

**Summer Training at**



**To Study the Market Scenerio of Telmisartan**

**By  
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**Under the guidance of  
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**MBA-Pharmaceutical Management (MBA-PM)  
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2014**

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CERTIFICATE

This is to certify that Mr. ANSHUL TYAGI 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 Telmisartan" assigned to him 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

## To Whom So Ever It May Concern

This is to Certify that Mr. ANSHUL TYAGI S/o Mr. RAKESH  
TYAGI from Institute DHMR University have undergone for Marketing Project  
under my Inspection and guidance for Dates To Date 16<sup>th</sup> April to 20<sup>th</sup> June

On Product TELMESARTAN

I wish him for his successful Career in future.

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

## **ACKNOWLEDGEMENT:**

Working on this project proved to be the lifetime experience for me. Our sincere thanks to our mentor Mr. Abhishek dadhich , for his invaluable support and guidance, without which we could have never been able to accomplish the task at hand.

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## INTRODUCTION OF PHARMA INDUSTRY

The **Indian Pharmaceutical Industry** today is in the front rank of India's science-based industries with wide ranging capabilities in the complex field of drug manufacture and technology. It ranks very high in the third world, in terms of technology, quality and range of medicines manufactured. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously.

Playing a key role in promoting and sustaining development in the vital field of medicines, **Indian Pharma Industry** boasts of quality producers and many units approved by regulatory authorities in USA and UK. International companies associated with this sector have stimulated, assisted and spearheaded this dynamic development in the past 53 years and helped to put India on the pharmaceutical map of the world.

### Growth Scenario in 2014

India's pharmaceutical industry is now the third largest in the world in terms of volume. Its rank is 14th in terms of value. Between September 2012 and September 2013, the total turnover of India's pharmaceuticals industry was US\$ 21.04 billion. The domestic market was worth US\$ 12.26 billion. This was reported by the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers. As per a report by IMS Health India, the Indian pharmaceutical market reached US\$ 10.04 billion in size in July 2014.

### Leading Pharmaceutical Companies

In the domestic market, Cipla retained its leadership position with 5.27 per cent share. Ranbaxy followed next. The highest growth was for Mankind Pharma (37.2%). Other leading companies in the Indian pharma market in 2014 are:

- Sun Pharma (25.7%)
- Abbott (25%)
- Zydus Cadila (24.1%)
- Alkem Laboratories (23.3%)
- Pfizer (23.6 %)
- GSK India (19%)
- Piramal Healthcare (18.6 %)
- Lupin (18.8 %)
- Dr. Reddy's (4.2 %)

## MARKETING MIX

Marketing decisions generally falls into the following four controllable categories-

- ❖ Product
- ❖ Price
- ❖ Place
- ❖ Promotion

The term marketing mix became popularized after Neil H.Borden published his 1964 article, the concept of marketing mix. Borden began using the term in his teaching in the late 1940's. The ingredients in Borden marketing mix are product, planning, branding, pricing, distribution channels, advertising, display, personal selling, packaging, servicing, physical handling, and fact finding and analysis. E.Jerom Mc Carthy later grouped these ingredients into the four categories that today are known as 4P's of marketing.



These 4P's are the parameters that the marketing manager can control, subject to the internal and external constraints of the marketing environment. The goal is to make the decisions that centre the 4P's on the customers in the target market in order to create perceived value and generate a response.

**PRODUCT**-The term „PRODUCT“ refers to tangible, physical products, as well as services .Here are the some examples of product decisions to be made-

- ❖ Brand name
- ❖ Stylish
- ❖ Quality
- ❖ Functionality
- ❖ Safety
- ❖ Packaging
- ❖ Repairs and support
- ❖ Warranty
- ❖ Accessories and support

For many a product is simply the tangible, physical entity that they may be buying or selling. Example you buy a new car and that's the product - simple! Or maybe not. When you buy a car, is the product more complex than you first thought? In order to actively explore the nature of a product further, let's consider it as three different products –

- I. CORE** product,
- II. ACTUAL** product,
- III. AUGMENTED** product.

These are known as the 'Three Levels' of a Product.

- I. CORE** product- : is NOT the tangible, physical product. You can't touch it. That's because the core product is the BENEFIT of the product that makes it valuable to you.
- II. ACTUAL** product-: is the tangible, physical product. You can get some use out of it
- III. AUGMENTED** product- : is the non-physical part of the product. It usually consists of lots of added value, for which you may or may not pay a premium.

### **PRICE-**

Some example of pricing decisions to be made include-

- ❖ Pricing strategy
- ❖ Suggested retail price
- ❖ Volume discount and wholesale pricing
- ❖ Cash and early payment discounts
- ❖ Seasonal pricing
- ❖ Bundling
- ❖ Price flexibility
- ❖ Price discrimination

### **PLACE-**

Distribution is about getting the product to the customer. Some example of distribution decisions include-

- ❖ Distributional channels
- ❖ Marketing coverage
- ❖ Warehousing
- ❖ Specific channel members
- ❖ Transportation
- ❖ Reverse logistics
- ❖ Distribution centres
- ❖ Inventory management
- ❖ Order processing

### **Types of Channel Intermediaries.**

There are many types of intermediaries such as wholesalers, agents, retailers, the Internet, overseas distributors, direct marketing (from manufacturer to user without an intermediary), and many others. The main modes of distribution will be looked at in more detail.

### **1. Channel Intermediaries - Wholesalers**

- They break down 'bulk' into smaller packages for resale by a retailer.
- They buy from producers and resell to retailers. They take ownership or 'title' to goods whereas agents do not (see below).
- They provide storage facilities. For example, cheese manufacturers seldom wait for their product to mature. They sell on to a wholesaler that will store it and eventually resell to a retailer.
- Wholesalers offer reduce the physical contact cost between the producer and consumer e.g. customer service costs, or sales force costs.
- A wholesaler will often take on the some of the marketing responsibilities. Many produce their own brochures and use their own telesales operations.

### **2. Channel Intermediaries - Agents**

- Agents are mainly used in international markets.
- An agent will typically secure an order for a producer and will take a commission. They do not tend to take title to the goods. This means that capital is not tied up in goods. However, a 'stockist agent' will hold consignment stock (i.e. will store the stock, but the title will remain with the producer. This approach is used where goods need to get into a market soon after the order is placed e.g. foodstuffs).
- Agents can be very expensive to train. They are difficult to keep control of due to the physical distances involved. They are difficult to motivate.

### **3. Channel Intermediaries - Retailers**

- Retailers will have a much stronger personal relationship with the consumer.
- The retailer will hold several other brands and products. A consumer will expect to be exposed to many products.
- Retailers will often offer credit to the customer e.g. electrical wholesalers, or travel agents.
- Products and services are promoted and merchandised by the retailer.
- The retailer will give the final selling price to the product.
- Retailers often have a strong 'brand' themselves e.g. Ross and Wall-Mart in the USA, and Alisuper, Modelo, and Jumbo in Portugal.

### **4. Channel Intermediaries - Internet**

- The Internet has a geographically disperse market.
- The main benefit of the Internet is that niche products reach a wider audience e.g. Scottish Salmon direct from an Inverness fishery.
- There are low barriers low barriers to entry as set up costs are low.
- Use e-commerce technology (for payment, shopping software, etc)

- There is a paradigm shift in commerce and consumption which benefits distribution via the Internet.

