Market Research of Pantoprazole

By

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DECLARATION BY STUDENT

I, Aniruddh Jain Enrollment No. IIHMR-U/02/2020-22/0225 hereby declare that this dissertation titled **Market Research of Pantoprazole** is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Name of Student: Aniruddh Jain

Date:

CERTIFICATE

This is certify that Aniruddh Jain in partial fulfilment of the requirements for the awards of the degree MBA (Pharmaceutical management) From the IIHMR University, Jaipur has successfully completed her internship at Under my mentor Dr. Surya Prakash (IIHMR UNIVERSITY) During the March 22, 2022 to June 19,2022

Place:

Date:

Sign: Dr. Surya Prakash

Associate Professor

IIHMR University

CERTIFICATE

This is to certify that dissertation titled “Market Research of pantoprazole” work undertaken by Aniruddh Jain Enrollment No. IIHMR-U/02/2020-22/0225 is partial fulfilment of the requirements for the award of the degree of MBA pharmaceutical management from the IIHMR university, Jaipur under your guidance and supervision and his approach to the research study has been sinecre, scientific and analytical

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I hope that, in the future, I will be able to draw on my expertise and skills to make a useful contribution to the industry.

Abstract

The study was carried out to better understand the pantoprazole market, practice trends and to identify the top brands of pantoprazole. A structured survey was utilized to collect data from 55 respondents, including a general physician and consultant physician, gastroenterologist from Rajasthan. The research carried out for three month 21 march – 02 June, 2022

Gastroesophageal reflux disease (GERD) was a very common condition of gastrointestinal condition in Western society. Around 20% of adults are affected. In a systematic investigation, El-Serag et al. estimated the prevalence of this disease in the United States to be between 18.1 percent and 27.8 percent.

Acid-related illness treatment has long relied on proton pump inhibitors. H2RAs, synthetic prostaglandin analogues, and anticholinergics are examples of older therapy. Proton pump inhibitors have demonstrated constant patient tolerance, remarkable safety, and, in many cases, greater acid lowering capacity.

GERD is a public health problem with a large societal impact since it shows results in a significant financial burden and a decrease in life quality. Current GERD treatment options include Proton pump inhibitors, prokinetic medicines, antacids, and Histamine 2 -blockers & mucoprotective substances. Proton pump inhibitor /prokinetic combos are the treatment of choice for controlling stomach acidity and associated symptoms such as epigastric discomfort, heartburn, and reflux. For severe and resistant instances, doctors are increasingly adopting a combination of PPIs and prokinetic medications.

CHAPTER 1

1. Background

Proton pump inhibitors are increasingly being prescribed by Indian physicians, not only for peptic ulcers, gastroesophageal reflux disease, and gastritis, but also in combination with nonsteroidal anti-inflammatory drugs to alleviate the side effects of the NSAIDs such as gastric irritation and discomfort. PPI medications come in a variety of brands in the Indian market. Drugs that are too expensive might cause financial hardship, which can lead to reduced compliance or even non-compliance. Non-compliance results in ineffective treatment, which increases morbidity. Increases in patient drug costs have been linked to worse adherence to prescribed medications. As a result, this research was conducted to determine the cost variations of PPI medicines.

In western society, GERD was one of the very common disease GI illnesses. It affects around 20% of adults. El-Serag et al. estimated the prevalence of this disease in the U S to be between 18.1 percent & 27.8 percent in a systematic study. However, because more people have access to over-the-counter acid-reducing drugs, the true prevalence of this illness may be higher. Men are slightly more likely than women to suffer from GERD. In a major meta-analysis study, Eusebi et al. found that women had a somewhat greater prevalence of GERD symptoms than men (16.7 percent vs. 15.4 percent).

CHAPTER 2

2.1 Introduction

Proton pump inhibitors have long been cornerstone of acid-related disease treatment. When compared to older treatments like synthetic prostaglandin analogues, anticholinergics, H2RAs. Proton pump inhibitors have shown the consistent tolerance patients, exceptional safety & often higher acid lowering capacity**.[1]**

Pantoprazole may be used to prevent stress ulcers in critically ill patients. Generic of Pantoprazole Will have a bigger market share & than the branded, according to prescription data analysis. Pantoprazole is the first-line treatment for GERD, making it the most popular application category on the market.

