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# Spectrum And Utilization Of Psychiatric Medications In Gastroenterology Patients: A Study Of 1000 Cases In North India

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**Abstract:**
**Background:** The overlap between gastrointestinal (GI) disorders and psychiatric co-morbidities has been well-documented, yet the spectrum and utilization of psychiatric medications in gastroenterology patients remains underexplored. This study aims to investigate the use of psychiatric medications in a cohort of gastroenterology patients in Kashmir (North India) and to assess the relationship between psychiatric conditions and gastrointestinal disorders.
**Methods:** A retrospective analysis was conducted on 1,000 patients attending gastroenterology outpatient clinics in Kashmir (North India) between January 2019 and December 2023. Data was collected from patient medical records, including demographics, GI diagnoses (e.g., irritable bowel syndrome, inflammatory bowel disease, chronic liver disease), and psychiatric diagnoses (e.g., anxiety, depression). Psychiatric medication use (antidepressants, anxiolytics and antipsychotics) was documented. Descriptive and inferential statistical analyses were performed to identify trends and associations.
**Results:** Of the 1,000 patients, 32% (n = 320) were found to have psychiatric co-morbidities. Among these, 45% (n = 144) were prescribed psychiatric medications. The most commonly prescribed medications included selective serotonin reuptake inhibitors (SSRIs) (34%), benzodiazepines (28%), and atypical antipsychotics (18%). The most frequent psychiatric diagnoses in this cohort were anxiety disorders (52%), followed by depressive disorders (38%). A significant correlation was found between the severity of GI symptoms (especially in IBS and IBD patients) and the use of psychiatric medications ($p < 0.01$). Female patients were more likely to be prescribed psychiatric medications compared to males (58% vs. 42%, $p < 0.05$). Additionally, patients with more complex or chronic GI conditions, such as cirrhosis or Crohn's disease, had higher rates of psychiatric medication use.
**Conclusion:** Psychiatric co-morbidities are common in gastroenterology patients, with a significant portion being prescribed psychiatric medications. This study underscores the need for integrated care models addressing both gastrointestinal and psychiatric needs, particularly in patients with chronic and severe GI disorders. Future research should explore the impact of psychiatric medications on the management of GI symptoms and patient quality of life.

**Key Words:** Irritable bowel syndrome, Gut brain axis, Ulcerative Colitis, Psychiatric disorders, Somatoform disorder, Depression.

## Introduction:

Gastrointestinal (GI) disorders are a significant public health concern, affecting millions of individuals worldwide (1). These disorders, including irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), chronic liver diseases, and peptic ulcers, often result in long-term symptoms that can severely impact a patient's quality of life(2). Recent research has highlighted the bidirectional relationship between gastrointestinal health and mental health, with many GI patients reporting concurrent psychiatric conditions such as anxiety, depression, and somatic symptom disorder (3). Psychiatric co-morbidities are particularly prevalent in patients with chronic or complex GI conditions. The psychological distress caused by persistent GI symptoms can exacerbate the perception of pain and discomfort, leading to a vicious cycle of worsening symptoms and mental health deterioration (4). Moreover, psychiatric disorders may complicate the diagnosis and treatment of GI conditions, as certain psychiatric medications may influence GI function, while certain GI treatments may have mental health side effects(5). Despite the high prevalence of psychiatric co-morbidities in GI patients, the spectrum of psychiatric medications used in this population remains understudied, particularly in developing countries like India. Understanding the patterns of psychiatric medication prescription, the types of medications used, and their relationship with different gastrointestinal conditions is essential for

providing comprehensive care. Furthermore, there is a need to assess whether the use of psychiatric medications correlates with the severity of gastrointestinal symptoms and if demographic factors, such as gender and age, influence psychiatric treatment choices. This study aims to explore the spectrum and utilization of psychiatric medications in patients with gastrointestinal disorders in North India. By analysing a cohort of 1,000 gastroenterology patients, this research seeks to identify trends in psychiatric medication prescription, assess the relationship between GI and psychiatric conditions, and offer insights into the clinical management of these co-morbidities.

**Aims:**
To investigate the spectrum and utilization of psychiatric medications in patients with gastrointestinal disorders in Kashmir (North India), with a focus on understanding the prevalence, types, and patterns of psychiatric medication prescriptions and their relationship with gastrointestinal symptoms and diagnoses.

