



# STUDY OF CAUSES AND MANAGEMENT OF IRRITABLE BOWEL SYNDROME (IBS) AMONG THE POPULATION OF PRAYAGRAJ

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## Abstracts

Irritable bowel syndrome is a functional multi factorial gastrointestinal disorder; stress is one of the proposed factors that play a crucial role in the exaggeration of (IBS). The study aimed to determine the factor and management of IBS among the respondents. A cross-sectional study was carried out at four villages of block soram of district prayagraj. Total 182 respondents were selected proportionately using purposive random sampling method; Data was gathered using a pre-tested, structured questionnaire. It can be concluded from the result of the present study shows that the IBS is a life style disorder. i.e 43% of respondents takes food 8 hourly while 5% takes 4 hourly ,71% of the respondents eat fast food occasionally while 29% were consume daily, 65% of the respondents have no stress /anxiety while 35% have stress/anxiety, 13% of respondents have partially relieved, 6% have fully relieved while 6% have no relieved ,8% of the respondents taken 0-15days treatment, 8% taken 15days to 2 months treatment, 5% taken 2-5 months treatment while 4% taken above 6 month treatment.

**Objective** To determine the factor of IBS among the respondents and to review the management of IBS among the respondents

**Methodology** A cross-sectional descriptive study utilizing the Rome III module questionnaire of IBS; a self-administrated questionnaire that contains twenty nine questions estimating the current condition of a respondents.

**Sample selection:** Purposive Random sampling

**Conclusion.** The factors that are associated with IBS are disturbed life style of the individual, Unhealthy food habit, their living pattern, stress and their socio demographic profile.

**Key words-** IBS, IBS, irritable bowel syndrome, disturb lifestyle, food habit, stress, anxiety, depression

## Introduction

Abdominal pain and altered bowel habits in the absence of any recognized disease is known as irritable bowel syndrome. This is one of the three “functional intestinal disorders” in which psychological assessment procedures could play a major role. Irritable Bowel Syndrome is a common functional bowel disorder with a 12-month prevalence of about 20% in Western countries (Ghee, 2005) and 2–7% in Asian communities (Kumano, *et al.*, 2004).

Global prevalence of IBS vary greatly internationally. The prevalence of IBS within the community is between 10% and 25%. Meta- analysis shows a pooled estimate of international IBS prevalence of 11.2% with variation by geographic region; the lowest occurring in South Asia 7 % and the highest in South America 21%. It is

among the most common gastrointestinal disorders with a worldwide prevalence of approximately 11%. As of 2021 more than 30 million individuals older than age 19 suffered from IBS across key national markets namely the U.S., U.K., France, Italy, Germany, Japan, and Spain (**Canavan et al. 2014**). Various diseases involve the gastrointestinal tract (**Gheisari et al., 2018; Bottalico et al., 2020**). Irritable Bowel Syndrome (IBS) is a common functional gastrointestinal disorder, portrayed by abdominal discomfort and disruption in bowel habits with the absence of precise and distinct organic pathology, hence the diagnosis of IBS is depend on clinical observation and the exclusion of other diseases (**Spiller et al., 2001; Jafri et al., 2005**). The pathogenesis of IBS has been connected to altered gastrointestinal motility, visceral hypersensitivity, post-infectious reactivity, brain-gut interactions, alteration in gut microbiota, food sensitivity, dietary intakes, and intestinal permeability (**Occhipint et al. 2012**). IBS symptoms are the same as any abdominal problems, although some of them could be quite aggressive. Even though different situations require different therapies, the search for the proper diagnosis is crucial. There is no specific standard test for diagnosing IBS because other disorders must be omitted prior treatment can start, but, it should be noted that the existence of alarming symptoms, such advance distress, disruption of sleep and restless, recurrent nausea and vomiting, hematochezia or melanic stools, fecal occult blood positivity, fever, weight loss or anorexia, is not related to IBS (**Saito et al. 2010**). The disease typically causes long-term symptoms: can exist as episodes, can differ, can be meal-related and in certain cases, it may be overlap with everyday activities of life and social performance, symptoms often tend to progress as a result of serious intestinal inflammation, or may be induced by great life events, or through a period of considerable stress (**Haider et al, 2018; Arbaiza and Guillen, 2018**). IBS sub-classification according to the Rome III criteria, and based on the patient's stool characteristics classified as IBS with diarrhea (IBS-D), IBS with Constipation (IBS- C), IBS Mixed (IBS M) (**Hungin et al., 2003**).

