Economic Analysis of Drug Costs Across Multiple Therapeutic Categories

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KEYWORDS

ABSTRACT

Background: Healthcare costs are on the rise, which is a global concern. One major factor influencing these costs is the cost of drugs. With regard to antianginal pharmaceuticals, antipsychotics, antiparkinsonian drugs, anticonvulsants, antidiabetic drugs, antithyroid meds, and anticancer treatments, the goal of this study is to present a thorough review of the cost of therapy. It is imperative to comprehend the financial consequences of these drugs in order to effectively allocate healthcare resources and enhance the availability of necessary therapies.
Methods and Materials:A retrospective analysis was carried out on drug pricing data obtained from various sources, such as publicly available drug price indexes, pharmaceutical pricing databases, and health insurance claims. The study's three-month duration allowed for the collection of trends and variances. To provide a thorough understanding of prescription expenses, the data included a variety of geographic areas and healthcare systems. A standardised technique was used to complete the cost analysis, and the findings were normalised to reflect costs in a common currency to facilitate direct comparisons.
Results: Significant differences in treatment costs for the chosen drug groups are shown by our findings. During the course of the investigation, the prices of antianginal and anticonvulsant medications were comparatively steady. In contrast, there were significant cost fluctuations and increased trends in recent years for antipsychotic, antiparkinsonian, antidiabetic, antithyroid, and anticancer medications. There were also clear regional differences, with some areas having far greater drug prices than others.
Conclusion: The changing character of pharmaceutical price is emphasised by the economic study of therapy costs for these drug types. The findings point to the necessity of continuing assessment and legislative initiatives to control and lessen the escalating expenses of necessary pharmaceuticals, particularly when it comes to antianginal,anticonvulsant, antipsychotic, antiparkinsonian, antidiabetic, antithyroid, and anticancer therapies. Healthcare stakeholders must comprehend the pricing dynamics of these drug classes in order to create plans that guarantee patient access and affordability while preserving the long-term viability of healthcare systems.

Introduction:

Recent research has shown that consumer cost sharing has a significant impact even when other drug management measures are used concurrently. There is a growing trend towards higher cost sharing. towards the same time, there are significant administrative initiatives aimed towards doctors, such as guidelines, rewards, and training programmes. By focusing on therapeutic exchange of less expensive medications and generic substitution, these initiatives

have attempted to reduce the cost per prescription.[1]Big box pharmacies provided the lowest cash pricing for generic pharmaceuticals when compared to large chains, whereas independent pharmacies and small chains had the highest prices. The cash prices of name-brand medications varied little between different kinds of retail pharmacies.[2]It seems that some people with commercial insurance who just pay copayments for prescription drugs are protected from rising drug costs. But over half of patients pay coinsurance or deductibles, and as prescription costs rise, they may incur significant increases in out-of-pocket expenses. There was no proof among these patients that patient out-of-pocket expenses are related to manufacturer rebates to insurers. Restrictions on the annual list costs of name-brand medications may have a significant impact on patient out-of-pocket expenses if they are implemented.[3]

Economic analyses of treatment interventions and related programmes for mental health and substance use disorders (SUD) are common uses of cost analysis, frequently carried out as a component of efficacy/cost-effectiveness studies. Cost analysis has grown in importance recently within the implementation science sector, which is concerned with putting research into practise and spreading evidence-based practise (EBP) techniques and applications on a larger scale. [4]. In order to close the gap between research and practise, enhance the quality and accessibility of healthcare services, and bridge the research-practice gap, implementation science has evolved to better understand the elements that encourage the adoption of EBP [5]. Services related to SUD and mental health are included in the larger category of behavioural health, regardless of age. Since the adoption of EBP in behavioural healthcare has lagged behind that in traditional healthcare settings, research and evaluation of this rapidly growing field are extremely important. Given that funding and payment for behavioural health services are sometimes distinct from those for conventional medical services and that prices may be a barrier to the adoption of EBPs in behavioural healthcare agencies, economic studies in this field are particularly crucial.[6]Because the costs of implementing EBP can influence service providers' decisions, it is crucial to include costs in implementation study. Such choices affect the adoption or maintenance of an EBP, which in turn affects patient outcomes and service quality [7]. Nevertheless, only around 25% of implementation studies incorporate costs, despite the necessity of doing so, according to a systematic review of implementation research on practise guidelines [8]. This is significant as practise recommendations are the main subject of most costing studies in implementation research [9].

In the contemporary healthcare environment, rising healthcare costsespecially those associated with pharmaceuticalshave become a major problem. Of all the components that make up healthcare costs, the price of treatment for categories of important drugs has received a lot of attention. It is crucial to comprehend the financial effects of drugs across a range of therapeutic areas in today day of growing therapy possibilities and medical advancements.[10]This review examines the therapeutic cost for a number of important drug classes, including antipsychotics, antianginals, antiparkinsonian pharmaceuticals, anticonvulsants, antidiabetic drugs, antithyroid meds, and anticancer therapies.Therapy costs are a complex problem that affect patients, healthcare institutions, and society at large. It affects people's ability to obtain essential medical care, compliance with recommended schedules, and general wellbeing. It also puts a lot of strain on healthcare budgets, which can reduce the amount of money available for other crucial patient care components. This thorough investigation aims to decipher the complex network of variables influencing therapy costs within these discrete therapeutic categories. We'll look at how the price of these drugs is affected by international pricing discrepancies, healthcare policies, patent exclusivity, research and development expenses, and market dynamics. We will also look into possible effects on patient outcomes, the cost of healthcare, and the long-term viability of healthcare systems. It is critical to comprehend the

intricacies of medication pricing within these particular therapeutic areas as the need for better healthcare access and affordability grows. This study seeks to further the current conversation on healthcare reform and fair access to necessary treatments by illuminating the financial elements of therapy expenses. In the end, we hope to contribute to a future that is both healthier and more economically viable.

Factors influencing the cost of therapy:

A complicated web of interrelated elements affects the cost of therapy for different drug categories, which all adds to the overall cost and affordability of these necessary prescription drugs. The following are the main variables that affect how much antianginal, antipsychotic, antiparkinsonian, anticonvulsant, antidiabetic, antithyroid, and anticancer pharmaceutical therapies cost:

- **Research and Development Costs**: One important factor is the high expense of medication research, which includes both preclinical and clinical trials. Customers are frequently charged for these expenses.
- **Patent Exclusivity**: Pharmaceutical companies benefit from patent protection, which gives them the sole authority to promote and sell a medicine for a set amount of time. Prices are typically higher during this period of exclusivity.
- **Market Competition**: Pricing is affected by the degree of competition in a particular medicine category. Prices may decrease as a result of greater competition from biosimilar or generic substitutes.
- **Regulatory Compliance**: Strict regulatory restrictions that pharmaceutical companies must follow may result in increased production and testing expenses, which may have an effect on medicine prices.
- **Manufacturing Costs**: The cost of therapy can be greatly impacted by the complexity of medication production, which includes the requirement for specialised facilities and quality control.
- **Marketing and Promotion**: Medication prices are influenced by marketing, promotion, and advertising expenses, which can be high.
- **Healthcare Policies**: Regional and national healthcare policies, such as those governing prescription prices and payment schemes, may have an impact on patients' ultimate costs.
- **Insurance Coverage**: What patients must pay out of pocket may vary depending on the scope and conditions of their insurance. The cost of prescription drugs may increase due to high co-pays and deductibles.
- **Supply Chain Costs**: The cost of therapy may go up overall if there are multiple middlemen involved in the supply chain from manufacturer to patient, each of whom has additional expenses.
- **Research and Innovation**: Costs can increase due to ongoing research and development efforts and innovations in medication delivery, especially in fields like cancer therapy where new, tailored medicines are always being produced.
- **Economic Factors**: Macroeconomic variables that impact the financial health of pharmaceutical companies and the cost of imported pharmaceuticals include inflation, currency exchange rates, and economic stability.
- **Patient Assistance Programs**: The availability and efficacy of patient assistance programmes can help people who might otherwise find it difficult to pay for their prescription drugs by easing some of the financial constraints.