**Objectives:**
1. To determine the prevalence of psychiatric co-morbidities among patients with gastrointestinal disorders attending gastroenterology clinics in North India.
2. To identify the types of psychiatric medications (e.g., antidepressants, anxiolytics and antipsychotics) prescribed to gastroenterology patients and their frequency of use.
3. To explore the relationship between the severity of gastrointestinal symptoms (e.g., in IBS, IBD, liver disease) and the use of psychiatric medications.
4. To assess the impact of demographic factors (e.g., age, gender, socioeconomic status) on the prescription of psychiatric medications in gastrointestinal patients.
5. To evaluate the most common psychiatric diagnoses (e.g., anxiety, depression, somatic symptom disorder) in gastroenterology patients and their correlation with gastrointestinal conditions.
6. To provide insights into clinical management strategies for patients with both gastrointestinal disorders and psychiatric co-morbidities, emphasizing the need for integrated care.
7. To study side-effect profile of different Psychiatric medicine in gastroenterology patients.

**Methods**
Study Design:
This is a retrospective cross-sectional study conducted in Gastroenterology outpatient clinics at GMC Srinagar Kashmir, North India. The study analyses medical records of 1,000 patients who have been diagnosed with various gastrointestinal disorders and were treated between January 2019 and December 2023.
Participants:

Inclusion Criteria:
- Patients aged 18 years and above.
- Patients diagnosed with one or more gastrointestinal disorders such as irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), peptic ulcer disease, liver disease (e.g., cirrhosis, hepatitis), or other chronic GI conditions.
- Patients who have received psychiatric care and/or have been prescribed psychiatric medications.

Exclusion Criteria:
- Patients with primary psychiatric disorders unrelated to gastrointestinal conditions.
- Patients under the age of 18.
- Incomplete or missing medical records.

**Data Collection:**
Data were extracted from the medical records of the selected patients. The following variables were collected:
1. Demographic Information: Age, Gender, Socioeconomic status, Educational background.
2. Gastrointestinal Diagnosis: Type of GI disorder (e.g., IBS, IBD, peptic ulcers, liver disease, etc.), Severity of GI symptoms (mild, moderate, severe), Duration of the GI condition (chronic or acute)
3. Psychiatric Diagnosis: Diagnosis of psychiatric disorders based on clinical records (e.g., anxiety disorders, depressive disorders, somatic symptom disorder, etc.), Comorbidity of psychiatric conditions with GI disorders
4. Psychiatric Medication Use: Types of psychiatric medications prescribed (antidepressants, anxiolytics, antipsychotics, mood stabilizers), Dosage and duration of psychiatric medication use
5. GI Treatment: Medications prescribed for GI conditions (e.g., proton pump inhibitors, biologics for IBD), Treatment regimens and response to GI therapy

**Statistical Analysis:** Descriptive Statistics: Data was summarized using frequency distributions, means, medians, and standard deviations for demographic characteristics, GI diagnoses, and psychiatric medication use.
Chi-Square Test: To assess the relationship between categorical variables such as gender, age, and psychiatric medication use.
**T-tests/ANOVA:** To compare the mean severity of GI symptoms between patients on psychiatric

medications and those not on psychiatric medications.

Logistic Regression: To identify significant predictors of psychiatric medication use in GI patients (e.g., type and severity of GI disorder, presence of psychiatric co-morbidities, demographic factors).

**Correlation Analysis:** To evaluate the relationship between the severity of GI symptoms and the prescription of psychiatric medications.

**Limitations:**

- The retrospective nature of the study may lead to selection bias or incomplete data, particularly regarding psychiatric diagnoses and medication prescriptions.
- Data on over-the-counter psychiatric medications or those prescribed outside the study hospitals may not have been fully captured.

