



HOSPITAL BASED STUDY OF IRRITABLE BOWEL SYNDROME IN JAMMU

Medicine

Dr Kalash
Chander*Consultant Physician, Department of Medicine, Sub-District Hospital, Kot-Bhalwal,
Jammu, J&K, India. *Corresponding Author

ABSTRACT

Background: Irritable Bowel Syndrome (IBS) is a recurrent disorder characterized by abdominal pain or discomfort, in association with altered generation and interpretation of bowel function, which is not accompanied by anatomical anomalies or biochemical abnormalities. Early detection is needed, as it affects the quality of life markedly. Aim of the study was to investigate the epidemiological factors related to IBS in rural areas of Jammu, J&K, India. **Methods:** It was hospital based study conducted in Community Health Centre, Bishnah, Jammu, with a total of 250 patients attending the OPD between May 2021 to October 2021 selected for the study and sampling. Bowel Disease Questionnaire; Mayo Clinic, Rochester, Minnesota, was used for collection of data from the selected patients. Socio-demographic variables alongside association of various types of disorders were studied in relation to IBS and the results were tabulated. **Results:** On the average, IBS was found to be present in 19.60% of the patients studied, majority of them 79 (31.6%) pertaining to 21-30 years of age, with slightly higher prevalence in females (21.55%). Income group of Upper Middle had highest prevalence 27/121 (22.31%). 50% patents with affected Quality of Life were diagnosed with IBS. 31.37% agreeing to the use of substances suffered from IBS. 'Diarrhea' was the predominant symptom in 44.89% patients. Lowly educated population showed a comparatively higher prevalence. **Conclusions:** The study helped in providing an alternative point of view on the demographic patterns in IBS, but the descriptions involved in the questionnaire can be made clearer in subsequent studies.

KEYWORDS

Irritable Bowel Syndrome (IBS), Abdominal Pain, Constipation, Diarrhea

INTRODUCTION:

Irritable bowel syndrome (IBS) has been defined as a functional disorder of gastrointestinal tract without any accompanying structural defect, in which normal activity of bowel either exaggerated or distorted in such a way that it leads to constipation or diarrhoea and frequently to abdominal pain or discomfort. It may be described as a dysregulation of the brain-gut axis that interacts with visceral hypersensitivity. It can be associated with observed digestive motor disturbances and micro inflammation of the gut, with the possibility of an imbalance of the intestinal bioflora. (Chua, 2011) The prevalence is known to be higher in western countries as compared to Asian countries. The estimated prevalence of IBS within the community is somewhat between 10% and 25%. (Canavan, et.al., 2014) The rapid socio-economic development in the last two decades would have created some kind of transition in socio-cultural environment and health status in Asia. (Gwee et.al., 2010) The prevalence of IBS among Asian communities continues to be on the rise. (Gwee et.al., 2009) International IBS prevalence upon meta-analysis, is estimated to be 11.2% (95% confidence interval: 9.8-12.8), with variation by geographic region; the lowest occurring in south Asia (7.0%) and the highest in south America (21%). (Canavan, et.al., 2014) Symptoms improvement with defecation, onset associated with a change in frequency of stools and onset associated with a change in form or appearance of stools. (Lea et.al., 2004, Longstreth et.al., 2006) IBS are also associated with markedly reduced quality of life and high utilization of health care resources. Only a very small section of the population affected by IBS is referred to a gastroenterologist and is generally characterized by more pronounced intensity and higher physiological and psychosocial issues in comparison to the ones in primary care. (Vandvik, 2009)

There are very few community based epidemiological studies on IBS in rural area of Jammu hence it was planned to undertake the study. The aim of this study, therefore, was to find out the prevalence of IBS in population of Akhnoor and to determine the socio-demographic variables, health-care seeking behaviour and its relationship with psychiatric disorders.

MATERIAL AND METHODS:

A prospective, hospital-based study was conducted in Community Health Centre, Bishnah, Jammu, with a total of 250 patients attending the OPD of the hospital between May 2021 to October 2021 selected for the study and sampling. Talley et.al., 1989, used Bowel Disease Questionnaire; Mayo Clinic, Rochester, Minnesota, for collection of data from the selected patients. Socio-demographic variables alongside association of various types of disorders were studied in relation to irritable bowel syndrome and the results were tabulated accordingly. Further distribution of patients according to the symptoms of IBS was also done. Patients of 20-60 years were included

in the study.

In a previous study by Ghoshal et.al., 2008, a prevalence of 4.2% was reported for IBS in Indian context. Based on this and using $n = Z^2 P(1-P)/d^2$, where 'n' is the sample size, Z is the statistic corresponding to level of confidence, 'n' was calculated to be 250, taking power of study to be 0.80 and confidence level of 95%.

