**. FODMAP's are carbohydrates that are difficult for the intestine to digest **[6]**.

Exercise: Exercise has been demonstrated to reduce the severity of IBS symptoms. Physically active people have more frequent bowel movements and a faster colon transit time than sedentary people. Aerobic activities and walking are examples of exercises.

Psychological therapy: When patients have moderate to severe symptoms or have not responded to early pharmacological treatment, psychological treatments are useful in the treatment of IBS patients. Psychotherapy (cognitive behavioral therapy-CBT), relaxation therapy, and psycho-education are all forms of psychological treatment **[7]**.

Use of CBT: CBT is effective in reducing IBS symptoms of abdominal pain, constipation and diarrhea **[8]**.

Psychoeducation: Psychoeducation is a key component in treating IBS patients as it involves educating patients about myths about IBS **[9]**.

Relaxation techniques: Relaxation techniques are typically useful for patients who suffer from stress and anxiety **[10]**.

Quality of Life: The degree to which an individual is healthy, comfortable, and able to participate in or enjoy life events is defined as quality of life. The general health of both young and old people with IBS is observed to be worse than that of the general population. The severity of bowel symptoms in IBS is related to a commensurate impact on health-

related QoL, and patients with severe bowel symptoms have a lower QoL.

Calculation of IBS-QOL score: The individual responses to the 15 questions are summed and averaged for a total score and then transformed to a 0-400 scale for ease of interpretation, Indicating IBS-specific quality of life. IBS-QOL scores ranging from,0-100 (mild), 100-200 (moderate), 200-300 (severe), and >300 (extremely severe).

$$Score = \frac{\text{Sum of the item} - \text{lower possible ragne}}{\text{Possible raw score ragne}} * 100$$

METHODOLOGY:

Study Design: A prospective study was conducted in MediCiti Hospital, Department of Gastroenterology, Ghanapur. Hyderabad, Telangana for six months. 105 patients were enrolled for the study.

Inclusion criteria:

- ✓ Patients in the Gastroenterology department suffering from IBS.
- ✓ Both genders (males & females) are included.
- ✓ Patients who can cooperate with the study.
- ✓ Patients above 18 years of age.

Exclusion criteria:

- ✓ Patients who are non-able to cooperate for study.
- ✓ Patients with serious conditions and unconscious patients.
- ✓ Patients below 18 years of age.
- ✓ Pregnant women
- ✓ Lactating women.

RESULTS AND DISCUSSION:

Age Distribution: In the present study, the prevalence of IBS was seen in the age groups between 21-30 years (24.76%), 31-40 years (24.76%) and 41-50 years (25.71%) **(Table 1) [12]**.

Gender Distribution: In our study of 105 patients, males are twice affected (61%) than females (38%) **(Table 2)**.

Risk Factors: Out of 105 patients enrolled in this study, 40 patients (38.09%) were alcoholic, followed by 22 patients (20.95%) who had undergone stress and 23 patients (21.90%) of smokers are high-risk groups for IBS **(Table 3) [13]**.

Type of IBS: Among 3 types of IBS (IBS-C, IBS-D, IBS-M), constipation-predominant IBS (IBS-C) is the most frequently occurring type, where 61 patients (58.05%) are affected out of 105 patients **(Table 4)**.

Quality of Life of IBS Patient - (IBS-QoL) Score: Based on the IBS-QoL score, it is found that the QoL of the patient is severely affected in all three types, IBS-M (76.9%), IBS-D (60.6%), and IBS-C (58%) **(Table 8-10)**.

Symptoms: Among 61 patients enrolled in IBS-C type; 36 patients (59%) had abdominal pain **(Table 5) (Figure 1)**.

Out of 31 patients enrolled in IBS-D type; 11 patients (35.48%) had abdominal pain followed by weight loss in 10 patients (32.25%) and epigastric pain in 10 patients (32.25%) **(Table 6) (Figure 2)**.

Symptom severity in IBS-M patients: Among 13 patients enrolled in IBS-M type; 7 patients (53.8%) had abdominal pain followed by bloating in 6 patients (46.15%) **(Table 7) (Figure 3)**.

