

MARKET RESEARCH AND TREND ANALYSIS WITH REFERENCE TO CARDIAC DRUGS (BETA BLOCKERS)

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The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in

Pharmaceutical Management

by

Tanushree Mohan Charde

Under the Supervision and Guidance of

Dr. Sudhinder Singh Chowhan

2025

CERTIFICATE

This is to certify that Tanushree Mohan Charde in partial fulfilment of the requirements for the award of the degree of **MBA (Pharmaceutical Management)** from the **IIHMR University, Jaipur** successfully completed her internship at IIHMR University during Mar 10-May 31, 2025.

A handwritten signature in black ink, appearing to read 'Sudhindher Singh Chowhan'.

Dr. Sudhindher Singh Chowhan

Associate Professor

IIHMR University, Jaipur

Place: *Jaipur*

Date: *19/06/2025*

CERTIFICATE

This is to certify that dissertation title **“market research and trend analysis with reference to cardiac drugs (beta blockers)”** Is a record of research work undertaken by **Tanushree Mohan Charde** in a partial fulfilment for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur has successfully completed his internship at IIHMR University, Jaipur during Mar 25 May 25, 2025. His approach to research study has been sincere, scientific and analytical.

Faculty

A handwritten signature in black ink, appearing to be 'Santosh'.

Place: IIHMR University, Jaipur

Date: 18.06.2025

School Dean

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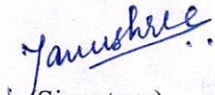
Place: IIHMR University, Jaipur

Date: 18.06.2025

Appendix D: Declaration by Student

DECLARATION BY STUDENT

I hereby declare that this dissertation titled Market Research And Trend Analysis With Reference To Cardiac Drugs (Beta Blockers) 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.


(Signature)

Tanushree M.

Charde

Date

ABSTRACT

Cardiovascular diseases (CVDs) are among the leading causes of mortality in India, contributing significantly to the growing demand for effective cardiac medications. Beta-blockers, a cornerstone in the treatment of various cardiovascular conditions such as hypertension, angina, arrhythmias, and heart failure, continue to hold substantial clinical and commercial importance. This dissertation investigates the market landscape of beta-blocker drugs in India, with a specific focus on Maharashtra, through detailed market research and trend analysis. The study aims to understand the prevailing prescription patterns, competitive brand dynamics, pricing structures, and influencing factors behind the stocking and sale of beta-blocker medications.

Primary data was collected through a structured questionnaire distributed to retail pharmacists, alongside secondary data from reliable industry sources. The findings reveal that Metoprolol and Atenolol dominate the market due to their affordability, clinical efficacy, and physician preference. Newer beta-blockers such as Bisoprolol and Nebivolol are gradually gaining market share, particularly in specialist-driven prescriptions, though they face challenges related to cost and limited awareness among general practitioners. The role of distribution efficiency, prescriber influence, and retail profit margins emerged as key determinants in brand selection and availability.

The study also highlights pricing trends, noting that while 40% of beta-blockers have seen price reductions due to competitive pressures and regulatory controls, around 30% have experienced price hikes, largely among newer or premium brands. Overall, the beta-blocker market shows consistent growth, driven by the rising burden of heart disease and greater access to healthcare. This research concludes that companies operating in this segment must adopt a balanced strategy that integrates clinical value, prescriber engagement, pricing agility, and robust distribution networks to sustain and grow in an increasingly competitive and regulated market environment.

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CHAPTER:1

INTRODUCTION

Cardiovascular diseases (CVDs) have emerged as a major public health concern globally, and more critically in developing countries like India, where the burden is increasing at an alarming rate (World Health Organization [WHO], 2021). Among the various pharmacological agents used in the treatment and management of cardiac conditions, beta-adrenergic blockers—commonly known as beta-blockers—occupy a central role. These medications are primarily indicated for hypertension, ischemic heart disease (including angina), arrhythmias, myocardial infarction, and chronic heart failure (Yusuf et al., 2000). Beta-blockers function by competitively inhibiting beta-adrenergic receptors in the heart and vasculature, thereby reducing the effects of catecholamines such as adrenaline. This results in a decreased heart rate, lower myocardial contractility, and reduced oxygen demand, ultimately improving cardiac efficiency and patient outcomes (Frishman, 2007).

Beta-blockers are a group of cardiovascular medications mainly used to treat conditions such as hypertension, angina, heart failure, and arrhythmias. These medications function by inhibiting the effects of adrenaline, which helps lower heart rate and blood pressure while enhancing heart performance. This overview examines the current market situation, emerging trends, key drivers, challenges, and future outlook for beta-blockers in the pharmaceutical sector.

As cardiovascular diseases (CVDs) continue to be a leading cause of morbidity and mortality worldwide, the market for beta-blockers remains robust, with increasing demand driven by aging populations, lifestyle-related risk factors, and advancements in drug formulations..

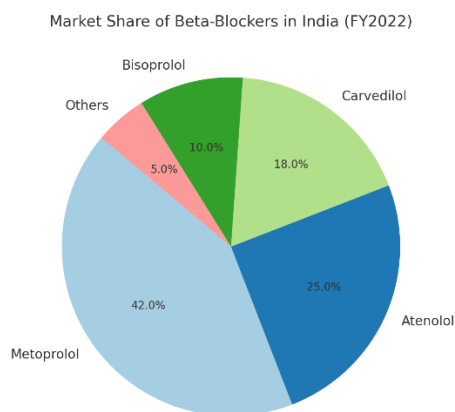


Chart1:Market share of beta blocker in India (FY2022)

In the Indian healthcare scenario, the demand for beta-blockers has been on the rise, mirroring the growing prevalence of lifestyle-related cardiac disorders. With India accounting for a significant share of the global cardiovascular disease burden, the strategic importance of cardiac therapeutics has come to the forefront (Gupta et al., 2016). Several factors contribute to this trend, including increasing urbanization, sedentary behavior, rising stress levels, dietary indiscretions, smoking, alcohol consumption, and a surge in non-communicable comorbidities like diabetes and obesity (Reddy et al., 2005). As a result, beta-blockers have become an integral component of clinical protocols for

cardiac care across the country.

