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Prescribing pattern of acid suppressants in modern clinical practice - An analysis

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ABSTRACT

The study was carried out in Gastroenterology Department of Sanjay Gandhi post Graduate Institute of Medical Science Lucknow, India. Data collection form was designed for both physicians and patients to know prescribing pattern of proton pump Inhibitors. A Total of 50 Physicians and 50 patients were enrolled in the study. Gastro esophageal reflux Disease (GERD) was the commonest indication for prescribing ASDs by Physicians. Step-Down therapy was preferred approach for prescribing AS Ds. Majority of Physicians prescribed AS Ds for 1-3 months. Omeprazole was the most commonly used PPIs in the treatment of Acid-peptic diseases. Maximum numbers of patients were suffered from Gaseous and bloating followed by abdominal pain and other symptoms. The most common occurrence of side effects with use of PPIs was Bowel change. Timing of PPIs administration and % of relief noticed with use of PPIs were reported. Percentage of cost addition (10%-30%) in the prescription due to acid-suppressants and patients satisfaction about cost of ASDs also included in this study.

Key words: FDA, PPIs, GERD, lansaprazole, constipation.

INTRODUCTION

Since their introduction in the late 1980s, proton pump inhibitors have demonstrated gastric acid suppression superior to that of histamine H_2-receptor blockers. Proton pump inhibitors have enabled improved treatment of various acid-peptic disorders, including gastro esophageal reflux disease, peptic ulcer disease, and non-steroidal anti-inflammatory drug induced gastropathy. Proton pump inhibitors have minimal side effects and few significant drug interactions, and they

are generally considered safe for long-term treatment. The proton pump inhibitors omeprazole, lansoprazole, rabeprazole, and the recently approved esomeprazole appear to have similar efficacy(1,2,3).

Proton pump inhibitors (PPIs) are one of the most commonly prescribed classes of medications in the primary care setting and are considered a major advance in the treatment of acid-peptic diseases. Since the introduction of omeprazole in 1989, several other PPIs have become available in the India. The intravenous form of pantoprazole is now available, and the U.S. Food and Drug Administration (FDA) approved the newest PPI, esomeprazole, in 2001(4,5,6).

Proton pump inhibitors (PPIs) are a major economic burden for the healthcare system in many countries. Concerns have been raised about the increasing costs associated with prescription of these drugs as they are often prescribed for minor symptoms and without clear indications. Studies from the US, Australia and Europe have demonstrated overuse of PPIs in hospitalized patients and in primary care(7,8,9).

Very limited data exist on the proportion of PPI users on long-term therapy who could discontinue PPIs without developing symptoms. In a recent uncontrolled study, 15% of gastro-oesophageal reflux disease (GERD) patients on long-term PPI therapy remained asymptomatic without medication after step-down management of PPIs.The proportion of unselected long-term users of PPIs who could discontinue medication is unexplored. Acid rebound hyper secretion following the cessation of PPIs has been demonstrated. The clinical importance of this acid rebound following the treatment with acid-suppressive therapy is unclear, but it has been suggested that this may make it more difficult to discontinue PPIs. The clinical importance of acid rebound is supported by the fact that discontinuation of ranitidine in healthy subjects was associated with dyspeptic symptoms(10,11).

Gastro esophageal reflux disease (GERD) can be diagnosed on the basis of the history alone in patients presenting with typical symptoms of heartburn, regurgitation, or both, especially after meals. These symptoms may be exacerbated by recumbency or bending, and relieved by antacids. It is appropriate to empirically treat patients with classic GERD symptoms with lifestyle modification and patient-directed antacid or acid suppression therapy. PPIs are extremely effective acid suppressants, and it is likely that patients with GERD will respond to them. Physicians generally may assume that patients with typical symptoms who respond to PPI therapy have GERD(12,13).

MATERIALS AND METHODS

The study was carried out in Gastroenterology Department of Sanjay Gandhi post Graduate Institute of Medical Science Lucknow, India. Data collection form was designed for both physicians and patients to know prescribing pattern of proton pump Inhibitors. A Total of 50 Physicians and 50 patients were enrolled in the study.

Study Site

The study is conducted in the Gastroenterology Department of sanjay Gandhi Post Graduate Institute of Medical Science; Lucknow a multispecialty research Institute offers DM, Mch, MD, PhD and PDCC in various specialties.

Study design
A total of 50 physicians (out of which 30 Gastroenterologist) and 50 patients enrolled in the study.Data collection form was designed to collect information's from physicians about prescribing method of ASDs and also from patients about their satisfaction with use of ASDs.