Lifestyle Modifications: (Table 11, 12) (Figure 4, 5)

Treatment outcomes: (Table 13) (Figure 6)

Table 1: Distribution of patients according to age groups

Range	No. of Patients	Percentage (%)
21-30	26	24.76
31-40	26	24.76
41-50	27	25.71
51-60	16	15
61-70	9	8
71-80	1	0.95

Table 2: Distribution of patients based on gender

Gender	No. of Patients	Percentage (%)
Male	65	61
Female	40	38

Table 3: Distribution of patients according to risk factors

Risk factor	No. of patients	Percentage (%)
Alcohol	40	38.09
Stress	22	20.95
Anxiety	13	12.38
Sleep disturbances	10	9.52
Smoking	23	21.90
Tobacco chewing	5	4.76

Table 4: Distribution of patients based on the type of IBS

Type of IBS	No. of Patients	Percentage (%)
IBS-C	61	58.09
IBS-D	31	29.52
IBS-M	13	12.38

Table 5: Distribution of patients according to IBS-C symptoms

Symptoms	No. of Patients	Percentage (%)
Abdominal pain	36	59
Constipation	54	88
Bloating	19	31
Epigastric pain	14	22

Flatulence	**10**	**16**
Burning sensation	**7**	**11**
Mucus in stools	**5**	**8**
Weight loss	**6**	**9**
Dyspepsia	**10**	**16**
Incomplete evacuation	**10**	**16**
Hematochezia	**6**	**9**

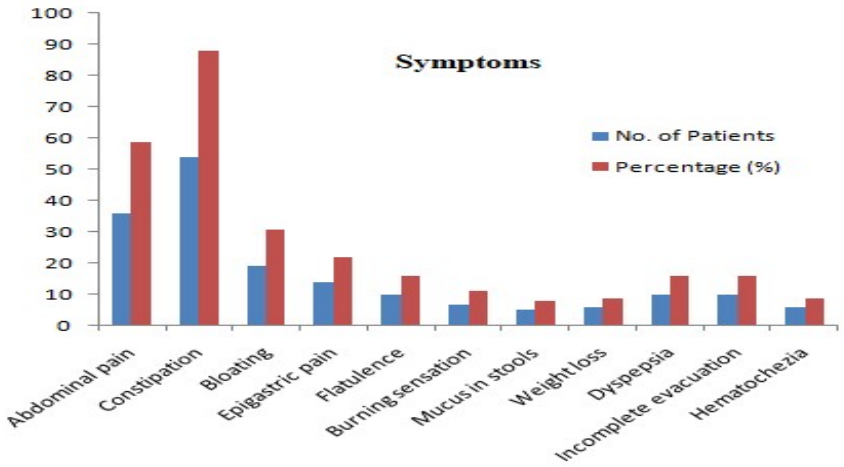

Figure 1: Graphical representation of patients based on IBS-C symptoms

Table 6: Distribution of patients according to IBS-D symptoms

Symptoms	No. of Patients	Percentage (%)
Diarrhoea	**31**	**100**
Hematochezia	**2**	**6**
Abdominalpain	**11**	**35.48**
Weight loss	**10**	**32.25**
Epigastric pain	**10**	**32.25**
Burningsensation	**5**	**16**
Vomiting	**6**	**19**
Flatulence	**4**	**12.90**
Belching	**6**	**19**

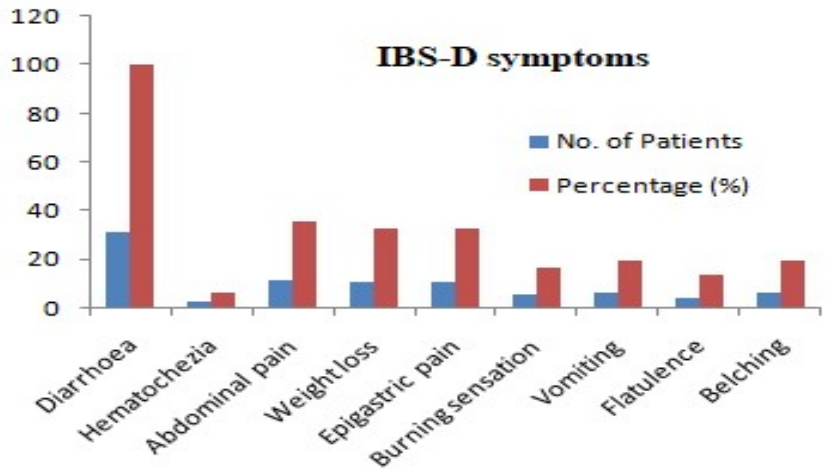

Figure 2: Graphical representation of patients based on IBS-D symptoms

Table 7: Distribution of patients based on IBS-M symptoms

Symptoms	No. of Patients	Percentage (%)
Bloating	6	46.15
Burning sensation	4	30.76
Hematochezia	2	15.38
Mixed bowels	12	92.30
Abdominal pain	7	53.8
Weight loss	4	30.76
Flatulence	2	15.38

