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Drug Utilization Assessment of Proton Pump Inhibitor in Secondary Health Care Hospital in Dharmapuri District

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ABSTRACT

The aim of our study was to evaluating the effectiveness of medication therapy and creating criteria for appropriate drug utilization. To analyses prescription pattern of proton pump inhibitors in secondary health care hospital in Dharmapuri, Tamilnadu. The retrospective study was conducted over a period of six months from June 2022 to November 2022. Out of 200 patients in the study, 126 patients were Male (63%) and 74 patients were female (37%). Most of the patients were seen under the age category between 41-60 years (49%). In the study Pan was administered in 126 patients (63%) followed by Rablet in 24 patients (12%), Esomac in 34 patients (17%), Omez in 10 patients (5%) and Rabicip in 6 patient (3%). Indication for giving PPI in 78 Patients were received PPIs for Co-morbidities (39%) which was majority. PPIs were administered in the remaining 22 patients (11) for without indications. Most of the patients received PPI for a duration of 5 days in 39 patients (19.5%). This retrospective observational study confirms that the majority of PPI prescription within the hospital comprise/consists of Pantoprazole. In our study about 126 patients (63%) were prescribed with PPIs without any valid indication which increased the patient therapeutic burden.

INTRODUCTION

Utilization of proton pump inhibitors (PPI) increasing continuously, in Australia[1] 18500 prescriptions were dispensed in 1990 after that it increased to around 1.7 million prescriptions in 1996,[2] while till 2006 it became the third most frequently prescribed drug in the same country. In United States only United States of America, UK and New Zealand have also reported similar high utilization of PPI.[3] In India there are various drug utilization studies of non-steroidal anti-inflammatory drugs (NSAIDs), antimicrobial agents, in tertiary care hospital in emergency unit, on Out Patient Department (OPD) basis patients and of In-Patient Department (IPD) patients are done but very less studies of specifically of drug utilization of PPI.[4] As the usage of PPIs continues to rise, it becomes extremely important to understand the extent of their adverse effects. Growing concerns about a variety of adverse effects with long term PPI use as Gastric Neoplasia, Renal Disease, Infection, Liver Disease, Micronutrient Deficiency, Anterior ischemic optic neuropathy, Risk of fracture, Chronic kidney disease, dementia, myocardial infarction, Risk of drug interactions.[5,6] Various percentage of drug utilization of PPI are observed along with NSAIDs with antibiotics. Utilization of PPI alone is less, and some newer adverse drugs reactions are being reported.

MATERIALS AND METHODS

The retrospective observational study is carried out in Drug Utilization assessment of Proton Pump Inhibitor in Secondary Health Care Hospital, Dharmapuri. The prescriptions were collected from the General Medicine, Pediatrics, Intensive care unit Department in hospitals, for a period of 6 months from June 2022 to November 2022. The sources of data collected from Patient's medication profile and Physicians prescribing records. The patient selection based on the patient inclusion criteria and exclusion criteria. The entire study was done under the approval of Institutional Ethical Committee. The data were be analyzed by using MS Excel and result shown in percentage.

RESULT AND DISCUSSION

Patient demographic

Out of 200 patients in the study, 126 patients were Male (63%) and 74 patients were female (37%). The majority of the patients were Male in this study. Out of them, 98 patients were observed from the age group between 41-60 years old (49%), then 30 patients were above 60

years old (15%) and 72 patients of age between 18-40 years (36%). Most of the patients were seen under the age category between 41-60 years. (Table 1)

Table 1: Patient demographic

characteristic	Number of patient (n=200)
Gender	
Male	126
Female	74
Age	
18-40	72
41-60	98
Above 60	30

Proton pump inhibitor used

Proton pump inhibitor distributed among 200 patients in the study, Pan was administered in 126 patients (63%) followed by Rablet in 24 patients (12%), Esomac in 34 patients (17%), Omez in 10 patients (5%) and Rabicip in 6 patient (3%). The data were presented (table 2). It states that Pantoprazole was the most prescribed PPI in their study.

Table 2: Proton pump inhibitor used

Name of PPI	No. of patient (n=200)	Percentage (%)
Esomac	34	17%
Omez	10	5%
Pan	126	63%
Rabicip	06	3%
Rablet	24	12%

Indication was taken proton pump inhibitors

Out of 200 patients, Indication for giving PPI in 78 Patients were received PPIs for Co-morbidities (39%) which was majority followed by Analgesic in 46 patients (23%), Gastritis in 26 patients (13%), Peptic ulcer in 18 patients (9%), UGI bleeding in 10 patients (5%). PPIs

were administered in the remaining 22 patients (11%) for without indications. The data were presented (table: 3). in this study, PPIs were administered in most of the patients because of co-morbidity.

Table 3: Indication were taken proton pump inhibitors

Indication	No. of patient (n=200)	Percentage (%)
Gastritis	26	13%
Co-morbidity	78	39%
Analgesic	46	23%
Peptic ulcer	18	9%
UGI bleeding	10	5%
Without indication	42	11%

Duration therapy depends on the condition

Among 200 patients in this study, most of the patients received PPI for a duration of 5 days in 39 patients (19.5%) followed by duration of 4 days in 21 patients (10.5%), duration of 3 days in 19 patients (9.5%), duration of 6 days in 26 patients (13%), duration of 7 days in 25 patients (4.5%), duration of 2 days in 13 patients (6.5%), duration of 8 days in 11 patients (5.5%), duration of 9 days in 13 patients (6.5%) and duration of 1 day in 5 patients (2.5%). Remaining 24 Patients (12%) received PPI for 10 days and above up to 21 days. The data were presented in the (table 4).

Table 4: Duration therapy depends on the condition

Duration (days)	No. of patient (n=200)	Percentage (%)
1	5	2.5%
2	13	6.5%
3	19	9.5%
4	21	10.5%
5	39	19.5%
6	26	13%
7	29	14.5%
8	11	5.5%
9	13	6.5%
10+	24	12%

CONCLUSION

This retrospective observational study confirms that the majority of PPI prescription within the secondary healthcare hospital in Dharmapuri comprise of Pantoprazole. In our study about 126 patients (63%) were prescribed with PPIs without any valid indication. which increase the patient therapeutic burden. The prescribing pattern can lead us towards the rational use of drugs and can help us in improving patient's complexity of life. The study is used to reduce the irrelevant use of PPIs to decrease drug interactions, health care.

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