Summer Training at

Market Scenario of Metaprolol as a Molecule

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Under the guidance of
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MBA-Pharmaceutical Management (MBA-PM)
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CERTIFICATE

This is to certify that Mr. RHIT SRIVASTAVA student of Institute of Health Management Research University; Jaipur has undergone summer training at **Dr. Reddy's Laboratories Ltd, Jaipur** from April 20, 2014 to June 20, 2014.

The candidate has successfully carried out the project "Market scenario of Metaprolol" assigned to his during summer training & his approach to study has been sincere scientific & analytical.

This summer training is in partial fulfillment of the course requirements.

We wish his success in all his future endeavors.

Mr. Abhishek Dadhich
Assistant Professor & Mentor
IIHMR University, Jaipur

Col. (Dr.) Ashok Kaushik
Dean Academics& Student Affairs
IIHMR University, Jaipur

DR. REDDY'S

To Whom So Ever It May Concern

This is to Certify that Mr. RHIT SRIVASTAVA S/o Mr. S.K. SRIVASTAVA from Institute IIHMR University have undergone for Marketing Project under my Inspection and guidance for Dates .To Date...16 April to 20th June

On Product METAPROLOL

I wish him for his successful Career in future.

With Regards
Nikhil Andleigh
Manager- Dr. Reddy's
Jaipur

ACKNOWLEDGEMENT:

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RHIT SRIVASTAVA

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Table of content:

INTRODUCTION:

- ## Introduction of the organization*:*

Dr. Reddy's Laboratories Ltd is a pharmaceutical company based in Hyderabad, Andhra Pradesh, India. The company was founded by Anji Reddy, who had previously worked in the mentor institute, Indian Drugs and Pharmaceuticals Limited, of Hyderabad, India. [1] Dr. Reddy's manufactures and markets a wide range of pharmaceuticals in India and overseas. The company has over 190 medications, 60 active pharmaceutical ingredients (APIs) for drug manufacture, diagnostic kits, critical care, and biotechnology products. It has the revenue of $2.1 billion (2012) and net income of $300 million (2012).

Dr. Reddy's began as a supplier to Indian drug manufacturers, but it soon started exporting to other less-regulated markets that had the advantage of not having to spend time and money on a manufacturing plant that would gain approval from a drug licensing body such as the U.S. Food and Drug Administration (FDA). By the early 1990s, the expanded scale and profitability from these unregulated markets enabled the company to begin focusing on getting approval from drug regulators for their formulations and bulk drug manufacturing plants in more-developed economies. This allowed their movement into regulated markets such as the US and Europe. By 2007, Dr. Reddy's had six FDA plants producing active pharmaceutical ingredients in India and seven FDA-inspected and ISO 9001 (quality) and ISO 14001 (environmental management) certified plants making patient-ready medications – five of them in India and two in the UK.[2]

Dr. Reddy's - India today is more than a 200 million dollar venture with presence in almost all major therapeutic areas. Their finished dosage business in India started in 1986 with launch of Norilet (norfloxacin). Their market penetration through nearly 3000 sales force who connect to more than 3,00,000 doctors on a regular basis has yielded us reaching all corners of the country and providing affordable and innovative medicines in all major therapeutic areas like gastro-intestinal, oncology, pain management, cardiovascular, dermatology, diabetes, etc. Eight of their brands feature in the top-300 brands in India that include drugs like Stamlo, Reditux, Omez and Ketorol. Apart from manufacturing and distribution of medicines they also provide patient care through their various initiatives like Sparsh, Life at your Doorstep, etc. (where patients are given free treatment and medicines), and educate and create awareness among healthcare professionals through DRFHE to cater to the millions who are in need of proper treatment across the country.(3)

BACKGROUND OF THE STUDY:

The definite or predictable market scenario for particular pharmaceuticals is a key motivator for future innovation. It determines whether, and how vigorously, a profit-based enterprise will further investigate an area for new, improved drugs. An understanding of market dynamics is also critical to determining how drugs can be distributed efficiently. By determining the market scenario of a drug companies can identify the upcoming opportunities for the companies. [4]

Market scenario can be tracked by the collection of specific database in case of pharmaceutical industries in India Doctors and pharmacists are the primary target of industries. Scenario ideation is a very necessary part of business. Every strategy is based on assumption of those factors which are able to affect the market environment. [5]

Heart disease is the number one killer in the world and India carries more than its share of this burden. Moreover, the problem is set to rise: it is predicted that by 2020, India will have 100 million heart patients, amounting to approximately 60% of people suffering from heart disease, globally. Indian pharmaceutical market is very much attractive and full of opportunities. [6]

METAPROLOL is a cardiovascular drug and selective beta-blocker. In India because of unhealthy routine of people there is a big market of cardiovascular drugs in which there is a large section for beta blockers which are widely used as cardiovascular drugs to treat many cardiac dysfunctions. Not even in India it is the problem at global level now so it opens some gates of opportunities for pharmaceutical industries in this sector. METAPROLOL has lots of opportunities in this market the main aim of this study is to explore those opportunities and to determine that present market scenario of METAPROLOL. By determining the scenario the market of METAPROLOL it will be easier to predict that what is the current market situation of METAPROLOL and what are the opportunities are there for METAPROLOL in different markets and situations. What are the threats and what are the holdups factors existed in the market which may influence the market of METAPROLOL. Due to the large number of hypertension cases in India and at global market, generate an attractive market for antihypertensive drugs and METAPROLOL like new and effective medicine can make its position here very well and industries who wants to introduce it in the market it is a good sign for them. In Indian market Metaprolol is a new entrant it is growing very rapidly and most of the companies are focusing on this molecule. [7][8]

Scenarios organize the market uncertain characters into sets of competing assumptions about the future environment which a company will face. The first step of applying the Strategic Framework is to determine the drivers of change, define the range of possible futures, and develop scenarios that describe these futures. The following

pages explore four likely scenarios; their impact on the Indian market and the potential opportunity for industry. Developing strategic responses for each scenario is dependent on the unique capabilities and challenges of each company. It is my hope to spur industry to abandon the notion of a single, silver bullet, "best" strategy and to adopt a new perspective on strategic planning for India's complex pharmaceutical market. The strategic flexibility approach start with anticipating strategic questions and mapping of those factors that could change the direction of the Indian pharmaceutical market. Only thing is constant in the pharmaceutical market that it is uncertain and dynamic in nature to handle these challenges industry needs to identify them make plans according to them.[9]

Doctors are considering being the first consumer of the pharmaceutical industries in India. More the prescription with specific brand's name more will be its market. To determine the exact market scenario and opportunity in the market prescription patterns of doctors should be analyze. Which factor is motivating most to write a drug in his prescription can be determine and if a company establish its brand according to it then it will surely hit a high growth rate. That factor can be price of the drug, quality or effectiveness of drug, safety of drug or company's image there are so many factors which can influence the prescription of a doctor. to determine the marketing scenario of a drug it is necessary that company must know about the perceptions of the doctors because market is totally depend on it. [10]

LITERATURE REVIEW:

Brief introduction of Indian pharmaceutical market:

Although the Indian pharmaceutical market is attractive'[11] it is more than a little bit crowded with over 20,000 pharmaceutical firms, 60,000 distributors and 700,000 to 800,000 retailers competing for the pharmaceutical dollar.[12,13,14] The top 10 companies control about 30% of the market and 250 companies control 70% of the market. Fortunately for MNCs, whose limited portfolios make brand-building essential, there are still opportunities to build and sustain brands in the market despite intense competition and fragmentation. In a market where doctors are free to prescribe any drug (whether branded or generic), any broad shifts in prescription patterns will radically impact revenues. Pharmaceutical sales are rising faster than growth in real private consumption [15] and will continue to grow, driven by both increased healthcare spending per capita and a larger proportion of spend going toward pharmaceuticals. While acute therapies have historically dominated the market and epidemics provide spurts of growth, chronic therapies are growing at a faster rate and have witnessed significant price increases at a time when overall pricing in the domestic pharmaceutical industry has been fairly stable.[16] The price increase can be attributed to increasing disposable income among chronic patients, prescription "lock in" with few equivalent brands, and novel technologies that differentiate treatments and deliver Increased value to patients.

Antihypertensive drugs:

Antihypertensive are a class of drugs that are used to treat hypertension (high blood pressure). [17] Antihypertensive therapy seeks to prevent the complications of high blood pressure, such as stroke and myocardial infarction. Evidence suggests that reduction of the blood pressure by 5 mmHg can decrease the risk of stroke by 34%, of ischemic heart disease by 21%, and reduce the likelihood of dementia, heart failure, and mortality from cardiovascular disease.[18] There are many classes of antihypertensive, which lower blood pressure by different means; among the most important and most widely used are the thiazide diuretics, the ACE inhibitors, the calcium channel blockers, the beta blockers, and the angiotensin II receptor antagonists or ARBs.

Introduction of Metaprolol:

Metaprolol (Metaprolol) is a selective β1 receptor blocker used in treatment of several cardiovascular diseases, especially hypertension. The active substance Metaprolol is employed equally effective to 95 mg Metaprolol succinate. The *tartrate* is an immediate-release formulation and the *succinate* is an extended-release. [19] Metaprolol is used for a number of conditions including: hypertension, angina, acute myocardial infarction, supraventricular

tachycardia, ventricular tachycardia, congestive heart failure, and prevention of migraine headaches. [20] Due to its selectivity in blocking the beta1 receptors in the heart, Metaprolol is also prescribed for off-label use in performance anxiety, social anxiety disorder, and other anxiety disorders.

Mechanism of Action:

Metaprolol is a beta1-selective (cardioselective) adrenergic receptor blocker. This preferential effect is not absolute, however, and at higher plasma concentrations, Metaprolol also inhibits beta2 adrenoreceptors, chiefly located in the bronchial and vascular musculature. Clinical pharmacology studies have demonstrated the beta-blocking activity of Metaprolol, as shown by (1) reduction in heart rate and cardiac output at rest and upon exercise, (2) reduction of systolic blood pressure upon exercise, (3) inhibition of isoproterenol-induced tachycardia, and (4) reduction of reflex orthostatic tachycardia.

Metaprolol tartrate was developed by Novartis and received approval in the United States August 7, 1978. [25] Toprol-XL brand of Metaprolol succinate was developed by Astra Pharmaceuticals. Astra and Zeneca merged in 1999 to become AstraZeneca. Toprol's patent was filed on Sep 28, 1990 and approved on Jan 14, 1992 .[26] It received approval in the United States on January 10, 1992.[27] 30 days of 100 mg pills costs $52.99 in January, 2009. Generic Metaprolol succinate was developed first by Sandoz and received approval in the United States on July 31, 2006. According to drugstore.com, 30 days of 100 mg pills costs $25.99 in January, 2009. [28]

BRAND NAMES:

Amlong MT combination of Amlodipine and Metaprolol with 25 and 50 mg claim for Metaprolol(Micro Labs-India) It is marketed under the brand name Lopressor by Novartis, and Toprol-XL (in the USA); Selokeen (in the Netherlands); as Minax by Alphapharm (in Australia), Metrol by Arrow Pharmaceuticals (in Australia), as Betaloc by AstraZeneca, as Bloxan by Krka (company) (in Slovenia), as Neobloc by Unipharm (in Israel), Presolol by Hemofarm (in Serbia) and as Corvitol by Berlin-Chemie AG (in Germany). In India, this drug is available under the brand names of Met-XL, Metolar and Starpress,Restopress. A number of generic products are available as well.

Competitors of Metaprolol:

Metaprolol is an efficient beta blocker which is used in various cardiovascular diseases and in market it has so many direct and indirect competitors. Some mainstream competitors are as following-

❖ Direct competitors:

Those drugs which are also in the same class which is beta blockers will be state as the direct competitors of Metaprolol. Some main stream competitors and examples are as following-

1. *Nonselective beta-blockers*

Block both beta-1 and beta-2 adrenergic receptors. It is generally accepted that beta-blockers exert their primary antihypertensive effect by blocking beta-1 adrenergic receptors. [21] Nonselective beta-blockers inhibit beta-2 receptors on arteries and thus cause an unopposed alpha-adrenergic effect, leading to increased peripheral vascular resistance. [22] Examples of this category:

- Nadolol (Corgard)
- Pindolol (Visken)
- Propranolol (Inderal)
- Timolol (Blocadren).

2. *Selective beta-blockers*

Specifically block beta-1 receptors alone, although they are known to be nonselective at higher doses. Examples:

- Metaprolol (Lopressor, Toprol)
- Atenolol (Tenormin)
- Betaxolol (Kerlone)
- Bisoprolol (Zebeta)
- Esmolol (Brevibloc)

3. *Beta-blockers with peripheral vasodilatatory effects*

Act either via antagonism of the alpha-1 receptor, as with labetolol (Normodyne) and carvedilol (Coreg), [24] or via enhanced release of nitric oxide, as with nebivolol (Bystolic). [23]

❖ Indirect competitors:

Those drugs which are competitor by in nature in market of Metaprolol bur not in the same category means they are not beta blockers.

1. Renin Inhibitors

Renin comes one level higher than angiotensin converting enzyme (ACE) in the renin-angiotensin system. Inhibitors of renin can therefore effectively reduce hypertension. Aliskiren (developed by Novartis) is a renin inhibitor which has been approved by the U.S. FDA for the treatment of hypertension. [29]

2. ACE inhibitors:

ACE inhibitors inhibit the activity of Angiotensin-converting enzyme (ACE), an enzyme responsible for the conversion of angiotensin I into angiotensin II, a potent vasoconstrictor.

- Accupro (Quinapril)
- Capoten (Captopril)
- Captopril (Captopril)
- Coversyl Arginine (Perindopril)
- Enalapril (Enalapril)
- Fosinopril (Fosinopril)
- Innovace (Enalapril)
- Lisinopril (Lisinopril)
- Noyada (Captopril)
- Perdix (Moexipril)
- Perindopril (Perindopril)
- Quinapril (Quinapril)
- Ramipril (Ramipril)
- Tanatril (Imidapril)

- Trandolapril
- Tritace (Ramipril)
- Vascace (Cilazapril)
- Zestril (Lisinopril)

3. Diuretics :

Diuretics help the kidneys eliminate excess salt and water from the body's tissues and blood. Some most widely used examples and their available brands are as following:

ACE inhibitors/diuretics

- Accuretic (Hydrochlorothiazide, Quinapril)
- Capozide (Captopril, Co-zidocapt, Hydrochlorothiazide)
- Carace 20 Plus (Hydrochlorothiazide, Lisinopril)
- Coversyl Arginine Plus (Indapamide, Perindopril)
- Dilcardia (Diltiazem)
- Diltiazem (Diltiazem)
- Dilzem XL (Diltiazem)
- Istin (Amlodipine)
- Lercanidipine

Angiotensin II antagonists/diuretics

- Co-Diovan (Hydrochlorothiazide, Valsartan)
- Cozaar-Comp 50/12.5 (Hydrochlorothiazide, Losartan)
- Micardis Plus (Hydrochlorothiazide, Telmisartan)
- Olmetec Plus (Hydrochlorothiazide, Olmesartan)
- Motens (Lacidipine)
- Nicardipine (Nicardipine)
- Nifedipress MR (Nifedipine)
- Plendil (Felodipine)
- Securon SR (Verapamil)
- Slozem (Diltiazem)

- Tensipine MR (Nifedipine)
- Tildiem LA (Diltiazem)

4. ***Calcium channel blockers:***

- Adalat LA (Nifedipine)
- Adipine XL (Nifedipine)
- Adizem-XL (Diltiazem)
- Amlodipine (Amlodipine)
- Amlostin (Amlodipine)
- Angitil SR (Diltiazem)
- Calchan MR (Nifedipine)
- Cardene SR (Nicardipine)
- Cardioplen XL (Felodipine)
- Coracten XL (Nifedipine)
- Dilcardia (Diltiazem)
- Diltiazem (Diltiazem)
- Dilzem XL (Diltiazem)
- Fortipine LA (Nifedipine)
- Isradipine
- Istin (Amlodipine)
- Lercanidipine
- Motens (Lacidipine)
- Nicardipine (Nicardipine)
- Nifedipress MR (Nifedipine)
- Plendil (Felodipine)
- Securon SR (Verapamil)
- Slozem (Diltiazem)
- Tensipine MR (Nifedipine)
- Tildiem LA (Diltiazem)
- Univer (Verapamil)
- Valni XL (Nifedipine)