GERD is a public health problem with a large societal impact since it shows results in a significant financial burden and a decrease in life quality. Current GERD treatment options include Proton pump inhibitors, prokinetic medicines, antacids, and Histamine 2 -blockers & mucoprotective substances. Proton pump inhibitor /prokinetic combos are the treatment of choice for controlling stomach acidity and associated symptoms such as epigastric discomfort, heartburn, and reflux. For severe and resistant instances, doctors are increasingly adopting a combination of PPIs and prokinetic medications.

Pantoprazole (PPIs) is a safer and effective treatment for both erosive and non-erosive GERD, as well as a maintenance medicine. It is more effective than H2RAs and comparable to other PPIs in terms of effectiveness.

Pantoprazole is used for treating GERD, Peptic ulcer in stomach and duodenum, erosive esophagitis, zollinger – ellison syndrome.

According to prescription data research, the generic data version of Pantoprazole it will have a larger market share from than their brand version.

It is the first line therapy treatment of Gastroesophageal Reflux Disease (GERD), making this the market's largest application category.

Due to an increase in the number of cases of gastroenterology-related diseases in Asia Pacific, the market is expected to grow.

It is a frequent public health issue that has a high economic cost and a low quality of life. The most commonly prescribe drugs are PPIs and prokinetics. GERD, efficacy & safety of combining prokinetic and PPI medication is still debated. Pantoprazole is a PPIs that is used to treat of disease of the GERD / Gastric defence to the avoid re-currence of the ulcers stomach & The Gastric damages from the uses of the long-term NSAIDs & the pathological hyper secretory diseases such as ZE Syndrome. It was also found in triple anti-biotic regimen for the treatment of the H. pylori infections. Such that the Anti-biotics which includes like the Amoxicillin/ Clarithromycin/ Metronidazole. It effectiveness comparable that of other PPI drugs such as Omeprazole, Esomeprazole, Lansoprazole & Dexlansoprazole.

Pantoprazole it works by the covalently attaching to the group of sulfhydryl of the cysteine on the H+/ Potassium -ATPase enzymes their secretory surface of the stomach, by the blocking of the final/last step in the generation of the gastric acid generation. In the stomach parietal cell the stimulus These actions – inhibits the both basal & induced the stomach acid output. Pantoprazole's antisecretory impact lasts longer than 1 days because and the bind of the pantoprazole to the (H+, potassium -ATPase enzyme is ir-reversible, & the new - enzyme must produce to be the resume acid secretion.

The widespread use of the current in the North-America, because to the good safety profile drug and the fact like that several PPI are the available OTC without need a prescription. Long-time use of the PPIs like pantoprazole a has been linked to a higher risk of particularly gastrointestinal-C. difficile & impaired the absorption of the minerals like iron & vitamin B12 & can they increased chance of the developing hypomagnesemia & hypocalcaemia, all

of the which can lead to the death. Hypomagnesemia & hypocalcaemia are more likely to occur, which can lead to the condition (osteoporosis) & the bone fractures later in life.

PPI like pantoprazole have been the determined to the block of the action of DDAH, this enzyme very important for the cardio-vascular health.

The oxide nitric synthase the inhibitor of the ADMA (asymmetric dimethylarginie) they accumulates in the results was of the DDAH inhibition & which is the assume to be origin of the between the link of Proton pump inhibitor & the increased the risk of the cardio-vascular event in the patients & patients with the unstable for the coronary syndromes.

Pantoprazole doses must be the gradually reduced/tapered before stopping, since abruptly stopping PPIs like pantoprazole might be the induce a rebound of effect & the short-term increase in hypersecretion[2].

It is the proton pump inhibitor (PPIs) that is the commonly use in clinical practise. It lowers the proton influx of into the lumen gastric & hence the effective stomach acidity by the irreversibly of blocking the ATPase/proton pump in the gastric cells. Therefore, employed in the treatment of the gastric reflux illness, The eradication of the helico-bacter pylori infection & the prophylaxis of the stress ulcers in the combination with the NSAIDs [1–3]. Despite the fact that PPIs are required in a variety of medical specialties, they are frequently misapplied chronically & a without clear the rationale.

Use of the several PPIs has been link to an increased risk of fracture, while no direct causative link has been established. two has yet to be established. While short-term use of PPIs increases fracture risk slightly.

Insogna proposed the cell-independent mechanism for why the bone density drops when using PPIs. According to his research, changes in stomach acidity can lead to decreased calcium absorption, which can contribute to increased bone loss. Vestergaard et al. speculated that increased risk of fracture could be due to the secondary hyperparathyroidism and subsequent osteoporosis.