Inclusive Criteria-
More than 50% Physicians enrolled for these studies are specialist in Gastroenterology practice. Other Physicians enrolled in this study belongs from various other hospitals in Lucknow region.

Exclusive Criteria
Inpatient (Patient admitted in the department of Gastroenterology) excluded from the study.

Study procedures-
The pooled data were analyzed to find the prescribing pattern of Acid suppressant Drugs (ASDs) used in clinical practice. Analyzed about various aspects of Acid suppressant and draw graphical representation of analyzed data to explain main outcomes of the study.

RESULTS

The purpose of this study is to evaluate and analyze the prescribing pattern of Acid suppressant Drugs (ASDs) in current clinical practice and patient satisfaction analysis.It was resulted to identify,Ratio of PP1/H_2RA/ Prokinetic drugs prescribed by physicians;% Of cost addition in prescription due to Acid suppressant;Ratio of Step-up and step-down therapy;Duration of prescribing and administrating Acid Suppressant;Comparison of different PPIs prescribed by physicians;Time and duration of PPI administrated by patient;Adverse drug Reaction due to uses of ASDs; Relief noticed with use of ASDs;Cost satisfaction with ASDs by patients;and Symptom which maximum relieved by use of PPIs.The results were depicted in terms of bar diagrams which described the reply from the patients for the questions asked regarding their medications,method of therapy and their effects in their body(Figure1-5).