- Verapamil (Verapamil)
- Vertab SR (Verapamil)
- Viazem XL (Diltiazem)
- Zanidip (Lercanidipine)
- Zemtard XL (Diltiazem)
- Zolvera (Verapamil)

5. ***Vasodilators :***

Direct acting nitroprusside, minoxidil (loniten) and hydralazine are basically used as anti hypertensive widely. [20][21][22][23]

6. ***Angiotensin II receptor antagonists : (ARBs)***

Work by antagonizing the activation of angiotensin receptors. [22]

- Amias (Candesartan)
- Aprovel (Irbesartan)
- Candesartan
- Cozaar (Losartan)
- Diovan (Valsartan)
- Edarbi (Azilsartan)
- Micardis (Telmisartan)
- Olmetec (Olmesartan)
- Teveten (Eprosartan)

7. ***Other drugs :***

- ***Imidazoline agonists***

1. Moxonidine (Moxonidine)
2. Physiotens (Moxonidine)

- ***Calcium-channel blockers/ACE inhibitors***

Triapin (Felodipine, Ramipril)

- ***Calcium-channel blockers/angiotensin II antagonists***

1. Exforge (Amlodipine, Valsartan)
2. Sevikar (Amlodipine, Olmesartan)

- ***Calcium-channel blockers/angiotensin II antagonists/diuretics***
  Sevikar HCT (Amlodipine, Hydrochlorothiazide, Olmesar
- ***Beta-blockers/calcium-channel blockers***

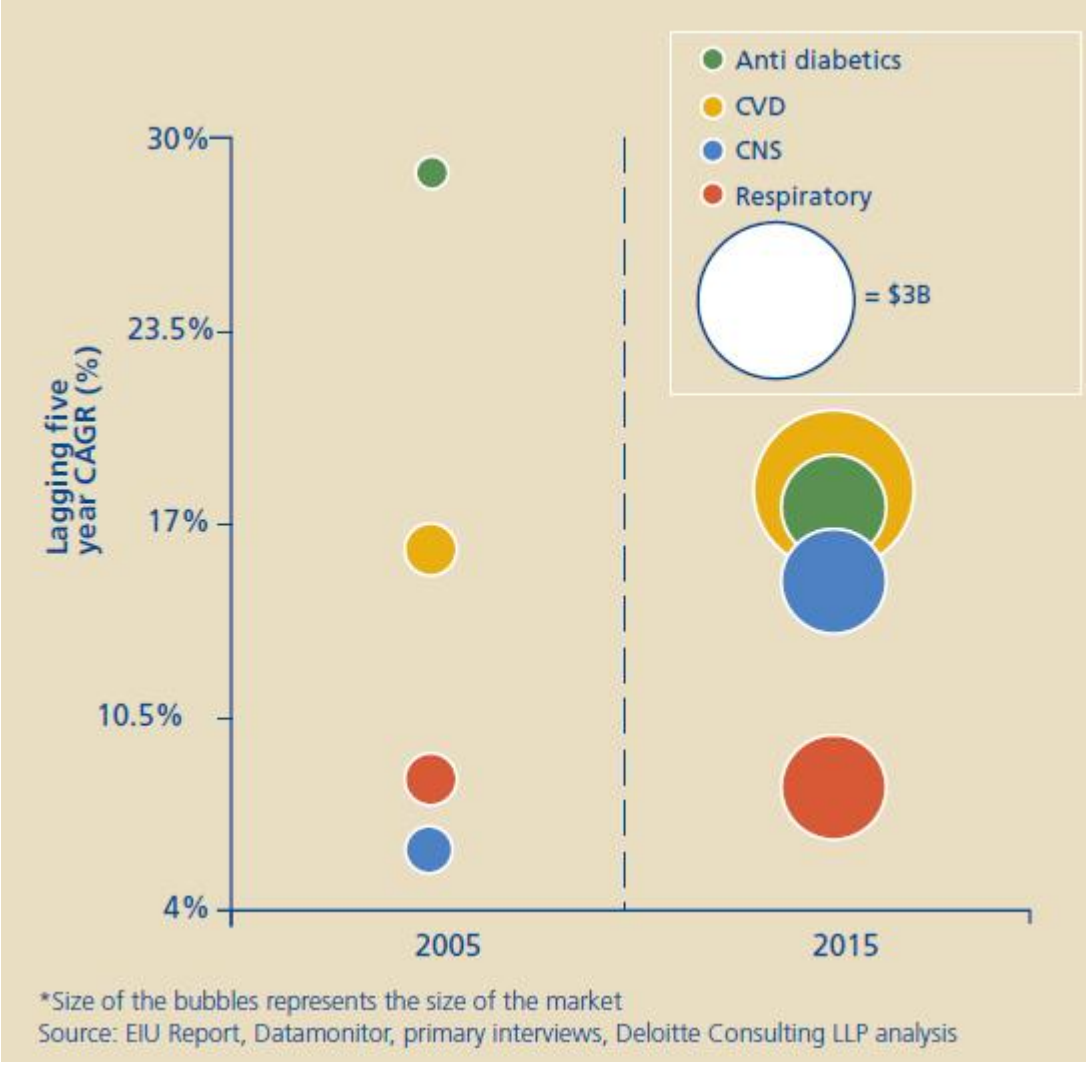
1. Beta-Adalat (Atenolol, Nifedipine)
2. Tenif (Atenolol, Nifedipine)

- ***Beta-blockers/diuretics***

1. Co-tenidone (Co-tenidone)
2. Kalten (Amiloride, Atenolol, Hydrochlorothiazide)
3. Prestim (Bendroflumethiazide, Timolol maleate)
4. Tenoret 50 (Atenolol, Chlortalidone, Co-tenidone)
5. Tenoretic (Atenolol, Chlortalidone, Co-tenidone)
6. Viskaldix (Clopamide, Pindolol)

Need of the study:

Indian pharmaceutical market is full of uncertainties every company has to exploit those uncertainties and has to determine the opportunity size in the market. This research is to determine what is the present market scenario of market of METAPROLOL drug which a cardiovascular drug and basically a beta-blocker in nature. It is mainly use in hypertension and other cardiac disease this study will give a brief account of what is the market environment in India for this drug. This study will give an account of direct and indirect competitors in the market. There is a lot of opportunity for cardiovascular drugs that can be seen by the following report.



This figure clearly shows that cardiovascular has a large number of cases cause its CAGR is high so this disease section will increase day by day so there are a lot of opportunities in cardiovascular section so for a company; investment in this sector would be

profitable. According to a report published by biocon it is said that the **Indian cardiovascular drug** market is growing at a **CAGR of around 20%**. It is expected to burgeon into a USD 3 billion market opportunity by 2015. **Antihypertensive drugs** account for the **biggest (50%) share of revenue**, closely followed by cholesterol lowering drugs. Cardiovascular pharmaceuticals market of India is the second largest contributor to domestic pharmaceutical sales; it is contributing around 15.6%. Since India has a very huge patient pool, the Indian market is characterized by a very huge demand for cardiovascular drugs. It is a highly fragmented market with a number of foreign and domestic players. The huge increase in the patient population, patent expiry of popular blockbuster drugs, increase in disposable income and introduction of newer and better drugs is helping the market to grow. Above figure has shown that there is a lot of growth and profit in antihypertensive market and Metaprolol which is a beta blocker primarily used for hypertension is new entrant in Indian market and now all the companies are focusing on it. Metaprolol is rapidly growing. Companies are watching a safe investment and lot of profit in it. So Metaprolol is an emerging market in India.

The uncertainties are common in a complex, growing market like Indian make forming and committing to one strategy difficult because then assumptions the strategy was built on may well change. A company that has been committed to a breakthrough strategy may face unexpected problems if the market environment changes. Strategic risk is the danger of change so profound that a company's basic approach to creating and capturing value is threatened. The challenge is not to look for a superior prediction of the future, because it doesn't exist—most of the uncertainty is outside the company's control. The challenge is to manage the strategic risk. Scenario analysis is a process of analyzing possible future events by considering alternative possible outcomes. Thus, the scenario analysis, which is a main method of projections, does not try to show one exact picture of the future. Instead, it presents consciously several alternative future developments. Consequently, a scope of possible future outcomes is observable. Not only are the outcomes observable, also the development paths leading to the outcomes. it tries to consider possible developments and turning points, which may only be connected to the past. In short, several scenarios are demonstrated in a scenario analysis to show possible future outcomes.

The ability to exploit the uncertainty in the Indian market may well differentiate the winners from the losers. The size of the opportunity for MNCs varies widely depending upon the condition of key market drivers. While scenarios are independent of the company, the most effective strategies to address those scenarios are unique to each company. Breakthrough Results require committing to the most appropriate strategy for the expected future while maintaining the ability to adjust and respond quickly should the future not turn out as expected. There are lots of factors which are able to affect the product's market.

To make a powerful market there is a need of a proper marketing strategy and for making a correct strategy company need to know about the market scenario of the product so to know about the future opportunities in METAPROLOL it is must to get the present market scenario of the METAPROLOL. This is the accurate answer that why there is a need of this study.

RESEARCH QUESTION

- **What is the market scenario of Metaprolol?**
- **What is the perception of doctors about Metaprolol?**
- **Why industries should focus on Metaprolol?**

RESEARCH OBJECTIVES

- **To determine the market scenario of Metaprolol.**
- **To determine the market opportunities for Metaprolol.**
- **To determine doctor's perception about Metaprolol on various points of view.**

Methodology:

Guideline

The framework of theoretical methodology in later part of this chapter follows the guidelines of Saunders et al. (2009), in which a research „onion" is developed to depict issues underlying the choice of data collection techniques and data analysis procedures. We hereby adopt the concept of research „onion" for our methodology presentation. In later part of this chapter, different layers from most outer to the central are defined and discussed in a sequence.

Choice of Subject:

Research helps build knowledge for practice. It can generate and refine concepts, determine the evidence for generalizations and theories, and ascertain the effectiveness of practice methods.

By WILLIAM REID *(1995, p.2040, cited in Neuman et al, 2006, p.20)*

The topic of this research is **"MARKET SCENARIO OF METAPROLOL"**.

Perspective:

Maslow once said "if the only tool you have is a hammer, you tend to see every problem as a nail." Contrast conclusions could be drawn on the same research question from different perspectives. It is important to take an appropriate perspective in research design since literatures, data type, analysis models, expected findings all determined by it. This project aims to investigate the market scenario of Metaprolol in pharmaceutical industry in different markets. Findings are very much valuable to understand the drug's performance in both emerging and developed markets for investors and the market players. Opportunity, market size, market share, high return, aggressive growth, such characteristics are associated when market scenario are talked about. Therefore, an in-depth investigation will be conducted in this project to examine the behavior of market for Metaprolol. The result of this paper will not be influenced by any specific markets or companies. A worldwide market sample and companies are selected to draw a generalizable and objective conclusion.

Choice of Secondary Sources:

As aforementioned, the questions in this paper concern the market scenario of Metaprolol. Secondary source is a feasible route for this paper to achieve the research objectives in a

limited time. The secondary sources in this paper are further divided into two categories: secondary data source and secondary literature source.

Choice of Secondary Data Sources

The principal secondary data source in this paper is research institutions like IMS HEALTHCARE; BCC RESEARCH AND CREDIT SUISS. Principle source is annual reports of IMS healthcare. All these reports have been gathered from different web portals.

Choice of Secondary Literature Sources

On the other hand, the secondary literature source in this paper consists of different dependable articles and research reports. Majority of relevant journals and scientific articles are found from internet.

Criticism of Secondary Sources:

The assessment of the secondary literature sources is achieved from two aspects: relevance and sufficiency of literatures and secondary data is assessed overall suitability of data to answer research questions and meets objectives.

Choice of primary data sources:

Doctors are considering as the primary customer for the pharmaceutical companies. Metaprolol is a potent second generation cardiovascular drug so only cardiologists can give the better response about this drug. Only cardiologist was able to give the exact information about the patient response effectiveness and performance of Metaprolol. A questionnaire was prepared and that was filled by the cardiologists and primary data been collected from the help of this questionnaire.

Features of the study:

Study type: Descriptive study.

Research approach: Inductive approach

Study design: Post test research.

Study data type: Both primary data and secondary data based.

Sampling technique for primary data: Non probability sampling.

Sample of primary data research: cardiologist and pharmaceutical retailers and chemists

Sample area: four cities of Uttar Pradesh state – LUCKNOW, ALLAHABAD, VARANASI, KANPUR.

Sample size: 100 doctors

CITIES	ALLAHABAD	LUCKNOW	VARANASI	KANPUR
DOCTORS	30	30	20	20

Tool used: Microsoft excel has been used as analysis tool.

Steps included in research methodology:

Following steps has been included in this research study:

- Various articles and research reports had been considered with the help of internet for the collection of secondary data.
- All the research was valid and all the data was relevant to my study.
- For the collection of primary data cardiologists and pharmacist retailers has been selected as study sample.
- Sample area was selected by me and that is four cities which are mentioned above.
- There was not any significant reason to select these cities, just because these cities were a bit familiar to me that am why I have chosen them because it will be easier for me.
- Semi structured Questionnaire with both open and closed ended questionnaire was prepared.
- Questionnaire was filled by cardiologists and I have taken direct interview of pharmacist retailers to know that which brands are available in the market of Metaprolol.
- Cardiologists are chosen as the test sample because Metaprolol is considered mainly for the cardiac diseases.
- All the data and its findings have noted in the report.
- After interpretation result has came out and on basis of the result conclusion has been given which had been supported by the collected data.
- On the basis of conclusion of the study some recommendations had prepared.

Reliability:

Reliability is the extent to which the research findings remain the same over time through data collection techniques or analysis procedures. The research instrument is considered to be reliable if the research findings can be replicated under a similar methodology .Our research is reliable because the results produced in the undertaken study are consistent with prior studies. Those studies are done by authorized institutions.

Validity

It determines whether the research findings are faithful to what they appear to be about in other word, does the research instrument enable you to hit “the bull’s eye” of your research object. Measurement validity refers to how well a measurement fits to denote the concept. Regarding the research objectives, In order to examine the market scenario of the Metaprolol I employed the secondary data from reliable and trusted resources and primary data from direct interaction with the cardiologists with the help of the questionnaire which contains the questions whose answers gives proper perspectives of the cardiologists. Result with the help of primary and secondary data is able to quantify the objectives of research and able to answer the research questions. Thus, measurement validity is satisfied in this paper.

QUESTIONNAIR

1. Rate the METAPROLOL in terms of effectiveness –
    a) Satisfied
    b) Somewhat satisfied
    c) Not satisfied nor dissatisfied
    d) Somewhat dissatisfied
    e) Dissatisfied
2. Rate the METAPROLOL in terms of price –
    a) Satisfied
    b) Somewhat satisfied
    c) Not satisfied nor satisfied
    d) Somewhat dissatisfied
    e) Dissatisfied
3. Mark according to the occurrence of Adverse Drug Reactions –
    a) No case of ADRs seen
    b) Less than 50% cases of ADR
    c) More than 50% cases of ADR
    d) ADR reported in every cases
4. Which brand you prescribe most for Metaprolol and why-

    ……..
    ……..
    ……..

5. Which of the following side effects you noticed in maximum cases -
    a) Dizziness
    b) Vomiting
    c) Unusual dreams
    d) Cardiovascular hepatitis
    e) Vision problem
    f) Diarrhea
    g) Other then specify

    ……

    ……

6. According to you mark those cardiac conditions in which you frequently use Metaprolol –

a) Hypertension
b) Congestive heart failure
c) Angina
d) Acute myocardial infarction
e) Prevention of migraine headaches
f) Other then specify

……

……

……..

7. For hypertension what is your first choice

……..

……..

8. Which you prefer more Metaprolol succinate or Metaprolol tartrate

……..