Our research team previously looked at the effects of the pantoprazole on the osteoblast in the cell vitro. These are the type of a bone cell that they synthesises of the matrix bone. It appears have a positive impact on the viability. Ability of osteoblasts to create the new bone matrix. Osteoclasts, the which actively destroy & resorb the bone matrix are the functional counter parts to the osteoblasts inside fundamental multicellular unit. These cellular units work

together to create the functionals entity that can maintains dynamic bone of homeostasis while meeting the demands of continual load transmission.

PPIs have been shown to the inhibits a PP (proton pump) in the osteoclasts called as the vacuolar. H+/potassium- ATPase in addition to their inhibitory effect on the gastric proton pumps. It is primary responsible for the producing of an acidic environment b/w the osteoclasts' ruffle the border & bone tissue. In this environment, lytic enzymes are activated at the osteoclast's bone-apposed plasma membrane & bone it was resorbed throughout to the remodelling process. V-ATPases are relate to the but not same as the PP (proton pump) found in the cell parietal. As a result, PPI effects on the V-ATPases are the less noticeable than on the other hand gastric proton pumps.

Because this no path mechanism has been yet discovered that the sufficiently explains/proves a causal relationship b/w the use of the Proton pump inhibitor & the increased risk of fracture, The goal of this study was to the investigate the cellular effects pantoprazole, a proton pump inhibitor**.[2]**

2.2 Review of literature

It is the most widely available PPI, with 120 brands available at prices ranging from Rs18 to Rs80 less than PanD. There is a significant difference between branded and generic medications. Both medicines are the most effective at controlling stomach acidity and the symptoms that come with it. PAN is a more cost-effective alternative to PanD. PanD should be used exclusively in individuals with PPIs (proton pump inhibitor) -resistants gastroesophageal reflux disease, nausea & vomiting, especially these sub-group of symptomatic patient.**[3]**

In the majority of patient with the erosive gastroesophageal reflux disease and NERD, pantoprazole (PPIs) - 40 mg was the associate with the complete alleviations of gastroesophageal reflux disease -related symptoms. Among addition, to even in patient who did not have total remission of symptom & the severity of their symptom was greatly reduce. Pantoprazole also enhanced the life of quality of GERD patient over the course of the 8-week study and was well tolerated. This is the meta-analysis, 40 mg pantoprazole once day appears to be an effective, safe & the well-tolerated treatments option for the GERD symptoms.**[2]**

It is a proton pump inhibitor (PPIs) that is prescribed to treated stomach ulcers & (GERD) gastroesophageal reflux disease. It must be absorbed in the tract of gastrointestinal, & enteric delivery devices are required because it is unstable under acidic circumstances. The goal of this work was to use an emulsion-solvent evaporation process to make pantoprazole-loaded microspheres utilising two types distinct the of polymers enteric coating- Eudragit S 100 & HPMP (hydroxypropyl methylcellulose phthalate**).[3]**

GERD is a major chronic disease that rarely progress but it is linked in to a number of potentially serious of such as esophageal complications like (esophageal ulcer, Barrett's

oesophagus, esophageals structure or obstructions / esophageal cancer) as well as extra-esophageal disease like chest pain & respiratory problems**.[4]**

It's characterised by the stomach contents refluxing into the larynx, airway, oesophagus, oropharynx & it was linked to heartburn, acid regurgitation, and dyspepsia Cough, vocal cord inflammation, intermittent wheezing, unusual discomfort chest, dysphagia, & hoarseness are some of the less frequent GERD symptoms. Simply explained, GERD is "a disorder that occurs when the stomach acid is not properly digested. **[5]**

Pantoprazole gives result that are the not statistically different from other PPIs like (omeprazole, lansoprazole, or rabeprazole) when administered at equal doses. Pantoprazole has been found in clinical research to be at least as effective as omeprazole in treating the gastric and duodenal ulcers & GERD. When these PPIs Like such other example-(pantoprazole/ omeprazole/lansoprazole) were in the given as a part of the two-antibiotic regimens, the rates of Hpylori elimination were equal. (PPIs) It may have an advantage over other Proton pump inhibitors in that it does not appear have the potential for medication interaction by CYP2C19, CYP3A4, or other CYP450 isozymes inhibition or induction. This feature could be especially valuable for patients who are taking various medications.**[6]**