India's pharmaceutical industry, recognized globally for its robust generic drug manufacturing capabilities, plays a critical role in the availability and affordability of beta-blockers (PwC India, 2020). Numerous domestic pharmaceutical companies market a diverse range of beta-blockers, including cardioselective agents (such as atenolol, metoprolol, bisoprolol) and non-selective agents (such as propranolol and carvedilol). In addition, the market has seen increased adoption of fixed-dose combinations (FDCs) that incorporate beta-blockers with other antihypertensive or diuretic agents to enhance patient compliance and therapeutic outcomes (IMS Health, 2020).

This dissertation, titled "*Market Research and Trend Analysis with Reference to Cardiac Drugs (Beta-Blockers)*", seeks to explore the evolving landscape of beta-blockers within the Indian pharmaceutical market. The study undertakes a comprehensive analysis of key market dynamics, emerging trends, and strategic factors influencing the usage and perception of beta-blockers in India. The research is structured around the following core areas:

- **Market Dynamics:** Detailed evaluation of demand and supply trends, consumption patterns across Indian regions, growth projections, therapeutic segment analysis, and cost competitiveness of various formulations (Market Research Future, 2021).
- **Pharmaceutical Marketing Strategies:** Assessment of brand promotion activities, competitive positioning, prescription behavior, doctor engagement, and market penetration tactics employed by leading pharmaceutical players (AIOCD-AWACS, 2021).
- **Regulatory Environment:** Analysis of regulatory frameworks, including the role of the Central Drugs Standard Control Organization (CDSCO), price regulation under the National Pharmaceutical Pricing Authority (NPPA), and inclusion of beta-blockers under the National List of Essential Medicines (NLEM) (Ministry of Health and Family Welfare, 2022).
- **Clinical Efficacy and Patient Compliance:** Examination of comparative clinical performance, adverse effect profiles, real-world effectiveness, and patient adherence challenges, particularly in rural and economically constrained populations (Khatib et al., 2019).
- **Innovation and Future Outlook:** Identification of trends such as the development of third-generation beta-blockers, research on novel delivery mechanisms, integration with digital therapeutics, and the potential of personalized medicine in cardiology (Krittawong et al., 2021).
- **Brand-Level Competition:** Comparative review of major beta-blocker brands available in India, including market share analysis, physician preference patterns, and brand loyalty drivers (Pharmatrac, 2022).

Through a multidimensional approach that encompasses clinical, commercial, and regulatory aspects, this dissertation aims to provide actionable insights into the beta-blocker segment of the Indian pharmaceutical market. The findings are expected to aid healthcare professionals, pharmaceutical marketers, regulatory authorities, and policy-makers in making informed decisions that align with patient needs, industry goals, and national health priorities.

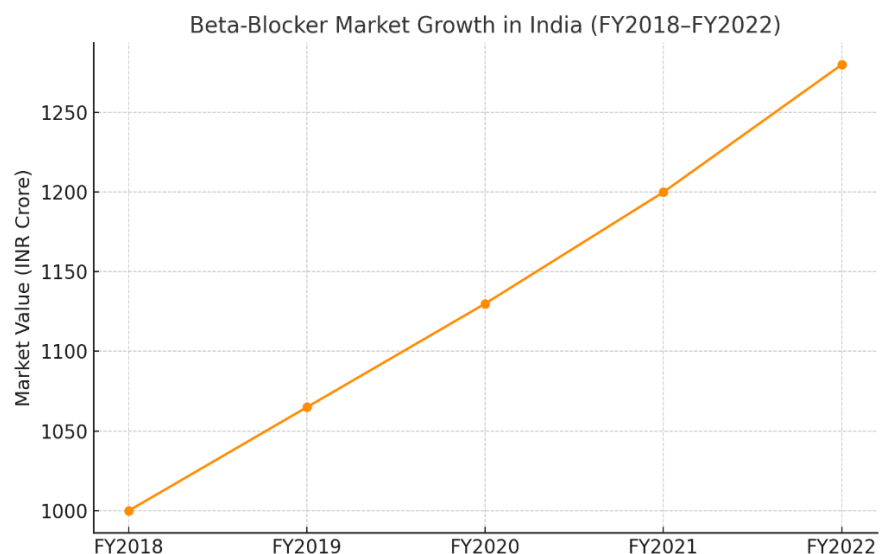


Chart2: Beta-Blocker market growth in India(FY 2018-2022)

Interpretation: The Beta Blocker segment in Indian pharmaceutical market is experiencing healthy growth ,highlighting its critical role in managing cardiovascular conditions and reflecting broader trends in healthcare needs and patient behavior.