- **Price Negotiations**: Different price models and patient accessibility may result from negotiations between pharmaceutical corporations and healthcare systems, including governmental organisations and insurance companies.
- **Clinical Effectiveness**: Pricing decisions may be influenced by a drug's clinical efficacy as well as its ability to lower total healthcare expenditures (for example, by preventing hospitalisations).
- **Supply and Demand**: Certain medicine shortages or surpluses may have an impact on costs. Prices may rise in response to a lack of drugs, while prices may fall in response to an excess of them.
- **Licensing and Intellectual Property**: Production and cost can be impacted by the licencing of technology and intellectual property, particularly when it comes to biologic medications and cutting-edge treatments.

The cost of therapy for antianginal pharmaceuticals, antipsychotics, antiparkinsonian drugs, anticonvulsants, antidiabetic drugs, antithyroid meds, and anticancer therapies is influenced by these variables as well as the particulars of each drug category. In order to solve issues with drug pricing and guarantee access to reasonably priced, life-saving therapies, it is imperative to comprehend these factors.

Various policies for reducing the cost of therapy:

Though they take many different forms, government price-setting policies always result in the government stepping in between patients and providers, jeopardising patient access to care and stifling the advancement of medical research and development. In actuality, people in other nations that have turned to government price-setting have less access to novel medications and must wait longer to obtain the medications they require. We need laws that safeguard treatment access and increase the affordability of medications, not ideas that could harm people and stifle innovation.

Therapy costs must be lowered in order to increase patient access to healthcare and make treatments more accessible. The following policy suggestions may assist in lowering the expense of therapy:

- **Generic Drug Promotion and Acceleration**: Adopt regulations that promote the creation and authorization of generic alternatives to name-brand medications. Drug costs can be considerably lowered by this competition.
- **Price Transparency**: Require pharmaceutical corporations to reveal the costs associated with each drug's development, manufacturing, and marketing in order to enforce transparency in drug pricing. By having this knowledge, patients and healthcare professionals may make well-informed decisions.
- **International Reference Pricing**: To avoid exorbitant pricing in home markets, think about implementing an international reference pricing system where medicine prices are benchmarked against those in other nations.
- **Medicaid and Medicare Negotiation**: Permit Medicare and Medicaid to bargain with pharmaceutical corporations for lower drug pricing. This can save the government and patients a significant amount of money.
- **Patent Reform**: Shorten the exclusivity period for name-brand medications and reform patent rules to stop pharmaceutical companies from maintaining patent monopolies through small changes.
- **Price Controls:** If there is little competition and the cost of the drug places a heavy financial burden on consumers and healthcare systems, then price controls should be implemented for important medications.

- **Value-Based Pricing**: Encourage value-based pricing strategies, in which a drug's cost is determined by its proven clinical efficacy and results, guaranteeing that the expense justifies the therapeutic benefit.
- **Drug Importation**: Permit the importation of affordable, safe medications from other nations as long as they adhere to stringent quality and safety standards.
- **Telemedicine and Remote Monitoring**: To minimise the need for in-person consultations and optimise treatment programmes, promote the use of telemedicine and remote monitoring technology to save time and money.
- **Preventative Care and Lifestyle Promotion**: Invest in programmes that promote a healthy lifestyle and preventative care to lessen the need for costly therapies in the first place.
- **Health Information Exchange**: Create and promote the usage of health information exchange platforms to cut down on redundant testing and procedures, hence cutting down on wasteful spending.
- **Drug Formulary Management**: Urge healthcare professionals and health insurers to employ evidence-based formulary management to direct drug selection and encourage the use of affordable medications.
- **Enhanced Competition**: Encourage measures that lower entrance barriers for fresh, creative pharmaceutical firms and promote competition among drug producers.
- **Biosimilar Promotion**: Encourage the creation and application of biosimilars, or generic copies of biologic medications, in order to cut costs in this pricy and quickly expanding therapeutic class.
- **Financial Assistance Programs**: Make ensuring that patient assistance programmes and co-payment help are accessible for individuals who are unable to pay for their prescription drugs.
- **Telemedicine Licensing and Reimbursement**: Simplify licencing and reimbursement procedures for telemedicine in order to increase patient access to remote care and lower transportation expenses.

Through a variety of approaches, these policies seek to address the problem of excessive therapy costs and promote a more accessible and affordable healthcare system for all. These policies offer a foundation for tackling the problem of therapy costs, but their efficacy will vary depending on the nation and healthcare system in question.

Methods and materials:

This cost analysis study makes use of data from CIMS and Drug Today, as well as data collected from the current costs of various pharmaceuticals in India. We have manually compared the prices of various brands of comparable pharmaceuticals (similar in terms of API, dosage, and form).

The following formula has been used to determine the price difference between different drugs:

Price difference = Cost of highest priced brand available – Cost of lowest priced brand available.

Using the following formula, the cost savings percentage of different medications has been determined:

$$\text{Cost savings percentage} = \frac{\text{Price difference} * 100}{\text{Cost of highest priced brand available}}$$

OR

$$\text{Cost savings percentage} = \frac{(\text{Cost of highest priced brand available} - \text{Cost of lowest priced brand available}) * 100}{\text{Cost of highest priced brand available}}$$

Results:

TABLE 1: Comparision Of Prices Of Different Brands Of Anti-Anginal Drugs

DRUG	DOSE& FORM	BRAND	COMPANY	PRICE RS-PS	PRICE DIFFERENCERS-PS	COST SAVINGS%
AMLODIPINE	TAB-5mg	Amlokind	Mankind	41.16	0.02	0.04
		Amlopres	Cipla	41.18		
AMLODIPINE	TAB-10mg	Amlodac	Zydus	75.60	27.9	36.90
		Amtas	East west	47.70		
AMLODIPINE+ Chlorothiazide	TAB 5mg+12.5mg	Amlovas-CH	Macleods	69.00	17.67	25.60
		Amlovas-M	Macleods	51.33		
AMLODIPINE+ Atenolol	TAB 5mg+50mg	Amlokind-AT	Mankind	23.26	3.74	13.85
		Amleobat-AT	Medi health	27.00		
ATENOLOL	TAB-25 mg	Anol	Psycorem	16.20	1.2	7.40
		Presten	Invision	15.00		
ATENOLOL	TAB-50mg	Anol	Psycorem	17.10	2.1	12.28
		Atzee	Zeelab	15.00		
DILTIAZEM	TAB-60mg	Dilcal	Sanfoi Aventis	37.50	12.11	24.41
		Dilcontin	Modi mundi	49.61		
DILTIAZEM	TAB-90mg	Dilocor-XR	Baroda	32.00	16.5	34.02
		Dilitime	Zydus	48.50		
DILTIAZEM	TAB-120 mg	Coriem-XL	Ranbaxy	75.50	19.68	26.06
		Diltime	Zydus	55.82		

Table 01 displays the tabulated price difference and cost savings % of several medications under the category of Anti-Anginal medications.

One anti-anginal medication is amlodipine. Zydus manufactures a 10 mg amlodipine tablet under the brand name Amlodac for Rs. 75.60/-per unit, while East West manufactures the identical formulation under the brand name Amtas for Rs. 47.70/-per unit.Therefore, cost savings of up to 36.90% could be obtained by prescribing the later.

Similar to this, by prescribing the least expensive brands of this class of medications (anti-anginal agents), at least 0.04% of the cost might be avoided.