Proton pump inhibitors are now being prescribed in increasing numbers by Indian doctors, not just for GIT disorders, but also to treat the negative effects of NSAIDS [nonsteroidal anti-inflammatory medicines]. Evidence had emerged suggesting the recently discovered the proton pump inhibitor H+/ potassium ATPase) in the cell of parietal cell secretory membrane was the last stage in the acid secretion. Anaesthetic the screenings led to the discovery of the possible antiviral molecule pyridylthioacetamide, which was followed by the discovery of timoprazole, an antisecretory drug with uncertain mechanisms of action**.[7]**

One molecule of Timoprazole is the pyridylmethylsulfinyl benzimidazole that attracted to the researchers because of its straightforward chemical structure and remarkable anti-secretory effect.

Higher pKa values of pyridine were obtained by optimising the substituted of benzimidazoles & their antisecretory actions on newly found PP, the facilitating accumulation with in the parietal cells & improving in the rate of acid-facilitated conversion to the active mechanism.

The first proton pump inhibitor medicine is the omeprazole, was introduced on the market because of this improvement. After their own course of development, other Proton pump inhibitor like lansoprazole & pantoprazole would be follow in its footsteps & claiming their portion of a thriving market**.[8]**

Pantoprazole is available as the tablet of delayed-release tablet (they release that medication in the intestine & to avoid stomach acids breaking it down) & the delayed-release medicine to the taken by the mouths. The tablets/medicine packet combined with applesauce/apple juice & swallowed or fed through the feeding tube. Pantoprazole is the usually taken/ prescribed OD to treat & the maintain GERD. Pantoprazole is a medication that is usually taken BD to treats the condition in which the stomach produces the too much more acid. Granules should be taken 30 minutes before eating, whereas the delayed-release pills can be taken by with / without food**. [9]**

Take pantoprazole at the same time(s), of the everyday & take follow the directions on your prescription label carefully & the contact with your doctor if you have any questions**. [9].** Pantoprazole should only be taken as directed.

The tablets form of pantoprazole should not be broken, chewed, or crushed; they must be consumed whole. There is the 40 mg tablet is the too large for you to take then you ask to your doctor to prescribe two 20 mg pills instead of the 40 mg tablet**. [10]**

To use the pantoprazole, open the packet & the sprinkle one teaspoon of tablets onto one teaspoon of applesauce or one teaspoon of apple juice into a cup. Mixing the granules with water, other drinks, or other meals is not recommended. Use the entire packet of granules; do not break them up into smaller pieces Doses. Physician visits (detailing), direct-to-consumer (DTC) advertising, medicine sampling, and medical journal advertising are all examples of pharmaceutical promotion. Detailing has a long and illustrious history. the most significant portion of any promotional expenditure According to the Kaiser Family Foundation's survey of 2,700 physicians, three-quarters of them believe that Information from pharmaceutical reps is rated by doctors as "very" or "slightly" helpful**. [11]**

A feeding tube can be used to administer pantoprazole grains mixed with apple juice. Ask your doctor how to take pantoprazole if you have a feeding tube.

Even if you feel OK, keep taking pantoprazole. Do not discontinue taking pantoprazole without first consulting your physician**. [12]**

CHAPTER 3

3.1 Mechanism of Action-

It is the proton pump inhibitor and that the binds covalently to the H+ /K+ ATPase enzyme the system at the secretory surface of the gastric parietal cell, suppressing the last step in the stomach of acid generation. This has the result of Regardless of the stimuli, both basal and induced stomach acid secretion are inhibited. Pantoprazole binds irreversibly to H+/K+-ATPase in nature, effectively inhibiting acid secretion until a replacement enzyme is created. **[13]**

3.1.1 PHARMACOKINETICS

After the oral administration tablet/capsule, it is they quickly absorbed drug & start the activity of occurs within 20-24 hours, & the durations of the action is b/w 20- 24 hours. The maximal concentration (Cmax) is the drug is 2.5 g/ml & the time to the attain it (tmax) is 2.5 hours. This medication has the low first-pass hepatic excretion rates and along with the 77 percent oral bioavailability. Is Around 71% of dosage was the eliminated in the urine & remaining excreted 18% in the faeces. Undegraded pantoprazole was not excreted by the kidneys**. [14]**

3.2 Use

Oral dosing formulations (suspension or delayed-release tablets):

In Adults: Taken by 40 milligrammes (mg) once in days for a upto 8 weeks for the erosive esophagitis**. [15]**

In pedaritics the Children aged 15 & above who weight is 40 kilogrammes (kg) or more should take 40 mg once in days for upto 8 weeks. 20 mg once in a day for the upto week 8 for the children of 5 years and old the weighing 15 - 39 kg.