Classification of Cardiac Drugs

Category	Subcategory	Examples
1. Drugs for Heart Failure (CHF)	Cardiac Glycosides	Digoxin, Digitoxin
	Phosphodiesterase-3 Inhibitors	Inamrinone, Milrinone
	β-Adrenergic Agonists	Dobutamine, Dopamine
	Vasodilators	Nitroglycerin, Hydralazine, Sodium Nitroprusside
	ACE Inhibitors (RAAS Modulators)	Enalapril, Ramipril, Lisinopril
	Angiotensin Receptor Blockers (ARBs)	Losartan, Valsartan
	Aldosterone Antagonists	Spironolactone, Eplerenone
	Neprilysin Inhibitors (ARNI)	Sacubitril + Valsartan
	β-Blockers for CHF	Carvedilol, Metoprolol
2. Antiarrhythmic Drugs	Class I: Na⁺ Channel Blockers	IA: Quinidine, Procainamide

Category	Subcategory	Examples
		IB: Lidocaine, Mexiletine
		IC: Flecainide, Propafenone
	Class II: β-Blockers	Propranolol, Metoprolol, Esmolol
	Class III: K⁺ Channel Blockers	Amiodarone, Sotalol, Dronedarone
	Class IV: Ca²⁺ Channel Blockers	Verapamil, Diltiazem
	Other Antiarrhythmic Drugs	Adenosine, Digoxin
3. Antianginal Drugs (IHD)	Nitrates	Nitroglycerin, Isosorbide Dinitrate
	β-Blockers	Propranolol, Atenolol, Metoprolol
	Ca²⁺ Channel Blockers	DHPs: Amlodipine, Nifedipine
		Non-DHPs: Verapamil, Diltiazem
	K⁺ Channel Activators	Nicorandil
	Metabolic Modifiers	Trimetazidine, Ranolazine
	Antiplatelets	Aspirin, Clopidogrel
4. Antihypertensive Drugs	Diuretics	Hydrochlorothiazide, Furosemide, Spironolactone
	β-Blockers	Atenolol, Metoprolol, Propranolol
	Ca²⁺ Channel Blockers	Amlodipine, Nifedipine, Verapamil
	ACE Inhibitors	Enalapril, Ramipril, Lisinopril
	ARBs	Losartan, Valsartan
	Centrally Acting Drugs	Clonidine, Methyldopa
	α-Blockers	Prazosin, Doxazosin
	Direct Vasodilators	Hydralazine, Minoxidil
5. Antihyperlipidemic Drugs	Statins (HMG-CoA Reductase Inhibitors)	Atorvastatin, Rosuvastatin
	Fibrates	Fenofibrate,

Category	Subcategory	Examples
		Gemfibrozil
	Bile Acid Sequestrants	Cholestyramine, Colestipol
	Cholesterol Absorption Inhibitors	Ezetimibe
	PCSK9 Inhibitors	Evolocumab, Alirocumab
6. Antithrombotic Drugs	Antiplatelets	Aspirin, Clopidogrel, Ticagrelor
	Oral Anticoagulants	Warfarin, Dabigatran, Rivaroxaban
	Heparins	UFH, LMWH (Enoxaparin)
	Fibrinolytics/Thrombolytics	Streptokinase, Alteplase

CHAPTER:2

Review Of Literature

1. **World Health Organization (2021)**
The WHO provides data on the global and Indian burden of cardiovascular diseases (CVDs), highlighting CVDs as the leading cause of mortality. Their fact sheets are instrumental in contextualizing the growing need for cardiac therapies like beta-blockers.
2. **Yusuf et al. (2000)**
This landmark study in *The New England Journal of Medicine* established the role of ACE inhibitors and beta-blockers in reducing cardiovascular events, forming a clinical basis for widespread beta-blocker use.
3. **Frishman (2007)**
Offers a historical perspective on beta-blockers, discussing their development, evolution, and clinical efficacy over 50 years. It supports the therapeutic importance of beta-blockers in CVD management.
4. **Gupta et al. (2016)**
An epidemiological study highlighting trends in coronary heart disease in India, reinforcing the need for preventive and therapeutic cardiac medications such as beta-blockers.
5. **Reddy et al. (2005)**
Examines the relationship between educational status and cardiovascular risk in India. It indirectly underscores the need for accessible treatments like affordable beta-blockers in lower socioeconomic segments.
6. **Khatib et al. (2019)**
A systematic review of barriers to hypertension treatment. This supports the case for beta-blockers' affordability and accessibility to improve compliance and treatment outcomes in Indian settings.
7. **Krittawong et al. (2021)**
Discusses the integration of machine learning in cardiology. While futuristic, it points to the potential for better-targeted therapy using cardio-selective beta-blockers.
8. **Market Research Future (2021)**
Projects growth trends in the global beta-blocker market, useful for understanding demand dynamics, innovation potential, and competitive landscapes.
9. **IMS Health (2020)**
Provides performance metrics for the cardiovascular drug segment, showing prescription volumes and growth rates for beta-blockers in India.
10. **Pharmatrac (2022)**
Supplies detailed sales and market share data of beta-blocker brands in India, crucial for analyzing brand-level competition and prescribing trends.
11. **PwC India (2020)**
Offers insights into India's pharmaceutical landscape, pricing pressures, and regulatory challenges, aiding strategic understanding of beta-blocker market trends.
12. **Ministry of Health and Family Welfare (2022)**
Their NLEM inclusion of beta-blockers emphasizes their essential role in public healthcare and regulatory pricing strategies.

13. **IBEF (2023)**
Highlights India's pharmaceutical industry growth, focusing on generics and affordability—important in the context of widespread beta-blocker use.
14. **UN (2022)**
Demographic projections emphasizing India's aging population, underscoring the increasing need for chronic cardiovascular medications like beta-blockers.
15. **Bose & Jain (2020)**
Discusses urbanization's impact on CVDs, highlighting lifestyle-related disease increases and the resulting demand for cardiac medications.
16. **Chauhan & Patel (2021)**
Focuses on rising healthcare awareness, which correlates with increasing prescriptions for preventive and chronic disease medications, including beta-blockers.
17. **Kaur & Singh (2020)**
Reviews pharmaceutical regulatory frameworks in India, particularly how beta-blockers are regulated under price control and essential medicine lists.
18. **Kumar (2022)**
Explores cardiovascular drug market trends, reinforcing the competitive, price-sensitive, and brand-driven nature of the beta-blocker segment.
19. **Patel (2021)**
Analyzes challenges in India's pharmaceutical generics market, including pricing, counterfeiting, and competition—relevant for understanding market risks for beta-blockers.
20. **AIOCD-AWACS (2021)**
Offers detailed market analytics of India's pharmaceutical sales trends, critical for evaluating beta-blocker market movement.