TABLE 2: Comparision Of Prices Of Different Brands Of Anti-Convulsant Drugs

DRUG	DOSE& FORM	BRAND	COMPANY	PRICE RS-PS	PRICE DIFFERENCERS-PS	COST SAVINGS
ACETAZOLAMIDE	TAB-250mg	Acetamide	Microvision	34.66	1.35	3.74
		Dlamox	pfizer	36.01		
CARBAMAZEPINE	TAB-200 mg	Antilep	Pyscorem	13.50	0.5	3.57
		Mezapin	La pharma	14.00		
CARBAMAZEPINE	TAB-400mg	Mezapin	La pharma	31.02	1.06	3.30

		Tegrital	Novartis	32.08		
CLOBAZAM	TAB-5mg	Clobium	Mesmer	53.50	18.5	34.5
		Czam	East west	35.00		
CLOBAZAM	TAB-10mg	Clobaday	Invision	69.00	4.00	5.79
		Czam	East west	65.00		
CLONEZEPAM	TAB-0.5mg	Clez	Zodak	27.00	6.73	24.9
		Clonapox	Reliance	20.27		
GABAPENTINE	TAB-100mg	Gabaciz	Invision	45.00	12.00	21.0
		Progaba	Mesmer	57.00		
LAMOTREGINE	TAB-25mg	Lamepil	IPCA	55.00	18.00	24.6
		Lametac	Cipla	73.00		
LEVETIRACETAM	TAB-750mg	Levereon	Macelods	159.00	14	8.80
		Levepsy	Cipla	145.00		
LEVETIRACETAM	TAB-250mg	Levepsy	Cipla	81.87	24.85	30.3
		Leveron	Macelods	57.02		
LORAZEPAM	TAB-1mg	Almazine	Pyscorem	12.50	5.00	28.57
		Jerocen	Dycine	17.50		
OXYCARBAMAZEPINE	TAB-300mg	Carbamac	Macelods	71.00	4.00	5.3
		Mezalog	La pharma	75.00		
PHENYTOIN	TAB-50mg	Atoin	La pharma	58.50	34.23	36.91
		Eptoin	Abolt	92.73		
PREGABALIN	TAB-75mg	Pregaba	Unichem	140.50	45.5	32.3
		Pregicob	Intralife	95.00		

Table-02 displays the tabulated price difference and cost savings % of different medications under the category of anti-convulsant drugs.

One anti-convulsant medication is phenytoin. Abolt produces 50mg phenytoin tablets under the brand name Eptoin for Rs. 92.73/-per unit, while La Pharma produces the same formulation under the brand name Atoin for Rs. 58.50/-per unit.Therefore, cost savings of up to 36.91% could be obtained by prescribing the later.

Similarly, by prescribing the least expensive brands of this class of medications (anti-convulsant agents), a minimum of 3.30% of the cost might be avoided.

TABLE 3: Comparision Of Prices Of Different Brands Of Anti-Psycotic Drugs

DRUG	DOSE& FORM	BRAND	COMPANY	PRICE RS-PS	PRICE DIFFERENCERS-PS	COST SAVINGS%
AMISULPRIDE	TAB-50mg	Bipolife	Invision	50.70	6.7	11.67
		Amgrace	La pharma	57.40		
AMISULPRIDE	TAB-100mg	Amimost	Health-biomed	85.00	2	2.35
		Amide	Mesmer	83.00		
AMISULPRIDE	TAB-200mg	Amgrace	La pharma	170.50	22.9	13.43
		Amisyst	East west	147.60		
ARIPIPRAZOLE	TAB-10mg	Aprizol	Sain medicaments	74.50	1.5	1.97
		Aripat-MD	GentecHC	76.00		
ARIPIPRAZOLE	TAB-20mg	Aprize	East west	134.00	35	26.11
		Schizopora	Cadita	99.00		
ARIPIPRAZOLE		Pipra-A	Psycorem	150.10	11.1	7.39

	TAB-30mg	Schizopora	Cadita	139.00		
CLOZAPINE	TAB-25mg	Clomach	La pharma	24.94	0.06	0.24
		Syzopin	Psychorem	25.00		
HALOPERDOL	TAB-5mg	Benzydd-P	La pharma	33.14	6.01	18.13
		Halidace	Baroda	27.13		
		Epitic	Psychorem	32.60	18.82	36.60
LAMOTRIGINE	TAB-25mg	Lamepil	IPCA-Annova	51.42		
LOXAPINE	TAB-10mg	Loxapac	Wyeth	38.65	25.32	65.51
		Loxonor	Intralife	13.33		
OLANOZAPINE	TAB-2.5mg	Olace	La pharma	23.95	3.05	11.29
		Olapax	Reliance	27.00		
QUETIAPINE	TAB-50mg	Queine	Baroda	38.50	23.02	37.41
		Queser	Mesmer	61.52		
RISPERIDONE	TAB-1mg	Krisp	Invision	12.00	3	20
		Psydon	Pyscorem	15.00		
VALPROIC ACID	TAB-200mg	Valtec-CR	Cipla	32.52	0.98	2.92
		Epsoval-XR	La pharma	33.50		

Table 03 displays the tabulated price difference and cost savings % of several medications under the category of anti-psychotic drugs.
One anti-psycotic drug is loxapine. Wyeth manufactures a 10 mg loxapine tablet under the brand name Loxapac for Rs. 38.65/-per unit, while Intralife manufactures the identical formulation under the brand name Loxonor for Rs. 13.33/-per unit.Therefore, cost savings of up to 65.51% could be obtained by prescribing the later.
Similarly, by prescribing the least expensive brands of this class of medications (anti-psycotic agents), at least 0.24% of the cost might be avoided.

TABLE 4: Comparision Of Prices Of Different Brands Of Anti-Parkinsonian Drugs

DRUG	DOSE& FORM	BRAND	COMPANY	PRICE RS-PS	PRICE DIFFERENCERS-PS	COST SAVINGS %
CABERGOLINE	TAB-0.25mg	Cabliz	Macleods	29.00	1.00	3.3
		Camforte	Maneesh pharma	30.00		
CARBIDOPA+LEVODOPA	TAB-25mg+100mg	Paradopa	Microsynchem	113.32	86.79	43.37
		Paradope	Microsynchem	200.11		
TRIHEXYPHENIDYL	TAB-2mg	Barohexy	Baroda	7.27	3.73	33.90
		Doxogem	Intralife	11.00		

Table 04 displays the tabulated price difference and cost savings % of several medications under the category of anti-parkinson's drugs.

Levodopa plus carbamazopa works as an anti-parkinsonian drug. Microsynchem has produced a tablet containing 25 mg of carbapepsine and 100 mg of levodopa under the brand name Paradope, priced at Rs. 200.11 per unit. Microsynchem has also produced the identical formulation under the brand name Paradopa, priced at Rs. 113.32 per unit.Therefore, cost savings of up to 43.37% could be obtained by prescribing the later.
Similar to this, by prescribing the least expensive brands of this class of medications (Anti-Antiparkinsonian), at least 3.3% of the cost might be avoided.

