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A PROSPECTIVE STUDY ON PRESCRIBING PATTER ANALYSIS OF DRUGS IN GASTROINTESTINAL DISORDERS AT TERTIARY CARE HOSPITAL SPSR, NELLORE

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Abstract

Aim: The aim of the study is to evaluate Clinical profile & Prescribing Patterns of Drugs in patients with gastrointestinal disorders. Materials and Methods: Patients who were diagnosed with gastrointestinal disorders of either gender and with an age of above 18 years were included in this study. Results: In our study we have observed over 120 cases of Gastro-Intestinal Disorders. All of them were suffering from either of the Gastrointestinal Disorders. 63.33% of the subjects were Male and 36.66% of the subjects were Female. Among the subjects belonging to age group 20-40 years, 14.16% were Male and 6.66% were Female. Among the subjects belonging to age group 40-60 years, 32.5% were Male and 11.66% were Female. Among the subjects belonging to age group 60-80 years, 17.5% were Male and 6.66% were Female. Among the subjects belonging to the age group above 80 years, 8.33% were Male and 2.5% were Female. Conclusion: In our study, we noticed that the incidence of GI disorders was more in males (63.33%) compared to females (36.66%) and also the people who were in the age of 40 to 60 years were more affected compared to the younger ones. We have also reported the alcoholics (45.83%) and smokers (46.66%) were more prone to gastritis (44.16%) and pancreatitis (24.16%) than the normal population.

Keywords: Gastrointestinal, perennial abscesses, hemorrhoids, anal fissures, constipation, anal fistulas, perennial infections.

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Introduction

The gastrointestinal (GI) system is made up of the GI tract plus accessory organs. The accessory organs include the salivary glands, pancreas, and liver. These secrete important enzymes into the digestive tract [1]. The gall bladder, which stores bile, is also considered part of the GI system. The function of the GI system is to process nutrients and energy from food and fluids that you ingest. In people with GI problems, these functions are impaired [2]. Some of the most common GI problems are constipation, irritable bowel syndrome, hemorrhoids, anal fissures, anal fistula, peri-anal abscesses, diverticular disease, colon polyps, colitis, gastroesophageal reflux disease (GERD), Barrett's esophagus, Hiatal hernia, esophagitis [3, 4]. And also gastritis, peptic ulcer disease, gastric lymphoma, pancreatic pseudo-cyst, acute hepatitis, alcoholic liver disease, diarrhea, nausea and vomiting [5]. The causes of general GI problems vary widely6. For instance, they may be a result of diseases such as mal-absorption disorders, previous bowel surgery, alcoholism, gallstones, cigarette smoking, cystic fibrosis, bacterial infection, malfunctioning of the immune system [6, 7]. Symptoms and signs of GI problems and disorders include abdominal pain, indigestion, fatigue, dehydration, GI bleeding, loss of appetite, flatulence, and regurgitation [8]. An important first step in managing GI problems is to identify and treat any underlying diseases that may be causing the GI symptoms by using appropriate therapy for that disease [9]. Alternatively, the problems may be linked to diet, stress or medications. For example, constipation can develop if you eat too little fibre or too many dairy products and do not drink enough fluids. Symptomatic treatment such as Laxatives for constipation, fluids, and electrolytes for diarrhoea [10]. In addition to symptoms such as diarrhea, constipation, nausea and vomiting, other symptoms and signs of GI problems and disorders include abdominal pain, indigestion, fatigue, dehydration, GI bleeding, loss of appetite, flatulence and regurgitation. Digestive problems can usually be identified various tests such as Endoscopy, Colonoscopy, Laparoscopy, X-rays, Ultrasound, CT and MRI scans, samples of stools may be examined along with physical examination. An important first step in managing GI problems is to identify and treat

any underlying diseases that may be causing the GI symptoms by using appropriate therapy for that disease. The background of this study is to evaluate the Prescribing patterns of drugs used in gastrointestinal disorders at a tertiary care hospital.

Methodology

Aim

The aim of the study is to evaluate Clinical profile & Prescribing Patterns of Drugs in patients with gastrointestinal disorders at a Tertiary care hospital, KIMS Hospital, Nellore, Andhra Pradesh.

