



ASSESSING THE DIETARY INTAKE OF PATIENTS SUFFERING FROM IRRITABLE BOWEL SYNDROME (IBS) IN KASHMIR

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Abstract:

Background:

Irritable bowel syndrome (IBS) is a disorder of bowel function and it occurs when muscles in your large intestine contract faster or slower than normal. This causes pain, cramping, flatulence, sudden bouts of diarrhea, and constipation. People may have alternating bouts of constipation and diarrhea, or diarrhea-predominant IBS, or constipation-predominant IBS. Although the symptoms can be hard to live with, IBS doesn't cause permanent damage to your intestine. Between 5 to 10% of the population has IBS. IBS peaks between the ages of 20 to 39. But it can occur at any age and is often associated with stress. It affects up to twice as many women as men. Many IBS patients believe that diet may play a role in triggering these episodes and may avoid certain foods.

Methods:

A sample of 50 individuals with IBS were recruited who visited the nutritional counseling cell at university of Kashmir for counseling and asked them to complete a validated self made questionnaire. The questionnaire was related to dietary intake and diet habits. The data were analyzed by using various statistical tests in order to meet the objective of the study.

Results:

The data showed that the average energy, protein and fat intake of the studied patients exceeded the recommended requirements. The fibre intake was low as consumption of fruits with skin and vegetables were low. They accepted the sedentary life style. The calcium was also low as they were intolerant to milk and its dairy products. They consumed restaurant meal on daily basis which provided them a lot of saturated fatty acids that hinders the symptoms of the disease.

Conclusion:

As per my study the total dietary fiber intake and intake of fiber from vegetables, fruits and pulses are lower in patients with IBS in Kashmir. The IBS subpopulation appears to have an adequate and balanced macronutrient intake with no evidence of inadequate micronutrient intake and inclusion of soluble fibre in their diet.

Key Words: Dietary intake, Irritable bowel syndrome, Constipation & Flatulence

Introduction:

The irritable bowel syndrome also known as spastic colitis, spastic colon or mucous colitis. It is common disorder of unknown cause characterized by disturbance in the motility of the gastrointestinal tract. IBS is the result of overstimulation of the intestinal nerve endings that cause irregular contraction of the bowel. There is excessive sigmoid motility and loss of rectal sensibility, which can cause rapid transit through the bowel or constipation [1]. The person with IBS may experience a variety of symptoms including indigestion, nausea, abdominal pain, flatulence, diarrhea, constipation, or alternating diarrhea and constipation. In addition, irritable bowel syndrome may be associated with a number of non-intestinal (extra intestinal symptoms), such as difficulty with sexual function (pain on intercourse or lack of libido), muscle aches and pains, fatigue, fibromyalgia syndrome, headaches, back pain,

and sometimes urinary symptoms including urinary urgency, urinary hesitation or a feeling of spasm in the bladder. There are three subcategories of IBS, according to the principal symptoms. [2] These are **pain associated with diarrhea**; **pain associated with constipation**; and **pain and diarrhea alternating with constipation**. IBS is now considered an organic and, most likely, neurologic bowel disorder. Stressful life experiences can worsen IBS symptoms and it is important you seek advice for stress reduction from your doctor, if you are having difficulty dealing with the stress. Subjects with IBS have lower quality of life, are more likely to use health service resources, and have higher work absenteeism than healthy controls [3]. The cause of IBS remains unknown, although many different etiology theories have been postulated including immunological dysfunction, food allergy/intolerance, altered gut motility, psychological/ stress factors and genetic predisposition [4]. Two-thirds of subjects with IBS perceive their symptoms to be diet related [5] and therefore they may restrict their food intake or eliminate certain dietary agents. Reported perceived triggers included carbohydrates and fatty foods, together with caffeine, alcohol and spices. This could potentially distort macronutrient intake and put subjects at risk of low nutrient intakes. Every patient should include at least 25 grams of fiber in their diet every day. In Kashmir after the common cold, IBS is the second most frequent reason in people take days off from work. This makes IBS a very important issue for public health and the society in general, which clearly needs to be addressed by the medical community. So for this reason I have taken this topic in order to assess dietary intake of irritable bowel syndrome patients.