CHAPTER 3 METHODOLOGY

OBJECTIVE AND SCOPE OF STUDY

- **Objective:** To evaluate market research and trend analysis with reference to cardiac drugs (beta blockers)
- **Primary Objective:**
 - To analyse the drug regarding beta blockers.
 - To identify types of drugs used in market for cardiac disorder (beta blocker).
 - To identify the market of drug product and brand of beta blocker in cardiac segment.
 - To examine the competitor landscape of beta blocker in cardiac segment.
- **Scope of the study:**

The major scope of this study is to know that what is the scope and acceptance of cardiac drugs (beta blocker) in Maharashtra Region and then to identify its market trends and market strategy to increase its sales and promotional tools.
- **Sample Design:**

Descriptive
- **Sample Size:**

200
- **Sample Population:**

Pharmacist
- **Sample Area:**

Maharashtra
- **Tools used for Data Collection:**

Direct Questionnaire Method
- **Types of Questions:**

Close & Open ended
- **Tools used in Data Analysis:**

Microsoft-EXCEL
- **Data Collection Method:**

Primary- Collected by the means of questionnaire
Secondary- Gathered from medical journals, literature, and internet.

➤ **Study Duration**

2 Months

Inclusion and Exclusion Criteria:

All respondents i.e., pharmacist who understood English and hindi have been eligible to take part and have been covered within the study. Those who are mentally incompetent, not able to concentrate or communicate are excluded from the study.

Ethical Consideration

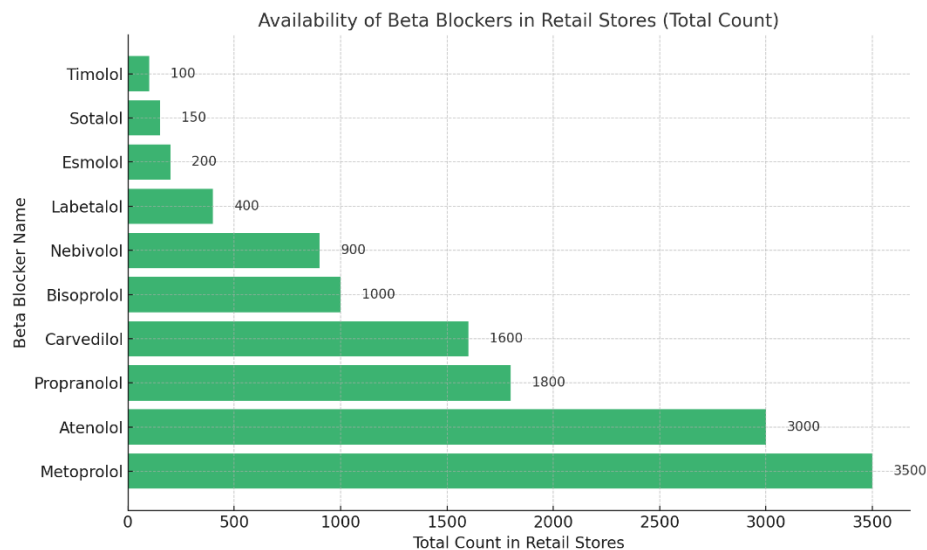
The examination has been finished with legitimate exploration rules. Enough time has been given to the respondents of the assessment with the objective that they can depict their genuine view on research questions. Consent from the respondent has been received and legitimate approval was similarly ensured for the utilization of their given data. The disclosure of respondent character has been established on their assent where in the event that they will uncover the character, their character was shown. The usage of assistant data from the source was perceived with suitable reference.

CHAPTER 4 RESULTS

FINDINGS AND INTERPRETATIONS

1. Analysis of Beta Blocker present in The Market

Beta Blocker Name	Total Count in Retail Stores	Percentage Presence (%)
Metoprolol	3500	28%
Atenolol	3000	24%
Propranolol	1800	14%
Carvedilol	1600	13%
Bisoprolol	1000	8%
Nebivolol	900	7%
Labetalol	400	3%
Esmolol	200	1.5%
Sotalol	150	1.2%
Timolol (systemic)	100	0.8%



Graph 4.1: Availability of Beta Blockers in retail stores

Interpretation: The retail availability of beta blockers is dominated by Metoprolol and Atenolol, reflecting high prescription rates due to their effectiveness and affordability. Propranolol and Carvedilol show moderate presence, driven by broader indications and heart failure use, respectively. Newer agents like Bisoprolol and Nebivolol are gaining ground for their cardio-selectivity and better tolerability, though still limited by cost and recent adoption. Drugs like Labetalol, Esmolol, Sotalol, and Timolol have minimal presence, primarily used in specialized or hospital settings. This distribution suggests distinct marketing strategies—volume-driven for leaders, differentiated positioning for newer agents, and niche targeting for hospital-use drugs.