There are a variety of extraintestinal co-morbidities associate with IBS and appear in up to 65%. About one-half of the patients suffer from gastrointestinal disorders, such as functional dyspepsia, gastroesophageal reflux disease, functional constipation, and anal incontinence (**Vandvik et al, 2004**). There may also be a significant correlation among the seriousness of IBS and its comorbid psychiatric disorders, in particular depression and anxiety.

The bowel pattern of Indians is different from that of the Westerners. In India, 99% of normal subjects have a stool frequency of at least one or more per day. This is in contrast to a normal stool frequency of three times per week to three times per day in the West. There are some key differences between IBS in India and the West and as such, the Asian Neuro gastroenterologist and Motility Association suggest the use of a broader definition of IBS rather than the use of Rome criteria. They define IBS as “a condition characterized by abdominal pain, bloating or discomfort occurring in association with disturbed bowel pattern in the absence of organic causes that can be detected by routine medical tests”(Saha et al. (2013)

## Methodology

A cross-sectional descriptive study utilizing the Rome III module questionnaire of IBS; a self-administrated questionnaire that contains twenty nine questions estimating the current condition of a respondents.

**Sample selection:** respondents were selected proportionately from each villages using Purposive Random sampling method were adopted to select respondents from the villages All the respondents were allowed to participate in the study. Every question can be responded to by a scale of grades that reflect the severity of symptoms encountered. A skilled trained group was in charge of distributing the questionnaire and display support as subjects filling it. The questionnaire was administrated to respondents of the 4 villages i.e Mansaita(44), Malak chaudhary(44), lehra(43),tharwae(51) of block soraon, district Prayagraj

**Data type** – Primary and Secondary with Data collection methods , Primarily by Interview & Secondary- Previous studies, Journals, books

**Data collection sources** 1. Primary-questionnaire, Secondary- Previous studies,data from private medical practitioner of village.

**Statistical analysis:** Data were analyzed using statistical package for social science (SPSS) version 16, using the chi-squared test, with a 95% confidence interval (CI), a p-value less than 0.04 was considered statistically significant.

**Sample size** –  $n = z^2 P (1-P)/d^2$ ,

Z (level of confidence)=95%=0.95= 1.96 ,P (Prevalence) - 8%=.08 [PREVELANCE-(4.2%-7.8%)], (Mahadeva *et. al.* (2017). The number of calculated sample/ respondents is 176 but during the field study 182 cases found.

## Result

The present study was conducted to determine the factor among the respondents and review the management among the respondents the rural population of prayagraj, Uttar Pradesh India. The main purpose of the study was to access cause and management of irritable bowel syndrome among the respondents aged 0-70 years. After taking the verbal consent, data was collected from 182 respondents with the help of interview schedule. Initially the calculated sample size was 176 but during field work 182 respondents were found with IBS symptoms. The prevalence of IBS in India is 4.2-7.6. Many other studies on the prevalence of IBS in India were reported. While (Rahman *et. al.* 2017) reported a prevalence of 7.6% from Mumbai using manning criteria.