### **PROMOTION MIX-**

Promotion represents the various aspects of marketing communication. That is, the communication of information about the product with the goal of generating a positive customer response. Marketing communication decisions include-

- ❖ Promotional strategy
- ❖ Public relations and publicity
- ❖ Personal selling and sales force
- ❖ Advertising
- ❖ Sales promotions
- ❖ Marketing communication budget

Let us look at the individual components of the promotions mix in more detail. Remember all of the elements are 'integrated' to form a specific communications campaign.

#### **1. Personal Selling.**

Personal Selling is an effective way to manage personal customer relationships. The sales person acts on behalf of the organization. They tend to be well trained in the approaches and techniques of personal selling. However sales people are very expensive and should only be used where there is a genuine return on investment. For example salesmen are often used to sell cars or home improvements where the margin is high.

#### **2. Sales Promotion.**

Sales promotion tends to be thought of as being all promotions apart from advertising, personal selling, and public relations. For example the BOGOF promotion, or Buy One Get One Free. Others include couponing, money-off promotions, competitions, free accessories (such as free blades with a new razor), introductory offers (such as buy digital TV and get free installation), and so on. Each sales promotion should be carefully costed and compared with the next best alternative.

#### **3. Public Relations (PR).**

Public Relations is defined as *'the deliberate, planned and sustained effort to establish and maintain mutual understanding between an organization and its publics'* (Institute of Public Relations). It is relatively cheap, but certainly not cheap. Successful strategies tend to be long-term and plan for all eventualities. All airlines exploit PR; just watch what happens when there is a disaster. The pre-planned PR machine clicks in very quickly with a very effective rehearsed plan.

#### **4. Direct Mail.**

Direct mail is very highly focussed upon targeting consumers based upon a database. As with all marketing, the potential consumer is 'defined' based upon a series of attributes and similarities. Creative agencies work with marketers to design a highly focussed communication in the form of a mailing. The mail is sent out to the potential consumers and responses are carefully monitored. For example, if you are marketing medical text books, you would use a database of doctors' surgeries as the basis of your mail shot.

## 5. Trade Fairs and Exhibitions.

Such approaches are very good for making new contacts and renewing old ones. Companies will seldom sell much at such events. The purpose is to increase awareness and to encourage trial. They offer the opportunity for companies to meet with both the trade and the consumer. Expo has recently finish in Germany with the next one planned for Japan in 2005, despite a recent decline in interest in such events.

## 6. Advertising.

Advertising is a 'paid for' communication. It is used to develop attitudes, create awareness, and transmit information in order to gain a response from the target market. There are many advertising 'media' such as newspapers (local, national, free, trade), magazines and journals, television (local, national, terrestrial, satellite) cinema, outdoor advertising (such as posters, bus sides).

## 7. Sponsorship.

Sponsorship is where an organization pays to be associated with a particular event, cause or image. Companies will sponsor sports events such as the Olympics or Formula One. The attributes of the event are then associated with the sponsoring organization.

The elements of the promotional mix are then integrated to form a unique, but coherent campaign.

## BRIEF DESCRIPTION ABOUT INDUSTRY

### Dr. Reddy's laboratory-

It 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. 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.

|                     |                                            |
|---------------------|--------------------------------------------|
| <b>Type</b>         | Public                                     |
| <b>Traded as</b>    | NSE: DRREDDY<br>BSE: 500124<br>NYSE: RDY   |
| <b>Industry</b>     | Pharmaceuticals                            |
| <b>Founded</b>      | 1984                                       |
| <b>Headquarters</b> | Hyderabad, Andhra Pradesh, India           |
| <b>Key people</b>   | Anji Reddy (Founder)<br>G. V. Prasad (CEO) |

Kallam Satish Reddy (Chairman)

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| <b>Revenue</b>    | ▲\$2.1 billion (2012)                                  |
| <b>Net income</b> | ▲\$300 million (2012)                                  |
| <b>Employees</b>  | 16,300 (December 2012)                                 |
| <b>Website</b>    | <a href="http://www.drreddys.com">www.drreddys.com</a> |

### **GlaxoSmithKline-**

Established in the year 1924 in India GlaxoSmithKline Pharmaceuticals Ltd. (GSK Rx India) is one of the oldest pharmaceuticals company.

**Mission-** is to improve the quality of life by enabling people to do more, feel better and live longer. This mission drives us to make a real difference to the lives of millions of people with our commitment to effective healthcare solutions.

**Segments-Anticancer, antidiabetic, antiviral, gastrointestinal, cardiovascular, dermatology, respiratory, vaccines etc.**

**Turn over -28.4bn (2010)**

**Sales-539Mn\$**

**Market share-4.7%**

**Growth-13.4%**

**Major segment of GSK-anti bacterial, anti infective**

### **SUN PHARMACEUTICALS-**

Sun Pharmaceutical Industries Limited is an international specialty pharma company. It was set up in 1983 and the company started off with only 5 products to cure psychiatric illness. The Company manufactures and markets pharmaceutical formulations as branded generics, as well as generics in India, the United States and several other markets across the world. The Company's business is divided into four segments: Indian Branded Generics, US Generics, International Branded Generics (ROW) and Active Pharmaceutical Ingredients (API).

**Segments-** Its brands are prescribed in chronic therapy areas like cardiology, psychiatry, neurology, gastroenterology, and diabetology and respiratory. It makes specialty APIs, including peptides, steroids, hormones and anticancers. APIs and Dosage forms are made at 20 plants across India, Israel, the United States, Canada, Hungary, Brazil, Mexico and Bangladesh. Its API products include Acamprosate Calcium, Alendronate Sodium, Amifostine trihydrate, Budenonide and Carvedilol. In September 2010, it acquired Taro Pharmaceutical Industries Ltd.

Three major groups of sun pharmaceuticals-

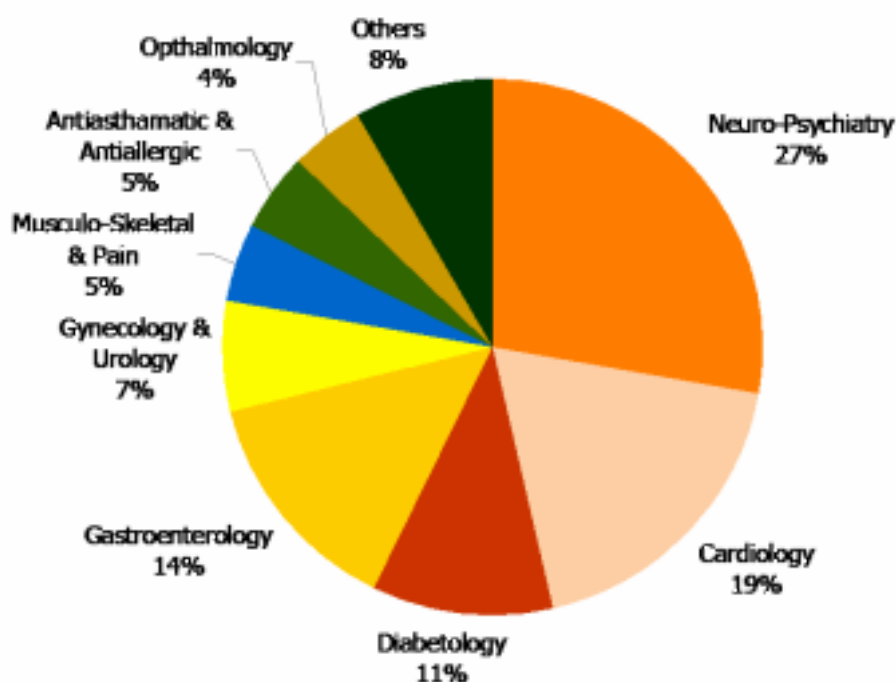
Caraco pharmaceuticals laboratories (Michigan)

