



Review article

ECONOMIC EVALUATION OF BRANDED, GENERIC, AND BRANDED-GENERIC MEDICINES AVAILABLE THROUGH ONLINE PHARMACIES IN INDIA: A CROSS-SECTIONAL ANALYSIS FOR METFORMIN

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Abstract

Diabetes mellitus is among the most common chronic diseases globally and contributes substantially to healthcare expenditure. Metformin remains one of the most widely prescribed first-line oral antidiabetic agents because of its effectiveness, safety profile, and cost-effectiveness. A pilot study design: A cross-sectional observational study was conducted to evaluate price differences among Metformin 500 mg tablet formulations available through online pharmaceutical platforms. Study period for data collection was performed 15 to 30 MAY 2026. From available formulations a total of 30 marketed formulations of Metformin 500 mg and 500 mg SR/XR from different manufacturers were identified from online pharmaceutical platforms and included in the analysis. Compare to lowest price available cost per tablet with highest cost of medicine per tablet cost range from 200 to 237 % higher. Products approved by regulatory agency (CDSCO) is expected to meet predefined standards related to identity, purity, strength and manufacturing quality. The higher-priced products should not automatically be interpreted as possessing superior pharmaceutical quality or clinical effectiveness.

Keywords: Generic, Branded, Pharmacoeconomics, Economics, Online Platform, Metformin

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1. Introduction

Availability of multiple manufacturers producing the same active pharmaceutical ingredient (API), substantial variations in medicine prices are frequently observed. In India, pharmaceutical products are commonly available as branded, generic, and branded-generic formulations. While these products may contain the same active ingredient and strength, their market prices can differ considerably. Medicine price variation can affect accessibility and patient adherence, particularly in populations requiring long-term therapy. Increased availability of online pharmacies and e-commerce platforms has also introduced dynamic pricing strategies where discounts, promotional offers, and regional pricing practices may influence selling prices. Consequently, the maximum retail price (MRP) displayed on the package may differ from the actual selling price paid by consumers. A common perception among patients and healthcare providers is that higher-priced products possess superior quality or efficacy. However, price differences may result from factors unrelated to pharmaceutical quality, including branding strategies, marketing expenditure, supply chain margins, and distribution practices. Therefore, the present study aimed to economic evaluation of branded, generic, and branded-generic medicines available through online pharmacies in India: a cross-sectional analysis for Metformin. Academic research as pilot study as variations in MRP and selling prices of Metformin 500 mg tablets across different manufacturers and online pharmaceutical platforms and to explore factors potentially responsible for these differences.

2. Materials and Methods

Study design: A cross-sectional observational study was conducted to evaluate price differences among Metformin 500 mg tablet formulations available through online pharmaceutical platforms.

Study period: Data collection was performed 15 to 30 MAY 2026.

Objectives: Academic pilot research for pharma students to search and learn about Branded, Generic and Branded-Generic formulations.

Inclusion criteria:

Products meeting the following criteria were included:

- Metformin tablets containing 500 mg strength as pilot study 30 formulations
- Products listed on online pharmacy platforms (Truemeds, 1mg, Netmeds, PharmEasy, PlatinumRx, Apollo Pharmacy, MedKart)
- Extended release or sustained release formulations if analysed separately
- Products with clearly displayed manufacturer information
- Products with available MRP and selling price details

Exclusion criteria:

- FDC fixed dose combination formulations of Metformin
- Same formulation listings on online pharmacy recent available listing were considered.
- Products with incomplete pricing information

Data sources as price information were collected from publicly accessible online pharmaceutical platforms and medicine information websites. Data collected included Product name, Manufacturer/company name, Number of tablets per strip, Maximum retail price (MRP), discount (%) and Price per Unit.

Data extraction: Information was manually extracted and entered into a structured spreadsheet. If multiple listings of the same product were identified, the most recent available listing was included.

Price calculations, Cost per tablet was calculated, Percentage difference between MRP and selling price was calculated. Price variation between categories (Branded, Generic, and Branded-Generic) was compared.

3. Results

A total of 30 marketed formulations of Metformin 500 mg and 500 mg SR/XR from different manufacturers were identified from online pharmaceutical platforms and included in the analysis (Table 1). Products were categorized into

Table 1: Comparison of MRP, Selling price, and Cost per tablet among Metformin 500 mg Tablet