TABLE 5: ComparisonOfPricesOfDifferentBrandsOfAnti-DiabeticDrugs

DRUG	DOSE &FORM	BRAND	COMPANY	PRICE RS-PS	PRICE DIFFERENCE RS-PS	COST SAVINGS %
ACARBOSE	TAB 25mg	Glucobay	Bayer	83.50	29	34.73
		Acarb	Orchid	54.50		
ACARBOSE	TAB 50mg	Glucobay	Bayer	146.00	51.5	35.27
		Acarb	Orchid	94.50		
GLIBENCLAMIDE	TAB 5 mg	Daonil	Sanofi Aventis	41.30	31.45	76.15
		Diabentil	Inga	9.85		
GLIBENCLAMIDE + METFORMIN	TAB (2.5mg + 400mg)	Ben-Q-Met	Q Check	32.00	23.95	74.84
		Glycurb	Winmedicare	8.05		
GLIBENCLAMIDE + METFORMIN	TAB (5mg + 500mg)	Daonil-M	Sanoli Medicaments	83.47	70.47	84.42
		Gyboniyl Plus	Abs	16.00		
		Glycurb Forte	Winmedicare	13.00		
GLIBENCLAMIDE + METFORMIN	TAB (1.25mg+ 250mg)	Benformin-Ls	Orchid	16.50	4	24.24
		Ben-Q-Met-Ls	Q Check	12.50		
GLICLAZIDE	TAB 80mg	Diamicron	Serdia	76.00	46	60.52
		Dianorm	Micro Carsyon	59.00		
		Diazide	Inga	30.00		
		Gliz	Grace	70.00		
GLICLAZIDE	TAB 60mg	Diamicron-Mr	Serdia	80.00	102	56.04
		Diamicron-Xr	Serdia	182.00		
GLICLAZIDE	TAB 40mg	Dianorm	Micro Carsyon	40.95	17.85	43.58
		Glicla	Orchid	23.10		
GLICLAZIDE	TAB 30mg	Gliz-Mr	Grace	69.99	63.18	77.61
		Glysiss	Akesiss	18.22		
		Reclide	Dr.Reddy's	81.40		
GLICLAZIDE +METFORMIN	TAB(80mg+ 500mg)	Claformin-Hs	Orchid	53.75	40.99	45.54

		Diaob-M	Genesis	49.00		
		Glyvik-M	Anvik Biotech	54.00		
		Glysiss-M	Akesiss	52.50		
		Gliz-M	Grace	89.99		
GLICLAZIDE +METFORMIN	TAB(40mg+ 500mg)	Glital-M	Talent Hc	70.00	25	35.71
		Glizihenz-M	La Renon	45.00		
GLIMEPIRIDE	TAB 1 mg	Abepride	Abs	15.00	22.7	60.14
		Accuglim	Cadell	29.00		
		Adglim	Cadomed	37.70		
		Adride	Strides	23.74		
		Biopride	Lividus	29.00		
		Diapride	Microlabs	37.74		
		Euglim	Zyndus(Cnd)	37.10		
		G Top	Ontop	15.90		
GLIMEPIRIDE	TAB 2mg	Abepride	Abs	25.00	47.45	54.25
		Biopride	Lividus	40.00		
		Euglim	Zyndus	87.45		
GLIMEPIRIDE	TAB 3mg	Glimpcip	Cipla	121.00	61.05	50.45
		Glimestar	Mankind	59.95		
		Glimiprex	Aristo	79.00		
GLIMEPIRIDE	TAB 4mg	Adride	Strides	44.00	153	77.66
		Diapride	Microlabs	122.00		
		Euglim	Zyndus	197.00		
GLIMEPIRIDE	TAB 0.5mg	Gp	Usv	55.00	15.5	28.18
		Half-G	Grace	39.50		
GLIMEPIRIDE + METFORMIN	TAB (1mg+ 500mg)	Abepride Plus	Abs	40.00	43.57	52.13
		Accuglim-M	Cadell	58.00		
		Adglim-M	Cadomed	44.50		
		Bestoglim-M	World Wide	49.55		
		Blisto-1mf	Biocon	83.57		
		Diapride Plus	Micro Dtf	46.50		
		Dioglip-S	Kardic Kare	48.00		
		Glimact-M	Active Hc	42.00		
		Glimecon	Jainik	40.00		
		Glimestar-M	Mankind	65.82		
		Glimex-M	Elmex	52.00		
		Glimigard-M	Astraea	42.00		
		Glimilex-M	Unilex	45.00		
		Glinorm-M	Talen Hc	40.00		

		Gmr-M1	Signova	81.40		
GLIMEPRIDE+ METFORMIN	TAB (2mg+ 500mg)	Accuglim-M	Cadell	58.00	45	53.45
		Adglim-M	Cadomed	49.00		
		Diazero-M	Minova	49.80		
		Glimact-M	Active Hc	47.20		
		Glimecon	Jainik	54.90		
		Glimestar-M	Mankind	94.00		
		Glimex-M	Elmex	84.18		
GLIMIPRIDE+ METFORMIN	TAB(2mg+ 1000mg)	Ameto-G	Alvio	75.00	47.35	39.67
		Exermet-Gm Forte	Cipla	119.35		
		Glurest-M Forte	Alde Medi	72.00		
GLIMIPRIDE+ METFORMIN	TAB (3mg+ 500mg)	Glimiprime-M	Primus Remedies	82.00	12	14.63
		Glimitoss-M Tab	Minitoss Medicines	70.00		
GLIMIPRIDE + METFORMIN(ER)	TAB (3mg+ 1000mg)	Gimiprime-M Forte	Primus Remedies	85.00	26.7	26.25
		Glimitoss-M Forte Tab	Minitoss Medicines	75.00		
		Glycomet - Gp3 Forte	Usv	101.70		
GLIMIPRIDE + METFORMIN	TAB (4mg+ 1000mg)	Glimiprime-M Forte	Primus Remedies	95.00	10	10.52
		Glimitoss-M Forte Tab	Minitoss Medicines	85.00		
GLIPIZIDE	TAB 5mg	Dibizide	Micro Labs	4.55	2.7	37.24
		Glibetic	La Pharma	5.05		
		Glide	Franco-Indian	7.25		
GLIPIZIDE+ METFORMIN	TAB (5mg+ 500mg)	Dior-Gp	Sain Medicaments	15.00	3.36	22.4
		Glibetic-Mf	La Pharma	11.64		
		Glimet-Ds	Franco-Indian	14.90		
METFORMIN	TAB 250mg	Glynase	Usv	16.85	9.15	54.30
		Diafer	East West	9.77		
		G-Met	East West	7.70		
		Glyciphage	Franco-Indian	11.53		
		Glycomet	Usv	14.29		
METFORMIN	TAB 500mg	Diafer	East West	14.60	15.6	78
		Dior	Sain Medicaments	10.80		

		Etmin	Kardic Kare	15.00		
		Forminal	Alembic	4.40		
		Metsig	Signova	19.03		
		Mr-Met	Akesiss	19.25		
		Mthl	Regardia	16.00		
		Q-Met	Q Check	18.13		
		Uvm	Uvkan	20.00		
METFORMIN	TAB 850mg	Forminal	Alembic	11.12	25.17	69.35
		G-Met Forte	East West	14.90		
		Glycomet	Usv	36.29		
METFORMIN	TAB 100mg	Metsig	Signova	35.65	2.6	6.84
		Uvm	Uvkan	38.00		
		Zulip	Corazon	35.40		
METFORMIN	TAB 1g	Mesite-Xr	Sanofi	31.65	1.35	4.09
		Mr-Met	Akesiss	33.00		
PIOGLITAZONE	TAB 15mg	Diavista	Dr.Reddy's	18.46	61.44	76.89
		Fenglit	Fenestra	79.90		
		Geoglit	Abs	19.00		
		Pio-Q	Q Check	39.45		
PIOGLITAZONE	TAB 7.5 mg	Pioglar	Ranbaxy	66.50	26.67	37.73
		Pioglaz	East West	44.00		
		Pioz	Usv	70.67		
		Pozitiv	Franco-Indian	58.00		
PIOGLITAZONE	TAB 30mg	Fenglit	Fenestra	91.90	62.9	68.44
		Diavista	Dr.Reddy's	39.65		
		Geoglit	Abs	29.00		
		Pio-Q	Q Check	49.00		
		Piodart	Biocon	64.12		
		Piosys	Systopic	81.00		
		Piozed	Ipca	75.90		
		Radizone	Radicura	64.80		
PIOGLITAZONE + GLIMEPRIDE	TAB (15mg +2mg)	Glimy-P	Dr.Reddy's	68.50	1.82	2.58
		Pozitiv-G	Franco-Indian	70.32		
PIOGLITAZONE +METFORMIN	TAB (15mg +500mg)	Diavista-M	Dr.Reddy's	61.00	23	27.38
		Pioglar-M	Ranbaxy	84.00		
PIOGLITAZONE + METFORMIN (SR)	TAB(30mg+ 500mg)	Cetapin-P	Sanoti Aventis	83.19	3.01	3.49
		Mefomin-P	Macleods	86.20		
REPAGLINIDE	TAB 0.5mg	Page	Orchid	22.00	46	67.64
		Q-Repa	Q-Check	39.50		
		Regan	Ranbaxy	29.00		