9. Which one factor motivates you to prescribe Metaprolol :
    a) Price
    b) Effectiveness of Metaprolol
    c) Low side effect
    d) If any others then please specify

……

……..

10. Its demand is increasing –
    a) Completely Agree
    b) Not much agree
    c) Not agree nor disagree
    d) Not much disagree
    e) Completely disagree

SECONDARY DATA RESEARCH

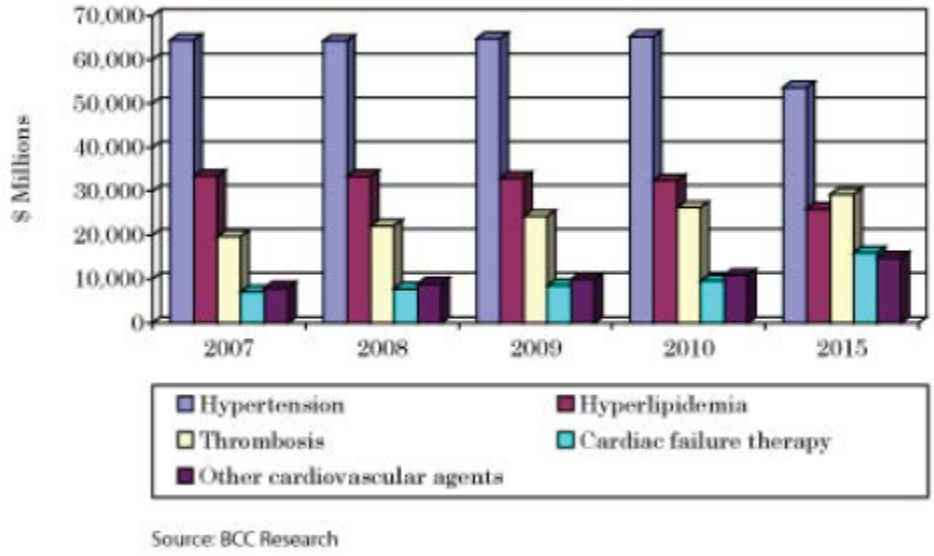
Findings:

- On the basis of secondary data following information I have collected different resources and their interpretations are as following:

Cardiovascular forecast at global level:

{Global cardiovascular forecast by disease class, 2013-2015}

($ millions)



Source: BCC Research

(GRAPH-1)

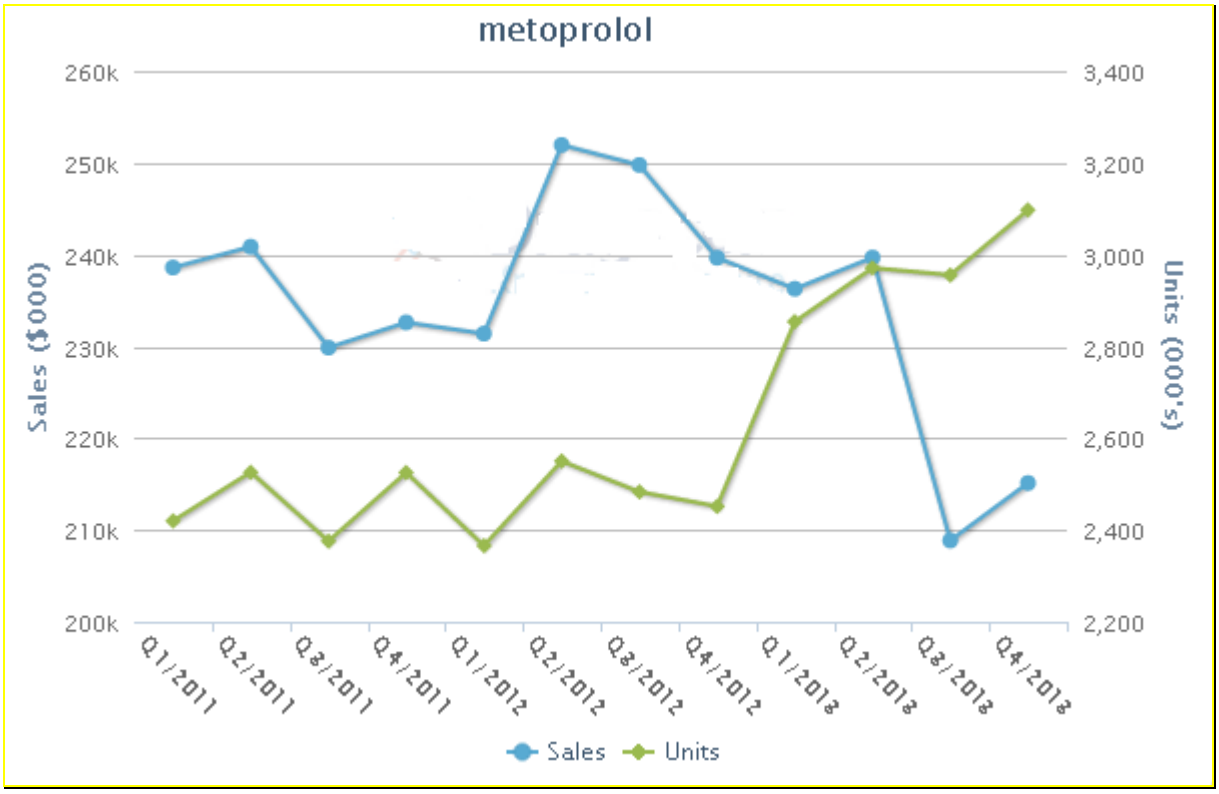
Interpretation:

According to the bcc report 2010 it was found that hypertension is biggest the class of disease at global level and till 2015 it will carry a very big market and opportunity for antihypertensive drugs.

Market position of Metaprolol in the U.S. market

U.S market is consider as the biggest pharmaceutical market in the world to determine the market scenario of Metaprolol we need to identify that what is the market share , what is the market size and what is the prescription rank of Metaprolol in previous years . we nee to know about the market share of cardiovascular drugs , beta blockers and then the position of

Metaprolol in the market. Some secondary data based findings related to this in U.S market is as following-



Source: IMS REPORT JUNE 2013(graph-2)

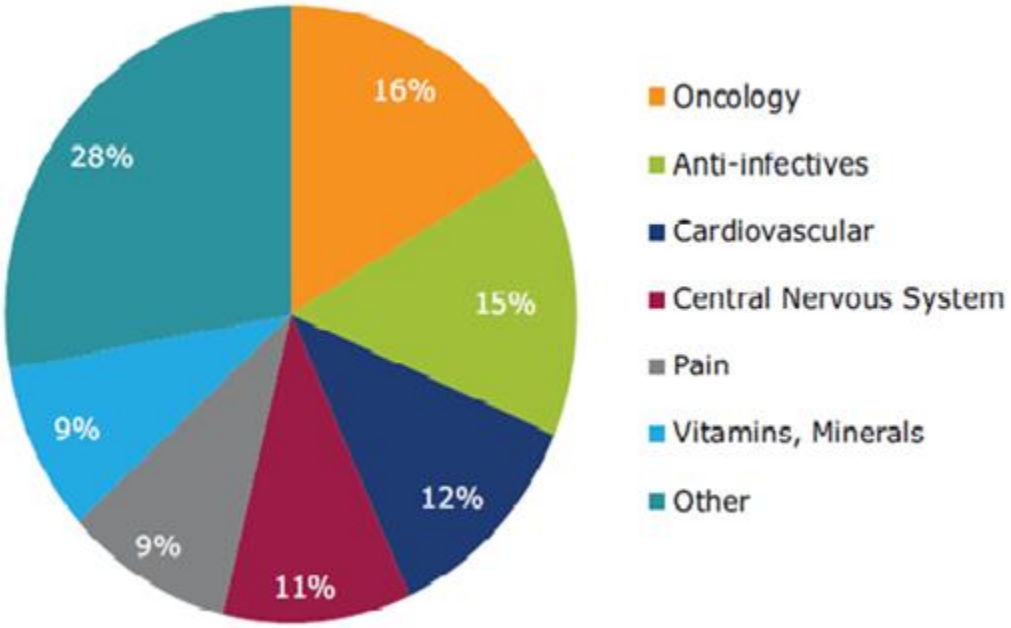
(Units refer to the number of packages sold)

Date Range	Sales Rank	Sales ($000)		Units (000)	
Q4 2013	77 (↑2)	$215,111	2.99%	3,097	4.77%
Q3 2013	79 (↓16)	$208,861	-12.86%	2,956	-0.50%
Q2 2013	63 (↑3)	$239,691	1.44%	2,971	4.10%
Q1 2013	66 (↓7)	$236,279	-1.41%	2,854	16.39%
Q4 2012	59	$239,668	-4.04%	2,452	-1.25%
Q3 2012	59 (↓1)	$249,769	-0.87%	2,483	-2.63%
Q2 2012	58 (↑15)	$251,955	8.89%	2,550	7.78%
Q1 2012	73	$231,395	-0.53%	2,366	-6.30%
Q4 2011	73 (↓4)	$232,625	1.20%	2,525	6.27%
Q3 2011	69 (↓1)	$229,868	-4.57%	2,376	-5.94%
Q2 2011	68 (↑1)	$240,868	0.96%	2,526	4.38%
Q1 2011	69	$238,586	Not Available	2,420	Not Available

INTERPRETATION:

- It is the graph of unit consumption and sale of Metaprolol in us market.
- Sale of Metaprolol is considering as the rank of 77 in current sales rank in pharmaceutical products in US.
- Table is showing the clear position of the sales of Metaprolol in us market from 2011 to 2013.
- In Q2 2012 Metaprolol was in its best phase in terms of sales.
- Graph-2 is describing that there is an increasing consumption rate of Metaprolol since Q4 2012.
- In terms of sales there is also lots of ups and downs and in the q3 2013 sale decreased also but again in Q4 2013.
- This graph is clearly showing that Metaprolol is making lots of money in us market.
- There is ups and downs can be seen here very easily but still this graph shows that this market is full of profit.

THERAPY AREA PERCENT OF PRODUCT:



(SOURCE: IMS national sales perspective, Sep 2006- Aug 2011)

(GRAPH-3)

Interpretation:

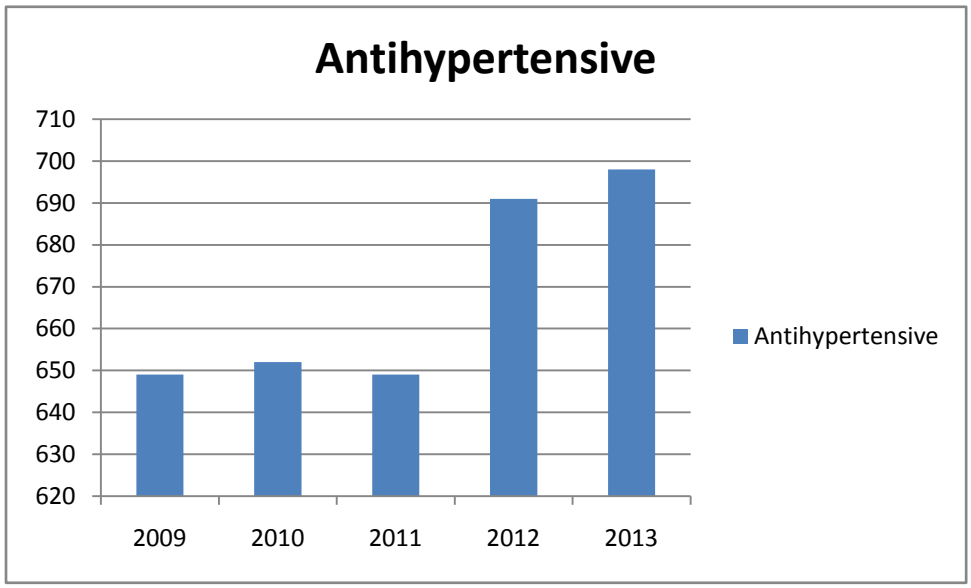
This is the therapy area percent at U.S. market which clearly shows that cardiovascular drugs have 15% of overall market and it is has the third largest share in the pharmaceutical market in U.S. market which consider as the biggest pharmaceutical market.

Top therapeutic classes by prescription in U.S. market

Dispensed prescriptions Mn	2009	2010	2011	2012	2013
Total U.S. market	**3,953**	**3,995**	**4,022**	**4,139**	**4,208**
Antihypertensive	649	652	649	691	698
Mental Health	469	481	495	511	519
Pain	451	462	470	482	477
Antibacterials	275	271	274	272	268
Lipid Regulators	249	255	255	266	263
Antidiabetics	170	173	174	186	192

Nervous System Disorders	135	142	148	157	166
Anti-Ulcerants	146	147	150	159	164
Respiratory	152	153	153	157	162
Antithyroid	109	110	113	122	126
Dermatologicals	101	102	102	103	105
Hormonal Contraception	93	91	90	91	95
ADHD	62	67	73	76	80
Anticoagulants	74	74	73	76	76
Vitamins & Minerals	69	74	72	73	74
Corticosteroids	51	53	55	60	61
GI Products	56	55	55	57	58
Nasal Preps, Topical	41	44	46	48	51
Other Cardiovasculars	52	52	51	51	49
Sex Hormones	46	44	43	45	45
Others	612	490	481	456	479

(TABLE NO.-1)



(IMS HEALTHCARE, NATIONAL PRESCRIPTION AUDIT, JANUARY 2014)

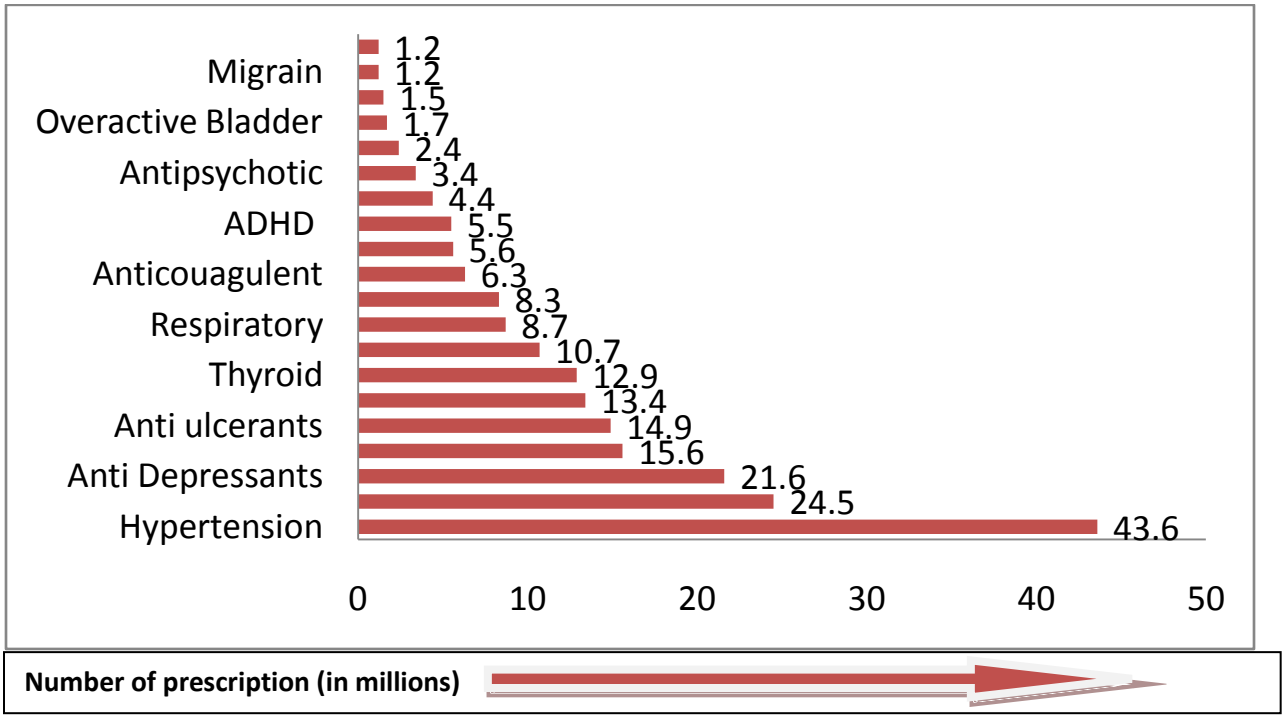
{GRAPH-4}

Interpretation:

- Here table no.1 showing the market size and the prescribed drugs in U.S.Table shows that antihypertensive market has the biggest market in U.S since the 2009 to 2013. This is a green signals for potent antihypertensive drugs like Metaprolol tartrate and Metaprolol succinate.
- Graph-4 has shown that since 2009 antihypertensive sector has grown up very fast and in 2011 it downs a bit but again in 2012 it takes a high jump and in 2013 it is still enlarging its market. It is a sign of good opportunity for pharmaceutical companies who are planning to enter in anti hypertensive sector.
- Table no. 2 and graph-4 clearly showing the future guaranteed profit for Metaprolol which a very effective and now a day's one of the first line choice for cardiologists.
- This data clearly showing that there is a NEED of Metaprolol.