Figures 1. Question And Reply

PUD	GERD	DYSPEPSIA	NSAIDs	OTHER DRUGS
6%	46%	42%	2%	4%

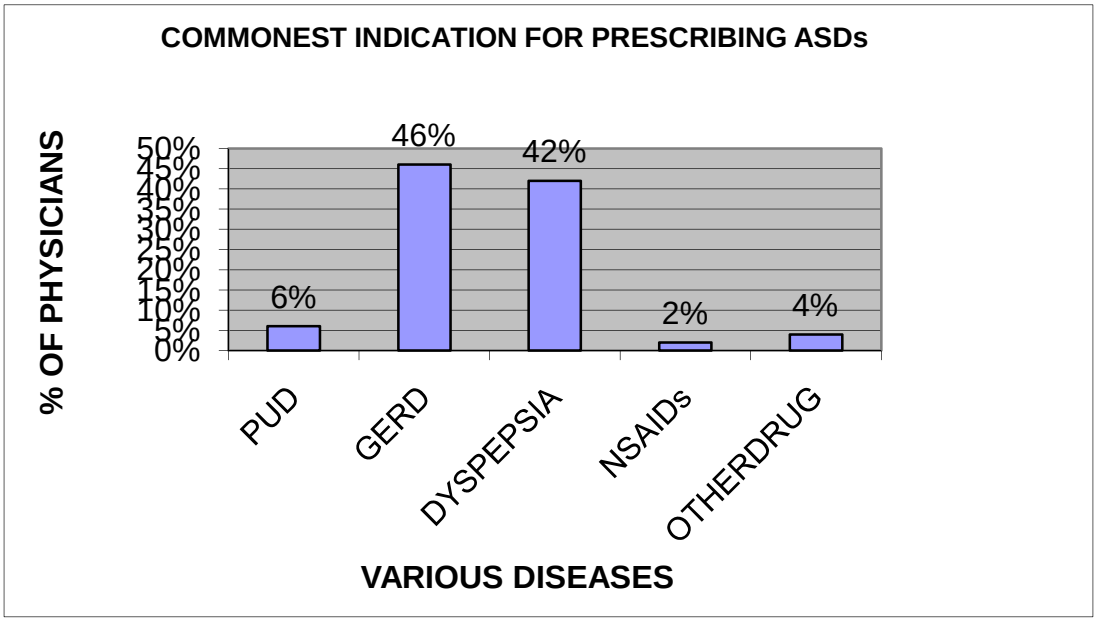


Figure 2. Question and reply

PPIs	H2RAs	ASD+PROKINETIC	OTHERS
74	16	10	0

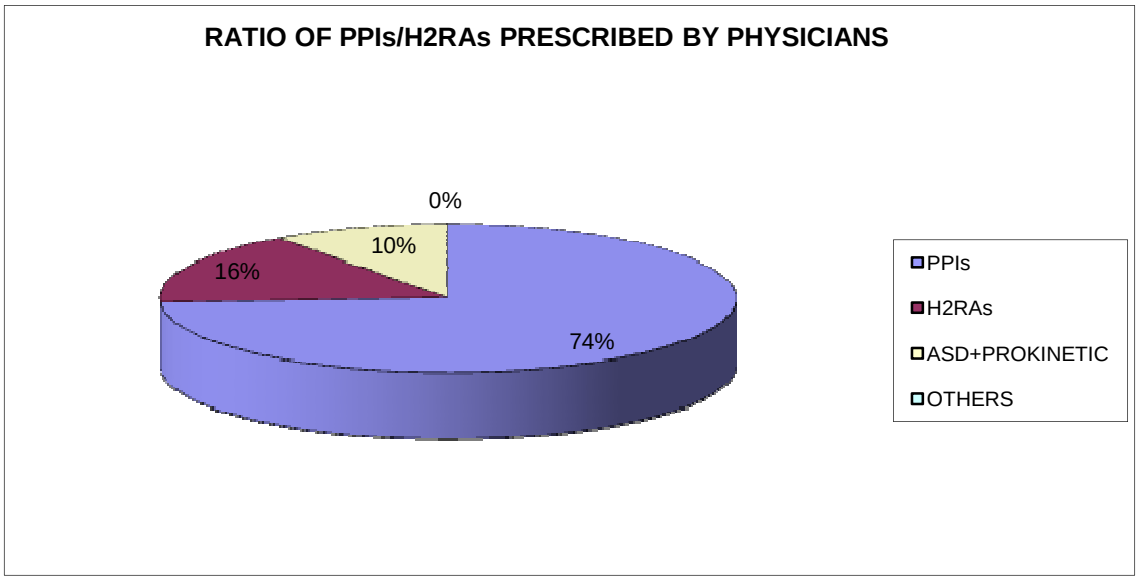
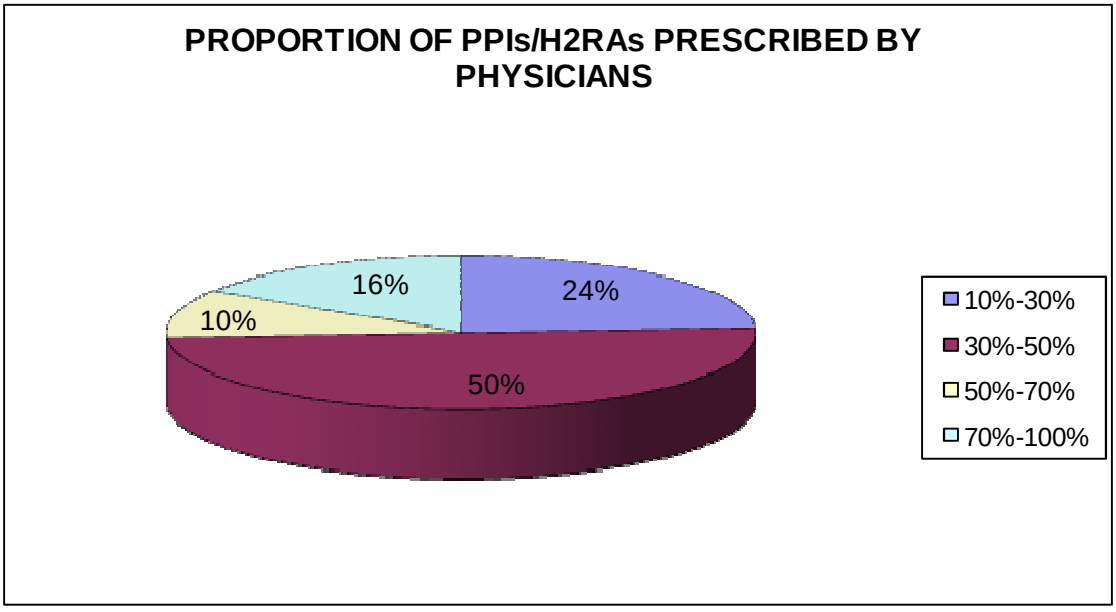