		Restrict	East West	68.00		
REPAGLINIDE	TAB 1mg	Page	Orchid	44.00	51	53.68
		Q-Repa	Q-Check	47.00		
		Regan	Ranbaxy	48.00		
		Resrict	East West	95.00		
REPAGLINIDE	TAB 2mg	Q-Repa	Q-Check	78.00	46.8	60
		Regan	Ranbaxy	80.01		
		Restrict	East West	124.80		
VILDAGLIPTIN	TAB 50mg	Bluglip	Blue Cross	52.50	109.1	68.61
		Gliptagreat	Mankind	49.90		
		Intaglip	Intas	82.00		
		Vildalog	Wockhardt	159.00		
		Vildasmile	Njk Pharma	149.00		
VOGLIBOSE	TAB 0.2mg	Bogli	Sarian	59.00	40.8	57.87
		Coravog	Corazon	60.00		
		Kardem	Kardic Kare	66.00		
		Legli	Lifecare	62.00		
		O-Berry	Shrrishti-Hc	45.00		
		Posmeal-Md	Torrent	70.50		
		V-Top	Ontop	29.70		
		Voglem	Alde Medi	63.00		
		Voglitas	Signova	65.70		
		Vogs	Systopic	21.00		
		Volpost	Cadell	45.00		
		Vosemet	Medihealth	58.00		
VOGLIBOSE+ METFORMIN(SR)	TAB (0.2mg +500mg)	Vogin-Mf	Divine Savior	66.00	52.43	48.54
		Voglem-M	Alde Medi	55.57		
		Voglicad-M	Cadomed	59.00		
		Voglimac-Mf	Macleods	108.00		
VOGLIBOSE + METFORMIN HCL	TAB (0.3mg +500mg)	Formin-V	Beulah	119.99	108.12	63.6
		O-Berry-M	Shrrishti Hc	68.00		
		Prandial-M	Cipla	61.88		
		Vogin-Mf	Divine Savior	69.00		
		Voglis-M	Elis Pharma	170.00		

Table-05 displays the tabulated price difference and cost savings % of various medications under the category of anti-diabetic drugs.

Metformin and Glibenclamide works as an anti-diabetic drug. Sanoli Medications sells a tablet containing 500 mg of metformin and 5 mg of glibenclamide under the brand name Daonil-m

for Rs. 83.47 per unit, whereas Winmedicare sells the identical formulation under the name Glycurb forte for Rs. 13.00 per unit. Therefore, cost savings of up to 84.42% could be obtained by prescribing the later.
Similar to this, by prescribing the least expensive brands of this class of medications (anti-diabetic medicines), at least 4.09% of the cost should be avoided.

TABLE 6: ComparisonOfPricesOfDifferentBrandsOfAnti-Thyroid Drugs

DRUGS	DOSE AND FORM	BRAND	COMPANY	PRICE RS-PS	PRICE DIFFERENCE RS-PS	COST SAVINGS %
CARBIMAZOLE	TAB.5mg	Anti-Thyrox Thyrocab	Macleods Abbott	208.32 207.26	1.06	0.51
CARBIMAZOLE	TAB.10mg	Anti-Thyrox Thyrocab	Macleods Abbott	415.30 403.80	11.5	2.77
CARBIMAZOLE	TAB.20mg	Anti-Thyrox Thyrocab	Macleods Abbott	1058.00 942.48	115.52	10.91

Table 06 displays the tabulated price difference and cost savings % of several medications under the category of anti-thyroid drugs.
One anti-thyroid medication is carbimazole. Macleods is the manufacturer of a 20 mg carbimazole tablet, marketed as ANTI-THYROX, and Abbott is the manufacturer of the same formulation, marketed as THYROCAB, costing Rs. 942.48 a unit.Therefore, cost savings of up to 10.91% could be obtained by prescribing the later.
Similarly, by prescribing the least expensive brands of this class of medications (anti-thyroid medicines), at least 0.51% of the cost might be avoided.

TABLE 7: ComparisonOfPricesOfDifferentBrandsOfAnti-cancer Drugs

DRUGS	DOSE AND FORM	BRAND	COMPANY	PRICE RS-PS	PRICE DIFFERENCE RS-PS	COST SAVINGS %
BUSULFAN	TAB.2mg	Busulmax Myleran	GLS PHARMA GSK	162.00 114.00	48.00	29.62
CAPECITABINE	TAB.500 mg	Capciwin Capiibine	BPRL Dr.Reddy's	1231.34 1127.11	104.23	8.46
CAPECITABINE	TAB.500 mg	Es-Cap Captain	Esperer Bioresearch Feron Healthcare	1172.00 1260.00	88.00	6.98

CARBOPLATIN	INJ.150mg /15ML	Es-Carbo Neocarb Inj	Esperer Bioresearch BPRL	811.00 777.74	33.26	4.101
CARBOPLATIN	INJ.450mg/45ML	Es-Carbo Neocarb Inj	Esperer Bioresearch BPRL	2433.00 2333.21	99.79	4.101
CISPLATIN	INJ.50mg/ 5ML	Celplat Cismax	Celon La Renon	333.00 350.00	17	4.85
CYCLOPHOSPHAMIDE	INJ.1g/1ML	Cyphos Endoxan-Asta	Getwell Zydus	108.00 158.73	50.73	31.959
CYCLOPHOSPHAMIDE	INJ.200mg	Cyphos Endoxan-Asta	Getwell Zydus	33.00 60.30	27.3	45.273
CYCLOPHOSPHAMIDE	INJ.500mg	Cyphos Endoxan-Asta	Getwell Zydus	82.00 72.00	10	12.19
DOCETAXEL	INJ.20mg	Docemax Docetere	GLS PHARMA Dr.Reddy's	3051.00 3840.80	789.8	20.563
DOCETAXEL	INJ.20mg	Es-Doce Taxewell-Rtu	Esperer Bioresearch Getwell	2777.00 2900.00	123	4.24
DOCETAXEL	INJ.20mg	Taxotere Wintaxel	Sanofi Aventis BPRL	5529.00 3040.00	2489	45.01
DOCETAXEL	INJ.80mg	Docemax Docetere	GLS PHARMA Dr.Reddy's	11560.00 11760.00	200	1.70
DOCETAXEL	INJ.80mg	Es-Doce Taxewell-Rtu	Esperer Bioresearch Getwell	10550.00 8950.00	1600	15.16
DOCETAXEL	INJ.80mg	Taxotere Wintaxel	Sanofi Aventis BPRL	21111.00 7515.00	13596	64.40
DOCETAXEL	INJ.120mg	Docemax Docetere	GLS PHARMA Dr.Reddy's	14916.00 15378.00	462	3.00
DOCETAXEL	INJ.120mg	Taxewell-Rtu Wintaxel	Getwell BPRL	12400.00 11169.00	1231	9.92