On therapy patient in U.S. (report 0f 2013):

(Treated patients in selected therapies, millions)



{GRAPH-5}

(source: NPA Market Dynamics, Dec 2012)

- On-therapy patients are defined as those who have received a dispensed prescription in prior months and for which the amount of medicine and dosage prescribed has not been exhausted. Therapy areas are based on proprietary IMS Health definitions. Patients treated in these 20 leading chronic therapy areas represented 45% of spending and 60.7% of prescriptions in 2013 Medicine Use.
- Data is showing very high growth market for Metaprolol.
- Data explains that number of hypertension patient is on a very high number so there will be increase in consumption of antihypertensive so there is lots of opportunity for Metaprolol.
- This data also shows that Metaprolol is quite popular among doctors and pharmacists.

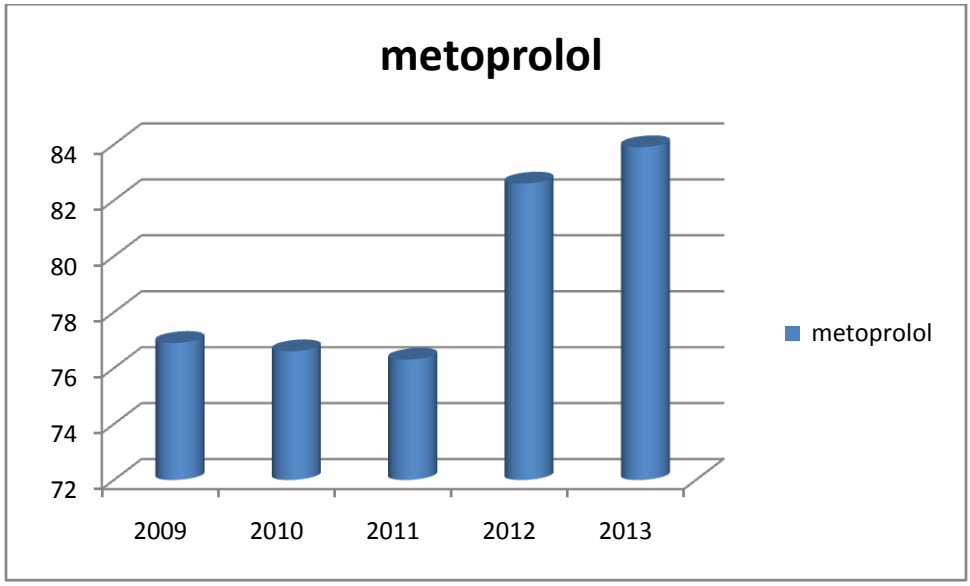
Top medicines by prescription in U.S. market:

DISPENSED PRESCRIPTIONS MN	2009	2010	2011	2012	2013
TOTAL U.S. MARKET	3,953	3,995	4,022	4,139	4,208
ACETAMINOPHEN/HYDROCODONE	129.4	132.1	136.7	136.4	129.2
LEVOTHYROXINE	100.2	103.2	104.7	112.2	115.2
LISINOPRIL	83	87.6	88.8	99.1	101.5
METOPROLOL	76.9	76.6	76.3	82.6	83.9
SIMVASTATIN	84.1	94.4	96.8	89.3	79.1
AMLODIPINE	52.1	57.8	62.5	69.1	74
METFORMIN	53.8	57	59.1	67.8	72.8
OMEPRAZOLE	45.6	53.5	59.4	66.6	70.7
ATORVASTATIN	51.7	45.3	43.3	55.5	68.4
ALBUTEROL	54.5	55.1	56.9	61.2	63.5
AMOXICILLIN	52.8	52.4	53.8	52.8	54.2
HYDROCHLOROTHIAZIDE	47.9	47.8	48.1	51.2	50.2
ALPRAZOLAM	45.3	47.7	49.1	49.5	49.6
AZITHROMYCIN	54.7	53.6	56.2	54.6	48.6

FLUTICASONE	30.1	34.8	38.4	42.1	45.3

{Table no.-2}

(Source: IMS Health, National Prescription Audit, Dec 2012)



(IMS HEALTHCARE, NATIONAL PRESCRIPTION AUDIT, JANUARY 2014)

{GRAPH-6}

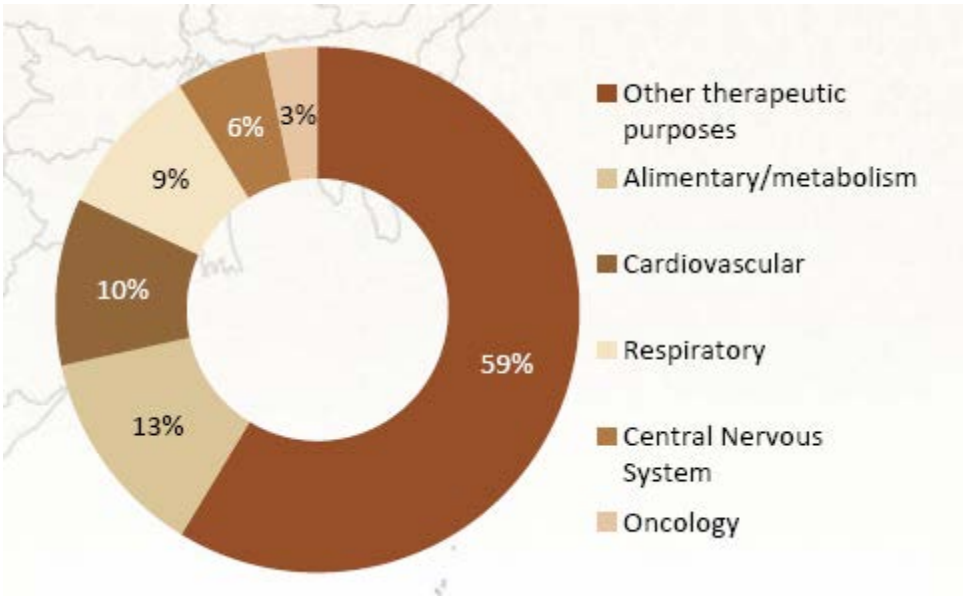
INTERPRETATION:

- According to the table number-3 Metaprolol is the fifth most dispensed drug by prescription in U.S.
- It is showing that Metaprolol is on high **DEMAND** in U.S.
- It is clearly showing that in 2011 its market goes down and according to the table-1 and graph-4 it is the same year when antihypertensive drug market shrinks a little but in 2012 it jumped and starts growing. 2013 just follow the 2012 and this year Metaprolol increases its market.
- Market growth of Metaprolol in U.S. market is clearly shown and it follows the table-1 and graph-4 that means that this **DEMAND** was adjusting by that **NEED.**
- This data is clearly proving that U.S. market is full of opportunity and growth for Metaprolol and present market of Metaprolol is clearly growing in very tremendous way.

Top therapeutic segments in Indian pharmaceutical market:

Sr. No.	Therapeutic category	Market size (in crores)	Expected growth 2008-2013
1	Anti-infective	4973.1	14%
2	Gastro intestinal	3500	14%
3	Cardiovascular	3480	15.90%
4	Respiratory	2880	10.40%
5	Analgesics	2840	7.40%
6	vitamins	2530	8.80%
7	gynaecology	1810	14%
8	Neurology	1760	12.40%
9	Dermatology	1750	12.40%
10	Anti-diabetic	1600	18.80%
Source: Express Pharma online			

{Table no.-3}



{Graph-7}

(Source: IMS HEALTHCARE)

Interpretation:

- This data showed in table no. 3 published by express Pharma on 26/7/2011 explain that in Indian pharmaceutical market cardiovascular is the third largest therapeutic segment.
- It has maximum expected growth rate also. This data also shows that there is not so much difference in the second and third position so we can say on the basis of the growth rate of this segment that sooner cardio segment will beat gastro and become number two in market size. This data is showing a sign of opportunity in the segment of cardiovascular drugs in Indian market.
- Cardiovascular drug have lots of opportunities in Indian market.
- That indicates that there could be a good market for Metaprolol.
- From the graph-6 which was resulted by IMS healthcare a healthcare based consultancy proves it that in India now in 2014 cardiovascular market has a huge market share.
- It can be a good indication for pharmaceutical companies who are in this cardiovascular sector that large market size will be full of opportunity, growth and lots of profit.

Metaprolol as new entrant in cardiac market of India:

Almost half of the incremental sales in the cardiac segment in last four years were contributed by just four molecules – Telmisartan, Metaprolol, Olmesartan and Rosuvastatin .New entrants took full advantage of this opportunity. And market share gains on these four molecules were largely captured by players outside the top five except sun Pharma. Sun achieved market share of 14% in Olmesartan, Rosuvastatin and Metaprolol.

NAME OF THE MOLECULE	MAR-2008	MAR-2009	MAR-2010	MAR-2011	MAR-2012	TWO-YEAR CAGR	% OF INCREMENTAL CARDIAC SALES % OF FY12 CARDIAC	SALES
TELMISARTAN	1,251	2,340	3,461	4,844	7,108	43%	19%	11%
METOPROLOL	1,442	1,999	2,587	3,393	4,643	34%	10%	7%
OLMESARTAN	244	524	1,104	1,756	2,863	61%	8%	4%
ROSUVASTATIN	208	314	685	1,566	2,739	100%	8%	4%

(Source: AIOCD-AWACS, Credit Suisse)

Interpretation:

- Table number-4 is showing that Metaprolol market size is growing continuously since 2008.
- New entrants companies in cardiac sector have understand this opportunity and making profit from it.
- To penetrate in Indian market companies has focused on these second generation molecule and making profit from it.
- Here is the CAGR of two year of Metaprolol which is 34% which is clearly showing the sign of opportunity and lots of growth for Metaprolol in India.
- In India cardiac sector is very big market and it has lots of opportunity and this market is increasing day by day and these new entrant companies (including sun Pharma) has understand it targeted the antihypertensive segments in India which is biggest among the cardiac segment. They focuses on these four second generation molecules and cover around 50% of incremental sale of this huge market with these four molecules.

Available brands of Metaprolol in market:

By interviewing the retailer following list contains the list of available brands of Metaprolol in the Indian market:

BRAND NAME	NAME OF THE COMPANY	COMBINATION	VOLUME	PRESENTATION	PRICE
Ace Revelol	IPCA	Ace Revelol Metoprolol succinate USP 23.75mg +Metoprolol 25mg + Ramipril 2.5m	7	Ace Revelol TAB	70
Ace Revelol	IPCA	Ace Revelol Metoprolol succinate USP 47.50mg + Metoprolol 50mg + Ramipril 5mg	7	Ace Revelol TAB	105
Actiblok-AM	Biocon	Actiblok-AM Amlodipine 5 mg, Metoprolol 25 mg.	10	Actiblok-AM	60
Actiblok-AM	Biocon	Actiblok-AM Amlodipine 5 mg, Metoprolol 50 mg.	10	Actiblok-AM	75
Actiblok-IPR	Biocon	Actiblok-IPR 25 mg	10	Actiblok-IPR TAB	45
Actiblok-IPR	Biocon	Actiblok-IPR 50 mg	10	Actiblok-IPR TAB	70
Actiblok-IPR	Biocon	Actiblok-IPR 100 mg	10	Actiblok-IPR TAB	95
Adblock-MT	OLCARE	Adblock-MT Metoprolol 50 mg, amlodipine 5 mg	10	Adblock-MT TAB	59
Amlopin-M	USV	Amlopin-M Metoprolol tartrate (ER) 50 mg, Amlodipine 5 mg	10	Amlopin-M BILAYERED TAB	60.24
Amlopin-M	USV	Amlopin-M Metoprolol tartrate (ER) 25 mg, Amlodipine 10 mg	10	Amlopin-M BILAYERED TAB	60.15
Amtas-M	Intas	Amtas-M Amlodipine 5 mg, Metoprolol tartrate (ER) 50 mg	15	Amtas-M FC TAB	104
Asoprol	AS Pharma	Asoprol 50 mg	10	Asoprol TAB	30.5

Asoprol	AS Pharma	Asoprol 25mg	10	Asoprol TAB	48
Betafit	Unichem	Betafit 25mg	10	Betafit ERTAB	42
Betafit	Unichem	Betafit 25mg	10	Betafit ERTAB	62
Betafit	Unichem	Betafit-AM Metoprolol tartrate (ER) 25 mg,amlodipine 5 mg.	10	Betafit-AM BILAYERED TAB	46
Betafit	Unichem	Betafit-AM Metoprolol tartrate (ER) 50 mg,amlodipine 10 mg.	10	Betafit-AM BILAYERED TAB	66
Betaloc	AstraZeneca	Betaloc 25mg	30	Betaloc TAB	76.9
Betaloc	AstraZeneca	Betaloc 50 mg	30	Betaloc TAB	114.2
Betaloc	AstraZeneca	Betaloc 100 mg	30	Betaloc TAB	45.6
Betaloc	AstraZeneca	Betaloc 25 mg	10	Betaloc CAP	10.67
Betaloc	AstraZeneca	Betaloc 1mg/ML	5 ML	Betaloc AMP	13.6
Betaone-XL	Dr. Reddy	Betaone-XL 12.5	10	Betaone-XL EX-TAB	33.5
Betaone-XL	Dr. Reddy	Betaone-XL 25mg	10	Betaone-XL EX-TAB	
Betaone-XL	Dr. Reddy	Betaone-XL 50 mg	10	Betaone-XL EX-TAB	
Betaone-XL	Dr. Reddy	Betaone-XL 100 mg	10	Betaone-XL EX-TAB	93.5
Betpro-S-25	Baroda	Betpro-S-25	10	Betpro-S-25 TAB	
Blumeta	Blue Cross	Blumeta 50 mg	10	Blumeta ERFC	20
Blumeta	Blue Cross	Blumeta 25mg	10	Blumeta ERFC	30
Cardibeta-AM	RANBAXY	Cardibeta-AM Metoprolol tartrate 25 mg, Amlodipine 2.5 mg.	7	C ardibeta-AM FC TAB	

Cardibeta-AM	RANBAXY	Cardibeta-AM Metoprolol tartrate 50 mg, Amlodipine 5 mg.	7	C ardibeta-AM F TAB	
Cardibeta-XR	Ranbaxy	Cardibeta-XR 12.5m	10	C ardibeta-XR EXT-TAB	
Cardibeta-XR	Ranbaxy	Cardibeta-XR 25 m	10	Cardibeta-XR EXT-TAB	
Cardibeta-XR	Ranbaxy	Cardibeta-XR 50 m	10	Cardibeta-XR EXT-TAB	
Cardibeta-XR	Ranbaxy	Cardibeta-XR 100 m	10	Cardibeta-XR EXT-TAB	
Carpro	Cubit	Carpro 50 mg	10	Carpro TAB	
Carpro	Cubit	Carpro 25mg	10	Carpro TAB	
Carpro-ER	Cubit	Carpro-ER TAB	10	Carpro-ER TAB	
Carpro-ER	Cubit	Carpro-ER TAB	10	Carpro-ER TAB	
CG-Rol-Xl	CMG Biotech	C G-Rol-Xl 50 mg	10	C G-Rol-Xl ERTAB	58
CG-Rol-Xl	CMG Biotech	C G-Rol-Xl 50 mg	10	C G-Rol-Xl ERTAB	68
Cgrol	CMG Biotech	Cgrol 25mg	10	Cgrol TAB	
Cgrol	CMG Biotech	Cgrol 50 mg	10	Cgrol TAB	56
Cgrol	CMG Biotech	Cgrol 100 mg	10	Cgrol TAB	
Embeta	Intas	Embeta 25mg	10	Embeta TAB	13.79
Embeta	Intas	Embeta 50 mg	10	Embeta TAB	22
Embeta	Intas	Embeta 100 mg	10	Embeta TAB	30.15
Embeta	Intas	Embeta 25 mg	10	Embeta XR TAB	34.15
Embeta	Intas	Embeta 50 mg	10	Embeta XR TAB	109.71
Embeta	Intas	Embeta 100 mg	10	Embeta XR TAB	96.36