The Objective of the Study

- To determine the prescribing patterns of Drugs used in Gastrointestinal disorders.
- To analyze medical adherence and clinical profile among patients with gastrointestinal disorders.
- To Compare prescribing patterns, including number and types of Drugs used in patients with Gastrointestinal disorders
- To study commonly prescribed Drugs in patients with Gastrointestinal disorders
- To identify medications appropriate to their clinical needs.

Study Site

Male and female surgical and Gastroenterology wards in KIMS Hospital, Nellore, Andhra Pradesh.

Study Design:

- This is a Prospective Observational Study to evaluate clinical profile & prescribing patterns of drugs in patients with gastrointestinal disorders.
- The total number of drugs for gastrointestinal disorders in prescription, dose, and route of administration were collected from inpatient records.

Study Period

The study is planned over a 6 months period from Nov 2022- April 2023.

Study Criteria

Inclusion Criteria

- Patients were well informed about the study and written informed consent was obtained before including them in the study.
- Patients of above 18 years and who are admitted in Gastroenterology wards are involved in it.

Exclusion Criteria

- Treatment charts without Drugs for Gastrointestinal disorders are excluded from the study. Pregnant women are excluded from this study.
- Children aged below 18 years are not allowed to participate in the study.
- Patients getting admitted to ICU and who were not willing to participate in the study were excluded from the study.

Study Procedure

Data from each patient was collected by either interview or patient case file or both of the above. The collected data from each Patient was documented and evaluated for study parameters. Patients would be enrolled in the study. The outcomes will be measured by the below data

- Demographic details of the patient.
- Laboratory parameters and CT- scan reports.
- Diagnosis of the patients as well as their length of stay in the hospital.
- Percentage of drugs for Gastrointestinal disorders prescribed in the order of preference.
- Dose, dosage form and route of administration of drugs used in Gastrointestinal disorders.

Results

The total numbers of patients were 120. Out of 120 subjects, 44 were females and 76 were males. All of them were suffering from at least one of the Gastro-Intestinal Disorders. Some subjects even had multiple of them. All the subjects had various etiological factors due to which, they were admitted with their conditions. All the data regarding the subjects have been characterized based on various factors. Those factors are Gender, Age, Etiology, Diagnosis, Personal habits, Clinical Presentations, Length of stay in hospital and Treatment given.

On the Basis of Subject's Gender

Among 120 control subjects, 76 were Male Subjects, while, 44 were Female Subjects.

Table-1: Distribution of subjects based on gender.

Category	No. of Subjects	Percentage
Male	76	63.33
Female	44	36.66

On Basis of Subject's Age

The age wise distribution of the whole 120 subjects has been presented below.

Table-2: Distribution of subjects based on age groups.

Age Categories	Male	Female
20-40	17	8
40-60	39	14
60-80	21	8
>80	10	3

Correlation Among Age And Gender of The Subjects:

The below representation shows the correlation among the age and gender of the subjects.

Table-3: Correlation between age and gender of the subjects.

Age Categories	No. Of Subjects			
	Male	Percentage	Female	Percentage
20-40	17	14.16	8	6.66
40-60	39	32.5	14	11.66
60-80	21	17.5	8	6.66
>80	10	8.33	3	2.5

On Basis of Clinical Presentations:

Based on Clinical Presentations among the control subjects, the data has been presented below.

Table-4: Distribution of subjects based on Clinical presentation.

Clinical Presentation	No. Of Subjects	Percentage
Abdominal Pain	104	86.66
Fever	15	12.5
Vomiting	25	20.83
Diarrhea	3	2.5
Anal Bleeding	13	10.83

Subject's Basis of the Diagnosis

Based on Control Subject's Clinical Presentation and Etiology for their conditions, Diagnosis has been made. And various Diagnosis has been Categorised as Alcoholic Gastritis, Pancreatitis, Acute Gastritis, Pancreatic Pseudo Cyst, Anal Fissures, Colitis, Haemorrhoids, Hernia and Diarrhea. And they have been categorized as below.

Table-5: Distribution of subjects based on Diagnosis.

Diagnosis	No. Of Subjects	Percentage
Alcoholic Gastritis	53	44.16
Pancreatitis	29	24.16
Acute Gastritis	12	10
Pancreatic Pseudo Cyst	6	5
Anal Fissures	5	4.16
Colitis	1	0.83
Hemorrhoids	7	5.83
Hernia	4	3.33
Diarrhea	3	2.5

On the Basis of Personal Habits of Subjects

Based on the personal habits of Subjects, they have been Categorized into Smokers, Non-Smokers, Drinkers (Alcohol Drinkers) and Non-Drinkers. These categories have been presented below.