Sun pharmaceuticals industries inc.(Michigan)

Sun pharmaceuticals (Bangladesh)

Largest segment-antipsychotropic (27%)

Turn over: - 25.97 Crore  
 Sales: - 507 Mn\$  
 Market share: - 4.4%  
 Growth: - 23.5%



#### USV-

USV is a leading health care company with the following areas of focus: Branded Generics, Active Pharmaceutical Ingredients (APIs) and Bio-similar. Sixty-eight percent of our business is contributed by the India operations and the rest by export of APIs and Branded Generics. USV Limited manufactures and offers generic pharmaceuticals, Active Pharmaceutical Ingredients (APIs) and Bio-similar. The company also offers rDNA proteins and peptides backed by validated bio-assays and clinical trials

Segments- It focuses on diabetes and cardiovascular diseases for diabetologists, cardiologists, neurologists, nephrologists, general practitioners, and physicians; and dermatology, respiratory, gynaecology, and paediatrics for dermatologists, chest physicians, ENT surgeons, gynaecologists, and paediatricians. The company develops therapeutic peptides and proteins by recombinant and chemical synthesis using non-infringing processes. USV Limited was founded in 1961.

Turn over: - More than US\$100 Million (or > Rs 400 Crore Approx)

## NOVARTIS-

NOVARTIS came into existence at 1996. **Novartis International AG** is a multinational pharmaceutical company based in Basel, Switzerland, ranking number three in sales among the world-wide industry. Company sales totalled 36.173 billion US\$ in 2008. Currently, Novartis is the sixth largest pharmaceutical company in terms of revenue (\$41.5 billion in 2009) with a profit margin of about 20%, which is the same as its industry competitors.

Novartis manufactures such drugs as clozapine (Clozaril), diclofenac (Voltaren), carbamazepine (Tegretol), valsartan (Diovan), imatinib mesylate and (Gleevec / Glivec). Additional agents include cyclosporine (Neural / Sandimmun), letrozole (Femara), methylphenidate (Ritalin), terbinafine (Lamisil), and others.

Renamed to Novartis following an acquisition by Ciba-Geigy, it owns Sandoz, a large manufacturer of generic drugs. The company formerly owned the Gerber, a major infant and baby products producer, but sold it to Nestlé on 1 September 2007.

Novartis is a full member of the European Federation of Pharmaceutical Industries and Associations (EFPIA) and of the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA).

Turn over: - 177.17 Crore (2010)

## TORRENT PHARMACEUTICALS-

**Torrent Pharmaceuticals Ltd.** is the flagship company of the Torrent Group. Based in Ahmadabad, it was promoted by U. N. Mehta initially as Trinity Laboratories Ltd. and was later renamed to its current name Torrent Pharmaceuticals Ltd.

Torrent Pharmaceuticals Ltd is a flagship company of Torrent Group and is a dominant player in the therapeutic areas of cardiovascular (CV) and central nervous system (CNS) and has achieved significant presence in gastro-intestinal, diabetology, anti-infective and pain management segments with 2300 strong field force caters to around 2,00,000 doctors across the country

In the International operations arena, Torrent Pharma exports to more than 50 countries around the world broadly divided into five zones - USA, Latin America, Russia and CIS, Western Europe and CEE and Rest of the World (ROW)

### Specialties

Pharmaceuticals: Cardiovascular, Central Nervous System, Gastro-intestinal, Diabetology, Anti-infective and Pain management segments

Turn over: - 481.79 Crore (2010)

## DIFFERENT BRANDS OF TELMISARTAN:-

|                           |                                     |               |    |            |
|---------------------------|-------------------------------------|---------------|----|------------|
| <b>AMLOSAFE TM</b><br>tab | Telmisartan 40mg, amlodipine 5mg    | <b>ARISTO</b> | 10 | 54.0<br>0  |
| <b>AMLOSAFE TM</b><br>tab | Telmisartan 80mg, amlodipine 5mg    | <b>ARISTO</b> | 10 | 87.5<br>0  |
| <b>ARBITEL-AV</b> tab     | Telmisartan 40mg, atorvastatin 10mg | <b>MICRO</b>  | 10 | N.A.       |
| <b>CRESAR 80</b> tab      | Telmisartan 80mg                    | <b>CIPLA</b>  | 10 | 104.<br>50 |
| <b>CRESAR AM</b> tab      | Telmisartan 40mg, amlodipine 5mg    | <b>CIPLA</b>  | 10 | 65.0<br>0  |