Data classification and analysis was done using SPSS Software version 19 and various Excel Sheets were used for tabulation. Hypothesis testing and importance of the data was analysed using a chi-square (χ^2) and degree of freedom (df) was utilized to determine if a certain null hypothesis can be rejected based on the total number of variables and samples within the experiment.

RESULTS:

This prospective study was performed on 250 subjects, within the age-group of 20 to 60 years. IBS was found to be present in 49/250 (19.60%) of the patients studied, with the majority of them 79 (31.6%) pertaining to 21-30 years of age. Income group of Upper Middle had highest prevalence 27/121 (22.31%). High income group showed significantly lower prevalence of IBS. There was some significant relation to the education level as well ($p < 0.05$), with lowly educated population showed a comparatively higher prevalence. (Table 1)

Table 1: Demography and IBS

Demographic Variables	IBS		Total	p-value
	With IBS: n(%)	Without IBS: n(%)		
Age				
21-30 Years	14 (17.72)	65 (82.28)	79	P>0.05
31-40 Years	11 (18.03)	50 (81.97)	61	
41-50 Years	11 (20.37)	43 (79.63)	54	
51-60 Years	13 (23.21)	43 (76.79)	56	
Sex				
a. Male	24 (17.91)	107 (82.09)	134	p>0.05
b. Female	25 (21.55)	94 (78.45)	116	
Education Level				
a. Illiterate	8 (21.05)	30 (78.95)	38	p<0.05
b. Middle School Lvl	15 (23.43)	49 (76.57)	64	
c. Secondary School Lvl	17 (16.04)	89 (83.96)	106	
d. Higher	9 (21.43)	33 (78.57)	42	
Income Group*				
a. Low (<1L)	5 (21.74)	18 (78.26)	23	p<0.05
b. Lower Middle (1L- 3L)	15 (16.67)	75 (83.33)	90	
c. Upper Middle (3L-8L)	27 (22.31)	94 (77.69)	121	
d. High (>8L)	2 (12.50)	14 (87.50)	16	

**Declared Annual Income of the Family*

Out of the 54 patients who were responding as to affect Quality of Life, 27(50%) were diagnosed with IBS. Similarly out of 51 patients agreeing to the use of substance (like alcohol), 16 (31.37%) were diagnosed with IBS. As much as 19 (38.77) IBS patients reported gastroesophageal refluxes, which was significantly higher than those without IBS, which stood at 25 (12.43%). (Table 2)

Table 2: Disorders and IBS:

Disorders	IBS		p-value
	With	Without	
Health related Quality of Life			
a. Affected	27	27	p<0.001*
b. Not Affected	22	174	
Substance use			
a. Present	16	35	p<0.001*
b. Absent	33	166	
Gastro-esophageal Reflux Disease			
a. Present	19	25	p<0.001*
b. Absent	30	176	
Psychiatric Disorders			
a. Present	10	44	p>0.05
b. Absent	39	157	

The type of IBS wherein 'diarrhea' was the predominant symptom, in 22 (44.89%) cases, which was most common among the studied patients. Incomplete evacuation of bowel was observed in 46.94% of cases and constipation 21 (42.86%) were also common symptoms. Straining of Stools (16.33%) was among the least common subtype among the respondents. (Table 3)

Table 3: Distribution Of Patients According To Symptoms:

IBS Symptoms	Number of Cases	% of Cases
Diarrhea	22	44.89
Constipation	21	42.86
Alternating diarrhea and constipation	5	10.20
Incomplete evacuation of bowel	23	46.94
Relief of pain after bowel movement	20	40.81
Change in frequency of stools	16	32.65
Urgency of passing stools	17	34.69
Straining of stools	8	16.33
Mucous in stools	12	24.49
Bloating	16	32.65

Total no of Cases of IBS: 49

DISCUSSION:

The prevalence of IBS in the present study was slightly higher in females (30.53%) as compared to males, but the findings are not conclusive, studies by Rajendra & Alahuddin, 2004, reveal female predominance. Ghoshal et.al. however showed that there wasn't much difference in prevalence amongst males and females in a community study from India. In that study, most complainants were middle-aged (mean age 39.4 years) and male (1891; 68%). Diarrhea being a predominant symptom (1252 of 2656, 47%), was similar to our study with 44.89% cases. However, incomplete evacuation (2134; 77%) was quite higher as compared to our study, where there were 46.94% of cases of similar symptoms. Straining of stools (1271; 46%) was also comparable to the current study (42.86%).