Adults—At initially, 40 milligrammes (mg) twice a day for ZES. **[15]**

3.3 Indication

Treatment of the EE in the patients with the GERD (Gastroesophageal reflux disease). It's injection use to treat the individuals with GERD. who have a history of the EE (erosive esophagitis) for a small period of time (7-10 days), Injection dose is the alternative to the oral form of medicine in the patients & who are the unstable to continues the use of pantoprazole for Delayed - Release tablet. The safety & efficacy of the pantoprazole injection as an first time treatment for Gasteroesophegal reflux disease patient with the history of the EE has not been established. Zollinger-Ellison Syndrome is associated with pathological hypersecretion**. [17]**

Pantoprazole for injection is used to treat pathological hypersecretory diseases such as ZES & other the neoplastic illnesses. **[18]**

Pantoprazole oral suspension (delayed release): Treatment of EE caused by the GERD in the small term. Adults should take this medication for paediatric patients aged five years and up for the small term therapy 8 weeks of erosive esophagitis heal & symptomatic alleviation. A further the 8-week course of pantoprazole may be the explored for the adult patient who have not healed after treatment. In paediatric patients, the safety of treatment 8week beyond has yet to be determined**. [20]**

Maintenance of erosive esophagitis heal in adult patients with GERD, it's used to keep erosive esophagitis healing and reduce relapse the rates of the daytime and overnight heartburn symptoms.

The ZES is a pathological hypersecretory disorder.

For the long-time treatment of the drug illnesses listed above**. [20]**

3.4 Pharmacodynamics

In this medication treatment of pantoprazole works by the slow down/lowering of the gastric acid output & which lowers stomach acidity. The Pantoprazole PPIs is inhibiting the stomach acid output for the longer period of time after the intake.

Effects is on the Pantoprazole has been demonstrated to be the more successful other than H2 receptor antagonists at by the decreased of acid reflux symptoms & healing the esophageal inflammations & also as well the improve the patient quality of the life.

It has the good safety record & the low rate of the drug interaction. It is the safe medication to use in the variety of the high-risk patient like the elderly & those with renal failure & also those with the MHI (moderate hepatic impairment**). [21]**

It is the current use in the North America because to the good safety profile and the fact that several Proton pump inhibitors are the available OTC (over the counter) without any need of prescription. Long-time use of PPIs like pantoprazole has been found to be beneficial**. [20]**

Reduced the absorption of the micronutrients like iron and vitaminB12, as well as the increase risk of the developing patient like hypomagnesemia and hypocalcemia, & which can lead to the osteoporosis & the bone fractures later in life, are all possible side effects**. [16]**

PPIs like Pantoprazole have been the shown their action to inhibits the enzyme of dimethylarginine dimethylaminohydrolase (DDAH), which is critical for heart health. As a result of DDAH inhibition, Nitric oxide synthase inhibitors ADMA accumulates & the which is thought to be the source of the relationship between Proton pump inhibitors and a higher risk of cardiovascular events in patients with the unstable of CS syndromes.

Serum gastrin (peptide hormone the that increases level secretion) levels rise with therapy with antisecretory medicines like pantoprazole.

In response to the pantoprazole to the decrease of acid secretion & they caused by the PPIs. The amount of stomach acid produced rises. The elevated gastrin level may obstruct neuroendocrine tumour studies. PPI should be the stopped of 14 days before chromogranin A (CgA) testing, according to published evidence. This allows chromogranin A levels to return to normal after proton pump inhibitor treatment, which may have been mistakenly increased.

Patients on most PPIs, including the drug like pantoprazole have reported they false-positive findings in the urine screening tests for the THC. It's a good idea to employ a confirmatory procedure**. [16]**

3.5 WARNING

Pantoprazole is not used to treat heartburn symptoms right away.

Heartburn is frequently mistaken for the initial signs of a heart attack.

Long-term use of pantoprazole makes it more difficult for the body to the absorb of vitamin B-12, result in a deficit. If you need for long-term pantoprazole medication & are concerned about the vitamin B-12 insufficiency.

3.6 Common side effects-

Headache,
fever, rash,
cold symptoms (common in children)
Stomach pain,

Dizziness,

Vomiting,

Diarrhoea,

Nausea,

Joint pain.