**Results**

**1. Demographic Characteristics of the Study Population (n = 1,000)**

The study population consisted of 1,000 gastroenterology patients, with the following demographic characteristics **(Table 1)**

**Table 1: Demographic Characteristics of the Study Population (n = 1,000)**

| Characteristic | Frequency (n) | Percentage (%) |
|---|---|---|
| **Age (Years)** | | |
| <30 | 150 | 15 |
| 30-49 | 350 | 35 |
| 50-69 | 350 | 35 |
| >70 | 150 | 15 |
| **Gender** | | |
| Male | 600 | 60 |
| Female | 400 | 40 |
| **Socio-economic status** | | |
| Low | 300 | 30 |
| Middle | 500 | 50 |
| High | 200 | 20 |

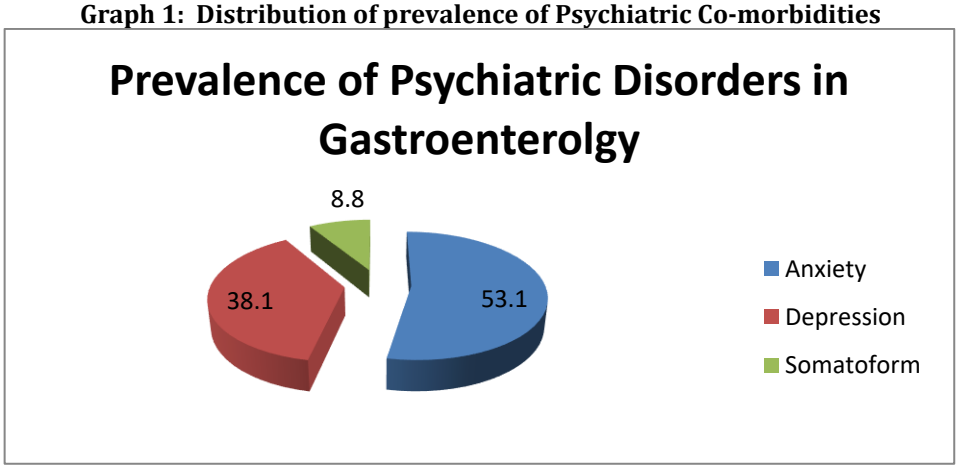
**2. Prevalence of Psychiatric Co-morbidities (n = 1,000)**

A substantial portion (32%) of gastroenterology patients in this study had psychiatric co-morbidities, with anxiety being the most common psychiatric disorder. The most common psychiatric conditions were as under **(Table 2) and (Graph 1)**

**Table 2: Prevalence of Psychiatric Co-morbidities**

| Psychiatric disorder | Frequency (n) | Percentage (%) |
|---|---|---|
| Anxiety | 170 | 53.1 |
| Depression | 122 | 38.1 |
| Somatoform | 28 | 8.8 |

**Graph 1: Distribution of prevalence of Psychiatric Co-morbidities**



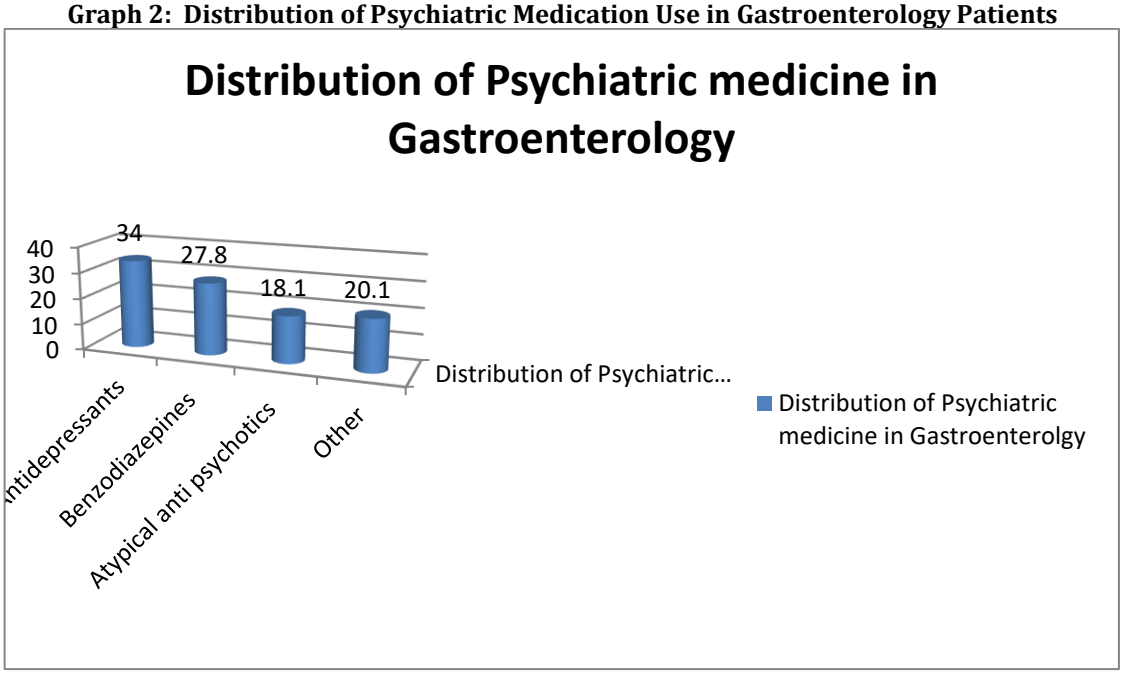
**3. Psychiatric Medication Use in Gastroenterology Patients**