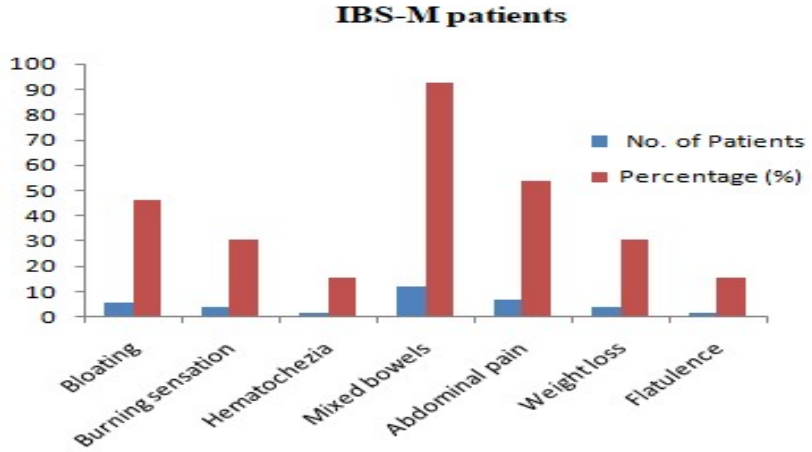

Figure 3: Graphical representation of patients based on IBS-M symptoms

Table 8: Distribution of patients based on IBS-QOL score in IBS-M patients

	Mild	Moderate	Severe	Extremesevere
No. of patients	0	3	10	0
Percentage (%)	0	23	76.9	0

Table 9: Distribution of patients based on IBS-QOL score in IBS-D patients

	Mild	Moderate	Severe	Extreme severe
No. of patients	7	6	18	0
Percentage (%)	22.5	19.3	58	0

Table 10: Distribution of patients based on IBS-QoL scores in IBS-C patients

	Mild	Moderate	Severe	Extremesevere
No. of patients	8	13	37	3
Percentage (%)	13.11	21.3	60.6	4.9

Table 11: Lifestyle modifications before patient education

Age	No. of patients	Healthy	Exercise	Stress management	Medications
21-30	26	9	6	2	16
31-40	26	10	8	4	15
41-50	27	8	9	0	13
51-60	16	4	7	2	9
61-70	10	3	2	1	5
71-80	1	0	0	0	0

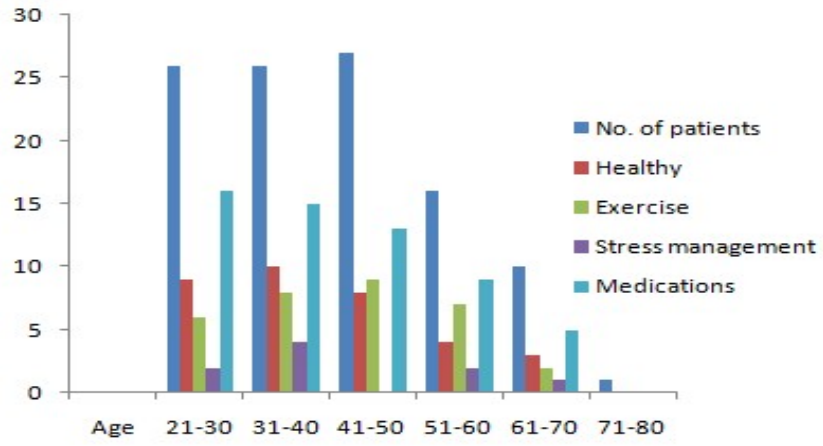

Figure 4: Graphical representation of patients following lifestyle modifications before patient education

Table 12: Lifestyle modifications after patient education

Age	No. of patients	Healthy	Exercise	Stress management	Medications
21-30	26	18	20	13	19
31-40	26	20	18	4	18
41-50	27	19	15	11	19
51-60	16	11	10	8	11
61-70	10	5	5	4	7
71-80	0	1	0	0	1