.

CHAPTER 4

4.1 Research Objective

Primary objective: Market Research of Pantoprazole

Secondary Objective:

- To Study the pantoprazole market, practice patterns of pantoprazole in Rajasthan
- To find out the top brands of pantoprazole & it analyse to the market share of Pantoprazole other brands.

Scope of the study - The major scope of this study is to know what is to find out the market of pantoprazole brands and doctor preferences.

4.1.1 RESEARCH QUESTION

- What is to find out market of pantoprazole brands and doctors preferences?
- What are the major drug is used in GERD?

4.2 Research Methodology

Study Design: Descriptive Study

Sampling: Non- probability Convenient sampling

Sample Size: Respondents: During the study only 55 respondents filled questionnaire

Sample Population: General Physician, Consultant physician, Gastrologist

Sample Area: Rajasthan (Jaipur, Ajmer, Dausa)

Tools used for data collection: Questionnaire tool

Type of Questionnaire: Semi – structured tools

Tools used for data analysis: Ms- excel

Data collection: Primary – Primary information has been gathered by the methods for the survey. Secondary- The auxiliary information engaged with this task has been accumulated from the clinical diaries, literature and web.

Study duration- March 21 to June 02, 2022. Three Month.

CHAPTER 5

5.1 Data Analysis and Interpretation

This section presents the report of information examination, Interpretation and outline of discoveries. As showed in the research technique, the examination used elucidating measurements. Accordingly, recurrence tables were created to feature the combined scores for factors of intrigue. For the pictorial introduction, reference charts and pie graphs were attracted to empower clients to conceptualize the outcomes.

Question 1. In which Indication do you prescribe the Pantoprazole for patients?

Fig 5.1: Indications of pantoprazole prescribed by doctors

Inference: By this Graph there is measure concern about the pantoprazole, used by the doctors in GERD.The use of pantoprazole in OPD and IPD patients is for the maintenance of EE healing and the lowering of relapse rates of daytime and nighttime heartburn symptoms in adult GERD patients. It reduces the quantity of acid that is produced in the stomach. It has been discovered that GERD is the most considered indication among doctors, followed by Erosive Esophagitis and Zollinger Ellison Syndrome, according to data collected from 55 doctors.

Pantoprazole is used to treat gastroesophageal reflux disease (GERD), a condition in which stomach acid runs backward into the oesophagus, producing heartburn and possibly damaging the oesophagus (the tube connecting the throat and stomach).

Pantoprazole is a medication that aids in the repair and prevention of oesophageal damage in adults with GERD. It's also used to treat Zollinger-Ellison syndrome, a condition in which an adult's stomach generates too much acid. Pantoprazole is a proton-pump inhibitor, which means it prevents stomach acid from being produced. It aids in the reduction of stomach acid production.

Question 2. Which brands of Pantoprazole come to your mind immediately?

Fig:5.2 Pantoprazole brands Recommends

Inference: It was found from the research study that 50% doctors highly recommended is Pantocid than Pantop D, Pantosec, Pantop 40 are respectively less prescribed data from of 55 doctors. Pantocid Manufactured by Sun Pharma Laboratories Ltd. Pantocid 40 MG Tablet is an anti-ulcer medicine. Pantoprazole is a proton pump inhibitor that works by preventing the production of gastric acid in the stomach. Before taking the Pandose Tablet 40mg, patients with the following conditions should obtain advice from their health care provider: Any of the chemicals in the Pandose Tablet 40mg, such as Pantoprazole, may cause hypersensitivity.

How to Make Use of

Take only as much as your doctor has prescribed. Swallow the Pandose Tablet 40mg immediately after removing it from the strip. It is not recommended that the tablet be broken, crushed, or chewed. Make certain you don't forget or miss a dose. If you forget, take it as soon as you remember; if your next dose is near, skip it and resume your regular schedule. Do not take two doses at the same time to make up for a missed dosage; this could be harmful to your health.

Pandose 40mg Tablets can be taken with or without food.

Take the medicine twice or three times a day (or as directed by your doctor – whichever comes first).

Pandose Tablet 40mg is not recommended in children younger than 5 years.

Question 3. Whatever In a new molecule is launched in this Disease / segment, what is your opinion while adopting it?