Embeta-AM	Intas	Embeta-AM Metoprolol tartrate (ER) 50 mg,Amlodipine 5 mg.	10	Embeta-AM FC -TAB	61.95
Embeta-AM	Intas	Embeta-AM Metoprolol tartrate (ER) 50 mg,Amlodipine 5 mg.	10	Embeta-AM FC -TAB	52.43
Gudpres-XL	Mankind	Gudpres-XL 25mg	10	Gudpres-XL ER-TAB	20
Gudpres-XL	Mankind	Gudpres-XL 50mg	10	Gudpres-XL ER-TAB	35
Intramet	Intra Labs	Intramet 25mg	100	Intramet TAB	156
Intramet	Intra Labs	Intramet 50mg	100	Intramet TAB	230
Intramet-XR	Intra Labs	Intramet-XR 25mg	10	Intramet-XR TAB	35
Intramet-XR	Intra Labs	Intramet-XR 50mg	10	Intramet-XR TAB	55
Kimet XL	Zuventus	Kimet XL 12.5mg	10	Kimet XL EXTTAB	32
Kimet XL	Zuventus	Kimet XL 25mg	10	Kimet XL EXTTAB	63
Kimet XL	Zuventus	Kimet XL 50mg	10	Kimet XL EXTTAB	44
Libmet-XL	Daffohils Pharma	Libmet-XL 50mg	10	Libmet-XL TAB	
Lopresor	Novartis India	Lopresor 25mg	10	Lopresor TAB	
Lopresor	Novartis India	Lopresor 50mg	10	Lopresor TAB	36.2
Lopresor	Novartis India	Lopresor 100mg	10	Lopresor TAB	56
Lopresor-XL	Novartis India	Lopresor-XL 50mg	10	Lopresor-XL EX-TAB	59.5
Lopressor	Taj Pharma	Lopressor 25mg	10	Lopressor TAB	18.92
Lopressor	Taj Pharma	Lopressor 50mg	10	Lopressor TAB	31.32
Lopressor	Taj Pharma	Lopressor 100mg	10	Lopressor TAB	39.89

Lopressor	Taj Pharma	Lopressor 1mg x 1mL	5 ML	Lopressor INJ	11.85
Mepol	Taurus Labs	Mepol 50mg	10	Mepol TAB	7
Met-Stamlo	Dr. Reddy	Met-Stamlo Metoprololtartrate 50 mg Amlodipine 5	10	Met-Stamlo CAP	63.5
Met-Stamlo	Dr. Reddy	Met-Stamlo Metoprololtartrate 25 mg Amlodipine 6	10	Met-Stamlo CAP	
Met-XL	Ajanta	Met-XL 12.5mg	10	Met-XL TAB	16
Met-XL	Ajanta	Met-XL 25mg	10	Met-XL TAB	29.5
Met-XL	Ajanta	Met-XL 5Omg	10	Met-XL TAB	42
Met-XL	Ajanta	Met-XL 100mg	10	Met-XL TAB	65
Met-XL AM	Ajanta	metoprolol tartrate 50 mg, amlodipine 5 mg.	10	Met-XL AM Bilayered FC - TAB	65
Met-XL AM	Ajanta	metoprolol tartrate 25 mg, amlodipine 5 mg.	10	Met-XL AM Bilayered FC - TAB	53
Met-XL AM	Ajanta	metoprolol tartrate 25 mg, amlodipine 2.5 mg.	10	Met-XL AM Bilayered FC - TAB	40
Met-XL R	Ajanta	Metoprololtartrate 50 mg, ramipril 5 mg	10	Met-XL R BILAYERED TAB	140
Metapro	Micro Cardicare	Metapro 25mg	10	Metapro TAB	12
Metapro	Micro Cardicare	Metapro 50mg	10	Metapro TAB	18.5
Metapro-XL	Micro Cardicare	Metapro -XL 50mg	10	Metapro-XL	46.5
Meto	Orchid	Meto 25mg	10	Meto TAB	
Meto	Orchid	Meto 50mg	10	Meto TAB	
Meto	Orchid	Meto 100mg	10	Meto TAB	

Meto-AM	Orchid	Metoprolol tartrate 50 mg,Amlodipine 5 mg	10	Meto-AM FC -TAB	
Meto-ER	Orchid	Meto-ER 25mg	10	Meto-ER TAB	37.9
Meto-ER	Orchid	Meto-ER 50mg	10	Meto-ER TAB	54
Meto-ER	Orchid	Meto-ER 100mg	10	Meto-ER TAB	90.6
Metocard-XL	Torrent	Metocard-XL 12.5mg	10	Metocard-XL EXT-TAB	17
Metocard-XL	Torrent	Metocard-XL 50mg	10	Metocard-XL EXT-TAB	40.7
Metocard-XL	Torrent	Metocard-XL 25mg	10	Metocard-XL EXT-TAB	59.8
Metocard-XL	Torrent	Metocard-XL 100mg	10	Metocard-XL EXT-TAB	65
Metocare	Invision	Metocare 25mg	14	Metocare TAB	29.99
Metocare-50	Invision	Metocare-50 25mg	14	Metocare-50 TAB	39.99
Metofin	Q Check	Metofin 25mg	10	Metofin ERFC-TAB	34
Metofin	Q Check	Metofin 50mg	10	Metofin ERFC-TAB	49.5
Metolar	Cipla	Metolar 25mg	10	Metolar TAB	21
Metolar	Cipla	Metolar 50mg	10	Metolar TAB	38
Metolar	Cipla	Metolar 100mg	10	Metolar TAB	59
Metolar	Cipla	Metolar 1mg/Ml	5 ml	Metolar-AM FC -TAB	83
Metolar-AM-LS	Cipla	Metolar-AM-LS Amlodipine (immediate release) 2.5 mg, metoprolol tartrate (ER) 25	10	Metolar-AM-LS	

Metolar-XR	Cipla	Metolar-XR 12.5mg	10	Metolar-XR	21
Metolar-XR	Cipla	Metolar-XR 25mg	10	Metolar-XR	
Metolar-XR	Cipla	Metolar-XR 50mg	10	Metolar-XR	
Metolar-XR	Cipla	Metolar-XR 100mg	10	Metolar-XR	83
Metolex-AM	Unilex	Metolex-AM Metoprolol 50 mg,amlodipine 5 mg	10	Metolex-AM	69
Metolex-XL	Unilex	Metolex-XL 25mg	10	Metolex-XL TAB	35
Metolex-XL	Unilex	Metolex-XL 50mg	10	Metolex-XL TAB	55
Metolife	Life Sciences	Metolife 25mg	10	Metolife TAB	42
Metolife	Life Sciences	Metolife 50mg	10	Metolife TAB	60
Metolis	Invision	Metolis 25mg	40	Metolis EC - TAB	119.96
Metolis	Invision	Metolis 50mg	10	Metolis EC - TAB	35.7
Metomac	Macleods	Metomac 25mg	10	Metomac ERTAB	43
Metomac	Macleods	Metomac 50mg	10	Metomac ERTAB	63
Metosafe-X	Zinnia	Metosafe-XL 25mg	10	Metosafe-XL TAB	26.6
Metosafe-X	Zinnia	Metosafe-XL 50mg	10	Metosafe-XL TAB	42.6
Metosartan	Sun	Metosartan Metoprolol tartrate 50 mg,telmisartan 40 mg.	10	MetosartaN Bilayered-TAB	110
Metosartan	SUN	Metosartan Metoprolol tartrate 25 mg,telmisartan 40 mg.	10	MetosartaN Bilayered-TAB	90
Metotrust-XL	Centaur	Metotrust-XL 25mg	10	Metotrust-XL ER-TAB	39

Metotrust-XL	Centaur	Metotrust-XL 50mg	10	Metotrust-XL ER-TAB	59
Metox-AM	Wockhardt	Metox-AM Metoprolol 25 mg,Amlodipine 5 mg	14	Metox-AM TAB	
Metox-AM	Wockhardt	Metox-AM Metoprolol 25 mg,Amlodipine 5 mg	14	Metox-AM TAB	
Metox-ER	Wockhardt	Metox-ER 25mg	14	Metox-ER TAB	
Metox-ER	Wockhardt	Metox-ER 50mg	14	Metox-ER TAB	
Metox-ER	Wockhardt	Metox-ER 100mg	14	Metox-ER TAB	
Metpure-AM	Em cure	Metpure-AM Metoprolol succinate 25 mg, Samlodipine 2.5 mg.	14	Metpure-AM TAB	70
Metpure-AM	Em cure	Metpure-AM Metoprolol succinate 50 mg, Samlodipine 5 mg.	14	Metpure-AM TAB	77.2
Metpure-XL	Em cure	Metpure-XL 12.5mg	10	Metpure-XL FC -TAB	40.15
Metpure-XL	Em cure	Metpure-XL 25mg	10	Metpure-XL FC -TAB	66.35
Metpure-XL	Em cure	Metpure-XL 50mg	10	Metpure-XL FC -TAB	89.15
Metzok	USV	Metzok 25mg	10	Metzok TAB	29.77
Metzok	USV	Metzok 50mg	10	Metzok TAB	48.9
Metzok	USV	Metzok100mg	10	Metzok TAB	73.35
Metzok-12.5	USV	Metzok-12.5 12.5 mg	10	Metzok-12.5 TAB	19.14
Mexes-XL	Aamorb	Mexes-XL 25mg	10	Mexes-XL EXTAB	29.8
Mexes-XL	Aamorb	Mexes-XL 25mg	10	Mexes-XL EXTAB	49.6
MT-Loc	PIL	MT-Loc 25mg	10	MT-Loc TAB	
MT-Loc	PIL	MT-Loc 25mg	10	MT-Loc TAB	

Prolomet-AM	SUN	Prolomet-AM Metoprolol tartrate 25 mg,amlodipine 5 mg	10	Prolomet-AM BILAYERED TAB	52
Prolomet-AM	SUN	Prolomet-AM Metoprolol tartrate 50 mg,amlodipine 5 mg	10	Prolomet-AM BILAYERED TAB	78
Prolomet-R	SUN	Prolomet-R Metoprolol tartrate 25 mg, ramipril 2.5mg.	10	Prolomet-R BILAYERED TAB	89
Prolomet-R	SUN	Prolomet-R Metoprolol tartrate 25 mg, ramipril 2.5mg.	10	Prolomet-R BILAYERED TAB	136
Prolomet-XL	Arian	Prolomet-XL 12.5mg	10	Prolomet-XL Bilayered EXTAB	25
Prolomet-XL	Arian	Prolomet-XL 50mg	10	Prolomet-XL Bilayered EXTAB	40
Prolomet-XL	Arian	Prolomet-XL 25mg	10	Prolomet-XL Bilayered EXTAB	64
Prolomet-XL	Arian	Prolomet-XL 100mg	10	Prolomet-XL Bilayered EXTAB	99
Promolet-AM	Sun	Promolet-AM Metoprolol tartrate 50 mg,amlodipine 5mg.	10	Promolet-AM BILAYERED TAB	81
Protol-XL	Eris	Protol-XL 50mg	10	PROTOL XL-FC TAB	36
Protol-XL	Eris	Protol-XL 25mg	10	PROTOL XL-FC TAB	55
Protol-XL	Eris	Protol-XL 100 mg	10	PROTOL XL-FC TAB	82

Revelol	IPCA	Revelol 25mg	10	Revelol FC -TAB	42.5
Revelol	IPCA	Revelol 50mg	10	Revelol FC -TAB	62
Revelol	IPCA	Revelol 100mg	10	Revelol FC -TAB	84.5
Revelol-AM	IPCA	Revelol-AM Metoprolol tartrate (ER) 25 mg, amlodipine 5 mg.	7	Revelol-AM FC TAB	41
Seloken-XL	AstraZeneca	Seloken-XL 25 mg	15	Seloken-XL FC TAB	103.7
Seloken-XL	AstraZeneca	Seloken-XL 50 mg	15	Seloken-XL FC TAB	163
Seloken-XL	AstraZeneca	Seloken-XL100 mg	15	Seloken-XL FC TAB	197
Seloram	AstraZeneca	Seloram Metoprolol tartrate 25 mg, ramipril 2.5 mg	7	Seloram FC -TAB	70.5
Seloram	AstraZeneca	Seloram Metoprolol tartrate 50 mg, ramipril 2.5 mg	7	Seloram FC -TAB	105.8
Sitelol-AM	Sanofi	Sitelol-AM Metoprolol 50 mg,amlodipine 5 mg.	10	Sitelol-AM C AP	60
Sitelol-XR	Sanofi	Sitelol-XR 25mg	10	Sitelol-XR C AP	29.8
Sitelol-XR	Sanofi	Sitelol-XR50mg	10	Sitelol-XR C AP	45
Starpress-AM XL	LUPIN	Starpress-AM XL Metoprolol 25 mg, amlodipine 5 mg.	10	Starpress-AM XL TAB	79.04
Starpress-AM XL	LUPIN	Starpress-AM XL Metoprolol 50 mg, amlodipine 5 mg.	10	Starpress-AM XL TAB	79.04
Starpress-R XL	LUPIN	Starpress-R XL Metoprolol tartrate 25 mg, ramipril 2.5 mg.	10	Starpress-R XL BILAYEREDTAB	80.5
Starpress-XL	LUPIN	Starpress-XL 25mg	10	Starpress-XL ER-FC -TAB	43.74

Starpress-XL	LUPIN	Starpress-XL 50mg	10	Starpress-XL ER-FC -TAB	72.6
Supermet-AM	AHPL	Supermet-AM Metoprolol succinate 50 mg, amlodipine 5 mg.	10	Supermet-AM TAB	59.35
Supermet-XL	AHPL	Supermet-XL 100mg	10	Supermet-XL TAB	72.14
Supermet-XL	AHPL	Supermet-XL 50mg	10	Supermet-XL TAB	36.07
Supermet-XL	AHPL	Supermet-XL 25mg	10	Supermet-XL TAB	23.12
Tenmet	Invision	Tenmet 25mg	10	Tenmet TAB	21.42
Tenmet	Invision	Tenmet 50mg	10	Tenmet TAB	28.57
Tenmet	Invision	Tenmet 50 mg	10	Tenmet ER TAB	35.71
Tolol-AM	Unichem	Tolol-AM Metoprolol (ER) 25 mg, amlodipine 5 mg.	10	Tolol-AM TAB	41
Tolol-AM	Unichem	Tolol-AM Metoprolol (ER) 50 mg, amlodipine 5 mg.	10	Tolol-AM TAB	58
Tolol-XR	Unichem	Tolol-XR 12.5mg	10	Tolol-XR FC - TAB	18.75
Tolol-XR	Unichem	Tolol-XR 25mg	10	Tolol-XR FC - TAB	32.5
Tolol-XR	Unichem	Tolol-XR 50mg	10	Tolol-XR FC - TAB	57.7
Tolol-XR	Unichem	Tolol-XR 100mg	10	Tolol-XR FC - TAB	82
Topol-XL	Lupin	Topol-XL 25mg	10	Topol-XL TAB	40
Topol-XL	Lupin	Topol-XL 50mg	10	Topol-XL TAB	60
Topol-XL	Lupin	Topol-XL 100mg	10	Topol-XL TAB	70
Vinicor-AM	IPCA	Vinicor-AM Metoprolol 25 mg, amlodipine 2.5 mg.	10	Vinicor-AM TAB	37