2. Competitive Analysis of the Beta-Blocker Market

Major Players in the Beta-Blocker Market

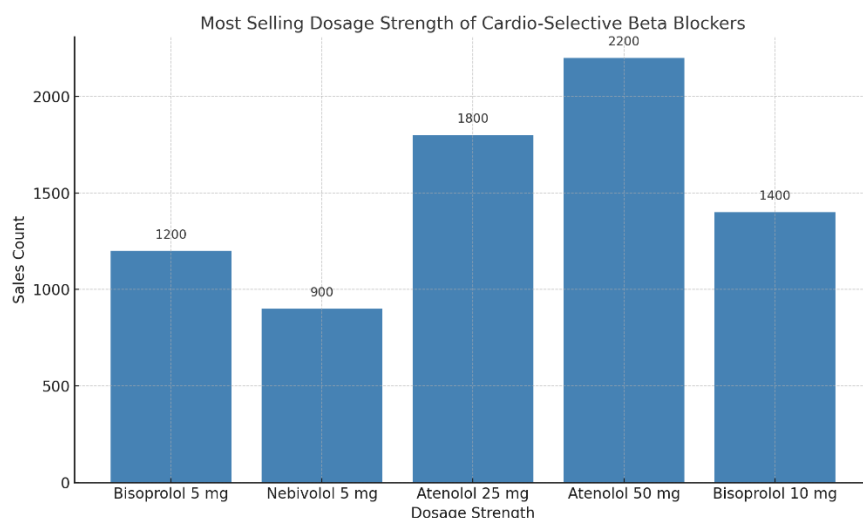
Company	Major Beta-Blockers	Key Strengths
AstraZeneca	Tenormin (Atenolol)	Strong brand presence and R&D investment.
Novartis	Visken (Pindolol)	Global market reach and innovation in cardiovascular drugs.
Merck & Co.	Betaloc (Metoprolol)	Focus on precision medicine and novel formulations.
Sanofi	Avlocardyl (Propranolol)	Diversified cardiovascular portfolio.
Pfizer	Inderal (Propranolol)	Strong presence in both branded and generic cardiovascular drugs.
Teva Pharmaceuticals	Generic Atenolol, Metoprolol	Leading generic manufacturer with cost-competitive pricing.

Company	Major Beta-Blockers	Key Strengths
Sun Pharma	Betacard (Atenolol)	Expanding reach in emerging markets.
Torrent Pharmaceuticals	Met XL (Metoprolol Succinate)	Strong domestic presence in India and focus on cardiovascular generics.

Interpretation: The beta-blocker market is shaped by a mix of global pharmaceutical giants and generic-focused manufacturers:

- AstraZeneca, Novartis, and Merck & Co. lead the market with strong branded products like Atenolol, Metoprolol, and Pindolol, backed by significant investments in research and development and innovative treatments.
- Sanofi and Pfizer maintain a robust presence by offering a balance of branded and generic options, ensuring broad market coverage.
- Teva Pharmaceuticals, Sun Pharma, and Torrent Pharmaceuticals dominate the generic segment, offering cost-effective alternatives with an expanding reach, particularly in emerging markets.

3. Analysis of Different Dosage Strength of Beta Blocker



Graph 4.2: Most selling dosage strength of cardio selective beta blocker

Interpretation: The bar graph illustrates the most selling dosage strengths of cardio-selective beta blockers in the retail market, highlighting variations in demand based on therapeutic preference, clinical efficacy, and prescribing trends.

Atenolol 50 mg is the most sold dosage, closely followed by **Atenolol 25 mg**, indicating strong physician and patient preference due to its effectiveness in treating hypertension and favorable cost profile. This suggests that Atenolol remains a staple in primary cardiovascular care, particularly in markets like India.

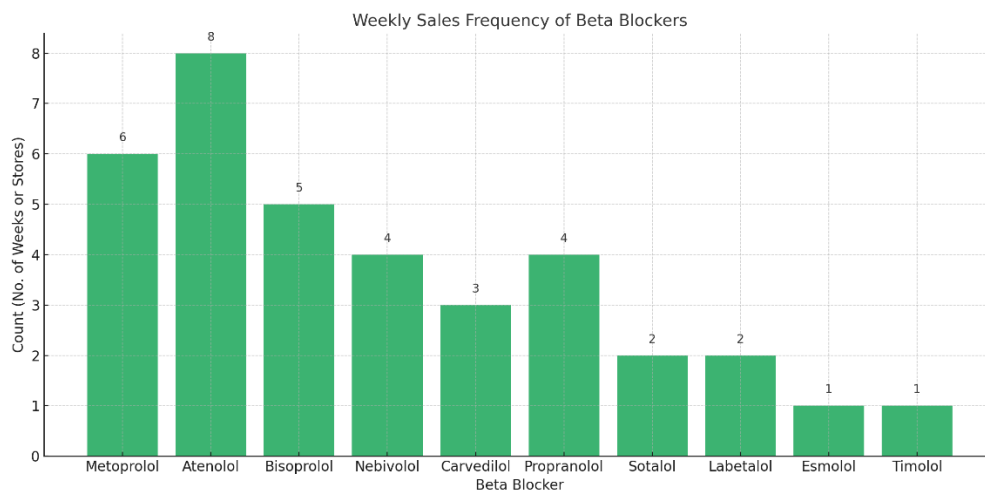
Bisoprolol, available in both 5 mg and 10 mg strengths, shows steady demand, reflecting its growing use in managing heart failure and conditions requiring cardio-selective beta

blockade. Its usage aligns with guideline-directed therapy for chronic heart failure patients.

Nebivolol 5 mg, while the lowest in sales, still has a visible presence, likely due to its better side-effect profile and vasodilatory properties, although limited by its premium pricing. Overall, the graph reveals a clear dominance of **Atenolol**, with **Bisoprolol** and **Nebivolol** carving niche roles in selective therapy.