Figure-3 question and reply

PROPORTION	10%-30%	30%- 50%	50%-70%	70%-100%
% OF PHYSICIANS	24	50	10	16



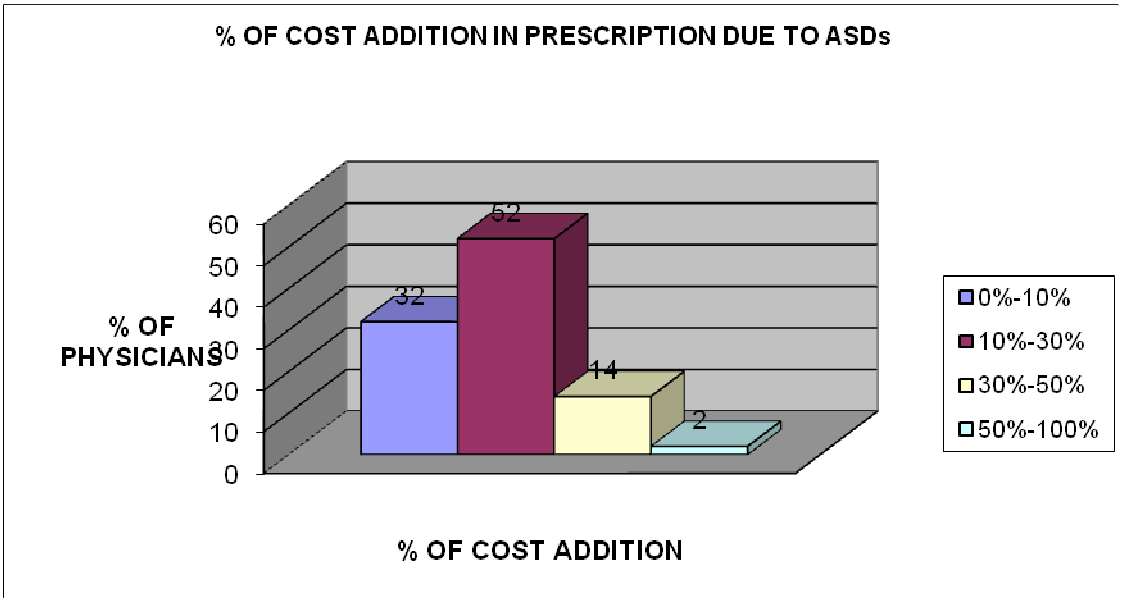
DISCUSSION

The commonest indication for which physicians are prescribed ASDs are Gastroesophageal reflux Disease (GERD) followed by Dyspepsia > Peptic Ulcer disease > with NSAIDs > with other drugs; Majority of Physicians (74%) used PP1s as initial therapy for gastrointestinal diseases, 16% Physicians prescribe H2RA, 10% ASD+ Prokinetic drugs; Data analysis indicates that 50% Physicians Prescription consists of PPI/H2RA in proportion of 30% -50% -24% Prescription consists of 10% - 30% PP1/H2RA 16% Prescription consists of 70% - 100% proportion of PP1/H2RA and only 10% Prescription consists of 50% - 70% PP1/H2RA;

According to research data Majority of Physicians (52%) Satisfied that cost addition in all of their prescription due to acid- suppressants is 10% -30%; Step-Down therapy (Initial Prescribing of PP1 for GERD may be changed to H2RA) is preferred approach for 66% Physicians. Only 34% Physicians is fared Step-up (Initial prescribing of H2RA for GERA may be changed to PPI) therapy; 74% Physicians prescribe As Ds for 1-3 months 24% Physicians for 3-6 months, 2% Physicians for 6-12 months and no would live to Prescribe As Ds for more than 1 year in the treatment of Acid peptic disorders; Majority of Physicians (36%) indicates that most of the patients with peptic disorders take acid suppressants for 1-3 months; The research study indicates to prescribe various PPIs by Physicians in following sequence;Omeprazole (48%) > Pantoprazole (28%) > Rabeprazole (12%) > Esomeprazole (8%) > Lansaprazole (4%).

Figure-4 question and reply

% OF COST ADDITION	**0%-10%**	**10%-30%**	**30%-50%**	**50%-100%**
% OF PHYSICIANS	32	52	14	2



92 % physicians agree to prescribe PPIs in standard daily dose. The percentage of Female patient (54%) is more than Male patient (46%) suffering from G.I. disorders.The Most commonly prescribed brand of PPIs by physicians are Omez, Pan-40, Pantop-D, Razo-Date.

Physicians prescribe their favorite brand of PPIs due to following reasons-
The Cost of Brand;The reputation of Company; Suitable formulation and preparation of Brand;Frequent Reminders from medical representative; Marketing initiatives; To avoid interaction other drugs.