The aim of this study was:

- (A) To assess the dietary intake of irritable bowel syndrome patients.
- (B) To nutritionally counsel the patients.

Methodology:

2.1 Patients:

A cross sectional study was conducted of 50 patients suffering from irritable bowel syndrome. The inclusion criteria were adults aged 19 years to 50 years. This study recruited those participants who visited nutrition counseling cell at University of Kashmir Srinagar for dietary counseling. The participants were asked to fill out a questionnaire related to research topic. They were given instructions on how to fill out the questionnaire fairly. After filling out the questionnaire, anthropometric measurements were measured, such as weight and Height. Weight was measured by using a digital weighing scale and height with a wall- mounted stadiometer. The Body mass index was calculated using the formula proposed by quetelet [6] $BMI = \text{weight (kg) /height (meter)}^2$. The data were compiled in Excel spreadsheet and analyzed by using SPSS software.

2.2 Dietary Intake and Assessment:

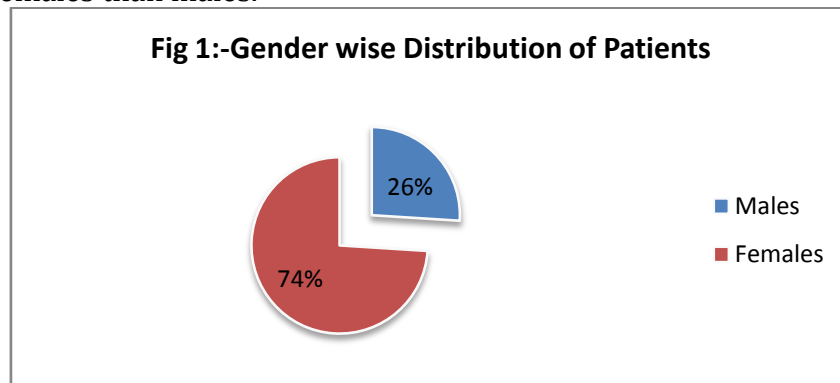
Assessment of individual patient's oral intake was determined by the dietary recall method or 24 hour recall method and their dietary history and food habits were also measured.

Statistical Analysis:

The data obtained through questionnaire was consolidated; classified and tabulated depending on the kind of information required, keeping in view the objectives of the study. The data processing included editing, coding, classification and tabulation so that they were available to analysis. All data were statistically analyzed through statistical package for social science (SPSS) software and Microsoft excel.

Results and Discussion:

The present study has used primary data collected from 50 patients. The Fig no.1 shows the distribution of gender wise patients. It was observed that IBS was more common in females than males.



The general characteristics of studied patients are present in the table 1. It is evident from the table that majority of them (48% females and 20% males) were residing in urban areas and remaining (26% females and 6% males) were hailing from rural areas ($P > 0.05$). The ratio of male and female respondents was 26% and 74% respectively. The IBS was more common (14% males and 44% females) in the employed persons and they accepted the sedentary life style with monthly income more than Rs.10000 while remaining 6% males and 24% female respondents from the economic group of Rs.3000-5000. It was observed that majority of them in both groups had nuclear type of family system. It was found that the IBS is more common in those respondents who sleep for only 5 hours. Further it was observed that majority of them doing only mild type of exercise in terms of house hold chores which may affects on bowel movements and finally leads to overweight. From the sample of 50 respondents, 26 % (8% males & 18% females) were normal weight while majority 16% males and 52% females were overweight ($P > 0.05$). It was observed that 82% were complaining of pain with constipation and Lactose intolerance was causative agent in these studied respondents. Statistically it was observed that there is non -significant difference between male and female respondents ($P > 0.05$).