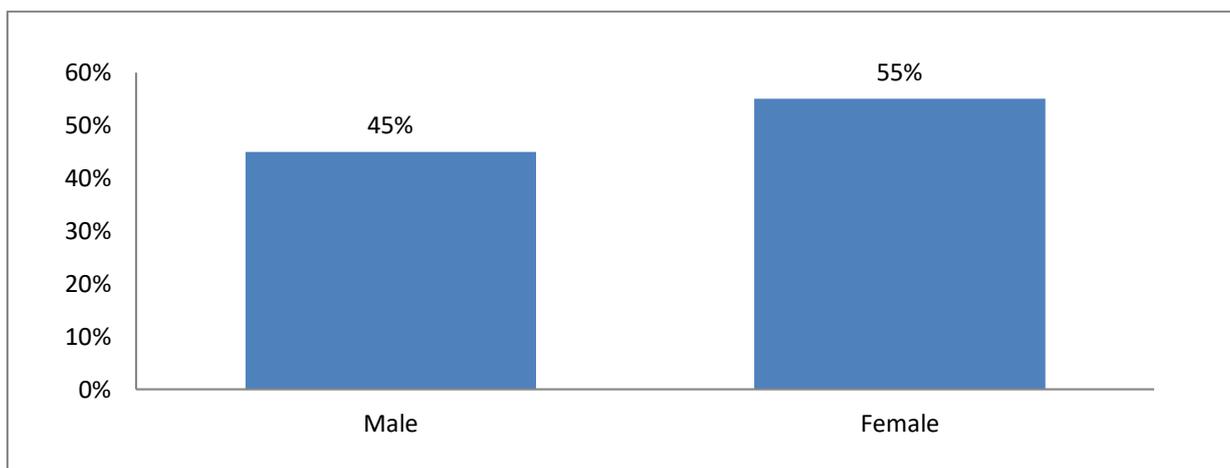


Figure 1 Gender wise distribution of the respondents

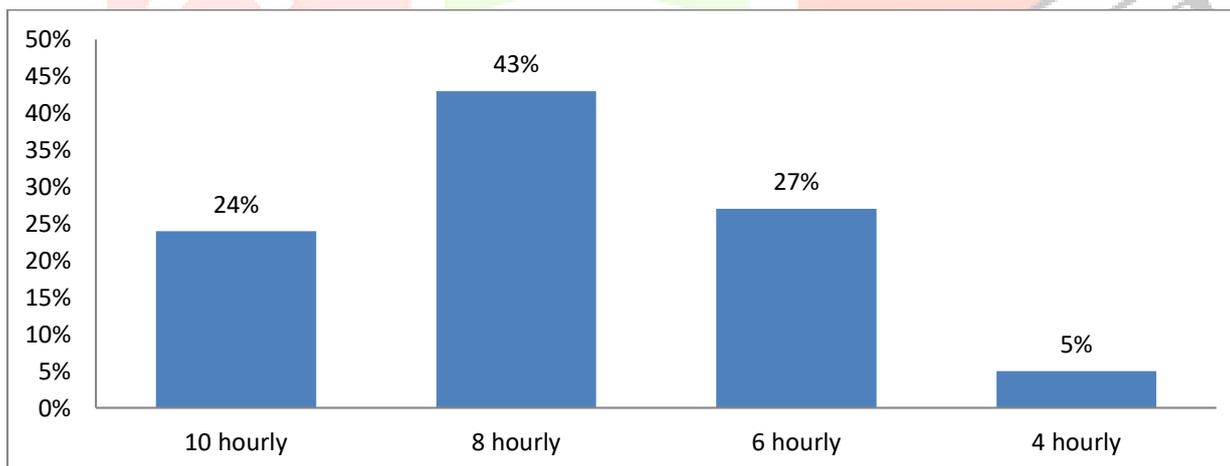


Figure 2 Gap b/w two Meals of the respondents.