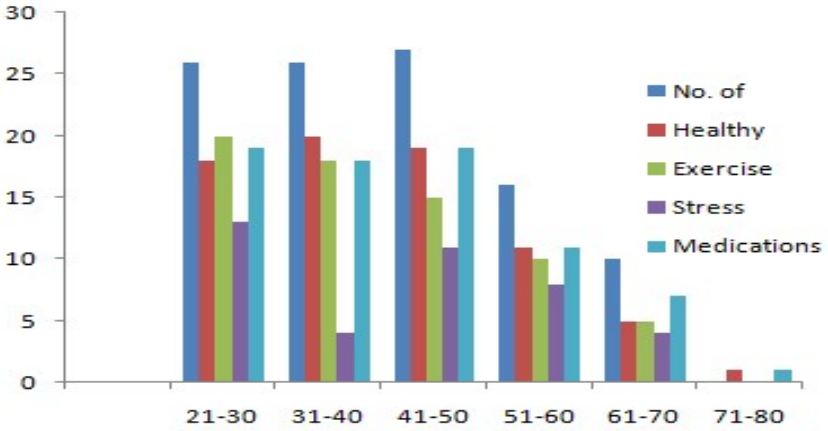

Figure 5: Graphical representation of patients following lifestyle modifications after patient education

Table 13: Distribution of patients based on treatment outcome

	No. of Patients	TreatmentOutcome
Medications	27	Regularized bowel habits
Medication+ Lifestyle changes	55	Regularized bowel habits with Symptomatic improvement

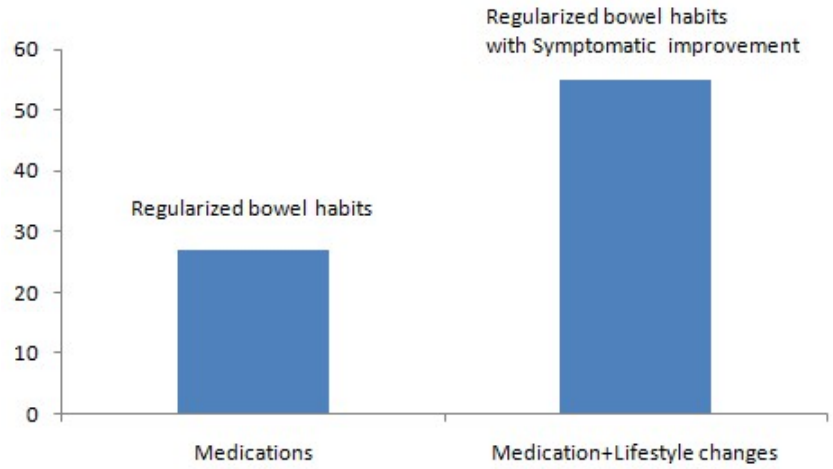

Figure 6: Graphical representation of patients based on treatment outcome

In this prospective study, the impact of lifestyle modifications on health-related quality of life in IBS patients was determined in 105 patients.

In 105 patients, 82 patients were followed up for 1 month. We counseled the patients and educated them by giving diet charts and a few customized lifestyle modifications. We followed up with patients personally to know if they have made any alterations as advised and if they have seen any improvements. 27 patients did not adhere to any lifestyle modifications but only took medications as prescribed, while 55 other patients followed the lifestyle modifications and medications as prescribed by the physician. Better treatment outcome in terms of regularized bowel habits along with symptomatic improvement and QoL of patients is improved in the latter group of patients.

CONCLUSION:

Irritable bowel syndrome symptoms can be controlled with lifestyle changes, dietary adjustments, and stress management, all of which enhance QoL. Some people with body intolerance and health neglect are more prone to severe symptoms and decreased QoL, necessitating medication. Some people believe that their symptoms can only be managed by medication; consequently, adequate counselling of patients, raising awareness in them to adopt lifestyle modifications that may assist to raise their QoL, is necessary. As the most common GI disorder, IBS has uncomfortable, recurring symptoms such as diarrhoea, abdominal pain, constipation, gas, bloating, and sleep disturbances. These symptoms range in severity from mild to severe and can significantly impact daily life. Regular exercise and yoga, following a low FODMAP diet, avoiding alcohol, caffeine, tobacco,

drinking plenty of water, and managing stress and anxiety levels can bring much relief and improve QoL.

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