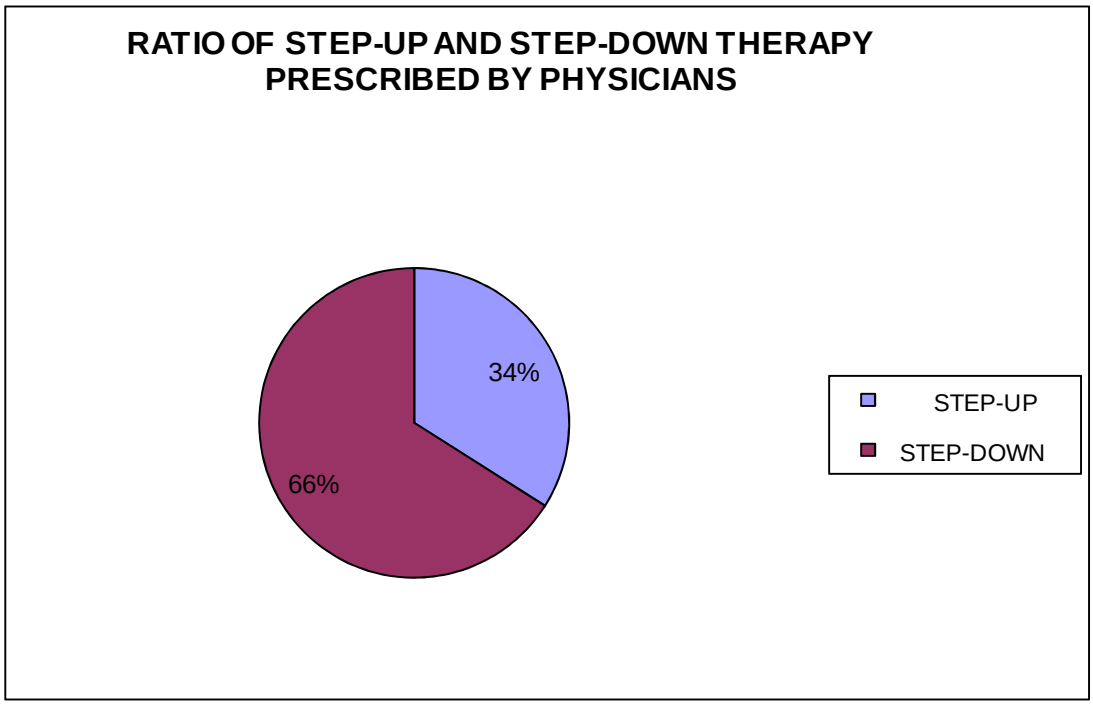
Patient Related Question

Research study indicates that majority of patients on PPIs therapy were suffered from Gaseous & Bloating followed by Abdominal pain>constipation>Heartburn>Vomiting. Research study also indicated that 50%patients on PPIs therapy administrated the medicine, morning empty stomach, 42% patient after breakfast, 2% patient before dinner and 6% after dinner. Majority of patient (48%) were 1-3 month on PPIs therapy 32% patients were on<1month, 16% patients were on 6 months to 1 year and only 4% patients were than 1 year on PPIs therapy. The most frequently occurred side effects with use of PPIs were Bowel change (46%), Headache (28%), Nausea & vomiting (14%), Skin rash (4%) and other side effects (8%). 64% patients enrolled for this study indicated that cost of PPIs was affordable, 30% patient indicated costly and 6% patient indicated

cheap. The ranking of symptoms (relieved with use of PPIs) were in following sequence Gaseous & Bloating>Abdominal pain>Constipation>Heartburn>Vomiting. The percentage of relief noticed with use of PPIs was 50%-70% by 52%patients followed by 20%-50%by 34% patients, <20% by 10% patients and >70% by 4% patients. According to data analysis the most preferred approach for administration of a PPI was white colour, oval shape, once daily, Tablet as a dosage form.

Figure 5. Question and reply

STEP-UP THERAPY	STEP-DOWN THERAPY
34	66



CONCLUSION

PPIs are commonly prescribed and widely used medicines in the treatment of various acid peptic disorders in clinical practice. Both over and under usage of PPIs have been reported, and cost associated with inappropriate prescribing and use may be considered. In this study GERD and Dyspepsia were commonest indications for prescribing ASDs and up to 74% physicians prescribed PPIs for the treatment of gastrointestinal diseases. Both physicians and patients related data analysis indicated that PPIs were used up to 1-3 months by patients and percentage of relief noticed with use of PPIs was 50%-70%. Step-down therapy was preferred approach for majority of physicians to prescribe ASDs.Cost addition in prescription due to ASDs was 10%-30% and majority of patients were satisfied with cost of PPIs.Patients were mainly suffered from gaseous and bloating on PPIs therapy. Long term uses of PPIs caused bowel change. Research study indicated that physicians should provide informations to patients about appropriate use of PPIs (mostly half an hour before breakfast).

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