|                         |                                              |                         |    |        |
|-------------------------|----------------------------------------------|-------------------------|----|--------|
| <b>CRESAR</b> tab       | Telmisartan 20mg                             | <b>CIPLA</b>            | 10 | 30.00  |
| <b>CRESAR</b> tab       | Telmisartan 40mg                             | <b>CIPLA</b>            | 10 | 63.00  |
| <b>CRESAR-H</b> tab     | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>CIPLA</b>            | 10 | 71.00  |
| <b>CRESAR-R 2.5</b> tab | Telmisartan 40mg, ramipril 2.5mg             | <b>CIPLA</b>            | 10 | 65.00  |
| <b>CRESAR-R 5</b> tab   | Telmisartan 40mg, ramipril 5mg               | <b>CIPLA</b>            | 10 | 85.00  |
| <b>CRESLIP</b> tab      | Telmisartan 40mg, atorvastatin 10mg          | <b>CIPLA</b>            | 10 | 99.00  |
| <b>INDITEL</b> tab      | Telmisartan 20mg                             | <b>ZYDUS ALIDAC</b>     | 10 | 19.00  |
| <b>INDITEL</b> tab      | Telmisartan 40mg                             | <b>ZYDUS ALIDAC</b>     | 10 | 39.00  |
| <b>INDITEL-D</b> cap    | Telmisartan 40mg, indapamide                 | <b>ZYDUS ALIDAC</b>     | 10 | N.A.   |
| <b>INDITEL H</b> tab    | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>ZYDUS ALIDAC</b>     | 10 | 49.00  |
| <b>INDITEL AM</b> tab   | Telmisartan 40mg, amlodipine 5mg             | <b>ZYDUS ALIDAC</b>     | 10 | 59.00d |
| <b>LIPI SAR 20</b> tab  | Telmisartan 20mg, atorvastatin 10mg          | <b>INTAS</b>            | 10 | 65.00  |
| <b>LIPI SAR 40</b> tab  | Telmisartan 40mg, atorvastatin 10mg          | <b>INTAS</b>            | 10 | 95.00  |
| <b>SARTEL R-2.5</b> tab | Telmisartan 40mg, ramipril 2.5mg             | <b>INTAS</b>            | 10 | N.A.   |
| <b>SARTEL R-5</b> tab   | Telmisartan 40mg, ramipril 5mg               | <b>INTAS</b>            | 10 | N.A.   |
| <b>SARTEL-20</b> tab    | Telmisartan 20mg                             | <b>INTAS</b>            | 10 | 33.81  |
| <b>SARTEL-40</b> tab    | Telmisartan 40mg                             | <b>INTAS</b>            | 10 | 65.42  |
| <b>SARTEL-80</b> tab    | Telmisartan 80mg                             | <b>INTAS</b>            | 10 | 107.10 |
| <b>SARTEL-H</b> tab     | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>INTAS</b>            | 10 | 79.89  |
| <b>STAMLO-T</b> tab     | Telmisartan 40mg, amlodipine 5mg             | <b>DR. REDDY'S LABS</b> | 10 | 85.50  |
| <b>TALY-40</b> tab      | Telmisartan 40mg                             | <b>GENETIC PHARMA</b>   | 10 | 65.00  |
| <b>TALY-H</b> tab       | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>GENETIC PHARMA</b>   | 10 | 72.00  |
| <b>TARGET H</b> tab     | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>PFIZER</b>           | 10 | N.A.   |
| <b>TARGET</b> tab       | Telmisartan 20mg                             | <b>PFIZER</b>           | 10 | N.A.   |
| <b>TARGET</b> tab       | Telmisartan 80mg                             | <b>PFIZER</b>           | 10 | N.A.   |
| <b>TARGET</b> tab       | Telmisartan 40mg                             | <b>PFIZER</b>           | 10 | N.A.   |
| <b>TELAST</b> tab       | Telmisartan 80mg                             | <b>INTAS</b>            | 10 | 102.00 |
| <b>TELAST</b> tab       | Telmisartan 40mg                             | <b>INTAS</b>            | 10 | 62.30  |
| <b>TELAST</b> tab       | Telmisartan 20mg                             | <b>INTAS</b>            | 10 | N.A.   |
| <b>TELDAY AV</b> tab    | Telmisartan 40mg, atorvastatin 10mg          | <b>TORRENT</b>          | 10 | 99.00  |
| <b>TELDAY</b> tab       | Telmisartan 80mg                             | <b>TORRENT</b>          | 10 | 95.60  |
| <b>TELDAY-AM</b> tab    | Telmisartan 40mg, amlodipine 5mg             | <b>TORRENT</b>          | 10 | 119.00 |
| <b>TELDAY-AM</b> tab    | Telmisartan 80mg, amlodipine 5mg             | <b>TORRENT</b>          | 10 | 145.00 |
| <b>TELEACT AM</b> tab   | Telmisartan 40mg, amlodipine 5mg             | <b>RANBAXY</b>          | 10 | 69.00  |

|                         |                                              |                          |    |        |
|-------------------------|----------------------------------------------|--------------------------|----|--------|
| <b>TELEACT D</b> tab    | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>RANBAXY</b>           | 10 | 78.10  |
| <b>TELEACT R</b> tab    | Telmisartan 40mg, ramipril 5mg               | <b>RANBAXY</b>           | 10 | 102.80 |
| <b>TELEACT</b> tab      | Telmisartan 20mg                             | <b>RANBAXY</b>           | 10 | 36.80  |
| <b>TELEACT</b> tab      | Telmisartan 40mg                             | <b>RANBAXY</b>           | 10 | 68.40  |
| <b>TELIPRIL</b> tab     | Telmisartan 40mg, ramipril 5mg               | <b>SUN PHARMA</b>        | 10 | 79.00  |
| <b>TELIPRIL</b> tab     | Telmisartan 40mg, ramipril 2.5mg             | <b>SUN PHARMA</b>        | 10 | 71.00  |
| <b>TELISTA 20</b> tab   | Telmisartan 20mg                             | <b>LUPIN</b>             | 10 | 40.40  |
| <b>TELISTA 40</b> tab   | Telmisartan 40mg                             | <b>LUPIN</b>             | 10 | 75.10  |
| <b>TELISTA 80</b> tab   | Telmisartan 80mg                             | <b>LUPIN</b>             | 10 | 110.00 |
| <b>TELISTA H</b> tab    | Telmisartan 40mg, hydrochlorothiazide 12.5   | <b>LUPIN</b>             | 10 | 81.37  |
| <b>TELISTA RM</b> tab   | Telmisartan 40mg, ramipril 5mg               | <b>LUPIN</b>             | 10 | 96.85  |
| <b>TELISTA RM</b> tab   | Telmisartan 40mg, ramipril 2.5mg             | <b>LUPIN</b>             | 10 | 79.13  |
| <b>TELISTA-AM</b> tab   | Telmisartan 40mg, amlodipine 2.5mg           | <b>LUPIN</b>             | 10 | 76.90  |
| <b>TELISTA-AM</b> tab   | Telmisartan 40mg, amlodipine 5mg             | <b>LUPIN</b>             | 10 | 76.90  |
| <b>TELISTA-AM</b> tab   | Telmisartan 80mg, amlodipine 5mg             | <b>LUPIN</b>             | 10 | 140.00 |
| <b>TELISTA-H 80</b> tab | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>LUPIN</b>             | 10 | 140.00 |
| <b>TELLZY</b> tab       | Telmisartan 20mg                             | <b>ALEMBIC</b>           | 10 | 35.00  |
| <b>TELLZY</b> tab       | Telmisartan 40mg                             | <b>ALEMBIC</b>           | 10 | 58.00  |
| <b>TELLZY H</b> tab     | Telmisartan 40mg, amlodipine 5mg             | <b>ALEMBIC</b>           | 10 | 76.50  |
| <b>TELLZY CH</b> tab    | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>ALEMBIC</b>           | 10 | 85.00  |
| <b>TELLZY CH</b> tab    | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>ALEMBIC</b>           | 10 | 150.00 |
| <b>TELMA</b> tab        | Telmisartan 20mg                             | <b>ZOLTAN (GLENMARK)</b> | 10 | 30.20  |
| <b>TELMA</b> tab        | Telmisartan 40mg                             | <b>ZOLTAN (GLENMARK)</b> | 10 | 58.60  |
| <b>TELMA</b> tab        | Telmisartan 80mg                             | <b>ZOLTAN (GLENMARK)</b> | 10 | 95.60  |
| <b>TELMIKIND</b> tab    | Telmisartan 20mg                             | <b>MANKIND</b>           | 10 | 12.50  |
| <b>TELMIKIND</b> tab    | Telmisartan 40mg                             | <b>MANKIND</b>           | 10 | 19.90  |
| <b>TELMIKIND</b> tab    | Telmisartan 80mg                             | <b>MANKIND</b>           | 10 | 39.00  |
| <b>TELMIKIND-AM</b> tab | Telmisartan 40mg, amlodipine 5mg             | <b>MANKIND</b>           | 10 | 29.90  |
| <b>TELMIKIND-H</b> tab  | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>MANKIND</b>           | 10 | 29.90  |
| <b>TELMINORM</b> tab    | Telmisartan 20mg                             | <b>IPCA</b>              | 10 | 32.00  |
| <b>TELMINORM</b> tab    | Telmisartan 40mg                             | <b>IPCA</b>              | 10 | 62.00  |
| <b>TELMINORM</b> tab    | Telmisartan 80mg                             | <b>IPCA</b>              | 10 | 109.00 |