Table-6: Distribution of subjects based on Personal habits.

Personal Habit	No. Of Subjects			
	Male	Percentage	Female	Percentage
Smokers	56	46.66	0	0
Non-Smokers	20	16.66	44	36.66
Alcoholic	55	45.83	0	0
Non-Alcoholic	21	17.5	44	36.66

On the Basis of Treatment Prescribed

There were different drugs prescribed for 120 subjects depending on their condition. The drugs prescribed were grouped under the classes such as Antibiotics, Analgesics, Anti-ulceratives, Anti-emetics, Lubricants, Electrolytes, Antacids, Anti-Protozoals, Anti-pyretics and Haemostatics.

Table-7: Treatment wise distribution.

Class Of Drug Prescribed	No. Of Subjects	Percentage
Antibiotics	64	53.33
Analgesics	42	35
Anti-ulceratives	113	94.16
Anti-emetics	100	83.33
Lubricants	8	6.66
Electrolytes	92	76.66
Antacids	53	26.5
Anti-protozoals	63	52.5
Anti-pyretics	29	24.16
Haemostatics	1	0.83

Discussion

Whichever country might that be in the world, the prevalence of functional gastrointestinal disorders (FGID) in it is very high. And this is said to be the cause of gastroenterological consultation in many of the instances. Nevertheless, many patients suffering from FGID never ask for medical assistance, so what physicians see is probably only the tip of the iceberg. Moreover, disorders such as functional dyspepsia (FD) and irritable bowel syndrome (IBS) result in heavy economic burdens through direct medical expenses and loss of productivity. IBS is accompanied by a sphere of bio psychosocial implications similar to those of other diseases that disturb life's activities.

The WHO introduced the concepts of disability, impairment, and handicap to accurately define the impact of diseases on quality of life so that the different designed scales reflect all aspects of life restrictions caused by diseases. Signs and symptoms which are the direct consequences of the disease are defined as the Impairment. Disability is the boundary or the loss of ability to perform activities that would be considered normal for a human being (limitations of daily activities caused by a disease). Handicap represents the effects of the disease in terms of avoiding patients' development in a social structure (social and environmental limitations because of disease).

There is a significant disability, impairment, and handicap as the impact of FD and IBS includes every aspect of life. Digestive symptoms are frequent in the general population, ranging between 10 and 30 percent in industrialized countries, although with highly variable degrees of severity. In the majority of cases, traditional diagnostic procedures fail to identify any organic, systemic or metabolic cause that is responsible for digestive function abnormalities and symptom perception so that these conditions are classified as functional gastrointestinal disorders. Although only about 25% of symptomatic individuals seek medical support, FGIDs represent 40% of diagnoses in gastroenterological settings, and they are one of the leading causes for referral to emergency care units, thus draining substantial amounts of healthcare resources.

The most common FGIDs include the Functional dyspepsia (FD) and irritable bowel syndrome (IBS). The lack of non-invasive, cheap, readily available biomarkers for diagnosing FD and/or IBS makes doctors still uncertain about the clinical approach to these conditions, despite major advancements in the understanding of their pathophysiological mechanisms and relative therapeutic improvements in the last decades. Thus, a series of traditional diagnostic investigations are often performed and repeated despite negative findings, thus failing to provide appropriate explanations of the nature of symptoms and hence they leave the patients frustrated as well as worried regarding their typical clinical problems. As a consequence, patients end up seeking new (often similarly useless) consultations.

In our study, we have observed over 120 cases of Gastro-Intestinal Disorders. Among 120 subjects, all of them were suffering from either of the Gastrointestinal Disorders. 63.33% of the subjects were Male and 36.66% of the subjects were Female. Among the subjects belonging to age group 20-40 years, 14.16% were Male and 6.66% were Female. Among the subjects belonging to age group 40-60 years, 32.5% were Male and 11.66% were Female. Among the subjects belonging to age group 60-80 years, 17.5% were Male and 6.66% were Female. Among the subjects belonging to the age group above 80 years, 8.33% were Male and 2.5% were Female.

