



COMPARING BRANDS OF GLIBENCLAMIDE(5MG) AND METFORMIN (500MG) SUSTAINED RELEASE(SR) FIXED DOSE COMBINATION (FDC) PREPARATIONS IN HIGHLY COST SENSITIVE INDIAN PATIENTS SCENARIO.

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ABSTRACT

Background: The objective was to study the yearly cost of each of the four important brands of Fixed Dose Combination of Glibenclamide 5 mg plus Metformin 500 mg SR in Indian market and to study the comparative yearly cost of all the brands.

Methods: Four well-known brands of fixed dose combination of Glibenclamide 5 mg plus Metformin 500 mg SR were selected for cost comparisons. The daily as well as yearly cost of prescription based on once daily use was worked out directly as well as in percentages and presented in the form of tables and figures.

Results: After careful analysis of the data, it was found that the costliest brand, brand D is more than 86 percent costlier than the cheapest brand, brand B and thus the brand preparation selection, can lead to considerable differences in yearly cost burden to the patient.

Conclusions: This significant cost difference between the most expensive and the most affordable brands assumes even further importance since majority of the diabetics need to bear the cost of multiple other drugs prescribed to them, on their own. Thus, it rather becomes a moral task for the prescribing physician to prescribe those medicines which are not taxing financially to his / her patients.

Keywords: Fixed dose combination of Glibenclamide 5 mg plus Metformin 500 mg SR

INTRODUCTION

Diabetes Mellitus is a metabolic disorder included in chronic NCD (Chronic Non Communicable Diseases). Thus, its management is also long term, mostly lifelong. Besides it also contributes to other Chronic Non-Communicable Diseases¹. Diabetes mellitus is classified into various subtypes². The management includes lifestyle modification including yogic practices, stress reduction, medical nutrition and diet treatment and physical activity. The pharmacological management includes insulin and oral medications^{3,5}.

A Fixed Dose Combination of Glibenclamide 5 mg plus Metformin 500 mg SR, is a very useful and commonly prescribed combination in patients of NIDDM (Non-Insulin Dependent Diabetes Mellitus) in carefully selected patients⁴. Multiple brands or market preparations are available in India. As mentioned above the treatment of diabetes is long term, perhaps lifelong⁵. Thus, this fixed dose

combination prescription might be required for years together and even lifelong for a large majority amongst selected patients. With long term or lifelong treatment, comes one very important aspect of drug prescription that is the ongoing cost of the medications⁶.

Thus, the prescribing healthcare provider must take into consideration the cost of the medicine. A number of brand preparations of Fixed Dose Combination of Glibenclamide 5 mg plus Metformin 500 SR mg are available in the Indian market.

The authors undertook a comparative cost study of a few selected preparations of Fixed Dose Combination of Glibenclamide 5 mg plus Metformin 500 mg SR.

This is especially relevant considering the psychology of Indian patients towards the cost of medicine. At this point the authors of the present study would like to acknowledge and cite the previous works done in this area⁷⁻¹¹.

The complete references are provided in the bibliography.

METHODS

The present study was conducted in India. Four brands of Fixed Dose Combination of Glibenclamide 5 mg plus Metformin 500 mg SR were selected for the study.

This was based on the information about the price of these brand preparations available on the commercial internet site¹². Based on this the prices of one tablet of this fixed dose combination of each of the four brands were noted. These prices were the MRP (Maximum Retail Price) for the end user. Each brand was named by a code alphabet from A to D to follow anonymity.

Inclusion criteria:

1. Only Fixed Dose Combinations of Glibenclamide 5 mg plus Metformin 500 mg SR were selected.
2. Only SR i.e. Slow-Release preparations were considered for homogenous comparison.

Exclusion criteria:

The other preparations containing different doses of glibenclamide or metformin were not considered.

Thus, considering one tablet once a day dosing the daily cost to the patient was calculated. The yearly cost of each preparation was also worked out from the daily cost to the patient. Further this data was also converted to percentage form, considering the cheapest brand price that is of brand B as 100% and that for other brands were also calculated accordingly. The data was presented in tabular form and bar diagram form.

