

COMPARING PRICES OF COMMONLY USED GASTRIC ACID SUPPRESSANTS AVAILABLE IN INDIA

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ABSTRACT

Objective: Drugs to reduce gastric acid secretion are one of the commonly prescribed drugs by doctors of varied branches. There are many numbers of brands of different drugs available in India. Hence, this study was designed to compare the prices of different gastric acid suppressants of various brands available in India.

Methods: The Current Index of Medical Specialities October 2015-January 2016 was used to analyze the prices of various gastric acid suppressants and their combinations. The cost of each molecule of different strengths was tabulated and cost range and % price variation were calculated.

Results: A wide range of cost variations were seen among different categories of gastric acid suppressants available more so among proton pump inhibitors. Furthermore, it was observed that wide variety of fixed drug combinations is available.

Conclusion: Price control mechanism has an important role and is very much important to reduce the cost burden of treatment particularly in India.

Keywords: Comparison, Gastric acid suppressants, India, Brands, Current Index of Medical Specialities.

INTRODUCTION

Rational use of medicines means patient receiving medication appropriate to the clinical need, at the proper dose, for the proper duration and at the lowest cost. Hence, it is very much important for prescriber to consider cost while writing prescription along with other criteria [1]. Gastric acid suppressants are used for variety of conditions such as stomach upset, heart burn, non-ulcer dyspepsia, and gastric and duodenal ulcers [2]. It is also used in treating acidity caused by various psychotropic medications such as selective serotonin reuptake inhibitors and valproate [3,4].

Gastric acid suppressants are freely available as over the counter (OTC) medicines and form around 25% of OTC drugs dispensed [5,6]. With wide range of gastric acid suppressant brands available and lack of knowledge about the cost variations in different brands, there can be difficulties in prescribing most cost-effective brand to the patient. Hence, this study was designed to evaluate the cost of gastric acid suppressants and combinations of different brands available in India and to analyze price variation among them.

METHODS

The Current Index of Medical Specialities October 2015-January 2016 [7] was used to analyze the prices of gastric acid suppressants.

1. Costs of a particular drug (per 10 tablets) of various strengths and dosage forms being manufactured by different companies were compared
2. Even combination formulations were compared
3. The drugs manufactured by only one company were also included and minimum and maximum cost was written as same
4. Parenteral, syrup, and other formulations were not also included
5. Difference between the maximum and minimum cost of same drug was calculated (cost difference)
6. Percentage price variation was calculated for each.

Following formula is used to calculate percentage price variation [8].

Percentage price variation =

$$\frac{(\text{Price of most expensive brand} - \text{price of least expensive brand})}{\text{Price of least expensive brand}} \times 100$$

RESULTS

The cost comparison of various brands of oral gastric acid suppressants and combination formulations are shown in Tables 1 and 2, respectively.

It was observed that there were more number of brands for proton pump inhibitors compared to H2 antihistamines and prostaglandin analogs. Maximum brands among proton pump inhibitors were for tablet pantoprazole 40 mg (85) and among H2 antihistamines for tablet ranitidine 150 mg [9]. In fixed drug combination, maximum brands (86) were available for rabeprazole and domperidone (20 mg+30 mg strength).

This study shows that there is a noticeable variation in the prices of different brands of same gastric acid suppressants available in Indian market. The highest cost variation among proton pump inhibitors was for rabeprazole 20 mg (367.57%) and among H2 antihistamines for famotidine 40 mg (593.59%). Among combinations, highest variation was seen in omeprazole and domperidone combination 20 + 10 mg (349.84%). For majority of the formulations, it was observed that more the number of brands, greater were the price variation.

DISCUSSION

The cost of medicines matters most to patients in developing countries like India where they have to pay medical bills from their pockets rather than by insurance companies [9]. Higher prices of medicines will lead to poor compliance and thereby incomplete treatment [10]. Therefore, pharmacoeconomics which particularly focuses on the cost and benefit of drug therapy plays an important role in providing a guide for decision-making on resource allocation and in planning process [11].