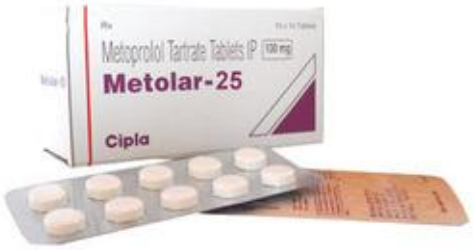
Vinicor-AM	IPCA	Vinicor-AM Metoprolol 25 mg, amlodipine 5 mg.	10	Vinicor-AM TAB	43
Vinicor-AM	IPCA	Vinicor-AM Metoprolol 50 mg, amlodipine 2.5 mg.	10	Vinicor-AM TAB	50
Vinicor-D	IPCA	Vinicor-D Metoprolol 25mg, Chlorthalidone 6.25 mg.	10	Vinicor-D TAB	59
Vinicor-D	IPCA	Vinicor-D Metoprolol 50mg, Chlorthalidone 12.5 mg.	10	Vinicor-D TAB	63.5
Vinicor-XL	IPCA	Vinicor-XL 25mg	10	Vinicor-XL TAB	45
Vinicor-XL	IPCA	Vinicor-XL 25mg	10	Vinicor-XL TAB	62.5
Vinicor-XL	IPCA	Vinicor-XL 25mg	10	Vinicor-XL TAB	90
Vivalol	Glenmark	Vivalol 25mg	10	Vivalol EXT TAB	41.2
Vivalol	Glenmark	Vivalol 50mg	10	Vivalol EXT TAB	51.2
Vivalol	Glenmark	Vivalol 100mg	10	Vivalol EXT TAB	66.7
Vivalol-AM	Glenmark	Vivalol-AM Amlodipine 5 mg, metoprolol tartrate (ER) 25 mg.	10	Vivalol-AM FC - TAB	
Vivalol-AM	Glenmark	Vivalol-AM Amlodipine 5 mg, metoprolol tartrate (ER)50 mg.	10	Vivalol-AM FC - TAB	
Vivalol-XL	Glenmark	Vivalol-XL 50mg	10	Vivalol-XL ERFC-TAB	56.1
Vivalol-XL	Glenmark	Vivalol-XL 25mg	10	Vivalol-XL ERFC-TAB	41.2
XM-Beta	MacleodS	XM-Beta 25mg	10	XM-Beta ER TAB	43
XM-Beta	MacleodS	XM-Beta 25mg	10	XM-Beta ER TAB	63
Zoticus	Micro Cardicare	Zoticus 25mg	10	Zoticus TAB	10.8
Zoticus	Micro Cardicare	Zoticus50mg	10	Zoticus TAB	17

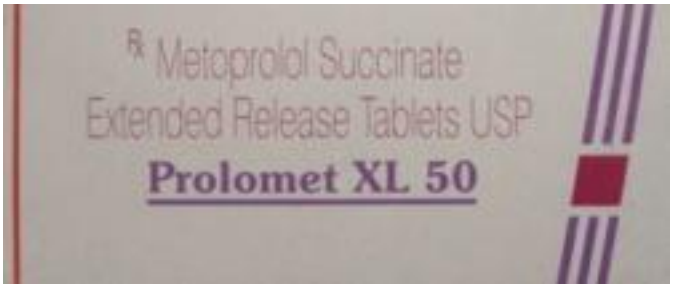
(TABLE NO. 5)

Interpretation:

- Table no.-5 enlisted all the direct competitors of the Metaprolol market.
- These are the brands of Metaprolol which were available in the market.
- This list clearly shows that there is a lot of competition in the market.
- All the big names are in this market one needed a proper strategy before they launch a Metaprolol product in this category.
- More than 50 companies have launched their Metaprolol brand in the market.
- Mepol is the cheapest among them all (50 mg, 10 tablets, price-7 rupee)

Some popular brands of Metaprolol:





PRIMARY DATA ANALYSIS:

Here is the primary data collected by direct interview to the doctor and retailers of different cities. The interview with the doctors was done with the help of semi-structured questionnaire.

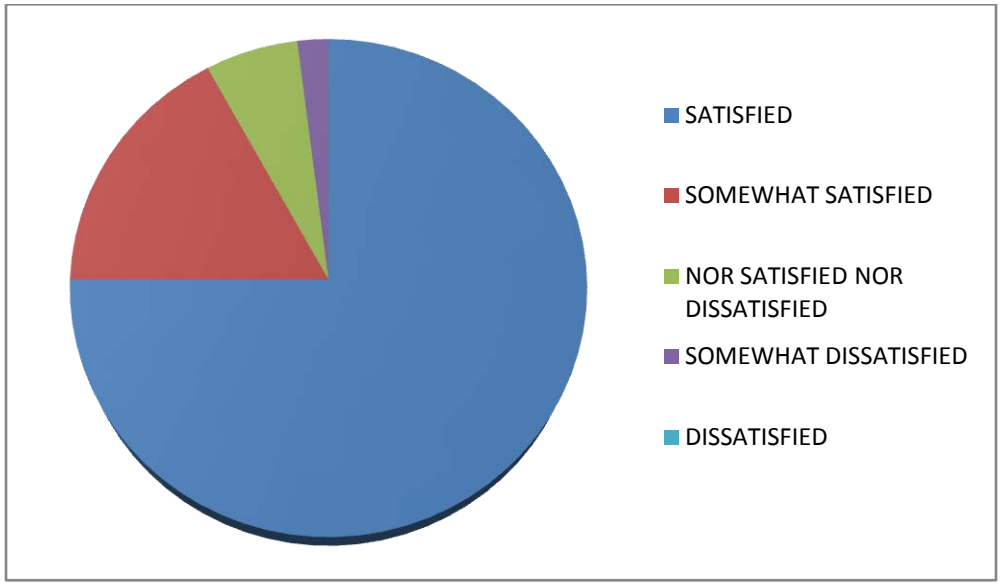
Findings from collected data:

1. **Perception of doctors about effectiveness of Metaprolol:** first questionnaire gives an account that are the prescribers are satisfied by the effectiveness of the Metaprolol or not.

DOCTOR'S PERCEPTIONS	SATISFIED	SOME WHAT SATISFIED	NOR SATISFIED NOR DISSATISFIED	SOME WHAT DISSATISFIED	DISSATISFIED
NUMBER OF DOCTORS	75%	17%	6%	2%	0

(TABLE-6)

It can also be represented by this following graph-



(GRAPH-8)

Interpretation:

- By this response and graph it is easier to interpret that doctor are satisfied with the performance of Metaprolol as a drug and it is giving a good response to the patients also and if it is showing a good result to the patient then definitely doctors will continue to prescribe it so it means door of market are open for Metaprolol and there is lots of opportunities for Metaprolol.
- 75% of doctors are truly satisfied with its effectiveness and there was not a single doctor who was dissatisfied with its effectiveness which is a good signal.

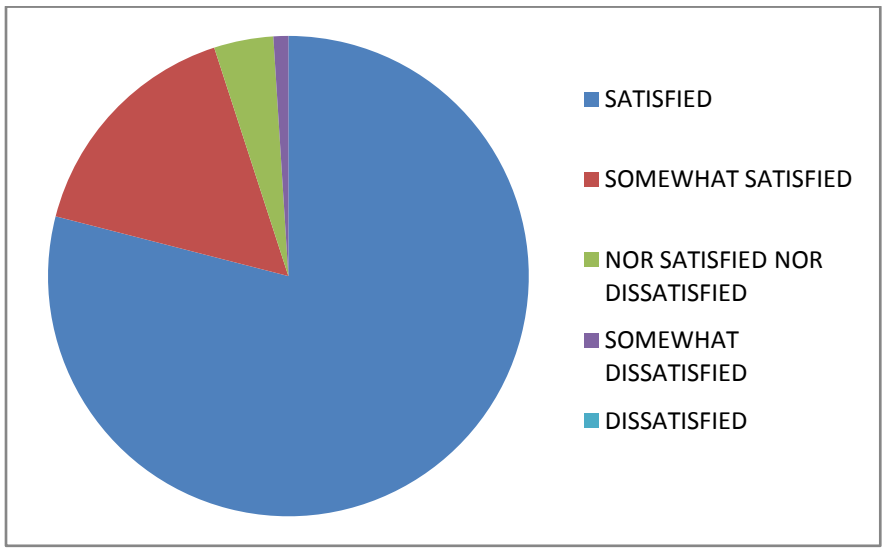
Perception of doctors about price of Metaprolol

2. Perception of doctors about price of Metaprolol :

By the response of second questions it can be clear that are doctors satisfied with the price profile of the Metaprolol as a molecule -

DOCTOR'S PERCEPTIONS	SATISFIED	SOME WHAT SATISFIED	NOR SATISFIED NOR DISSATISFIED	SOME WHAT DISSATISFIED	DISSATISFIED
NUMBER OF DOCTORS	79%	16%	4%	1%	0

(TABLE-7)



(GRAPH-9)

Interpretation:

Price is the important point of consideration of doctors that whether patient is can afford the drug or not

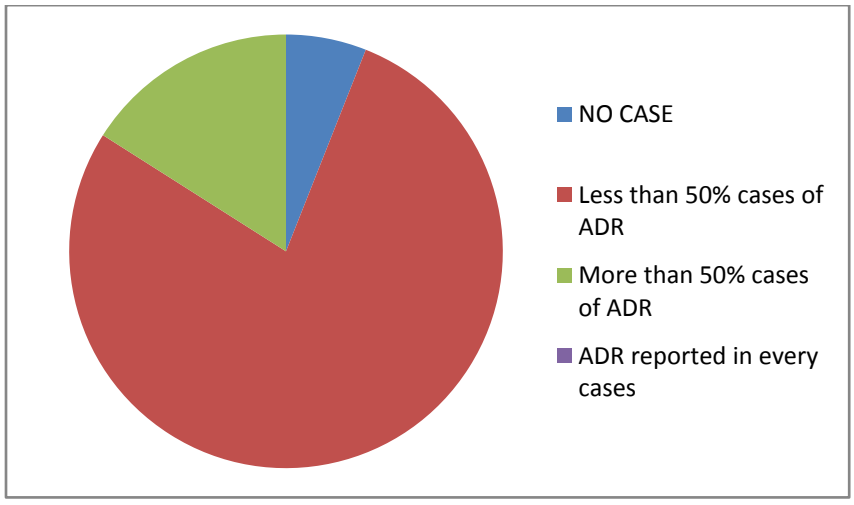
- 79% of cardiologists are satisfied with the price range of the Metaprolol they think it is cost effective and its price is under the affordability range of the patients.
- 16 cardiologists were somewhat satisfied with it means they are not totally agree that price of Metaprolol is somewhat is not reasonable and should be a bit lower.
- If a doctor thinks a drug is effective and affordable for patient then he will definitely prescribe it and that will open the doors of opportunities for Metaprolol.

3. Perceptions of doctors about Metaprolol in terms of adverse drug reactions :

Responses from question number 3 clears account that how much is the risk of adverse drug reactions in the patients-

Doctors perceptions	No case of ADR seen	LESS THAN 50% CASES OF ADRS HAVE SEEN	MORE THAN 50 % CASES OF ADRS HAVE SEEN	ADRS HAVE SEEN IN EVERY CASES
No. of doctors	6%	78%	16%	0

(TABLE-8)



(GRAPH-10)

Interpretation:

- Doctor always prescribes those drugs which are safer for the patients mean lesser adverse effects.
- Lesser the side effects more popular will be drug.
- Here 78% of cardiologists are sure that they have seen ADRs in mainly "less than 50% of cases". Which proves that Metaprolol a quite safer drug in cardiologists point of view.
- This point also strengthen the earlier point because it has low chances of ADRs so doctors are going to prescribe it more and it creates a path with full of opportunity and profit for Metaprolol.

4. **Side effects noticed by respondent cardiologists** :

With the help of semi structured questionnaire by the response of question no. 5 here we are able to know that which side effects has been observed by the respondent doctors in maximum cases during the use of Metaprolol as a drug. It can be seen in following table:

COMMONLY OCCURING SIDE EFFECTS OBSERVED BY CARDIOLOGISTS	OBSERVED BY DOCTORES (NO. OF DOCTORS OUT OF 100)
DIZZINESS	64%
VOMITING	59%
NAUSEA	31%
BRADYCARDIA AND HYPOTENSION	10%
ALOPECIA	9%
UNUSUAL DREAMS	7%
DIARRHOEA	6%
CARDIAC HEPETITIS	6%
GI DISTURBANCE	3%
FATIGUE	3%
SLEEPLESSNESS	1%

(TABLE NO. - 9)

Interpretation:

- There are Maximum cases of dizziness as an ADR. Dizziness has been observed by the 64% of doctors.

- After dizziness, vomiting is the second most observed ADR it was observed by 59% of doctors.
- Here by this table it can be easily said that respondent doctors has noticed mostly less serious side effects which has low severity.
- These side effects are not lethal and they can rarely put the life in danger. In these commonly occurring side effects which were usually observed by doctors in those patients who were using Metaprolol, can be taken care of easily.
- Somehow the drug if safe for the patient and in ADR cases ADRs are not much reason for worry they can be taken care by different ways. For example: warning about the dizziness can be mention on the pack and use of Metaprolol can be timed so that dizziness due to Metaprolol could not harm patient in any way.
- It can be said that use of Metaprolol cannot be interrupted by the ADRs observed.
- It means use of Metaprolol cannot be harmful for the life of the patient. Patient can use it freely.

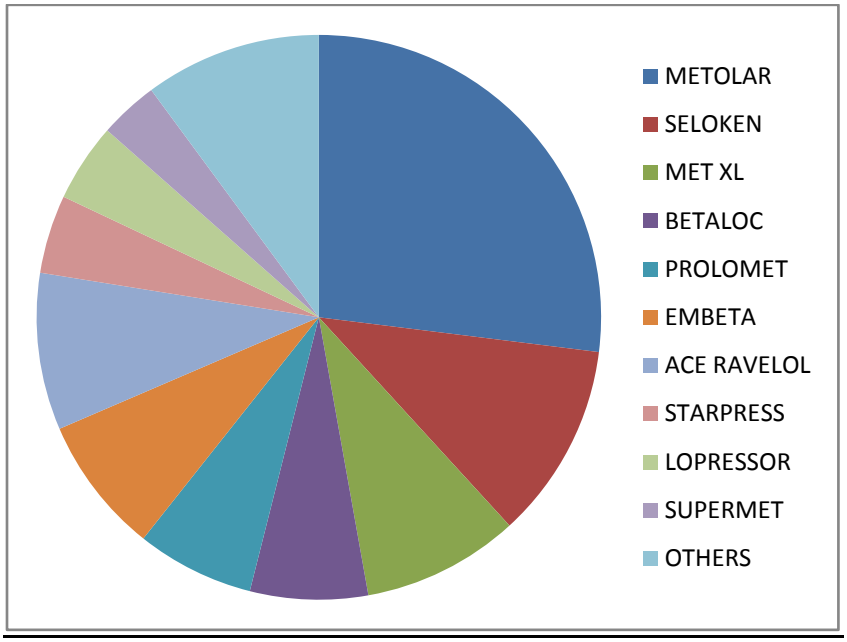
5. Doctor's preference about Metaprolol brand:

With the help response of this semi structure questionnaire's question no. 4 we are able to identify that doctor's are prescribing which brand of Metaprolol and why:

A) **LIST OF BRAND WHICH ARE PRESCRIBING BY RESPONDENT DOCTORS:**

S.N.	NAME OF BRANDS PREFERRED BY RESPONDENT DOCTORS	NUMBER OF DOCTER WHO PRESCRIBE THE DRUG	NAME OF THE COMPNAY
1	**METALOR**	24	CIPLA
2	**METAPURE**	16	EMCURE
3	**SELOKEN**	10	ASTRAZENECA
4	**MET XL**	8	AJANTA
5	**BETALOC**	6	ASTRAZENECA
6	**PROLOMET**	6	SUN PHARMA
7	**EMBETA**	5	INTAS
8	**ACE RAVELOL**	5	IPCA
9	**STARPRESS**	4	LUPIN
10	**LOPRESSOR**	4	TAJ
11	**SUPERMET**	3	AHPL
12	**METOCARD**	2	TORRENT
13	**METOX-AM**	2	WOCKHARDT
14	**METZOK**	2	USV
15	**GUDPRESS**	2	MANKIND
16	**METOMAC**	1	MACLEODS