Statistical analysis:

No extensive statistical tools were required for our study. Only simple multiplications, divisions, calculation of percentages was used to analyse the data.

RESULTS

Table 1: Per tablet cost in Rupees, Daily cost in Rupees and yearly cost in Rupees of Fixed Dose Combinations of Glibenclamide 5 mg plus Metformin 500 mg SR of each brand.

Brand code name	Per tablet cost in Rupees	Daily cost in Rupees	yearly cost in Rupees
A	9.62	9.62	3463.2
B	5.40	5.40	1944
C	6.47	6.47	2329.2
D	10.08	10.08	3628.8

Figure 1: Yearly cost in Rupees of Fixed Dose Combinations of Glibenclamide 5 mg plus Metformin 500 mg SR of each brand.

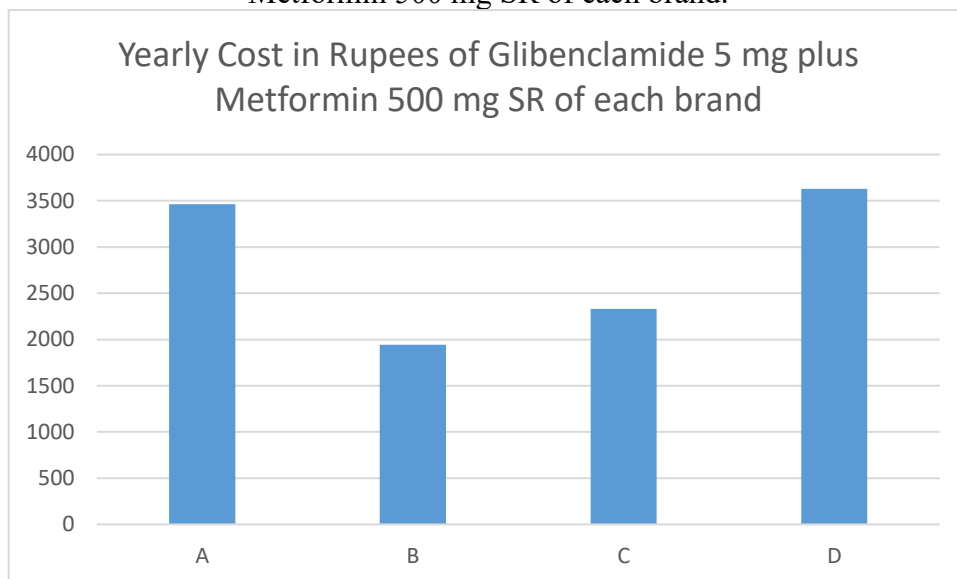
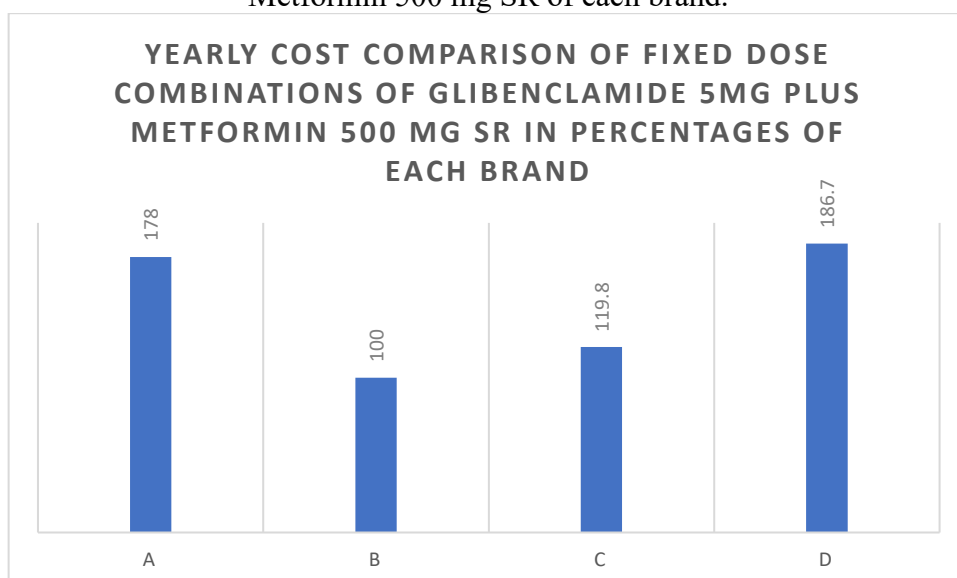