|                          |                                              |                         |    |        |
|--------------------------|----------------------------------------------|-------------------------|----|--------|
| <b>TELMINORM 40H</b> tab | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>IPCA</b>             | 10 | 69.00  |
| <b>TELMINORM AM</b> tab  | Telmisartan 40mg, amlodipine 5mg             | <b>IPCA</b>             | 10 | 69.00  |
| <b>TELMINORM R</b> tab   | Telmisartan 40mg, ramipril 5mg               | <b>IPCA</b>             | 10 | 76.00  |
| <b>TELMISAT 40 H</b> tab | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>BIOCON</b>           | 10 | N.A.   |
| <b>TELMISAT 80 H</b> tab | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>BIOCON</b>           | 10 | N.A.   |
| <b>TELMITOP HC</b> tab   | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>ELLIFE (ELDER)</b>   | 10 | 69.50  |
| <b>TELMITOP</b> tab      | Telmisartan 20mg                             | <b>ELLIFE (ELDER)</b>   | 10 | 34.00  |
| <b>TELMITOP</b> tab      | Telmisartan 40mg                             | <b>ELLIFE (ELDER)</b>   | 10 | 60.00  |
| <b>TELPRES</b> tab       | Telmisartan 20mg                             | <b>NICHOLAS</b>         | 10 | 30.00  |
| <b>TELPRES</b> tab       | Telmisartan 40mg                             | <b>NICHOLAS</b>         | 10 | 58.00  |
| <b>TELPRES-H</b> tab     | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>NICHOLAS</b>         | 10 | N.A.   |
| <b>TELPRES-H</b> tab     | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>NICHOLAS</b>         | 10 | N.A.   |
| <b>TELSAR</b> tab        | Telmisartan 40mg                             | <b>UNISEARCH</b>        | 10 | 58.40  |
| <b>TELSAR</b> tab        | Telmisartan 20mg                             | <b>UNISEARCH</b>        | 10 | 30.00  |
| <b>TELSAR-H</b> tab      | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>UNISEARCH</b>        | 10 | 65.00  |
| <b>TELSARTAN</b> tab     | Telmisartan 20mg                             | <b>DR. REDDY'S LABS</b> | 15 | 51.75  |
| <b>TELSARTAN</b> tab     | Telmisartan 40mg                             | <b>DR. REDDY'S LABS</b> | 15 | 109.50 |
| <b>TELSARTAN</b> tab     | Telmisartan 80mg                             | <b>DR. REDDY'S LABS</b> | 10 | 119.00 |
| <b>TELSARTAN-AM</b> tab  | Telmisartan 40mg, amlodipine 5mg             | <b>DR. REDDY'S LABS</b> | 10 | 85.50  |
| <b>TELSARTAN-ATR</b> tab | Telmisartan 20mg, atorvastatin 10mg          | <b>DR. REDDY'S LABS</b> | 10 | 90.00  |
| <b>TELSARTAN-H</b> tab   | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>DR. REDDY'S LABS</b> | 15 | 137.70 |
| <b>TELSARTAN-H</b> tab   | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>DR. REDDY'S LABS</b> | 10 | 124.80 |
| <b>TELSARTAN-R</b> tab   | Telmisartan 40mg, ramipril 2.5mg             | <b>DR. REDDY'S LABS</b> | 10 | 77.00  |
| <b>TELSARTAN-R</b> tab   | Telmisartan 40mg, ramipril 5mg               | <b>DR. REDDY'S LABS</b> | 10 | 102.00 |
| <b>TELSITE</b> tab       | Telmisartan 20mg                             | <b>AVENTIS PHARMA</b>   | 10 | 35.00  |
| <b>TELSITE</b> tab       | Telmisartan 40mg                             | <b>AVENTIS PHARMA</b>   | 10 | 65.00  |
| <b>TELSITE</b> tab       | Telmisartan 80mg                             | <b>AVENTIS PHARMA</b>   | 10 | 100.00 |
| <b>TELSITE AM</b> tab    | Telmisartan 40mg, amlodipine 5mg             | <b>AVENTIS PHARMA</b>   | 10 | 74.50  |
| <b>TELSITE H</b> tab     | Telmisartan 40mg, hydrochlorothiazide        | <b>AVENTIS PHARMA</b>   | 10 | 84.00  |

|                        |                                              |                                      |    |        |
|------------------------|----------------------------------------------|--------------------------------------|----|--------|
|                        | 12.5mg                                       |                                      |    | 0      |
| <b>TETAN</b> tab       | Telmisartan 80mg                             | <b>ALEMBIC</b>                       | 10 | 110.00 |
| <b>TELVAS H</b> tab    | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>ARISTO</b>                        | 10 | 51.90  |
| <b>TELVAS H</b> tab    | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>ARISTO</b>                        | 10 | 88.00  |
| <b>TELVAS</b> tab      | Telmisartan 20mg                             | <b>ARISTO</b>                        | 10 | 24.50  |
| <b>TELVAS</b> tab      | Telmisartan 40mg                             | <b>ARISTO</b>                        | 10 | 42.00  |
| <b>TELVAS</b> tab      | Telmisartan 80mg                             | <b>ARISTO</b>                        | 10 | 82.00  |
| <b>TELVAS-AM</b> tab   | Telmisartan 40mg, amlodipine 5mg             | <b>ARISTO</b>                        | 10 | 54.00  |
| <b>TELVAS-AM</b> tab   | Telmisartan 80mg, amlodipine 5mg             | <b>ARISTO</b>                        | 10 | 80.00  |
| <b>TELVAS-H</b> tab    | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>ARISTO</b>                        | 10 | 60.20  |
| <b>TEMAX</b> tab       | Telmisartan 20mg                             | <b>WOCKHARDT</b>                     | 10 | 42.60  |
| <b>TEMAX</b> tab       | Telmisartan 40mg                             | <b>WOCKHARDT</b>                     | 10 | 74.60  |
| <b>TEMAX</b> tab       | Telmisartan 80mg                             | <b>WOCKHARDT</b>                     | 10 | N.A.   |
| <b>TEMAX H</b> tab     | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>WOCKHARDT</b>                     | 10 | 89.00  |
| <b>TEMAX H</b> tab     | Telmisartan 80mg, hydrochlorothiazide 12.5mg | <b>WOCKHARDT</b>                     | 10 | N.A.   |
| <b>TETAN</b> tab       | Telmisartan 20mg                             | <b>ALEMBIC</b>                       | 10 | 30.00  |
| <b>TETAN</b> tab       | Telmisartan 40mg                             | <b>ALEMBIC</b>                       | 10 | 58.00  |
| <b>TETAN</b> tab       | Telmisartan 80mg                             | <b>ALEMBIC</b>                       | 10 | 110.00 |
| <b>TETAN AV</b> tab    | Telmisartan 40mg, atorvastatin 10mg          | <b>ALEMBIC</b>                       | 10 | 90.00  |
| <b>TSARTAN</b> tab     | Telmisartan 40mg                             | <b>OCTANE BIOTECH</b>                | 10 | 52.00  |
| <b>TSARTAN-H</b> tab   | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>OCTANE BIOTECH</b>                | 10 | 64.00  |
| <b>VASIZITEL-H</b> tab | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>SYNTONIC SCIENCES</b> <b>LIFE</b> | 10 | 68.00  |
| <b>ZITELMI</b> tab     | Telmisartan 40mg                             | <b>FDC</b>                           | 10 | 28.00  |
| <b>ZITELMI-H</b> tab   | Telmisartan 40mg, hydrochlorothiazide 12.5mg | <b>FDC</b>                           | 10 | 29.00  |

## CARDIO VASCULAR DRUGS

Drugs that affect the function of the heart and blood vessels are among the most widely used in medicine. Although these drugs may exert their primary effect either on the blood vessels or on the heart itself, the cardiovascular system functions as an integral unit. Thus, drugs that affect blood vessels are often useful in treating conditions in which the primary disorder lies in the heart or in simple words cardiovascular drugs are those agents that affect the rate or intensity of cardiac contraction, blood vessel diameter, or blood volume.