DOXORUBICIN	INJ.20mg	I-Dox Pelodox	Getwell BPRL	3625.00 7600.00	3975	52.30
ETOPOSIDE	CAP.50mg	Etopa Etovel	Getwell GLS PHARMA	476.00 442.00	34	7.14
ETOPOSIDE	INJ.100mg	Etopa Etovel	Getwell GLS PHARMA	196.00 182.00	14	7.14
GEMCITABINE	INJ.1g	Cytogem Es-Gem	Dr.Reddy's Esperer Bioresearch	5923.98 4992.00	931.98	15.732
GEMCITABINE	INJ.1g	Gemacta Gemwel	Macleods Getwell	3700.00 5814.00	2114	36.36
GEMCITABINE	INJ.200mg	Cytogem Es-Gem	Dr.Reddy's Esperer Bioresearch	1284.03 1435.00	150.97	10.520
GEMCITABINE	INJ.200mg	Gemacta Gemget	Macleods GLS PHARMA	865.37 1170.00	304.63	26.036
HYDROXYCARBAMIDE	CAP.500mg	Droxiget Hydreo	GLS PHARMA Knoll	122.00 126.31	4.31	3.412
IFOSFAMIDE	INJ.1g	Es-Fos Ipoget	Esperer Bioresearch GLS PHARMA	321.00 493.00	172	34.88
METHOTREXATE	TAB.5mg	Beltrax Dermotrex	NeeSee East West	76.00 82.50	6.5	7.878
METHOTREXATE	TAB.2.5mg	Dermotrex Mexate	East West Zydus	47.39 19.65	27.74	58.535
METHOTREXATE	TAB.7.5mg	Dermotrex Imutrex	East West Cipla	114.24 121.90	7.66	6.283
METHOTREXATE	TAB.10mg	Imutrex Mexate	Cipla Zydus	50.16 73.33	23.17	31.596
MITOMYCIN	INJ.2mg	Mito Mitomycin	Neon Labs Zydus Cadila	135.00 172.23	37.23	21.616
MITOMYCIN	INJ.10mg	Mito Mitomycin	Neon Labs Zydus Cadila	450.00 540.00	90	16.66

OXALIPLATIN	INJ.50mg	Dacotin Oxalimax	Dr.Reddy's GLS PHARMA	2670.50 2250.00	420.5	15.746
OXALIPLATIN	INJ.100mg	Dacotin Oxalimax	Dr.Reddy's GLS PHARMA	4787.90 4400.00	387.9	8.101
PACLITAXEL	INJ.30mg	Betaxel Mitotax	BPRL Dr.Reddy's	1087.17 1681.00	593.83	35.325
PACLITAXEL	INJ.30mg	Pacget Pacliwel	GLS PHARMA Getwell	1134.00 1223.00	89	7.27
PACLITAXEL	INJ.100mg	Adpaxil Betaxel	Adley BPRL	3630.00 3631.15	1.15	0.031
PACLITAXEL	INJ.100mg	Es-Pacli Mitotax	Esperer Bioresearch Dr.Reddy's	3452.00 4077.32	625.32	15.336
PACLITAXEL	INJ.100mg	Pacget Pacliwel	GLS PHARMA Getwell	3900.00 4085.00	185	4.52
PACLITAXEL	INJ.260mg	Betaxel Es-Pacli	BPRL Esperer Bioresearch	10550.00 12500.00	1950	15.60
PACLITAXEL	INJ.260mg	Pacget Pacliwel	GLS PHARMA Getwell	9560.00 9400.00	160	1.67
PACLITAXEL	INJ.300mg	Mitotax Pacliwel	Dr.Reddy's Getwell	10875.00 11595.00	720	6.20
ANASTROZOLE	TAB.1mg	Anstac Antreol	BPRL Knoll	550.00 350.00	200	36.36
FLUTAMIDE	TAB.250mg	Cytomid Drogenil	Cipla Fulford	141.74 2364.90	2223.16	94.006
LETROZOLE	TAB.2.5mg	Arohin Letrigo	Grace Fenestra	184.99 164.89	20.1	10.865
LETROZOLE	TAB.2.5mg	Letromac Letronol	Macleods Knoll	169.00 175.00	6	3.42

LETROZOLE	TAB.2.5mg	Myletro Oreta	Moruf Life Sciences Dr.Reddy's	398.00 385.00	13	3.26
INTERFERON ALFA-2B	IMJ.3MIU	Shanferon Viraferon	Shantha Biotech Fulford	892.85 1785.40	892.55	49.991
INTERFERON ALFA-2B	INJ.5MIU	Shanferon Viraferon	Shantha Biotech Fulford	1345.00 2835.60	1490.6	52.567
THALIDOMIDE	CAP.50mg	Thaloda Thycad	Alkem Cadila	322.02 268.03	53.99	16.766
THALIDOMIDE	CAP.100mg	Thaloda Thycad	Alkem Cadila	620.57 491.96	128.61	20.724
BORTEZOMIB	INJ.2mg	Bortiva Bortrac	GLS PHARMA Glenmark	12495.00 4315.00	8180	65.46
BORTEZOMIB	INJ.2mg	Es-Borte Neomib	Esperer Bioresearch Getwell	11400.00 3228.00	8172	71.68
BORTEZOMIB	INJ.3.5mg	Bortrac Neomib	Glenmark Getwell	16900.00 7571.00	9329	55.20
GEFITINIB	TAB.250 mg	Es-Gef Ultragef	Esperer Bioresearch BPRL	9500.00 2500.00	7000	73.68
IMATINIB	TAB.400 mg	Es-Matinib Imatiwin	Esperer Bioresearch BPRL	2133.00 2100.00	33	1.54
GRANISETRON	TAB.1mg	Granexa Granicip	Macleods Cipla	16.12 92.00	75.88	82.478
PALONOSETRON	INJ.0.25mg	Es-Palono Palzen	Esperer Bioresearch Dr.Reddy's	150.00 140.00	10	6.66
ONDANSETRON	SYR.2mg/5Ml	Emitino Vomikind	Cachet Mankind	35.32 33.81	1.51	4.275
ONDANSETRON	INJ.4mg/2ml	Emitus Supracetron	ICARUS Active Hc	12.81 15.25	2.44	16

ONDANSETRON	TAB.4mg	Osetron Vomiven	Dr.Reddy's Madhav Biotech	34.00 30.00	4	11.76
ONDANSETRON	TAB.4mg	Vomiz Zonda	Zydus Zota	40.41 42.86	2.45	5.716

Table 07 displays the tabulated price difference and cost savings % of various medications under the category of anti-cancer drugs.

FLUTAMIDE is a treatment for cancer. The same formulation of FLUTAMIDE is produced by Cipla under the brand name CYTOMID @Rs.141.74/-(per unit), and Fulford manufactures A250mg Tablets under the brand name DROGENIL @Rs.2364.90/-(per unit).Therefore, cost savings of up to 94.006% could be obtained by prescribing the later.

Similarly, by prescribing the least expensive brands of this class of medications (anti-cancer agents), at least 0.031% of the cost might be avoided.

Discussion:

Drug cost economic analysis across several therapeutic categories is a challenging and important task with broad ramifications. Pharmaceutical expenses account for a sizable portion of healthcare spending, and decision-makers in the field must comprehend how these costs range for various therapeutic specialties. This type of analysis can shed light on pricing differences and the market dynamics and economic drivers that are responsible for them. Policymakers must use this data to guide their decisions about reimbursement schemes, pricing controls, and the distribution of healthcare resources. All things considered, a thorough economic examination of prescription pricing is essential to our attempts to create more effective, fair, and long-lasting healthcare systems, guaranteeing that patients may obtain the drugs they require without suffering unnecessarily high expenses.