Table 2: The price of the Fixed Dose Combinations of Glibenclamide 5 mg plus Metformin 500 mg SR in percentages.

Brand code name	Yearly cost comparison in percentages
A	178
B	100
C	119.8
D	186.7

Figure 2: The yearly cost comparison of Fixed Dose Combinations of Glibenclamide 5 mg plus Metformin 500 mg SR of each brand.



Accordingly, brand B is the cheapest while brand D is the costliest one. Cost of the two remaining brands fall in between these two brands. The brand D is more than 86 % costlier than brand B.

DISCUSSION

While prescribing any medication the physician considers many factors¹³. One important factor is considering the cost of the medicine to the patient. Considering the cost assumes more importance when the medication might be required long term or even lifelong. Thus, the Fixed Dose Combinations of Glibenclamide 5 mg plus Metformin 500 mg SR in selected patients of NIDDM are required chronically. India being a country with great socioeconomic disparity, the physician must know the financial background of the patient. Indian government has some regulations imposed¹³. Nonetheless, costs do differ widely from one brand to another.

Certain marketed preparations of the Fixed Dose Combinations of Glibenclamide 5 mg plus Metformin 500 mg SR. were selected for the present study. Four such preparations sold in open market in India were selected. Daily medication cost and the yearly cost of each brand were compared. It was found that there is almost two times cost variation between the cheapest and the costliest brands, 3628.8 ₹ and 1944.0 ₹ of yearly cost of brand D and brand B, respectively. This might provide some insight for the prescribing physician to understand the financial aspect of his / her prescription. Though apparent yearly cost difference between the cheapest and the costliest brands is not huge in absolute terms, it still needs to be discussed with cost conscious patients. Selection of a brand preparation is a personal choice of the physician. This choice is in turn based on many factors such as easy accessibility to that brand preparation, physicians' confidence in a specific brand and certain other factors¹⁴. Besides, a polypharmacy is very common in Diabetic patients. Other drugs might include antiplatelet drugs, antihypertensive drugs, hypolipidemic drugs and so on. This will certainly add to the financial burden.

Attitude of the patients, worldwide towards the cost of medicines especially those for chronic or lifelong use is a very central issue while prescribing. This is especially true about Indian patients¹⁵. Going ahead on these lines, generic medicines are slowly gaining popularity mainly because of their affordable costs¹⁶.

Thus, when selecting medicines from those available in the market, considering that all the available options are appropriate for the purpose, the majority of Indian patients are likely to select the cheapest option. This is also helpful for the prescribing physician because it increases or establishes the faith and satisfaction of the patient, that the particular physician is sensitive towards the financial burden the patient has to bear and thus has the best of the interests of his / her patients in mind. The prescribing physician must keep in mind the patient psychology which plays an indirect but very powerful role while prescribing medications. This is also important for the compliance of the patient and thus the treatment outcomes¹⁷.

Thus, it rather becomes a duty of the prescribing physician or healthcare provider to prescribe those medicines which are cost effective to his/her patients. In addition, discussion about the cost burden with individual patient must be a routine practice.

Limitations

There were no obvious shortcomings to our study.

Future focus should be on comparing generic preparations with branded preparations.

CONCLUSION

A physician must keep in mind the financial burden to a patient, of his prescribed drug therapy. This is especially relevant in a country like India where the patients are highly price sensitive. Considering that majority of the patients do not carry insurance cover, and the likelihood of multiple other drugs being prescribed to the diabetic patients especially when they also carry other co-morbidities.

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