(TABLE NO.-10)

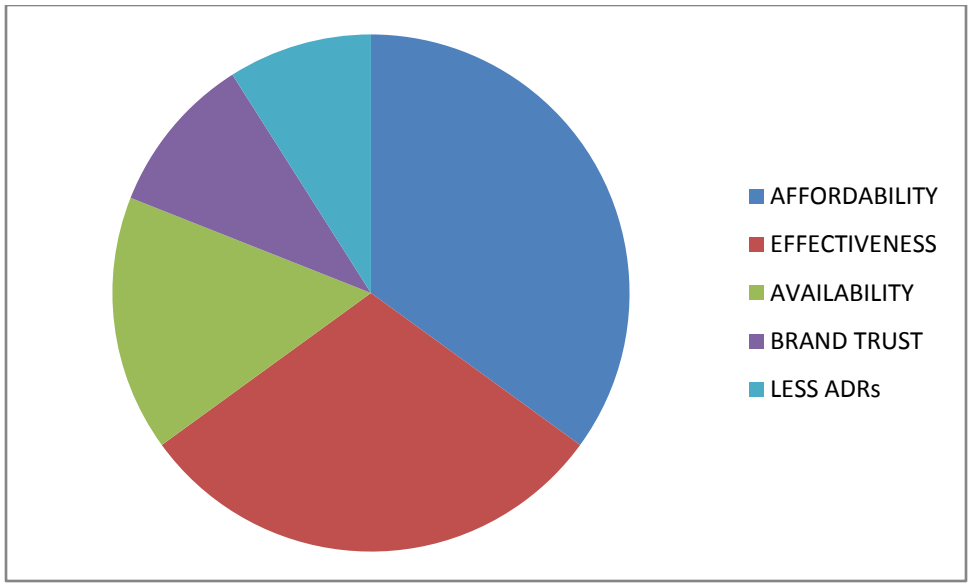


(GRAPH-11)

B) BEST POSSIBLE REASON GIVEN BY RESPONDENT DOCTOR WHICH PREVAIL THEM MOST TO PRESCRIBE THAT SPECIFIC BRAND WHICH THEY ARE PRESCRIBING FOR METAPROLOL:

S.NO.	BEST POSSIBLE REASONS GIVEN BY DOCTORS THAT BECAUSE OF WHICH THEY PRESCRIBE THIS BRAND OF METAPROLOL	NO. OF DOCTORS
1	AFFORDIBILITY	35
2	EFFECTIVENESS	30
3	EASY AVAILABILITY	16
4	BY THE NAME OF TRUSTED BRANDS	10
5	LESS ADRs	9

(TALE NO.-11)

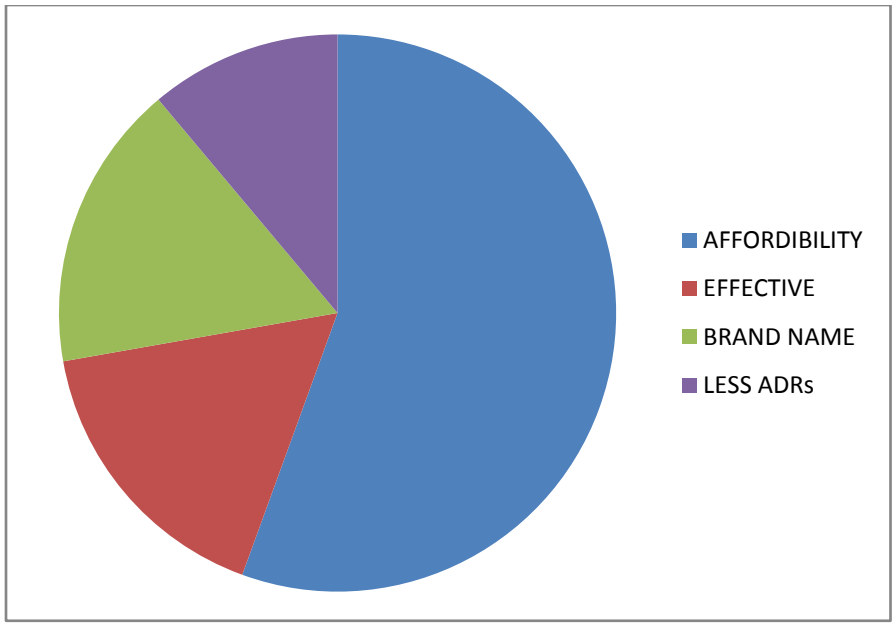


(GRAPH-12)

(C) BEST POSSIBLE REASON FOR PRESCRIBING METOLAR GIVEN BY THOSE DOCTORS WHO ARE PRESCRIBING METOLAR WHICH IS PRESCRIBING BY MAXIMUM NUMBER OF DOCTORS:

S.NO.	REASON FOR PRESCRIBING METOLAR	NO. DOCTORS WHO PRESCRIBE METOLAR BECAUSE OF THE GIVEN REASON	PERCENTAGE OF DOCTORS WHO PRESCRIBE METOLAR BECAUSE OF GIVE REASON
1	**AFFORDIBILITY**	10	41.66%
2	**AVAILABILITY**	6	25%
3	**EFFECTIVE**	3	16.66%
4	**BRAND NAME**	3	12.5%
5	**LESS ADRs**	2	12.5%

(TABLE NO. - 12)



(GRAPH-13)

Interpretation:

- Table no.-10 has clearly shown that Metolar has the biggest market because it is prescribe by 24% of doctors.
- With the help of graph-11 we can say that Leading brand like Metolar,metpure,selokeen ,met xl, betaloc and prolomet covers around 70% of respondent doctors.
- Metolar has been prescribed by maximum number of doctors so it can be said that that it is leading brand in Metolar in research areas.
- Table-11 gives an account of those best possible reasons because of which doctors are prescribing their own brand of Metaprolol among many other brands which are available in the market.
- By graph-12 it is clear that maximum doctors first prioritize affordability of drug then prescribe because 35 doctor prescribe Metaprolol on the basis of price of the medicine they consider first that whether the drug is affordable for patient or not.
- In pharmaceutical industry doctors are considering as the primary customers and if maximum doctors are prescribing a drug it means this drug will have good image in the market, maximum market share in the market and growth rate will be high.
- With help of table-12 is showing the most prime reason for prescribing Metaprolol we can interpret that why most of the doctors are prescribing Metolar.
- Graph-13 is clearly showing that most of the doctors are prescribing because it has affordable price.

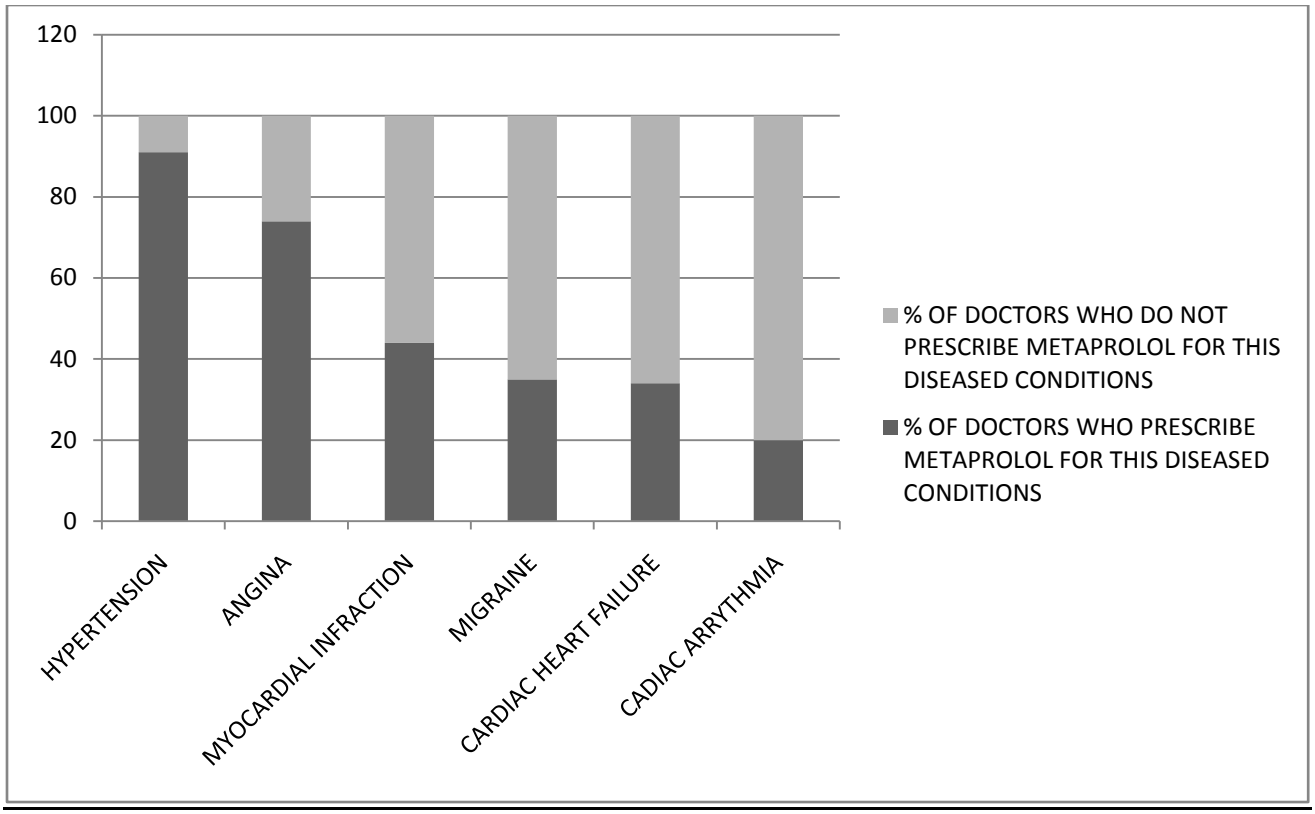
- Around 41.66% of doctors are prescribing Metolar because it is affordable, 25% of doctors are prescribing it because it is easily available,16.66% of doctors are prescribing it because it is effective , 12.5% doctors prescribe it because a big and trusted company's name is attached with it that means for them they have trust in the big brand that is why they were prescribing it.
- Hence with the help of graph-12 and graph -13 it is clear that in the market competition is first based on price.
- If any company wants to launch its Metaprolol product in the market then they must lower its price so it can become easily affordable for patients and can compete strongly with the existed market competitors.

6. DOCTORS ARE PRESCRIBING THE METAPROLOL SPECIFICALLY FOR WHICH DISEASED CONDITIONS:

- Doctors are prescribing the Metaprolol for various diseased conditions. those conditions in which according to doctors Metaprolol has given always best results are as following-

S.NO.	DISEASED CONDITIONS	NO. OF DOCTORS WHO PRESCRIBE METAPROLOL IN FOLLOWING CONDITIONS (OUT OF HUNDRED)
1	HYPERTENSION	91
2	ANGINA	74
3	MYOCARDIAL INFRACTION	44
4	MIGRAINE	34
5	CRDIAC HEART DISEASE	35
6	CARDIAC ARRYTHMIA	20

(TABLE NO.-13)



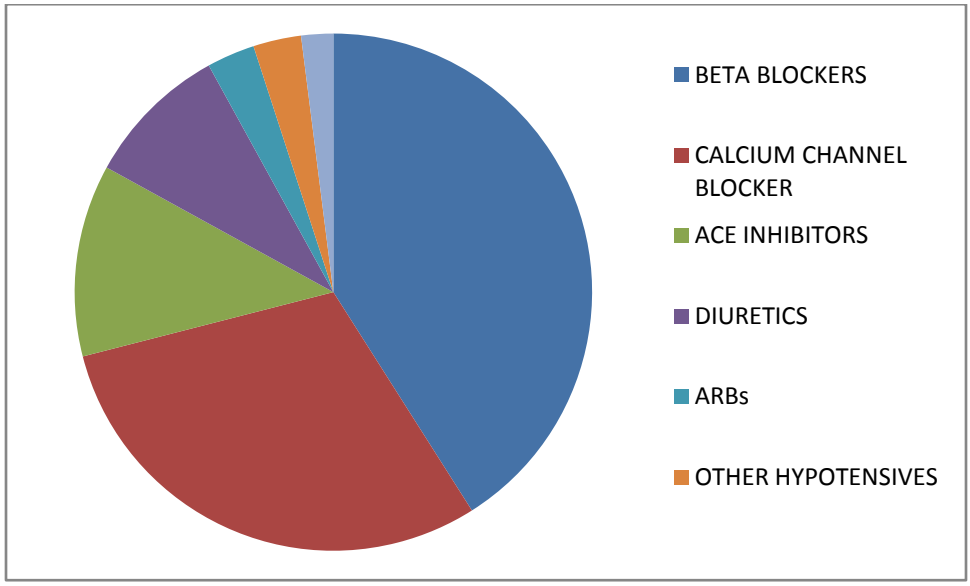
(GRAPH-14)

INTERPRETATION:

- Here graph number 14 clearly says that 91% of doctors are agreeing to use Metaprolol as an anti hypertensive. as an effective antihypertensive Metaprolol has lots of votes.
- it shows that maximum doctors are prescribing as antihypertensive which means it has big market share in antihypertensive drugs.
- Antihypertensive market is considered as a very potent and powerful market in India and this data shows that as a anti hypertensive it is quite popular among doctors.
- It means Metaprolol's target market is antihypertensive market where it has lots of opportunities and growth.
- Metaprolol has also opportunity in treatment of Angina, MI, CHF, Migraine and Cardiac Arrhythmia also which means Metaprolol has multidirectional market in cardiac segments so it is a very positive sign for Metaprolol producers.

7. PREFERENCE OF DOCTORS FOR TREATMENT OF HYPERTENSION:

- here is the introduction of indirect competitors of Metaprolol:



(GRAPH-14)

S.NO.	NAME OF DRUGS	NO. OF DOCTORS
1	BETA BLOCKERS	41
2	CALCIUM CHANNEL BLOCKERS	30
3	ACE INHIBITORS	12
4	DIURETICS	9
5	ARBs	3
6	OTHER HYPOTENSIVES	3
7	COMBINATIONS	2

(TABLE NO.-14)

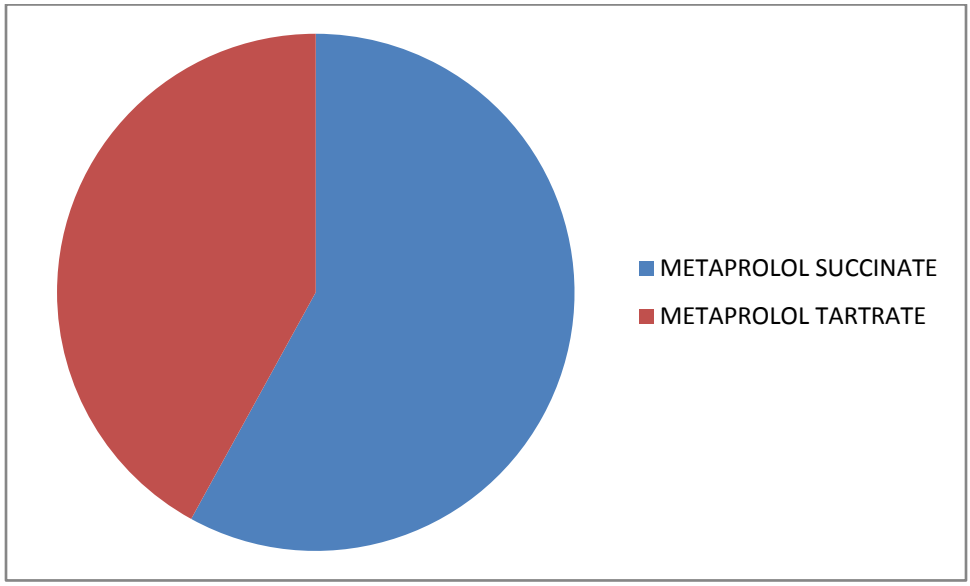
INTERPRETATION:

- Here with help of graph-14 it can be said that maximum number of doctors are preferring beta blockers as a anti hypertensive which is a good news for Metaprolol because it comes from this family.
- Beta-blockers are favorites of maximum doctors and by the graph-13 it was clear that Metaprolol has biggest opportunity in antihypertensive market so this data supporting Metaprolol.