The control subjects were categorized based on their clinical presentations into, Abdominal Pain, Fever, Vomiting, Diarrhoea and Anal Bleeding Clinical Presentations. 86.66% subjects had Abdominal Pain, 12.5% of subjects had Fever, 20.83% subjects suffered from Vomiting, 2.5% suffered from Diarrhoea and 10.83% suffered from Anal Bleeding. Also, the subjects were grouped by their condition on basis of their diagnosis.

They were grouped under diagnoses such as Alcoholic Gastritis, Pancreatitis, Acute Gastritis, Pancreatic Pseudo Cyst, Anal Fissures, Colitis, Haemorrhoids, Hernia and Diarrhoea. 44.16% of subjects were diagnosed with Alcoholic Gastritis. 24.16% of subjects were diagnosed with Pancreatitis. 10% of subjects were diagnosed with Acute Gastritis. 5% of subjects were diagnosed with Pancreatic Pseudo Cyst. 4.16% of subjects were diagnosed with Anal Fissures. 0.83% of subjects were diagnosed with Colitis. 5.83% of subjects were diagnosed with Haemorrhoids. 3.33% of subjects were diagnosed with Hernia. 2.5% of subjects were diagnosed with Diarrhoea.

Depending on the personal habits of the subjects they have been categorized into four groups such as Smokers, Non-Smokers, Alcoholic and Non-Alcoholic. Among the 120 subjects, 46.66% were Smokers (46.66% Male and 0% Female). 16.66% Male subjects and 36.66% Female subjects from 120 control subjects were Non-Smokers. 45.83% Male subjects and 0% Female subjects among 120 control subjects were Alcoholic. 17.5% Male subjects and 36.66% Female subjects from 120 control subjects were Non-Alcoholic.

There were different drugs prescribed for these control subjects depending on their condition. The drugs prescribed were grouped under the classes such as Antibiotics, Analgesics, Anti-ulceratives, Anti-emetics, Lubricants, Electrolytes, Antacids, Anti-Protozoals, Anti-pyretics and Haemostatics. Among 120 control subjects, 53.33% subjects were prescribed with Antibiotics. 35% of subjects were prescribed with Analgesics. 94.16% subjects were prescribed with Anti-uceratives. 83.33% of subjects were prescribed with Anti-emetics. 6.66% subjects were prescribed with Lubricants. 76.66% subjects were prescribed with Electrolytes. 26.5% of subjects were prescribed with Antacids. 52.5% of subjects were prescribed with Anti-protozoals. 24.16% subjects were prescribed with Anti-pyretics. 0.83% subjects were prescribed with Haemostatics.

Conclusion

The study has been conducted on the basis of the prescription pattern of physicians in KIMS Hospital, Nellore, and Andhra Pradesh. The leading causes of deaths in the Indian population are mainly dependent on gastrointestinal diseases. Combination therapy pattern for the treatment of those particular diseases is stated in this study.

Common GI diseases include colorectal cancer, gastro esophageal reflux disease, ulcerative colitis (UC), inflammatory bowel disease (IBD), and Crohn's disease (CD). Disorders of the GIT include gastritis and ulcers that are associated with infection of Helicobacter pylori, intolerance to certain nutrients, such as lactose, celiac disease, and malabsorption. Functional gastrointestinal disorders are characterized by persisting gastrointestinal symptoms in the absence of any identifiable underlying structural or biochemical explanation. In our study, we noticed that the incidence of GI disorders was more in males (63.33%) compared to females (36.66%) and also the people who were in the age of 40 to 60 years were more affected compared to the younger ones. We have also reported the alcoholics (45.83%) and smokers (46.66%) were more prone to gastritis (44.16%) and pancreatitis (24.16%) than the normal population. We have reported the drugs which were prescribed for the symptomatic treatment of Gastric diseases to include antibiotics (53.33%), Anti-ulcerative (94.16%), Anti-emetics (83.33%), Electrolytes (76.66%), Anti-protozoals (52.5%) etc, and there was no incidence of drug interactions and adverse drug reactions in our study.

Gastrointestinal (GI) diseases, in particular, are becoming more common and have been linked to changing environmental factors brought on by industrialization, changes in diet, the increased use of antibiotics, consumption of alcohol and smoking. They have to be conventionally treated with drugs or with psychological treatments. However, this study will be very much helpful for pharmaceutical companies in our country as there is a huge study of predominant companies in the sector of

particular diseases. This study will also determine the further evaluation of mentioned drugs utilization in India.

Conflict of Interest

Authors are declared that no conflict of Interest

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All authors are contributed equally.

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