**HYPERTENSION:** Hypertension (HTN) or **high blood pressure**, sometimes called **arterial hypertension**, is a chronic medical condition in which the blood pressure in the arteries is elevated. Blood pressure is summarised by two measurements, systolic and diastolic, which depend on whether the heart muscle is contracting (systole) or relaxed between beats (diastole). This equals the maximum and minimum pressure, respectively. Normal blood pressure at rest is within the range of 100–140mmHg systolic (top reading) and 60–90mmHg diastolic (bottom reading). High blood pressure is said to be present if it is often at or above 140/90 mmHg.

Hypertension is classified as either primary (essential) hypertension or secondary hypertension; about 90–95% of cases are categorized as "primary hypertension" which means high blood pressure with no obvious underlying medical cause. The remaining 5–10% of cases (secondary hypertension) are caused by other conditions that affect the kidneys, arteries, heart or endocrine system.

Hypertension puts strain on the heart, leading to hypertensive heart disease and coronary artery disease if not treated. Hypertension is also a major risk factor for stroke, aneurysms of the arteries (e.g. aortic aneurysm), and peripheral arterial disease and is a cause of chronic kidney disease. A moderately high arterial blood pressure is associated with a shortened life expectancy while mild elevation is not. Dietary and lifestyle changes can improve blood pressure control and decrease the risk of health complications, although drug treatment is still often necessary in people for whom lifestyle changes are not enough or not effective.

## **DESCRIPTION ABOUT TELMISARTAN**

Telmisartan is indicated in the treatment of essential hypertension

### **Administration**

The usually effective dose telmisartan is 40–80 mg once daily. Some patients may already benefit at a daily dose of 20 mg. In cases where the target blood pressure is not achieved, telmisartan dose can be increased to a maximum of 80 mg once daily.

### **Contraindications**

Telmisartan is contraindicated during pregnancy. Like other drugs affecting the rennin angiotensin system (RAS), telmisartan can cause birth defects, stillbirths, and neonatal deaths. It is not known whether the drug passes into the breast milk. Also it is contraindicated in bilateral renal artery stenosis in which it can cause renal failure.

### **Side effects**

Side effects are similar to other angiotensin II receptor antagonists and include tachycardia and bradycardia (fast or slow heartbeat), hypotension (low blood pressure), edema (swelling of arms, legs, lips, tongue, or throat, the latter leading to breathing problems), and allergic reactions

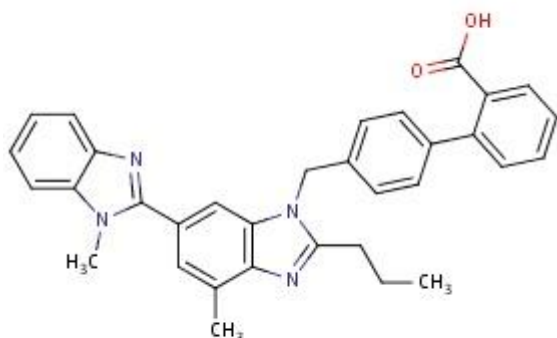
## Mode of action

Telmisartan is an angiotensin II receptor blocker that shows high affinity for the angiotensin II receptor type 1 (AT<sub>1</sub>), with a binding affinity 3000 times greater for AT<sub>1</sub> than AT<sub>2</sub>. It has the longest half-life of any ARB (24 hours) and the largest volume of distribution among ARBs (500 liters).

In addition to blocking the RAs, telmisartan acts as a selective modulator of peroxisome proliferator-activated receptor gamma (PPAR- $\gamma$ ), a central regulator of insulin and glucose metabolism. It is believed that telmisartan's dual mode of action may provide protective benefits against the vascular and renal damage caused by diabetes and cardiovascular disease (CVD).

Telmisartan's activity at the PPAR- $\gamma$  receptor has prompted speculation around its potential as a sport doping agent as an alternative to GW 501516. Telmisartan activates PPAR $\delta$  receptors in several tissues.

## CHEMICAL STRUCTURE



## OBJECTIVES

- 1- To study the market share of telmisartan.
- 2- To study the prescription habit of doctors.
- 3- To study the leading brand of telmisartan in Ghaziabad.

## LITERATURE REVIEW

# Telmisartan: just an antihypertensive agent? A literature review

- **Introduction:** The modulation of the renin angiotensin aldosterone system (RAAS) is an important pathway in managing high blood pressure, and its overexpression plays a key role in target end-organ damage. Telmisartan is an angiotensin II receptor blocker (ARB) with unique pharmacologic properties, including the longest half-life among all ARBs; this leads to a significant and 24-h sustained reduction of blood pressure. Telmisartan has well-known antihypertensive properties, but there is also strong clinical evidence that it reduces left ventricular hypertrophy, arterial stiffness and the recurrence of atrial fibrillation, and confers renoprotection.
- **Areas covered:** This paper reviews telmisartan's pharmacological properties in terms of efficacy for hypertension control and, importantly, focuses on its new therapeutic indications and their clinical implications.
- **Expert opinion:** ONTARGET (ongoing telmisartan alone and in combination with ramipril global endpoint trial) demonstrated, that telmisartan confers cardiovascular protective effects similar to those of ramipril, but with a better tolerability. Moreover, recent investigations focused on the capability of telmisartan to modulate the peroxisome proliferator-activated receptor-gamma (PPAR- $\gamma$ ), an established target in the treatment of insulin resistance, diabetes and metabolic syndrome, whose activation is also correlated to anti-inflammatory and, finally, anti-atherosclerotic properties. Telmisartan shows peculiar features that go beyond blood pressure control. It presents promising and unique protective properties against target end-organ damage, potentially able to open a scenario of new therapeutic approaches to cardiovascular disease.

## Telmisartan to Prevent Recurrent Stroke and Cardiovascular Events

### Background

Prolonged lowering of blood pressure after a stroke reduces the risk of recurrent stroke. In addition, inhibition of the renin–angiotensin system in high-risk patients reduces the rate of subsequent cardiovascular events, including stroke. However, the effect of lowering of blood pressure with a renin–angiotensin system inhibitor soon after a stroke has not been clearly established. We evaluated the effects of therapy with an angiotensin-receptor blocker, telmisartan, initiated early after a stroke.

## **Methods**

In a multicenter trial involving 20,332 patients who recently had an ischemic stroke, we randomly assigned 10,146 to receive telmisartan (80 mg daily) and 10,186 to receive placebo. The primary outcome was recurrent stroke. Secondary outcomes were major cardiovascular events (death from cardiovascular causes, recurrent stroke, myocardial infarction, or new or worsening heart failure) and new-onset diabetes.