Evidences from the results obtained includes:

- **Anti-Anginal Drugs:**
  By recommending the inexpensive alternative brand, Amlodipine Tab -10mg costs could be reduced by up to 36.90%. Similarly, by recommending their least expensive alternative brands, 34.02% might be saved on Diltiazem Tab.90mg.
- **Anti-Convulsant Drugs:**
  By using the less expensive brand of Phenytoin Tab -50mg, prescription costs could be reduced by up to 36.91%. Similar savings of 34.5% on Clobazam Tab.5mg might be obtained by recommending their least expensive substitute brands.
- **Anti-Psycoyic Drugs:**
  By using the less expensive brand of loxapine tab-10mg, prescription costs could be reduced by up to 65.51%.
- **Anti-Parkinsonian Drugs:**
  By using the less expensive brand, Carbidopa+ Levodopa Tab-25 mg+100 mg could be prescribed for up to 43.37% less. Likewise, by recommending their least expensive substitute brands, 33.90% might be saved on Trihexyphenidyl Tab.2mg.
- **Anti-Diabetic Drugs:**
  By using the less expensive brand, Glibenclamide + Metformin Tab-5 mg + 500 mg could be prescribed for up to 84.42% less money.
- **Anti-Thyroid Drugs:**
  By using the less expensive brand of carbimazole tabs (20 mg), prescription costs could be reduced by up to 10.91%.

❖ **Anti-cancer Drugs:**

By using the less expensive brand, Flutamide Tab-250mg, prescription costs could be reduced by up to 94.006%

FIGURE 01: Cost Comparison Between Different Brands For Anti-Anginal Drugs (Amlodipine Tab -10mg).

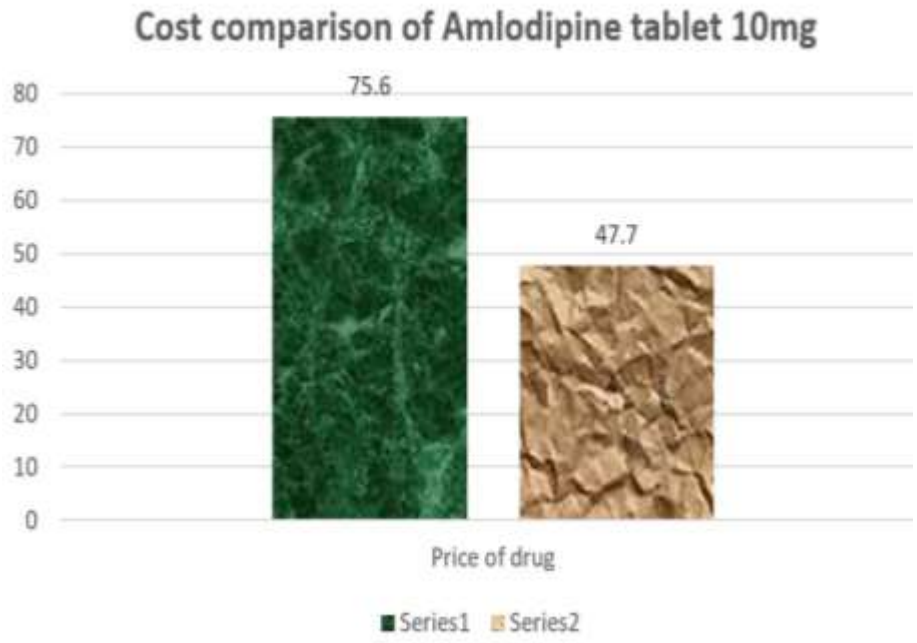


FIGURE 02: Cost Comparison Between Different Brands For Anti-Convulsant Drugs (Phenytoin Tab-50mg)

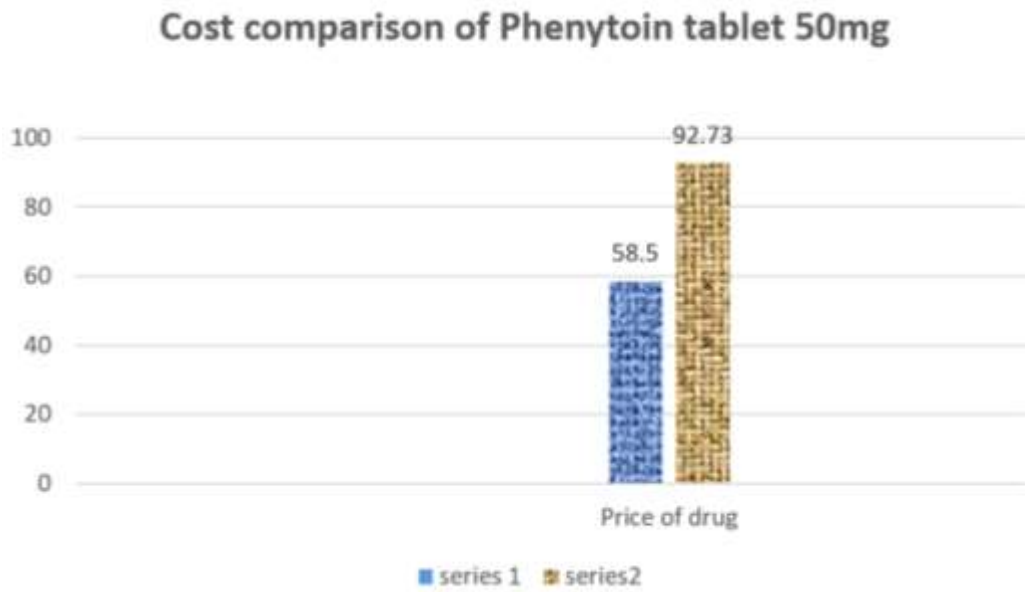


FIGURE 03: Cost Comparison Between Different Brands For Anti-Psycoyic Drugs (Loxapine Tab-10mg)

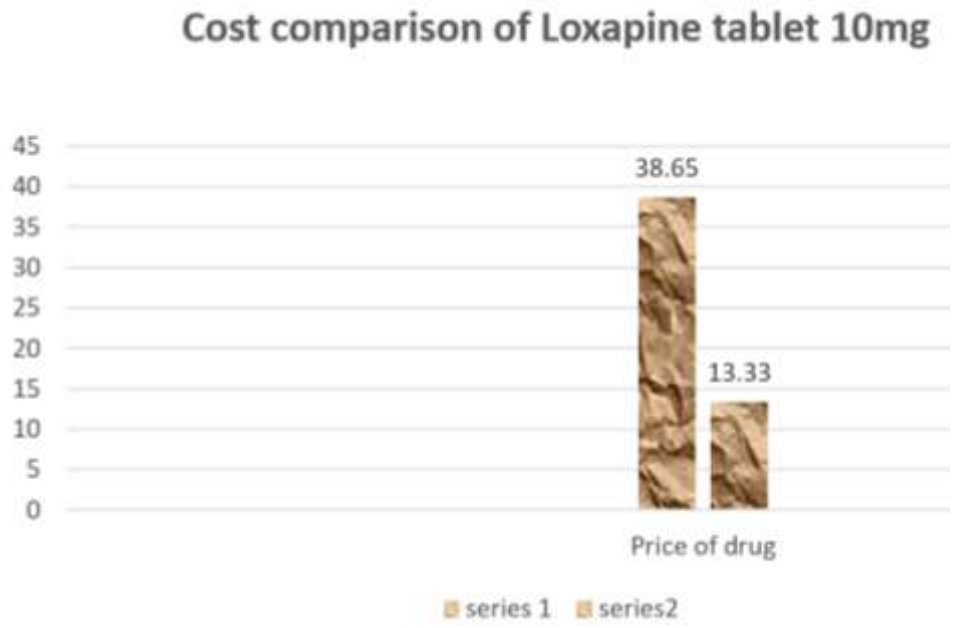


FIGURE 04: Cost Comparison Between Different Brands For Anti-Parkinsonian Drugs (Carbidopa+ Levodopa Tab-25mg+100mg)