Fig:5.3 New Molecule launched

Inference: According to the graph, 49 percent of doctors say they will prescribe after a few weeks, while 29 percent feel it is best to wait and study the outcomes before prescribing. Some doctors say they will wait for a month or two before prescribing. With a recent study stating that common Proton Pump Inhibitors (PPIs) like pantoprazole and rabeprazole may double the risk of stomach cancer, Indian doctors issued a warning to their colleagues on Wednesday.

Question 4. In which of the following attributes influence your prescription?

Fig:5.4 Attributes Influence of Prescription

Inference: This question enlightens on all the attributes doctors consider while prescribed any brand, out of all the various attributes mentioned above, doctors feel three major indications i.e., the safety of the molecule, research scientific points of the molecule & efficacy/quality of molecule was also seen. PPIs have few negative effects and just a few minor drug interactions, so they're regarded safe for long-term use. Pantoprazole is very successful for both acute and long-term treatment, with excellent relapse and symptom control. It is well tolerated, even when used for lengthy periods of time, and its tolerance is excellent.

Question 5. In which of the following activities will help you prescribe the Pantoprazole more?

Fig:5.5 Activities prescribed more Pantoprazole

Inference: This bar graph displays the response of the doctors that in clinic gimmick activity and scientific leave behind literature, Regular Medical representatives visit activities helps to prescribe the Pantoprazole more.

In the allergic to pantoprazole, & the other PPIs dexlansoprazole (Dexilant), esomeprazole (Nexium, in Vimovo), lansoprazole (Prevacid), omeprazole (Prilosec, in Zegerid), rabeprazole (AcipHex), any other medications, or any of the ingredients in pantoprazole tablets & granules, tell your doctor or pharmacist.

If you're on rilpivirine, let your doctor know (Edurant, in Cabenuva, Complera, Juluca, Odefsey). If you're taking pantoprazole, your doctor will probably tell you not to use it.

If you're taking or planning to take any prescription or over-the-counter medicines, vitamins, nutritional supplements, or herbal products, tell your doctor and pharmacist. At least one of the following should be mentioned: Anticoagulants include warfarin (Jantoven), atazanavir (Reyataz, in Evotaz), dasatinib (Sprycel), and digoxin (blood thinners). (Lanoxin), erlotinib (Tarceva), iron supplements, itraconazole (Sporanox, Tolsura), ketoconazole, methotrexate (Trexall, Xatmep), mycophenolate mofetil (Cellcept, Myfortic), nelfinavir (Viracept), nilotinib (Tasigna), saquinavir (Viracept), sa (Invirase). Your doctor may need to change your prescription dosages or monitor you closely for side effects.

Question 6. Do you prescribe Any other molecule drug instead of the pantoprazole?

Fig:5.6 Other Drug Prescribing Information

Inference: In this graph represents the other molecule drug is prescribe instead of the pantoprazole according to that doctors says they will not prescribe any other molecule instead of pantoprazole but there is a few doctors says yes instead the prescribe of other molecule.

Question 7. After prescribing pantoprazole to patient, it is effectively for the patient or not? Please rate on a scale of 1 to 5.