- One most important thing came in front by this data that now we knows that who are the biggest indirect competitors of Metaprolol in antihypertensive segments where Metaprolol has large market.

8. COMPARISON BETWEEN METAPROLOL SUCCINATE AND METAPROLOL TARTRATE:

Metaprolol has two salt Metaprolol succinate and Metaprolol tartrate . here is the comparison that which salt doctors prefer most :



(GRAPH-15)

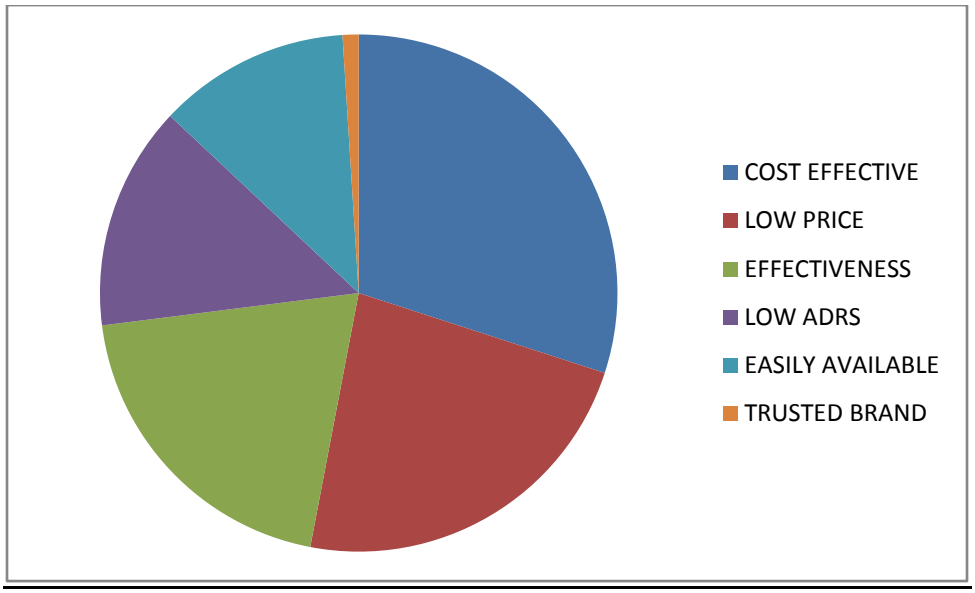
S.NO.	METAPROLOL SALT	% DOCTORS WHO PREFER THIS
1.	METAPROLOL SUCCINATE	58%
2.	METAPROLOL TARTRATE	42%

(TABLE NO.-15)

INTERPRETATION:

- here tabl-15 clearly showing that Metaprolol succinate has 58% votes and Metaprolol tartrate has 42% of doctor's vote
- Generally both have same property but in terms of effectiveness 95mg of Metaprolol succinate is equal to 100 mg Metaprolol tartrate.
- Here graph-15 has clearly showing that both not have much difference but more doctors like Metaprolol succinate.

9. What motivates most to doctors to prescribe Metaprolol:



(GRAPH-16)

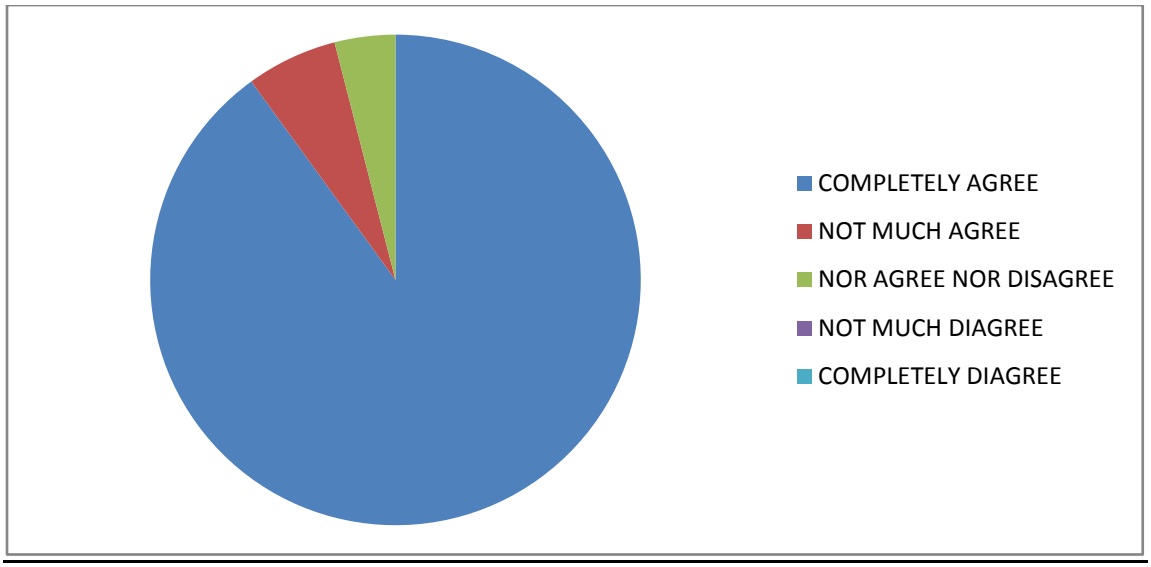
S. NO.	QUALITIES	NO. OF DOCTORS WHO SUPPORT THIS QUALITY
1	COST EFFECTIVE	30
2	LOW PRICE	23
3	EFFECTIVENESS	20
4	LOW ADRs	14
5	EASILY AVAILABLE	12
6	TRUSTED BRAND NAME	1

(TABLE NO. -15)

INTERPRETATION:

- By help of graph 16 it is clear that maximum doctors prescribe mainly those drugs which are cost effective and they prefer those drug most which have low and affordable price but they should be effective according to the price.
- Only low price dug cannot be said as cost effective, if the drug is effectively working and doing justice whatever the price patient has paid to him only then it is called effective.
- It means if a company want to introduce its Metaprolol in this highly competitive market then it has to be cost effective in best manner.

10. DOCTOR'S PERCEPTION THAT DEMAND OF METAPROLOL IS INCREASING OR NOT:



(GRAPH-17)

S.NO.	DOCTOR'S PERCEPTION	NO. OF DOCTORS
1	COMPLETELY AGREE	90
2	NOT MUCH AGREE	6
3	NOT AGREE NOR DISAGREE	4
4	NOT MUCH DISAGREE	0
5	COMPLETELY DISAGREE	0

(TABLE-17)

INTERPRETATION:

- 90% of doctors are agreeing that demand of Metaprolol is rapidly increasing and demand always boost the growth of market.
- Graph-17 has made this totally clear that Metaprolol demand is increasing and in upcoming time it will grown more.
- it is clearly shown by the table-17 that doctor are giving hope to the Metaprolol market and if primary customer is completely agree that demand is increasing then it means there is a lot of opportunity and profit business for Metaprolol.
- It opens the doors of opportunity for Metaprolol.

RESULT:

- From the primary data research and secondary data research it has been find that demand of Metaprolol is increasing according to the doctors *(GRAPH-17).*that means it has a very potential market with full of opportunities and industry can take advantage of that easily.
- Cost effectiveness of the drug is the biggest motivating factor for doctors because of which maximum doctors were choosing the Metolar-XR as their first choice of Metaprolol.*(GRAPH-11)*
- So if a company wants to introduce its Metaprolol in the market then it has to take care of its cost effectiveness to make its product visible in the market.
- In terms of effectiveness and in terms of price maximum doctors are satisfied with Metaprolol drug which is a good sign for the market and that ensures that doctors are going to prescribe it more and its market will grow.*(GRAPH-8,GRAPH-9)*
- In terms of safety Metaprolol, maximum doctors have noticed less than 50% cases of ADRs. Dizziness has noticed by maximum number of doctors as common ADRs. Some other common ADRs has also been noticed like nausea, vomiting hypotension, alopecia , unusual dreams etc these ADRs are not too dangerous and can be handled so Metaprolol is said to be quite safe for patients which is now become one more for doctors to prescribe it. That means we have another evidence of growth of Metaprolol market.
- It is found that Metaprolol has the best prescribe for cardiovascular drug and in India cardiovascular segment is of around 15% of the total pharmaceutical market and in which 60% are suffering from hypertension problem and Metaprolol chosen by maximum doctors as an antihypertensive.*(GRAPH-14*)
- At global market and us market cardiac market is biggest market and in us market which is sad to be biggest pharmaceutical market hypertension market is biggest part of it.
- An increasing market size of Metaprolol, increasing numbers of prescriptions of Metaprolol and increasing market of antihypertensive market in US market indicates the market opportunities for Metaprolol in US market.
- Increasing the size of cardiovascular market means opportunities for Metaprolol are growing. India also has a large number of hypertension patients means there is also a lots of opportunities for Metaprolol. *(GRAPH-14)*
- Metaprolol is not too old for the market and till 2012 it was growing with the CAGR of 34%.(*TABLE NO.-4*)
- Metaprolol succinate is found more popular then Metaprolol tartrate.*(GRAPH-15)*
- Metaprolol has a powerful and attractive market which is growing and which is full of lots of opportunity.

CONCLUSION:

This study ha the main objective of determining the market scenario of Metaprolol and what the perceptions of doctors about Metaprolol. We have taken an objective positivism Epistemology position, together with a deductive research approach and application of Quantitative data throughout the study. In order to answer the core research question comprehensively, 100 doctors crossing 4 cities are examined during the period from 20 April to June 10 2014.

Here it is clear that if in pharmaceutical market cardiovascular market has lots of opportunity because it has a large number of cardiac patient and specially in cardiac sector hypertension patients are maximum in number so pharmaceutical companies should focus on Metaprolol which has a very fine market not even In India but also in us market which is said to be largest pharmaceutical market. Key strength of Metaprolol is not only to be an effective drug according to the doctors it very much cost effective and its demand is constantly increasing. That means companies have a good opportunity in this segment and they need to grab this opportunity.

But Metaprolol has a very tough competition over market so to compete their direct and indirect competitors companies has to focus on the cost effectiveness of the drug which is consider as the most motivational factor for doctors when they prescribe Metaprolol. Market scenario of Metaprolol is full of opportunities and growth. Other motivating factors like availability of drug which is totally depend on distribution channel of the company and safety of drugs.

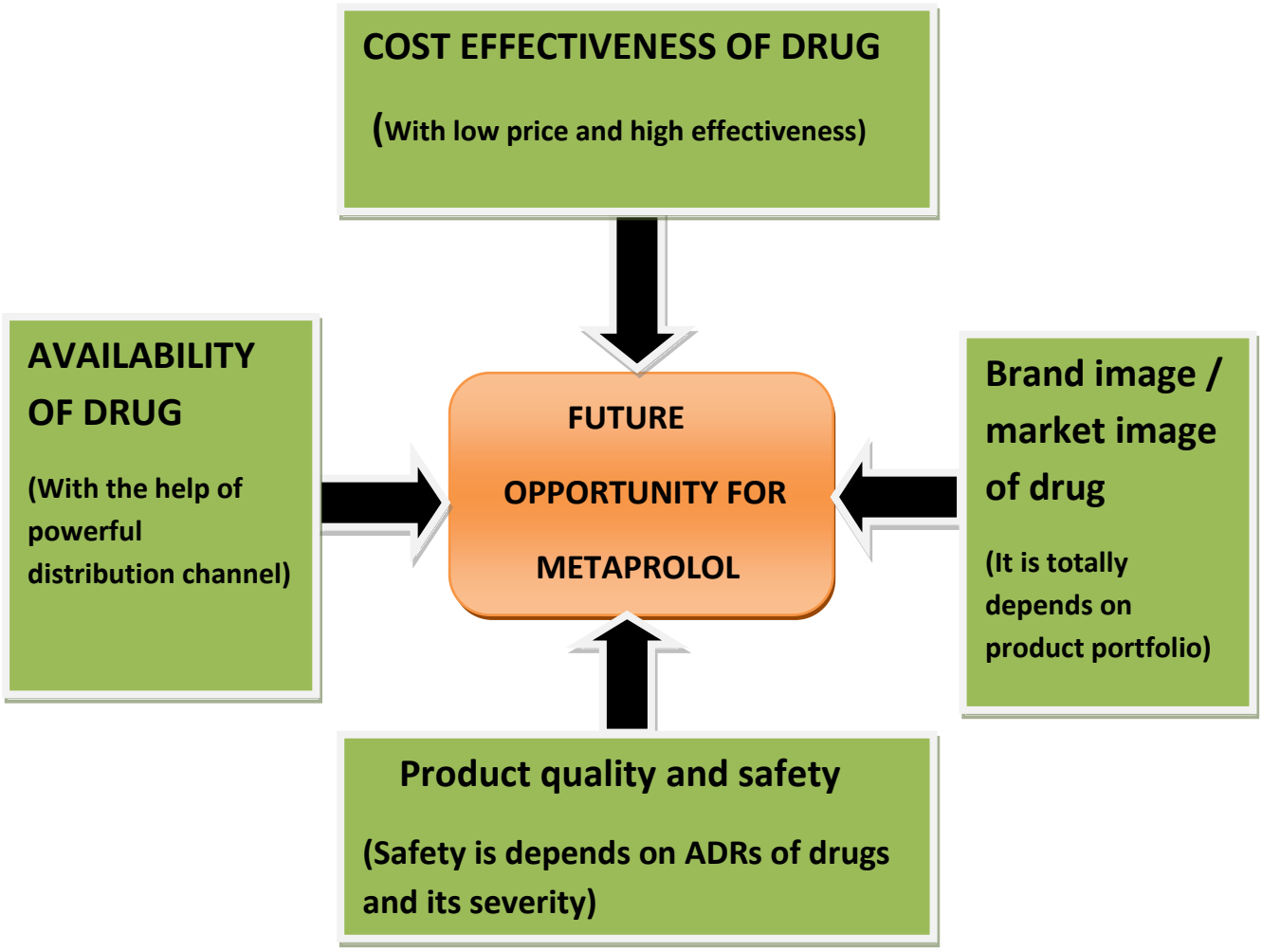
Adverse effect of Metaprolol can be neglect because they are not up to the lethal level and adverse effect is not seen very much their percentage is less than fifty. Adverse effects rose due to Metaprolol can be taken care by different other medication support or by adjusting the timing of the onset of Drug. So it can be said ADRs of Metaprolol is not going to be a serious hurdle on the way of its growth.

All these factors are supporting Metaprolol to be a very attractive market. By this research finally concluded that Metaprolol's market scenario is full of opportunities and growth. Metaprolol market can be concluded as full of profits and by taking some smart step any company can grab this opportunity.

RECOMMENDATIONS:

On the basis of the findings from this report we can recommend that cardiovascular market is a profitable market and to hit the biggest part of cardiac segment Metaprolol would be great investment. By producing Cost Effective Metaprolol Company can launch it in market via good distributing channels so it can be easily available in the market and it fulfills all the criteria of the doctors. When the doctors will found it according to their parameters then they will prescribe it and promote it among the patients. This is the only way so that companies will be able to grab this market which is full of opportunities and competition. It is the growing market and companies will not want to lose this chance. We can recommend on the basis of the facts that companies can focus on this market there lots of profit which waiting for them.

Although there is lots of competition in the market but according to the findings from this report I recommend following models according to the priority setting for success of the drug. From the bottom of this triangle company needs to set their priority to compete in the market and if they want to be most favorite brand of doctors. But each factor of this model is equally important to establish this drug in the market.



Ethical considerations:

- Respondent was fully aware about the study.
- All the respondent has fill the questionnaire with their own interest.

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