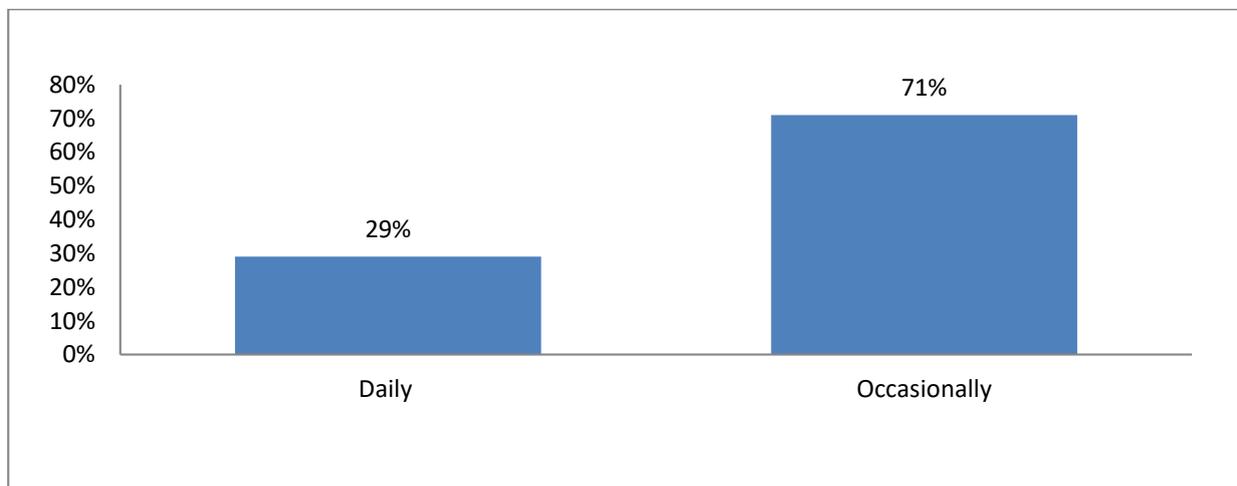


Figure 3 Frequency of Fast-food Intake of the respondents

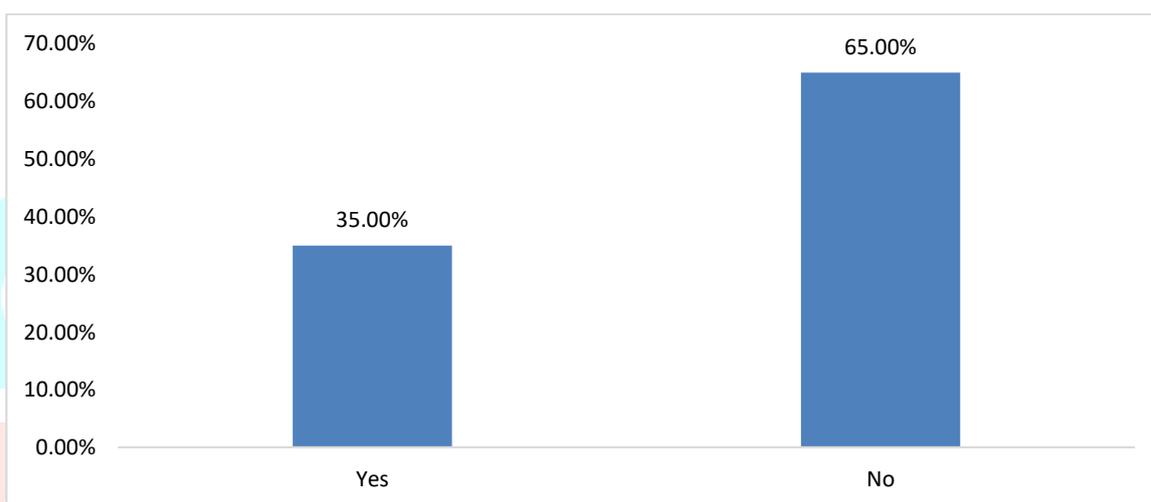


Figure 4 Stress/Anxiety as reported by the respondents

Table 1 Correlation between Duration of treatment and relief by the treatment

| Duration of the treatment                          | Relief by the treatment |              |           |                    | Total |
|--|-------------------------|--------------|-----------|--------------------|-------|
|  | Fully                   | Partially    | No relief | No treatment taken |       |
| 0-15 days  | 5                       | 8            | 2         | 0                  | 15    |
| 15 days-2 months                                   | 2                       | 7            | 5         | 0                  | 14    |
| 2-5 months   | 4                       | 4            | 1         | 0                  | 9     |
| above 6 months                                     | 0                       | 6            | 2         | 0                  | 8     |
| taking no treatment                                | 0                       | 0            | 0         | 136                | 136   |
| Total  | 11                      | 25           | 10        | 136                | 182   |
| <b>Calculated (<math>\chi^2</math>)= &lt;0.001</b> |                         | <b>df=12</b> |           | <b>SIGNIFICANT</b> |       |

Table 1 reveals that there is significant association between the duration of treatment and relief by the treatment regarding IBS. As the calculated chi square value (<.001) at 5 % significance level, 95% level of confidence is less than 1 and value of df is 12. Thus the null hypothesis is accepted

Table 2 Correlation between stress /anxiety and consistency of stool

| Stress / anxiety                | Consistency of stool |           |                                      | Total |
|---------------------------------|----------------------|-----------|--------------------------------------|-------|
|                                 | Constipation         | Diarrhoea | Alternate diarrhoea and constipation |       |
| Yes                             | 26                   | 13        | 24                                   | 63    |
| No                              | 36                   | 40        | 43                                   | 119   |
| Total                           | 62                   | 53        | 67                                   | 182   |
| Calculated ( $\chi^2$ ) = 0.143 |                      | df=2      | SIGNIFICANT                          |       |

Table 2 reveals that there is significant association between the stress/anxiety and consistency of stool regarding IBS. As the calculated chi square value (0.143) at 5 % significance level, 95% level of confidence is less than 1 and value of df is 2. Thus the null hypothesis is accepted

## Discussion

The present study was based on Rome III criteria, using purposive random sampling. The result of the study is shown in previous chapter. Here in this chapter main finding of the study is discussed with finding of similar national and international studies. For the purpose of this study socio demographic status like age, educational status, occupation, smoking tendency, alcoholic tendency, food habit, work tendency, and other points related to cause and management were discussed.