No	Brand / Generic Name	Marketed (Manufacturer)	Total Tablets	MRP (₹)	Selling Price (₹)	Discount %	Cost/ Tablet (₹)
1	Glucophage 500 SR	Merck	10	33.55	25.16	25%	2.52
2	Glyciphage 500 SR	Franco-Indian Pharma P Ltd (Tristar Formulation)	10	26.62	21.3	20%	2.13
3	Exermet 500 SR	Cipla Ltd (Innova Captab Ltd)	15	37.2	29.76	20%	1.98
4	Cetapin XR 500	Sanofi India Ltd	20	48.65	38.92	20%	1.95
5	Forson 500 SR	Unison Pharmaceuticals Ltd	10	21.19	18.7	12%	1.87
6	Metatime 500 XR	Mankind Pharma Ltd, (Mediforce Healthcare)	10	21.61	18.15	16%	1.82
7	Xmet SR 500	Glenmark Pharma Ltd	15	31.8	27.3	15%	1.82
8	Meformin 500 SR	Macleods Pharma P Ltd	10	21.55	18.1	16%	1.81
9	Melmet SR 500	Micro Labs Ltd	20	43.2	34.56	20%	1.73
10	Biciphage 500 SR	Biochem Pharma. Ltd. & German Remedies, Owned by Zydus Healthcare Ltd. M: (Skymap Pharm Ltd)	20	21.46	10.73	50%	1.73
11	Obimet SR	Corona Remedies	15	32.2	25.76	20%	1.72
12	Gluconorm SR 500	Lupin Ltd	15	32.25	25.8	20%	1.72
13	Carbophage XR 500	Merck Ltd	10	21.46	17.17	20%	1.72
14	Glycomet 500 SR	USV P Ltd	20	41.97	33.58	20%	1.68
15	Debistal 500 SR	Leeford Healthcare Ltd	15	33.47	20.4	34%	1.36
16	Bigomet SR	Aristo	10	16.77	13.42	20%	1.34
17	MetRose 500 SR	Zeelab Pharmacy P Ltd	15	18.0	18.0	0%	1.20
18	Metform SR 500	Knoll Healthcare P Ltd, (Innova Captab Ltd)	10	21.19	10.6	50%	1.06
19	Metsmall 500	Dr Reddys Laboratories Ltd	30	64.37	51.5	20%	1.72
20	Metgem 500 Tablet	Sun Pharma Lab Ltd	10	21.47	17.18	20%	1.72
21	Metatime 500	Mankind Pharmaceuticals Ltd	10	19.74	16.38	17%	1.63
22	Glyciphage Tab	Franco-Indian Pharma P Ltd (Tristar Formulation)	20	39.7	31.76	20%	1.59
23	Glycomet 500	USV P Ltd	10	19.46	15.57	20%	1.56
24	Gluformin 500	Abbott Healthcare	10	19.76	15.22	23%	1.52
25	Zoform SR 500	FDC Ltd	10	15.26	13.28	13%	1.33
26	Biciphage 500	Biochem Pharma. Ltd, German Remedies Pharma P Ltd, Owned by Zydus Healthcare Ltd. (Skymap Pharm Ltd)	20	33.23	24.26	27%	1.21
27	Metform 500 Tab	Knoll Healthcare P Ltd, (Admed Pharma P Ltd)	20	41.5	20.75	50%	1.04
28	Okamet 500	Cipla Ltd	20	26.32	18.69	29%	0.93
29	Zomet Tab	Intas Pharma	10	9.53	8.29	13%	0.83
30	Metformin 500	1) Deep Pharma 2) Biogenetics Drugs Pvt Ltd	10*	NA**	NA**	RC	0.29 + 5% GST

*Only for Govt Hospital Supply, Bulk purchase by Rate Contact (RC), **NA-Not Applicable as Price for by "Gujarat Medical Services Corporation Limited" (GMSCL), under the Health and Family Welfare Department Govt. of Gujarat

4. Discussion

Diabetes mellitus is among the most common chronic diseases globally and contributes substantially to healthcare expenditure. Pharmacotherapy for diabetes often requires long-term treatment, making medication affordability an important determinant of patient adherence and therapeutic outcomes. Metformin remains one of the most widely prescribed first-line oral antidiabetic agents because of its effectiveness, safety profile, and cost-effectiveness.

Branded cost is more than generic price differences are usually not because the molecule itself changed. Factors can include company marketing, promotion costs, distribution margins for wholesalers, retailers, packaging differences, manufacturer reputation, pricing strategy, government price controls (wherever applicable), retailer margins. Products approved by regulatory agencies are expected to meet predefined standards related to identity, purity, strength, and manufacturing quality. For products manufactured according to Good Manufacturing Practice (GMP) standards and regulatory requirements, therapeutic effectiveness should generally remain comparable when equivalent active ingredients and dosage forms are used. Therefore, differences in price may not directly translate into differences in clinical efficacy. Generic formulation per tablet (unit) available in Govt Hospitals is always lowest due to large quantity of formulation purchased.

Student can be given assignment or practical to check online pharmacy platforms and can plan to visit offline to add more formulation for study. Different segment can be selected for student as academic research.

Limitations of study: The present study has several limitations. Pricing information was collected from online platforms and therefore may not completely represent prices in offline retail pharmacies or hospital pharmacies may fluctuate because of promotional discounts, seasonal offers, subscription benefits, bulk purchase and regional pricing policies. Consequently, prices identified during the study period may not remain constant over time.

5. Conclusion

The present study cost per tablet among Metformin 500 mg products available through online pharmaceutical platforms is range from Rs 1.06 to 2.52 per tablet (237%) for Sustained release (SR) range and for other formulations

from Rs 0.83 to 1.72 per tablet (207%) form despite containing the same active pharmaceutical ingredient and dosage strength The higher-priced products should not automatically be interpreted as possessing superior pharmaceutical quality or clinical effectiveness.

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