4. Analysis of Weekly Sales of Beta Blocker

Beta Blocker	No. of Strips Sold/Week	Count (No. of Weeks or Stores)
Metoprolol	100–120	6
Atenolol	80–100	8
Bisoprolol	60–80	5
Nebivolol	40–60	4
Carvedilol	30–50	3
Propranolol	50–70	4
Sotalol	10–20	2
Labetalol	15–25	2
Esmolol	5–10	1
Timolol	5–10	1



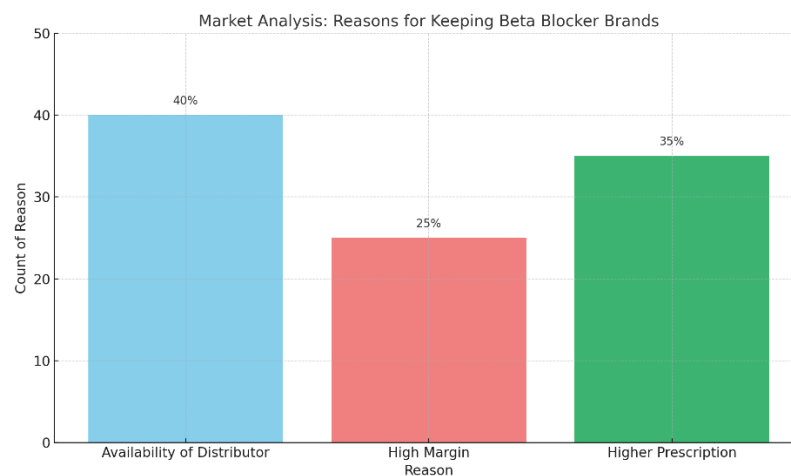
Graph 4.3: Weekly sales frequency of beta blockers

Interpretation: The graphical representation of weekly sales frequency for beta blockers highlights clear market preferences and usage patterns. Atenolol and Metoprolol dominate with the highest count, indicating their widespread prescription and regular turnover in retail settings. These drugs are likely preferred due to their cost-effectiveness, established efficacy, and physician familiarity. Bisoprolol and Nebivolol, though newer and more selective, show moderate weekly sales, reflecting growing acceptance for conditions like heart failure and hypertension requiring cardio-selectivity. Propranolol also maintains consistent demand due to its broad indications, including anxiety and migraine prophylaxis. In contrast, Carvedilol, Sotalol, Labetalol, Esmolol, and Timolol exhibit low frequency, pointing to specialized or

hospital-based use rather than routine retail sales. This pattern suggests a market driven by a few high-volume drugs, while others serve specific clinical niches. Understanding this trend can guide inventory decisions, marketing focus, and educational initiatives for healthcare providers.

5. Market Analysis on The Reason for Keeping the Brands Of Beta Blockers

Availability of Brands of Beta Blocker	Count of Reason	Percentage (%)
Availability of Distributor	40	40%
High Margin	25	25%
Higher Prescription	35	35%
Grand Total	100	100%



Graph 4.4: Reasons for keeping beta blockers brand

Interpretation:

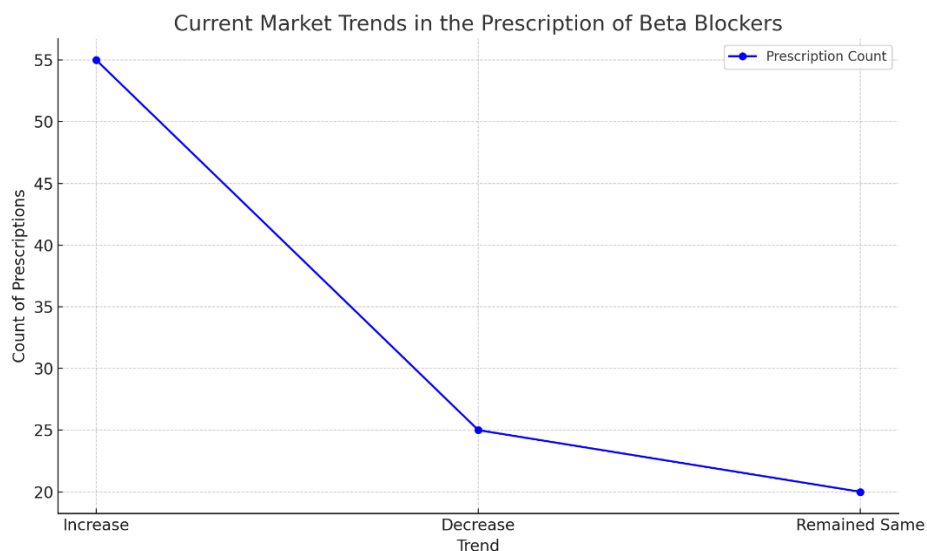
- Availability from distributors is the leading reason for brand selection (40%), indicating that supply chain convenience heavily influences stocking decisions.
- Higher prescription rates account for 35%, showing that physician preferences play a major role in brand movement.
- High margin contributes 25%, reflecting the importance of profitability, though less than clinical and logistical drivers.

This distribution suggests that retail pharmacies prioritize supply consistency and prescriber demand over profitability when choosing beta blocker brands to stock.

6. Current Market Scenario in the Order of Beta Blockers

Current Market Trends in the Prescription of Beta Blocker	Count of in comparison to the past the prescription of Beta Blocker	Percentage (%)
Increase	55	55%
Decrease	25	25%
Remained Same	20	20%

Current Market Trends in the Prescription of Beta Blocker	Count of in comparison to the past the prescription of Beta Blocker	Percentage (%)
Grand Total	100	100%