Table 1: Socio Demographic characteristics of studied patients

S.No	Characteristics	Gender		Chi square	P-value
		Males (%)	Females (%)		
1	Residence			0.64	>0.05
	Rural	3 (6)	13 (26)		
	Urban	10 (20)	24 (48)		
2	Occupation			0.652	>0.05
	Employed	7 (14)	22 (44)		
	Unemployed	5 (10)	14 (28)		
	Laborer	1 (2)	1(2)		
3	Monthly income			0.623	>0.05
	Rs <5000/month	1 (2)	4(8)		
	Rs 5000-10000/month	3 (6)	12(24)		
	Above 10000/month	9 (18)	21(42)		

4	Type of family Nuclear Joint	11(22) 2 (4)	34 (68) 3 (6)	0.565	>0.05
5	Sleeping time (Hours) 5-6 7-8	8 (16) 5 (10)	27 (54) 10 (20)	0.59	>0.05
6	Activity Performed Mild Exercise Moderate Exercise Strenuous Exercise	10 (20) 2 (4) 1(2)	30(60) 5 (10) 2 (4)	0.12	>0.05
7	BMI <18.5 (underweight) 20-24.9 (Normal) 25-29.9 (Grade 1 obesity) 30-39 (Grade 2 obesity)	1(2) 4(8) 8(16) -	2 (4) 9 (18) 26 (52)	0.34	>0.05
8	Categories of IBS • Pain with diarrhea • Pain with constipation • Pain with Diarrhea and Constipation	0 11 (22) 2 (4)	0 30 (60) 7 (14)	0.08	>0.05
9	Cause of IBS Stress Lactose intolerance	6 (12) 7 (14)	13 (26) 24 (48)	0.49	>0.05

Careful perusal of the table 2 it was observed that Energy, Protein and Fat intake of the studied patients was significantly higher than the estimated average requirements as street, fatty - fried food items and red meat was more consumed by these patients. It was observed that the calcium nutrient intake was significantly lower than reference requirement which account for excellent source of lightly absorbed calcium in these patients. These patients are anemic as their iron intake was also low than the recommended values. Most of the energy was met from the fats and protein. The fibre intake was also observed as low from the recommended values as the consumption of fruits and vegetables was low in studied patients

Table 2: Daily Nutrient intake of the studied patients compared with Reference Values

Calculated Nutrients	IBS patients (n=50)		Reference Values	
	Males	Females	Males	Females
Energy (kcal)	2572	2213	2320	1900
Protein (g)	70	63	60	55
Fats (g)	45	35	25	20
Calcium (mg)	320	250	600	
Vitamin C (mg)	42	39	40	
Iron (mg)	16	14	20	
Riboflavin (mg)	0.32	0.65	1	
Thiamin (mg)	0.52	0.34	1	
Fibre (g)	13	11	20-30	

Table 3: Distribution of Patients as per Dietary Habits

Variables		Male (%)	Female (%)
Consumption of Fruits with skin	Present	2 (4)	3 (6)
	Absent	11 (22)	34 (68)
Chi square = 0.566, P-value = >0.05			
Consumption of green vegetables	Present	4 (8)	6 (12)
	Absent	9 (18)	31(62)
Chi square = 1.273, P-value = >0.05			
Consumption of Butter	Present	1 (2)	2 (4)
	Absent	12 (24)	35 (70)
Chi square = 0.089, P-value = >0.05			
History of Consumption of Junk foods	Present	7 (14)	13 (26)
	Absent	6 (12)	24 (48)
Chi square = 1.403, P-value = >0.05			
Consumption of sugar and coffee	Present	9(18)	25 (50)
	Absent	4 (8)	12 (24)
Chi square = 0.012, P-value = >0.05			
Consumption of water/day	> 3 Glasses	2 (4)	16 (32)
	3-5 Glasses	11 (22)	21 (42)
	6-8 Glasses	0	0
Chi square = 3.241, P-value = >0.05			
Consumption of Restaurant meal	Present	12 (24)	30 (60)
	Absent	1 (2)	7 (14)
Chi square = 0.902, P-value = >0.05			