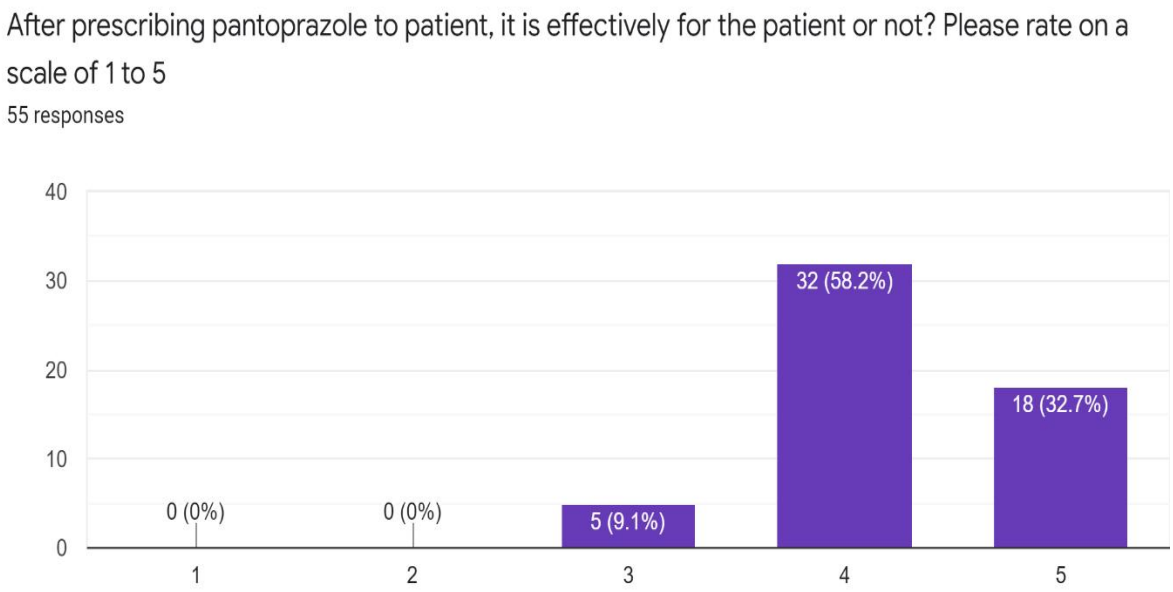

Fig:5.7 Effectiveness of Pantoprazole in market

Inference: This graph shows that 58.2 percent of doctors believe it is moderately effective, 32.7 percent believe it is highly effective, and only 9.1 percent believe it is effective. When compared to other active therapy, pantoprazole has shown to have a higher rate of remission. Pantoprazole 20 mg or 40 mg is more successful than ranitidine 150 mg once or twice daily in maintaining GERD repair after 12 months of medication.

CHAPTER -6

6.1 CONCLUSION

The summary was based on a qualitative investigation in which key data from 55 experts was obtained from various locations across Rajasthan. Understand the market for pantoprazole and its preferred brands, according to the study's topic. According to the findings of the research study, doctors recommend Pantocid and Pantop-D to patients with GERD. Erosive esophagitis was also observed. In the majority of ERD and NERD patients, it was discovered that pantoprazole 40 mg completely eliminated GERD symptoms. Furthermore, even individuals who did not receive complete relief saw a significant reduction in the severity of their symptoms. Pantoprazole also enhanced the quality of life of GERD patients over the course of eight weeks of treatment, and it was well tolerated throughout the study. Pantoprazole 40 mg once day appears to be a successful and well-tolerated therapy choice for GERD patients, according to this meta-analysis.

6.2 LIMITATION-

- Due to the individual viewpoint, distinctive traits, and hierarchical manner, general physicians keep silent.
- Only a few people participated in this survey. A major problem was the target population's incapacity to react owing to their hectic schedules. As the results, record access was restricted, restricting the availability of further data that would have allowed for more in-depth study.
- The specialist's capacity to perform the investigation was hampered by a lack of resources, which included required accounts and an extremely busy schedule.
- • A tiny number of individuals taking a PPI as well as many other types of medications may experience anaphylaxis, pancytopenia, agranulocytosis,

thrombocytopenia, hemolytic anaemia, acute liver damage, Lyell syndrome, Stevens-Johnson syndrome, interstitial nephritis, and rhabdomyolysis.

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ANNXEURES

Annxeure is use in the study of collecting the data to the doctors

Question 1. In which Indication do you prescribe the Pantoprazole for patients?

1. GERD (Gastroesophageal Reflux Disease)
2. Erosive Esophagitis
3. Zollinger Ellison syndrome
4. Other indications _____

Question 2. Which brands of Pantoprazole come to your mind immediately?

_____

Question 3. Whatever In a new molecule is launched in this Disease / segment, what is your opinion while adopting it?

1. Never go for new molecules unless proven for a year or more
2. It is better to wait and watch the result of the molecule
3. I will prescribe after a few weeks responses from the doctors
4. Prefer to adopt immediately
5. Wait for a month or two and will go for

Question 4. In which of the following attribute influence your prescription?

1. Company Image
2. Molecule safety
3. Cost of the molecule
4. Research scientific reason points of the molecule
5. Creative communications/ in clinic activity by the molecule
6. Efficacy/ Quality of molecule

Question 5. In which of the following activities will help you prescribe the Pantoprazole more?

1. Scientific leave behind literature
2. Brand Reminder through SMS
3. Regular Medical Representative visit

4. In clinic gimmick activity

Question 6. Do you prescribe Any other molecule drug instead of the pantoprazole?

1. If yes which category of drug do you prescribe
2. No

Question 7. After prescribing pantoprazole to patient, it is effectively for the patient or not? Please rate on a scale of 1 to 5.

Scale - 1. Nor Effective

Scale - 2. Only Effective

Scale - 3. Low Effective

Scale - 4. Moderate Effective

Scale - 5. Highly Effective