Graph 4.5: Current market trends in the prescription of beta blocker

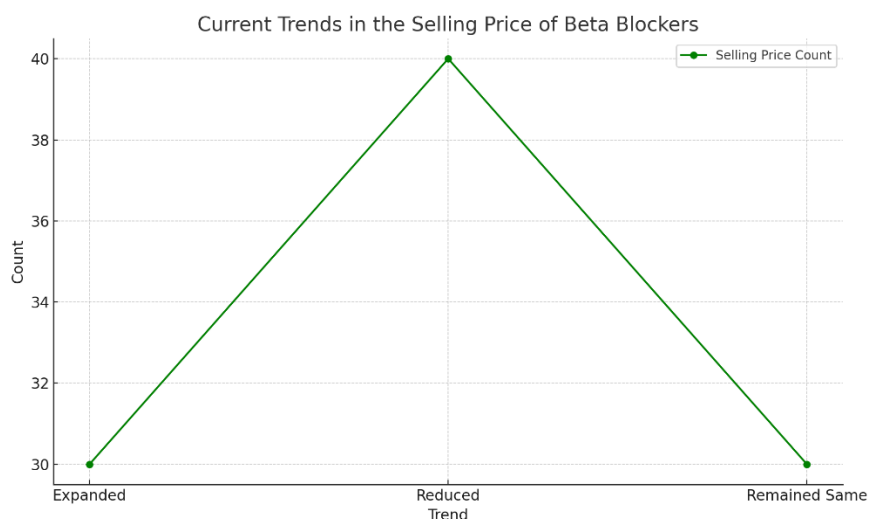
Interpretation:

- 55% of observations indicate an increase in beta-blocker prescriptions, reflecting renewed clinical trust, broader indications, or shifting treatment protocols.
- 25% report a decrease, likely due to competition from newer antihypertensives or patient-specific contraindications.
- 20% show no change, suggesting a stable use in ongoing cardiovascular treatment regimens.

This suggests that beta blockers are experiencing a modest resurgence in use, especially in settings where cost-effective, time-tested treatments are prioritized.

7. Current Trends in The Selling Price.

Current Trends in Selling Price of Beta Blockers	Total	Percentage (%)
Expanded	30	30%
Reduced	40	40%
Remained Same	30	30%
Grand Total	100	100%



Graph 4.6: Current trends in selling price of beta blocker

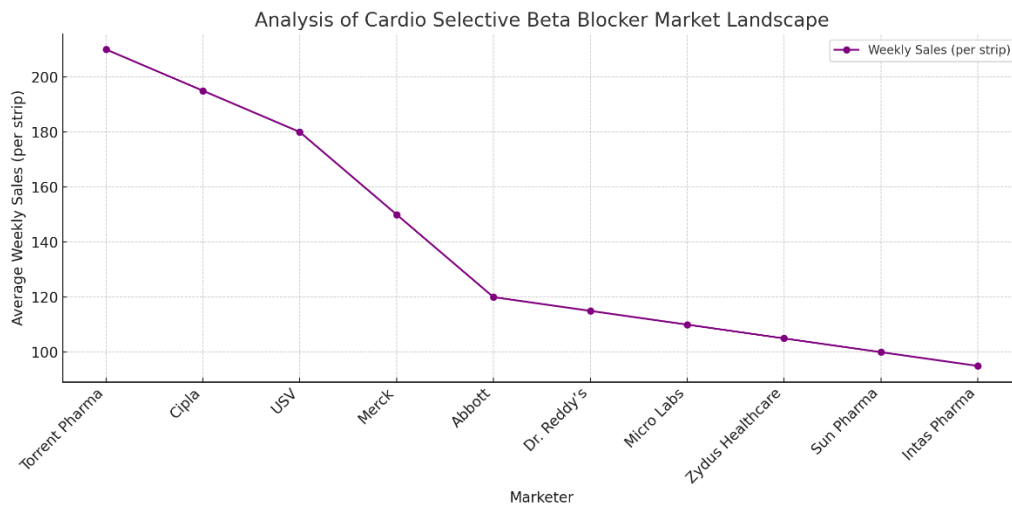
Interpretation:

- 40% of beta-blockers have seen price reductions, possibly due to increased competition, generic availability, or cost-cutting strategies by manufacturers.
- 30% of drugs show price expansion, likely driven by new formulations or brand premiums for certain beta blockers.
- 30% of the market has maintained stable pricing, which reflects market consistency or the limited impact of external factors on these products.

This shows a balance in the beta blocker market, with both price reductions and stability dominating, while a small segment sees price increases due to innovation and brand positioning.

8. Analysis Of Cardio Selective Beta Blocker Market Landscape

Marketer	Brand (Beta Blocker)	Average Weekly Sales (per strip)
Torrent Pharma	Met XL (Metoprolol Succinate)	210
Cipla	Aten (Atenolol)	195
USV	Betacard (Atenolol)	180
Merck	Concor (Bisoprolol)	150
Abbott	Nebicard (Nebivolol)	120
Dr. Reddy's	Cardibeta (Bisoprolol)	115
Micro Labs	Nebistar (Nebivolol)	110
Zydus Healthcare	Atenova (Atenolol)	105
Sun Pharma	Atenolol (Generic)	100
Intas Pharma	Bisoprolol (Generic)	95



Graph 4.7: Analysis of cardio selective beta blocker market landscape

Interpretation:

- Torrent Pharma's Met XL is the top-selling cardio-selective beta blocker with the highest average weekly sales.
- Atenolol-based brands dominate the chart, reflecting affordability and physician comfort.
- Bisoprolol and Nebivolol brands hold strong positions due to targeted therapy use and expanding clinical acceptance.

CHAPTER:5

DISCUSSION

The dissertation titled “**Market Research and Trend Analysis with Reference to Cardiac Drugs (Beta-Blockers)**” presents a well-structured and comprehensive evaluation of the beta-blocker segment in the Indian pharmaceutical market, with a special focus on the Maharashtra region. Through a combination of primary data collection and secondary research, the study captures critical insights into usage patterns, market competition, brand preferences, and price trends that influence both the supply and demand sides of this important cardiovascular drug category.

Key Highlights are:

1. Strong Clinical Relevance Driving Market Demand

The data shows a significant dominance of traditional beta-blockers like **Metoprolol** and **Atenolol**, which together account for over 50% of the total presence in retail settings. Their extensive prescription base, affordability, and proven clinical outcomes make them essential first-line therapies in cardiac care. This aligns with current treatment guidelines and the need for cost-effective chronic disease management in India’s diverse population.