Out of the 320 patients with psychiatric co-morbidities, 45% (n = 144) were prescribed psychiatric medications. The types of medications prescribed were: **(Table 3) and (Graph 2)**

**Table 3: Psychiatric Medication Use in Gastroenterology Patients**

| Medication class | Frequency (n) | Percentage (%) |
|---|---|---|
| **Antidepressants (SSRI'S)** | 49 | 34.0 |
| **Benzodiazepines** | 40 | 27.8 |
| **Atypical anti-psychotics** | 26 | 18.1 |
| **Other ( mood stabilisers)** | 29 | 20.1 |

**Graph 2: Distribution of Psychiatric Medication Use in Gastroenterology Patients**




**4. Correlation between GI Disorder Severity and Psychiatric Medication Use**

There was a significant relationship between the severity of gastrointestinal symptoms and psychiatric medication use. Patients with severe GI symptoms were more likely to be prescribed psychiatric medications: **(Table 4)**

**Table 4: Correlation between GI Disorder Severity and Psychiatric Medication Use**

| GI symptom severity | Psychiatric medication use (%) | No medication use (%) | P value |
|---|---|---|---|
| **Mild** | 15 | 85 | 0.07 |
| **Moderate** | 33 | 67 | 0.05 |
| **Severe** | 65 | 35 | **<0.01** |

Chi-square test: $p < 0.01$, indicating a significant correlation between GI symptom severity and psychiatric medication use.

**5. Gender Differences in Psychiatric Medication Prescription**

Females were more likely to be prescribed psychiatric medications than males. **(Table 5)**

**Table 5: Gender Differences in Psychiatric Medication Prescription**

| Gender | Psychiatric medication (%) | No medication use (%) | P value |
|---|---|---|---|
| **Male** | 42 | 58 | 0.06 |
| **Female** | 58 | 42 | 0.01 |

Chi-square test: $p < 0.05$, indicating a significant gender difference in the prescription of psychiatric medications.

**6. Distribution of Psychiatric Medications across GI Conditions**

The use of psychiatric medications varied across different GI disorders. Patients with IBS and IBD were more likely to receive psychiatric prescriptions**. (Table 6)**

**Table 6: Distribution of Psychiatric Medications across GI Conditions**

| GI Disorder | Psychiatric medicine use (%) | No medication use (%) |
|---|---|---|
| **IBS(Irritable bowel syndrome)** | 55 | 45 |
| **IBD(inflammatory bowel )** | 50 | 50 |
| **CLD(Chronic liver disease)** | 30 | 70 |
| **PUD(Peptic ulcer disease0** | 25 | 75 |

**7. Distribution of Side Effects from Psychiatric Medications (n = 144)**

Among the 144 patients who were prescribed psychiatric medications, several side effects were reported. The distribution of these side effects is summarized in the table below**. (Table 7)**

**Table 7: Distribution of Side Effects from Psychiatric Medications**

| Side effects | Frequency (n) | Percentage (%) |
|---|---|---|
| **Drowsiness /sedation** | 56 | 38.9 |
| **Weight gain** | 34 | 23.6 |
| **GI Issues (Nausea, constipation, Diarrhoea)** | 28 | 19.4 |
| **Sexual dysfunction** | 21 | 14.6 |
| **Dry mouth** | 18 | 12.5 |
| **Dizziness** | 15 | 10.4 |
| **Sleep disturbance** | 12 | 8.3 |
| **Others (headache, Tremors, Agitation)** | 10 | 6.9 |

Note:

- Some patients reported multiple side effects, so the total percentage may exceed 100%.
- Gastrointestinal issues were the third most common side effect, which may be particularly relevant given the existing GI disorders in the patient population.