Table 1: Price comparison of various brands of oral gastric acid suppressants

Drug	Number of brands	Strengths	Minimum cost (INR)	Maximum cost (INR)	% Price variation
H2 antihistamines					
Cimetidine	1	200 mg	10.20	10.20	0
Ranitidine	1	75 mg	6.46	6.46	0
	9	150 mg	4.82	6.59	36.72
	6	300 mg	8.34	13.53	62.23
Famotidine	5	20 mg	2.29	11.46	400.43
	5	40 mg	3.59	24.90	593.59
Roxatidine	2	75 mg	28.04	31.90	13.77
	2	150 mg	52.21	52.48	0.52
Proton pump inhibitors					
Omeprazole	6	10 mg	20.00	28.98	44.9
	38	20 mg	23.00	70.00	204.35
	4	40 mg	35.00	87.04	148.69
Pantoprazole	17	20 mg	18.55	58.00	212.69
	85	40mg	21.45	85.00	296.27
Lansoprazole	4	15 mg	21.80	48.00	120.18
	8	30 mg	44.00	103.00	134.09
Rabeprazole	10	10mg	10.30	44.32	330.29
	76	20 mg	18.50	86.50	367.57
	1	40 mg	98.00	98.00	0
Esomeprazole	7	20 mg	17.00	49.20	189.41
	11	40 mg	27.00	78.00	188.89
Prostaglandin analogue					
Misoprostol	1	25 mcg	42.50	42.50	0
	1	100 mcg	86.00	86.00	0
	2	200 mcg	152.50	174.35	14.33

Table 2: Price comparison of various oral gastric acid suppressant combinations

Drug	Number of brands	Strengths	Minimum cost (INR)	Maximum cost (INR)	% Price variation
Esomeprazole+Domperidone	3	20 mg+30 mg	15.16	56.40	272.03
	10	40 mg+30 mg	70.00	89.70	28.14
Lansoprazole+Domperidone	1	30 mg+10 mg	52.50	52.50	0
	1	30 mg+30 mg	118.50	118.50	0
Omeprazole+Cinitapride	1	20 mg+3 mg	171.30	171.30	0
Omeprazole+Domperidone	1	10 mg+10 mg	30.00	30.00	0
	23	20 mg+10 mg	19.14	86.10	349.84
	3	20 mg+20 mg	57.20	65.00	13.64
	3	20 mg+30 mg	30.00	83.10	177
	1	40 mg+10 mg	49.50	49.50	0
Pantoprazole+Itopride	10	40 mg+150 mg	88.00	199.50	126.70
Pantoprazole+Levosulpiride	8	40 mg+75 mg	145.00	189.00	30.34
Pantoprazole+Domperidone	13	20 mg+10 mg	30.70	75.00	144.29
	24	40 mg+10 mg	45.00	95.00	111.11
	3	40 mg+20 mg	55.00	69.80	26.90
	66	40 mg+30 mg	54.00	110.00	103.70
Rabeprazole+Domperidone	13	20 mg+10 mg	39.50	65.00	64.56
	2	20 mg+20 mg	65.00	74.75	15
	86	20 mg+30 mg	34.30	117.50	242.57
	1	20 mg+40 mg	65.00	65.00	0
	1	40 mg+30 mg	115.00	115.00	0
Rabeprazole+Levosulpiride	31	20 mg+75 mg	57.00	198.00	247.37
Rabeprazole+Itopride	20	20 mg+150 mg	89.00	149.00	67.42

Gastric acid suppressants are part and parcel of the doctor's prescription of all medical specialties. Hence, it is very much important for doctors to know about the cost of gastric acid suppressants to reduce the price burden on patient. To the best of our knowledge, there are no such studies carried out, so we undertook the above study.

Our study shows that there is wide range of gastric acid suppressant brands available in Indian market, particularly among proton pump inhibitors. Furthermore, there are varied combinations available. The findings in our study show a percentage variation in cost above 100% for many available gastric acid suppressants in India and such high variations are not acceptable in a developing country like ours. Drug prices are controlled according to the Drug Price Control Order 2013 (DPCO) [12]. Ceiling price of drugs are fixed by the National

Pharmaceutical Pricing Authority (NPPA), Government of India, in accordance with DPCO 2013. So far, it has fixed ceiling prices of 509 drug formulation included in the National List of Essential Medicines. Since May 2014, NPPA has notified prices of 251 formulations under DPCO 2013 resulting in benefit of Rs. 558 crore to consumers [13].

CONCLUSION

Thus, price control mechanism has an important role and has positive impact on healthcare delivery system.

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