## **Results**

The median interval from stroke to randomization was 15 days. During a mean follow-up of 2.5 years, the mean blood pressure was 3.8/2.0 mm Hg lower in the telmisartan group than in the placebo group. A total of 880 patients (8.7%) in the telmisartan group and 934 patients (9.2%) in the placebo group had a subsequent stroke (hazard ratio in the telmisartan group, 0.95; 95% confidence interval [CI], 0.86 to 1.04; P=0.23). Major cardiovascular events occurred in 1367 patients (13.5%) in the telmisartan group and 1463 patients (14.4%) in the placebo group (hazard ratio, 0.94; 95% CI, 0.87 to 1.01; P=0.11). New-onset diabetes occurred in 1.7% of the telmisartan group and 2.1% of the placebo group (hazard ratio, 0.82; 95% CI, 0.65 to 1.04; P=0.10).

## **Conclusions**

Therapy with telmisartan initiated soon after an ischemic stroke and continued for 2.5 years did not significantly lower the rate of recurrent stroke, major cardiovascular events, or diabetes.

## **RESEARCH**

Research is “a careful investigation or inquiry especially through search for new facts in any branch of knowledge.”

Research comprises of defining and redefining problems, formulating hypotheses or suggested solutions; collecting, organising and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypotheses.

In short, the search for knowledge through objective and systematic method of finding solutions to a problem is research.

## **RESEARCH METHODOLOGY**

Research methodology is a way to systematically solve the research problem. In this we study the various steps that are generally adopted by a researcher in studying his research problems along with the logic behind them.

When we talk of research methodology we not only talk of the research methods but also consider the logic behind the methods we use in the context of our research study and explain why we are using a particular method or technique so that research results are capable of being evaluated either by researcher himself or by others.

## **RESEARCH DESIGN**

Research design is the master plan specifying the methods and procedures for collecting and analysing the needed information.

A research design is the arrangement of conditions for collection and analysis of the data in a manner that aims to combine relevance to the research purpose with economy in procedures.

Three traditional categories of research design are there-

1. Exploratory
2. Descriptive and diagnostic
3. Hypotheses testing research design

The choice of research design depends largely on the objectives of the research and how much is known about the problem and these objectives.

The design decisions are in respect of-

- (i) What is the study about?
- (ii) Why is the study being made?
- (iii) Where will the study be carried out?
- (iv) What type of data is required?
- (v) Where can the required data be found?
- (vi) What periods of time will the study include?
- (vii) What will be the sample design?
- (viii) What techniques of data collection will be used?
- (ix) How will the data be analysed?
- (x) In what style the report will be prepared?

## **EXPLORATORY**

To gain background information, to define terms, to clarify problem and develop hypotheses, to establish research priorities, to develop questions to be answered. It is conducted when the researcher does not know much about the problem and needs additional information and desires new or more recent information.

Major emphasis in such studies is on discovery of ideas and insights.

A variety of methods are available to conduct exploratory research-

1. Secondary data analysis
2. Experience surveys
3. Case analysis
4. Focus groups
5. Projective techniques

## **DESCRIPTIVE AND DIAGNOSTIC**

Descriptive Studies are those which are concerned with describing the characteristics of a particular individual or of a group.

Diagnostic Studies determine the frequency with which something occurs or its association with something else

There are two basic classifications

- a) Cross sectional studies- measures units from a sample of the population at only one point of time.
- b) Longitudinal studies- repeatedly draw sample units of a population over time.

The research design here must focus on-

1. Formulating the objective of study.
2. Designing the methods of data collection
3. Selecting the sample
4. Collecting the data
5. Processing and analyzing the data
6. Reporting the findings

## **HYPOTHESES-TESTING RESEARCH DESIGN**

Generally known as the Experimental Studies- where the researcher tests the hypothesis of causal relationships between variables.

Such studies require procedures that not only reduce bias and increase reliability but will permit drawing of inferences about causality.

It is used to determine causality, test hypotheses, to make “if-then” statements to answer questions (conditional statements)

| Questions you must ask                                                                                         | Steps you will take                                        | Important elements of each step                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| What is the problem and why should it be studied?                                                              | Selection, analysis and statement of the research problem  | <ul style="list-style-type: none"> <li>- problem identification</li> <li>- prioritising problems</li> <li>- analysis</li> <li>- justification</li> </ul>                                                                                                                                                    |
| What information is available?                                                                                 | Literature review                                          | <ul style="list-style-type: none"> <li>- literature and other available information</li> </ul>                                                                                                                                                                                                              |
| Why do we want to carry out the research? What do we hope to achieve?                                          | Formulation of research objectives                         | <ul style="list-style-type: none"> <li>- general and specific objectives</li> <li>- hypotheses</li> </ul>                                                                                                                                                                                                   |
| What additional data do we need to meet our research objectives? How are we going to collect this information? | Research methodology                                       | <ul style="list-style-type: none"> <li>- variables</li> <li>- types of study</li> <li>- data collection techniques</li> <li>- sampling</li> <li>- plan for data collection</li> <li>- plan for data processing and analysis</li> <li>- ethical considerations</li> <li>- pre-test or pilot study</li> </ul> |
| Who will do what, and when?                                                                                    | Work plan                                                  | <ul style="list-style-type: none"> <li>- human resources</li> <li>- timetable</li> </ul>                                                                                                                                                                                                                    |
| What resources do we need to carry out the study? What resources do we have?                                   | Budget                                                     | <ul style="list-style-type: none"> <li>- material support and equipment</li> <li>- money</li> </ul>                                                                                                                                                                                                         |
| How will the project be administered? How will utilisation of results be ensured?                              | Plan for project administration and utilisation of results | <ul style="list-style-type: none"> <li>- administration</li> <li>- monitoring</li> <li>- identification of potential users</li> </ul>                                                                                                                                                                       |
| How will we present our proposal to relevant authorities, community and the funding agencies?                  | Proposal summary                                           | <ul style="list-style-type: none"> <li>- briefing sessions and lobbying</li> </ul>                                                                                                                                                                                                                          |

## **DATA COLLECTION**

The task of data collection begins after a research has been defined and research design/plan chalked out. While deciding about the method of data collection to be used for the study, the researcher should keep in mind two types of data collection-

1) Primary

2) Secondary

The *primary* data are those which are collected afresh and for the first time, and thus happen to be original in character.

The *secondary* data, on the other hand, are those which have already been collected by someone else and which have already been passed through the static process.

### **METHODS OF COLLECTING PRIMARY DATA:**

The researcher directly collects primary data from their original sources. In this case, the researcher can collect the required data precisely according to his research needs, he can collect them when he wants them and in the form he needs them. But the collection of Primary data is costly and time consuming. Yet, for several types of social science research such as socio-economic surveys, social anthropological studies of rural communities and tribal communities, sociological studies of social problems and social institutions, marketing research, leadership studies, opinion polls, attitudinal surveys, readership, radio listening and T.V. viewing surveys, knowledge-awareness practice (KAP) studies, farm management studies, business management studies, etc., required data are not available from secondary sources and they have to be directly gathered from the primary sources.

In all cases where the available data are inappropriate, inadequate or obsolete, primary data have to be gathered. .