**Discussion**

This study provides important insights into the spectrum and utilization of psychiatric medications in gastroenterology patients in Kashmir (North India). It highlights the high prevalence of psychiatric co-morbidities in this population and underscores the need for integrated care in managing patients with both gastrointestinal and psychiatric conditions.

**Prevalence of Psychiatric Co-morbidities**

In our study, 32% of gastroenterology patients had psychiatric co-morbidities, which is consistent with findings from other studies showing high rates of psychiatric disorders in patients with chronic gastrointestinal diseases, particularly in those with irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) [1][2]. Anxiety (53.1%) and depression (38.1%) were the most common psychiatric diagnoses, similar to previous research that has identified these as the leading psychiatric disorders in GI patients [3][4]. The psychological distress resulting from chronic GI symptoms likely contributes to the high prevalence of anxiety and depression, as patients with chronic conditions may experience increased worry and stress regarding their health [5].

**Psychiatric Medication Utilization**

Approximately 45% of patients with psychiatric co-morbidities were prescribed psychiatric medications. Antidepressants (SSRIs) were the most frequently prescribed medications (34%), which is in line with current treatment guidelines for patients with comorbid anxiety and depression [6]. Benzodiazepines (28%) were also commonly prescribed, although their use in the long-term management of anxiety disorders is generally discouraged due to potential dependence and side effects [7]. Atypical antipsychotics were prescribed to 18% of patients, which may be related to the increased use of these medications for mood stabilization and in refractory cases of anxiety and depression [8]. Interestingly, we observed that females were more likely to be prescribed psychiatric medications compared to males. This

gender disparity is consistent with research suggesting that women are more likely to be diagnosed with mood and anxiety disorders, particularly in the context of chronic illness [9]. Additionally, psychiatric medication use was significantly higher in patients with severe GI symptoms, which supports the hypothesis that the severity of gastrointestinal disorders may correlate with the intensity of psychological distress [10].

**Side Effects of Psychiatric Medications**

The study found that drowsiness/sedation, weight gain, and gastrointestinal issues were the most common side effects reported by patients on psychiatric medications. These side effects can complicate the management of gastrointestinal conditions. The high incidence of gastrointestinal issues (e.g., nausea, constipation) in patients on benzodiazepines and atypical antipsychotics is noteworthy, as it can exacerbate the existing GI symptoms of patients with conditions like IBS or IBD. Weight gain, particularly associated with atypical antipsychotics, is a well-documented side effect and can be problematic in patients with metabolic comorbidities such as liver disease or obesity [11][12]. Furthermore, sexual dysfunction, which was reported by 14.6% of patients, is a well-known side effect of SSRIs and atypical antipsychotics. This is a critical consideration for the overall quality of life of patients, as sexual health is an important aspect of patient well-being [13]. The negative impact of side effects on treatment adherence is well-documented, and clinicians must balance the benefits and risks of psychiatric medications when treating gastroenterology patients [14].

**Clinical Implications**

The findings of this study emphasize the importance of addressing both the psychiatric and gastrointestinal aspects of patient care. Given the high prevalence of psychiatric disorders and the common use of psychiatric medications in gastroenterology patients, a more integrated care model is needed. Psychiatrists and gastroenterologists should collaborate to ensure that both the psychological and physical health needs of patients are adequately addressed. Additionally, healthcare providers should be vigilant in monitoring side effects, particularly gastrointestinal and metabolic side effects, in patients on psychiatric medications.

**Limitations**

This study has several limitations. It is a retrospective study, and as such, it may be subject to recall bias or incomplete data. Data on the exact dosages and duration of psychiatric medication use were not always available. Additionally, the study did not assess the impact of psychiatric medications on GI symptom severity, which could provide further insights into the relationship between psychiatric treatment and gastrointestinal health.

**Conclusion**

In conclusion, psychiatric co-morbidities are prevalent in gastroenterology patients, and psychiatric medications are commonly prescribed. The relationship between gastrointestinal symptoms and psychiatric medication use is complex, with a significant impact of medication side effects on patient quality of life. This study highlights the need for integrated care models to address the dual challenges of managing gastrointestinal and psychiatric conditions in these patients.

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