Table 3 shows the assessment of dietary habits of studied IBS patients it was observed that majority of them were not consumed fruits with skin as they are not aware regarding the presence of fibre in the skin of fruits. It was also observed that the consumption of fresh vegetables was also low as they consume more red meat on daily basis. More than 68% of studied patients added sugar to the beverages and preferred foods containing easily absorbed carbohydrates, such as white flour bakery goods, white rice and potatoes in the diet [7]. The IBS patients should provide adequate carbohydrate amounts of good quality, especially slowly absorbed polysaccharides, with exception of such monosaccharide as fructose and sugar alcohols, which aggravate symptoms of disorder [8]. The assessment of dietary habits revealed that the consumption of butter and butter containing spreads is a common in IBS patients [7]. The high-cholesterol and rich in saturated fatty acid diet can negatively affect the lipid profile of patients and leads to cardiovascular diseases. The low frequency of vegetable, fruit and whole grain food consumption, which has been shown in the assessment of their dietary habits, caused insufficient dietary fiber intakes [7]. Soluble fiber appears to be beneficial, while symptom worsening is associated by many patients with products containing insoluble fiber: whole grain wheat products and wheat bran [9]. Fiber sources containing insoluble fiber are recommended only in constipation for IBS treatment [10]. The insufficient magnesium intake accompanied by excessive phosphorus and inadequate calcium supply may induce disturbances of mineral homeostasis and bone structure in patients. The coffee and sugar tea consumption was more common in these respondents as they are working and they prefer it more than the salt tea which increases the energy content in their diet. It was observed that

majority of them drinks only 3-5 glasses water. It was also observed that majority of them were taken restaurant meal frequently but they did not know that this reduces the life span of health. Statistically it was observed that there is a non-significant difference between dietary habits of male and female respondents ($P > 0.05$).

Conclusion:

The main objective of this study was to investigate the eating habits of patients with Irritable bowel syndrome. We used a dietary assessment tool aimed at estimating habitual dietary intake to examine the diet of 50 people with Irritable bowel syndrome. Irritable bowel syndrome is not a trivial illness. It deeply affects the quality of life of the patient and their ability to function effectively in society. Patients with IBS should see their dietitian and doctor get recommendations on the latest treatments available and dietary recommendations. As diet plays main role in this disease. However, it is also important that the patient with IBS understands that although this is a chronic illness, symptoms can be controlled, and the overall outlook is actually quite good. We should help the patient to cope up with stressful situation and relive pent up emotions. They should establish good habits of personal hygiene with adequate time for bowel movement.

Recommendations:

- Eating a healthy diet that includes mainly fruits with skin, fresh green leafy vegetables, and whole grains. If gas is a problem, then avoid beans, cabbage, cauliflower, apple juice, grape juice, banana, nuts, and raisins.
- Avoid refined foods, such as white breads, and sugar.
- Avoid street, deep fried foods as they are rich in Trans - fatty acids like tilikar, nadur mounj, pakoda etc.
- Avoid smoked meat and smoked fish.
- Eat fewer red meats and more lean meats, beans for protein.
- Use healthy cooking oils, such as olive oil or vegetable oil.
- Reduce or eliminate trans-fatty acids, found in commercially baked goods, such as cookies, crackers, cakes, French fries, onion rings, and processed foods.
- Take fiber supplements to help reduce pain, cramping, and gas.
- Avoid caffeine, alcohol, chocolate, and tobacco.
- Stay away from sugar substitutes (such as sorbitol and mannitol), which can trigger symptoms in some people.
- Drink 6 to 8 glasses of filtered water daily.
- Exercise 30 minutes daily, 5 days a week.
- Engage in regular, stress-relieving activities, such as meditation and yoga.

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