2. Evolving Competitive Landscape

A diverse mix of **multinational giants (AstraZeneca, Merck, Pfizer)** and **domestic powerhouses (Torrent, Sun Pharma, Cipla, USV)** shapes the competitive dynamics. Global brands offer reliability and R&D-driven innovation, while Indian players dominate the generics space with affordable pricing and strong physician outreach. **Torrent Pharma’s Met XL** emerged as the market leader in terms of weekly sales, validating the power of domestic brand loyalty and established distribution networks.

3. Market Preference for Specific Dosages and Molecules

The study’s analysis of dosage trends highlights the widespread preference for **Atenolol 50 mg and 25 mg**, underlining its stronghold in hypertension treatment. Newer cardio-selective beta blockers such as **Bisoprolol and Nebivolol** are gaining adoption, particularly in heart failure management and patients requiring more selective pharmacological profiles. However, pricing remains a limiting factor in their broader market penetration.

4. Sales and Stocking Influenced by Access, Prescription, and Margin

Retail stocking decisions are driven primarily by **distributor availability (40%)** and **prescription demand (35%)**, more than profit margins (25%). This suggests that consistent supply chains and prescriber influence remain the most critical drivers in market movement, highlighting the need for pharma companies to focus on **doctor engagement and distribution reliability**.

5. Mixed Trends in Prescription Growth and Pricing

There’s a **55% reported increase** in beta-blocker prescriptions, pointing toward a growing burden of cardiac conditions and the sustained trust in beta-blockers for long-term management. Price-wise, while **40% of beta-blockers have seen reductions**, suggesting cost competitiveness and generic expansion, **30% have experienced price hikes**, indicating

premium positioning and value-added branding by some players.

6. Brand-Level Performance Indicates Market Segmentation

The brand-level sales data for cardio-selective beta-blockers shows **distinct segment leaders** in Metoprolol, Atenolol, Bisoprolol, and Nebivolol categories. High performers like **Met XL, Aten, and Concor** show strong weekly sales, reaffirming that both **brand equity and molecule preference** are critical in determining market leadership.

7. Strategic Implications for Stakeholders

- **Pharmaceutical Marketers** should focus on **doctor education, brand differentiation, and fixed-dose combinations** to gain competitive advantage.
- **Retail Pharmacies** must prioritize availability and alignment with prescriber trends to optimize inventory.
- **Policy Makers and regulators** can use this data to ensure essential cardiac drugs are consistently available and affordable, especially in underserved regions.
- **Healthcare Providers** may benefit from updated insights into market dynamics to make more informed prescribing decisions.

This study confirms that beta-blockers remain an essential part of cardiovascular therapy in India, particularly due to their cost-effectiveness, established efficacy, and physician comfort. However, with the emergence of **newer agents, evolving treatment protocols, and changing market forces**, the competitive landscape is also shifting. The dissertation successfully captures these dynamics through rigorous research, providing valuable input for strategic decision-making across the pharmaceutical value chain. It also lays a foundation for future research into **prescription behavior, regional disparities, patient adherence**, and the **integration of digital tools** in improving cardiovascular outcomes in India.

Chapter:6

CONCLUSION

The results of this research clearly demonstrate that beta-blockers continue to hold a vital position in the Indian pharmaceutical market, particularly in the treatment of cardiovascular diseases. Conventional agents such as Metoprolol and Atenolol remain the first-line choices due to their clinical reliability, wide availability, and cost-effectiveness. Their sustained presence in both prescription patterns and retail sales underscores their entrenched role in standard cardiovascular therapy across the country. At the same time, newer beta-blockers such as Bisoprolol and Nebivolol are gradually being adopted by prescribers who prioritize cardio-selectivity and reduced side-effect profiles. However, their higher cost and lower awareness among general practitioners have slowed their market penetration, especially in non-metropolitan or economically sensitive areas.

A key takeaway from this research is the strong influence of both prescribers and distributors on the market behavior of beta-blockers. The availability of a brand at the pharmacy level is significantly determined by the strength of its distribution network and the frequency with which it is prescribed. This highlights the importance of maintaining efficient supply chains and building solid relationships with healthcare providers to ensure sustained sales and brand loyalty. Marketing efforts that focus only on discounts and margins may have limited success if not supported by prescriber trust and consistent product availability.

The pricing trends observed in the study reflect the complex interplay between regulatory forces, market competition, and brand value. While the availability of low-cost generics has pushed prices downward for many drugs, the ability of some brands to maintain or even increase prices points to the value of differentiation through quality, formulation, and prescriber confidence. Pharmaceutical companies operating in this segment need to strike a balance between affordability and innovation, especially in a price-sensitive yet medically evolving market like India.

Overall, the beta-blocker market is witnessing steady growth, with over half of the pharmacists surveyed reporting an increase in prescriptions in recent years. This trend aligns with the rising burden of lifestyle-related diseases and the expansion of healthcare access across the country. As more patients enter the healthcare system and as awareness of heart health improves, the demand for reliable and effective cardiovascular medications is only expected to rise. The regulatory environment, with its emphasis on price control and rational drug use, further encourages companies to invest in cost-efficient manufacturing and patient education strategies.

In conclusion, this study has successfully highlighted the multifaceted nature of the beta-blocker segment in the Indian pharmaceutical market. It underscores the importance of aligning clinical efficacy with strategic marketing, supply chain robustness, and pricing agility. For pharmaceutical companies, the opportunity lies in not just offering beta-blockers but doing so with an integrated approach that combines physician outreach, product innovation, regional market understanding, and regulatory compliance. As India continues to tackle its growing burden of heart disease, beta-blockers will remain a critical component of therapy, and companies that adapt to these trends will be best positioned for sustainable growth.

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