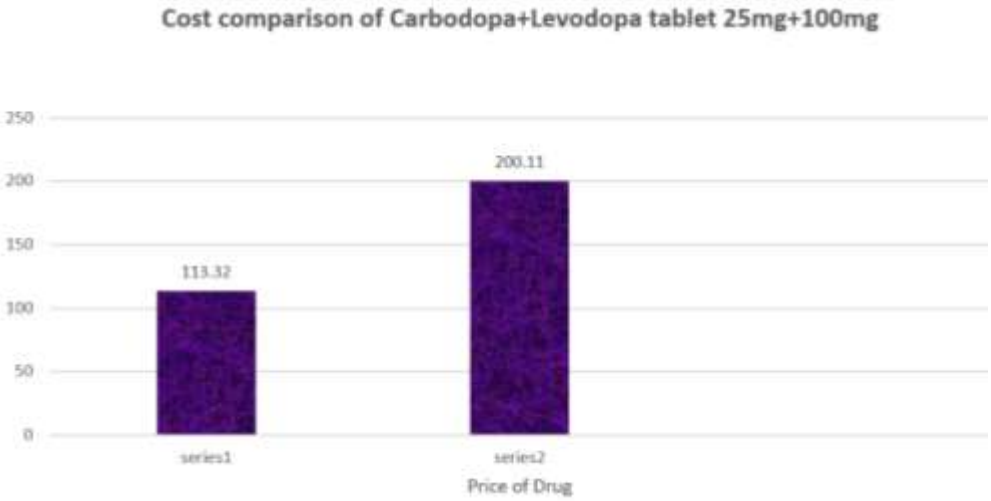


FIGURE 05: Cost Comparison Between Different Brands For Anti-Diabetic Drugs (Glibenclamide + Metformin Tab-5mg+500mg)

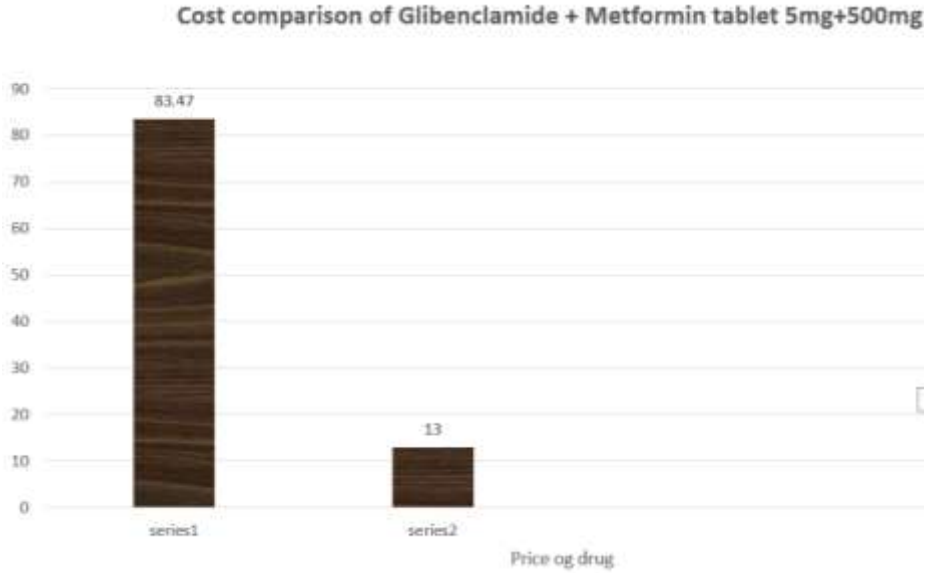


FIGURE 06: Cost Comparison Between Different Brands For Anti-Thyroid Drugs (Carbimazole Tab- 20mg)

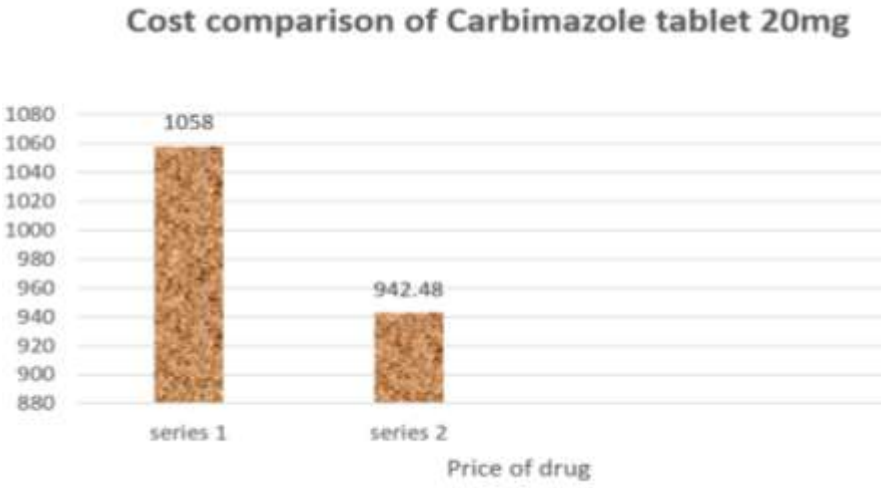
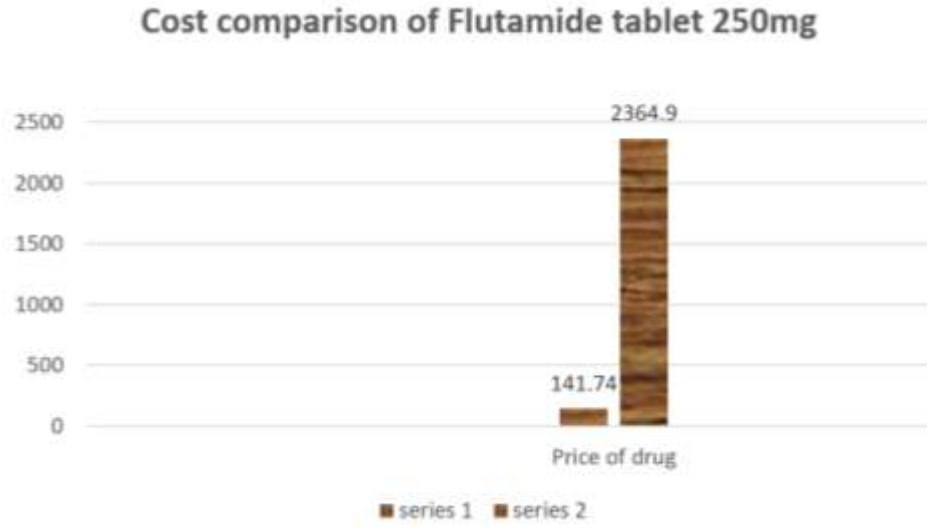


FIGURE 07: Cost Comparison Between Different Brands For Anti-Cancer Drugs (Flutamide Tab- 250mg)



Conclusion:

According to the study results, prescription the lowest cost products instead of the highest expensive brand might save a minimum of 0.04% and a maximum of 94.006% in costs. This study provides unambiguous evidence for reducing prescription costs, making them affordable for patients with modest incomes. The use of these findings may undoubtedly increase the availability of medications for society's most vulnerable members. lessens the financial strain on medical professionals, hospitals, patients, health-care systems, and society at large.

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