It resulted in the study that about 55 % were Female and male were 45 %. It also revealed that IBS is more common in female than male. Similar research on female population found that IBS is more common in female than male (Alaqeel *et. al.* 2017).

Present study shows that 75 percent of the respondents have taking no treatment and only 25 percent have taking treatment in different pathies i.e. 12 percent of patient taking Ayurvedic treatment, 7 percent taking homeopathic treatment and 6 percent taking Allopathic treatment.

During the study sample size calculated was 176 but during field work 182 respondent found. Study was done by Rome III Criteria. And 182 respondents fulfill all criteria I.e. abdominal pain from last 12 weeks, pain abdomen just after taking meals, pain relief after defecation, symptoms according to the frequency of stool and symptom according to the consistency of stool. Some study show that Rome III criteria is not completely validated for population because of there perception toward stool is different. (Chua *et. al.* (2011).

Present study shows that 65 percent of respondents have no stress and anxiety while 35 percent have some anxiety issue. Other study shows that stress increase the IBS symptoms (Alaqeel *et. al.* 2017), (Srivastava *et. al.* 2021). Present study shows that 37 percent of the respondents have have alternate constipation and diarrhea, 33 percent have constipation problem and and 30 percent have diarrhea. Other study shows that IBS have alternate constipation and diarrhea is more prevalent (Makharia *et. al.* 2011).

## Conclusion

The study aimed to know the factor causing IBS and review the management in the rural area of district prayagraj, Uttar Pradesh. Abdominal pain and altered bowel habits in the absence of any recognized disease is known as Irritable Bowel Syndrome. Irritable bowel syndrome is a functional gastrointestinal disorder. IBS is a heterogeneous disorder with distinct symptoms presentations, broadly characterized: gastrointestinal symptoms, non colonic gastrointestinal symptoms, extra-intestinal symptoms, psychological features and stress, and inciting events. IBS is a life style disorder. i.e 43% of respondents takes food 8 hourly while 5% takes 4 hourly ,71% of the respondents eat fast food occasionally while 29% were consume daily, 65% of the respondents have no stress /anxiety while 35% have stress/anxiety, 13% of respondents have partially relieved, 6% have fully relieved while 6% have no relieved ,8% of the respondents taken 0-15days treatment, 8% taken 15days to 2 months treatment, 5% taken 2-5 months treatment while 4% taken above 6 month treatment. It can be concluded from the result of the present study shows that the IBS is a life style disorder. The factors that are associated with IBS are disturbed life style of the individual, Unhealthy food habit, their living pattern, stress

and their socio demographic status. It can be assumed that the reasons behind these problems are lack of awareness of disease, its severity, its causal factors and its way of treatment in the rural population. Most of the patients in rural areas especially females hesitate to answer the question regarding their bowel habits. Furthermore, it was also observed that these females were confused their bowel pattern. Wide range of treatment methods are available, including patient education, dietary modifications, medications and psychological intervention. Psychological intervention includes stress reduction/relaxation, biofeedback, psychotherapy, hypnotherapy and cognitive behavior therapy.

## Recommendations

- There is a need of awareness programme on health and related problems to adult population.
- There is need of programme should be priorities by government to improve health status as well as living standard of adult age group.
- Strategy for prevention and effective intervention for this life style disorders of the adult population.
- Provide technical and financial support to private sector for enhancing the effectiveness of awareness programme at different levels.
- Enhance opportunities for physical and mental activity among adults.
- Promote healthy diet and nutrition among the adult population.
- Uses of social media, TV, print media for mass awareness on issue concern in the society.
- Awareness regarding irritable bowel syndrome, its causative factor, its line of treatment.
- Programme which provide education regarding healthy life style, physical and mental health.
- Stress/anxiety reducing awareness programme – yoga, meditation, prayanaam and other mental and physical health programme.
- Treatment related awareness- Effective management of IBS symptoms may lead to remission for many years and there is a wide range of treatment methods available, including patient education, dietary modifications, medications and psychological intervention.
- Psychological intervention includes stress reduction/relaxation, biofeedback, psychotherapy, hypnotherapy and cognitive behavior therapy.
- Life style modification awareness programme- leads to cure IBS
- What to eat and not to eat awareness programme- through social media, new paper, free medical camp etc.
- Treatment related awareness – since it is hard to treat without proper treatment or knowledge of the disease, so awareness is very necessary.

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