Wald et.al, 1981, showed that female sex hormones and other bodily mechanisms can be reasoned behind higher occurrences of gastrointestinal motility disorders in women. Wilson et.al, 2004, found quality of life affected among patients, and our study findings were also in agreement to that. Chronic pelvic pain was higher among females with IBS, with 58.6% females complaining about it, quite in line to the findings of Walker et.al, 1996. Significant association was found between substance use disorders, like alcohol abuse, and IBS, quite similar to the findings of Masand et.al, in 1998. IBS was further reported to be higher in prevalence among patients with psychiatric issues, and stood at 51.42%, similar to the findings of Dewsnap et.al, 1996. Upper gastrointestinal tract was also significantly involved in IBS patients.

the period was found to be 19.6%, but quite specific to sub-urbans of Jammu City, lying in North India. There was no door-to-door survey incorporated and no random sampling undertaken. The limitation of the present study is that it is very difficult to find out the true prevalence of IBS as it is quite dependent on the diagnostic criteria applied.

CONCLUSION:

This being the very first study on the subject in this region, and encompassing a wide range of population, but under controlled circumstances, that it was applicable on only the patients reporting before the hospital OPD, the results and outcomes are very definitive and significant. The study can be considered to be quite representative of the sub-urban population of Jammu as significant number of patients pertained to almost all the social segments of the society and the hospital is quite approachable to the public in general. The study has helped in providing an alternative point of view on the demographic patterns in the disease, but more of such studies are suggested to ascertain the real prevalence of the disease in the area. At the same time the descriptions involved in the questionnaire can be made clearer with pictorial representations as well.

Acknowledgements: None

DECLARATIONS:

Funding: Nil

Conflict of interest: None

Ethical approval: Taken

REFERENCES:

- Chua AS. Prevalence of irritable bowel syndrome in northern India. *J Neurogastroenterol Motil* 2011;17:6-8.
- Canavan C, West J, Card T. The epidemiology of irritable bowel syndrome. *Clin Epidemiol* 2014;6: 71-80.
- Gwee KA, Bak YT, Ghoshal UC, et al. Asian consensus on irritable bowel syndrome. *J Gastroenterol Hepatol* 2010;25: 1189-205.
- Gwee KA, Lu CL, Ghoshal UC. Epidemiology of irritable bowel syndrome in asia:something old,something new,something borrowed. *J Gastroenterol Hepatol* 2009;24: 1601-7.
- Longstreth GF, Thompson WG, Chey WD, Houghton LA et al. Functional bowel disorders. *Gastroenterology* 2006;130: 1480-91.
- Lea R, Hopkins V, Hastleton J, Houghton LA, Whorwell PJ. Diagnostic criteria for irritable bowel syndrome: utility and applicability in clinical practice. *Digestion* 2004;70: 210-13.
- Vandvik Po. Current challenges in diagnosing and treating IBS: the importance of a positive diagnosis and a graded general treatment approach. *Gastroenterologin WGN* 2009(14) Issue 1.
- Talley NJ, Phillips SF, Melton J, et al. A patient questionnaire to identify bowel disease. *Ann Intern Med*. 1989 Oct 15;111(8): 671-4.
- Ghoshal UC, Abraham P, Bhatt C, et al. Epidemiological and clinical profile of irritable bowel syndrome in India: report of the Indian Society of Gastroenterology Task Force. *Indian J Gastroenterol* 2008;27: 22-28.
- Rajendra S, Alahuddin S. Prevalence of irritable bowel syndrome in a multi-ethnic Asian Population. *Aliment Pharmacol Ther* 2004;19: 704-6.
- Wald A, Van Thiel DH, Hoechstetter L, et al. Gastrointestinal transit: the effect of the mensural cycle. *Gastroenterology* 1981;80: 1497-1500.
- Wilson NS, Roberts L, Roalfe A, Bridge P, Singh S. Prevalence of irritable bowel syndrome: A community survey. *Br J Gen Pract* 2004;54: 495-502.
- Walker EA, Gelfand AN, Gelfand MD, Green C, Katon WJ. Chronic pelvic pain and gynecological symptoms in women with irritable bowel syndrome. *J Psychosom Obstet Gynaecol* 1996;17: 39-46.
- Masand PS, Sousou AJ, Gupta S, Kaplan DS. Irritable bowel syndrome (IBS) and alcohol abuse or dependence. *Am J Drug Alcohol Abuse* 1998;24: 513-21.
- Dewsnap P, Gomborone J, Libby G, Farthing M. The prevalence of symptoms of irritable bowel syndrome among acute psychiatric in patients with an affective diagnosis. *Psychosomatics* 1996;37: 385-9.

Average prevalence among patients attending the hospital OPD during