#### ***Methods of Primary Data Collection***

There are various methods of data collection. A „Method“ is different from a „Tool“. While a method refers to the way or mode of gathering data, a tool is an instrument used for the method. For example, a schedule is used for interviewing. The important methods are 1)observation, 2)interviewing,3)mail survey,4)experimentation,5)simulation, and 6)projective technique

Observation involves gathering of data relating to the selected research by viewing and/or listening. Interviewing involves face-to-face conversation between the investigator and the respondent. Mailing is used for collecting data by getting questionnaires completed by respondents. Experimentation involves a study of independent variables under controlled conditions. Experiment may be conducted in a laboratory or in field in a natural setting. Simulation involves creation of an artificial situation similar to the actual life situation. Projective methods aim at drawing inferences on the characteristics of respondents by presenting to them stimuli. Each method has its advantages and disadvantages

## **TYPES OF TOOLS FOR DATA COLLECTION**

The various methods of data gathering involve the use of appropriate recording forms. These are called tools or instruments of data collection. They consist of

- Observation schedule
- Interview guide
- Interview schedule
- Mailed questionnaire
- Rating scale
- Checklist
- Document schedule/data sheet
- Schedule for institutions

Each of the above tools is used for a specific method of data gathering: Observation schedule for observation method, interview schedule and interview guide for interviewing, questionnaire for mail survey, and so on.

### ***Functions***

The tools of data collection translate the research objectives into specific questions/ items, the responses to which will provide the data required to achieve the research objectives. In order to achieve this purpose, each question/item must convey to the respondent the idea or group of ideas required by the research objectives, and each item must obtain a response which can be analysed for fulfilling the research objectives.

Information gathered through the tools provides descriptions of characteristics of individuals, institutions or other phenomena under study. It is useful for measuring the various variables pertaining to the study. The variables and their interrelationships are analysed for testing the hypothesis or for exploring the content areas set by the research objectives.

A brief description of the various tools of data collection is given below.

### ***Observation schedule***

This is a form on which observations of an object or a phenomenon are recorded. The items to be observed are determined with reference to the nature and objectives of the study. They are grouped into appropriate categories and listed in the schedule in the order in which the observer would observe them.

The schedule must be so devised as to provide the required verifiable and quantifiable data and to avoid selective bias and misinterpretation of observed items. The units of observation must be simple, and meticulously worded so as to facilitate precise and uniform recording.

### ***Interview guide***

This is used for non-directive and depth interviews. It does not contain a complete list of items on which information has to be elicited from a respondent: it just contains only the broad topics or areas to be covered in the interview.

Interview guide serves as a suggestive reference or prompter during interview. It aids in focussing attention on salient points relating to the study and in securing comparable data in different interviews by the same or different interviewers.

### ***Rating Scale***

This is a recording form used for measuring individual's attitudes, aspirations and other psychological and behavioural aspects, and group behaviour.

### ***Checklist***

This is the simplest of all the devices. It consists of a prepared list of items pertinent to an object or a particular task. The presence or absence of each item may be indicated by checking 'yes' or 'no' or multipoint scale. The use of a checklist ensures a more complete consideration of all aspects of the object, act or task. Checklists contain terms, which the respondent understands, and which more briefly and succinctly express his views than answers to open-ended question. It is a crude device, but careful pre-test can make it less so. It is at best when used to test specific hypothesis. It may be used as an independent tool or as a part of a schedule/questionnaire.

### ***Document Schedule/Data Sheet.***

This is a list of items of information to be obtained from documents, records and other materials. In order to secure measurable data, the items included in the schedule are limited to those that can be uniformly secured from a large number of case histories or other records.

### ***Schedule for Institutions***

This is used for survey of organisations like business enterprises, educational institutions, social or cultural organisations and the like. It will include various categories of data relating to their profile, functions and performance. These data are gathered from their records, annual reports and financial statements.

## MARKET RESEARCH REVIEW

After analysing all the data regarding telmisartan i visited few hospitals and chemist shops in Ghaziabad to gather more data regarding telmisartan .

The locations which i covered during my market research are –

- I. RAJ NAGAR
- II. SANJAY NAGAR
- III. KAVI NAGAR
- IV. NEHRU NAGAR

From the data which I gathered during My market survey concludes that the total turnover of cardiovascular drugs covers approximately 30-40% of total stock.

Information"s given by the chemist"s are-

- I. Dominant company in TELMISARTAN drugs:- **GLENMERK**
- II. Number of prescriptions received per day:- **15-20**
- III. Age group of people approaching them:- **40-50**
- IV. Dosage form available:- **Tablet**
- V. Brands frequently prescribed by doctors:- **TELMA**
- VI. Mostly availed telmisartan brand:- **TELMA**
- VII. Company that provide most attractive offers:- **Sunpharma**
- VIII. Stock of cardiovascular drugs at maximum retailer shops:- **30-40%**
- IX. Line segment, line depth of a brand available with the retailer:- **20mg, 40mg, 80mg.**
- X. Demand of low cost drugs by patients against high cost drugs:- **Nil**

From my market survey i came to the conclusion that the availability of telmisartan is very high in the market and it is available with different brands & different strategy.

## MARKETING STRATEGY

### Existing strategy-

Marketing strategy is now high end development that is being carried out by leading companies. And, increasingly, companies are finding themselves competing against, or working with, new innovation-based companies. this is focuses on the processes and outcomes of globally distributed pharmaceutical( gsk , sun pharmaceuticals ,usv ,Novartis and torrent)companies. There is marketing strategies which pharma companies implement according to their Acute base to Chronic therapy base. These strategies also give an insight about shift in supply chain process and customer and end-customer perception.

many pharmaceutical companies have successfully deployed a plethora of strategies to target the various customer types, recent business and customer trends are creating new challenges and opportunities for increasing profitability. In the pharmaceutical and healthcare industries, a complex web of decision-makers determines

the nature of the transaction (prescription) for which direct customer (doctor) of pharma industry is responsible. Essentially, the end-user (patient) consumes a product and pay the costs.

Use of medical representatives for marketing products to physicians and to exert some influence over others in the hierarchy of decision makers has been a time-tested tradition. Typically, sales force expense comprises an estimated 15 percent to 20 percent of annual product revenues, the largest line item on the balance sheet. Despite this other expense, the industry is still plagued with some very serious strategic and operational level issues.

From organizational perspective the most prominent performance related issues are enlisted below:

- ❖ Increased competition and unethical practices adopted by some of the companies.
- ❖ propaganda base companies.
- ❖ Low level of customer knowledge (Doctors, Retailers, Wholesalers).
- ❖ Poor customer (both external & internal) acquisition, development and retention strategies
- ❖ Varying customer perception.
- ❖ The number and the quality of medical representatives.
- ❖ Very high territory development costs.
- ❖ High training and re-training costs of sales personnel.
- ❖ Very high attrition rate of the sales personnel.
- ❖ Busy doctors giving less time for sales calls.
- ❖ Poor territory knowledge in terms of business value at medical representative level.
- ❖ Unclear value of prescription from each doctor in the list of each sales person.
- ❖ Unknown value of revenue from each retailer in the territory.
- ❖ Absence of ideal mechanism of sales forecasting from field sales level, leading to huge deviations.
- ❖ Absence of analysis on the amount of time invested on profitable and not so profitable customers and lack of time-share planning towards developing customer base for future and un-tapped markets.

### **Pharmaceutical Company Business Strategies**

What's the secret behind successes? For one, the company operates in niche formulations (chronic) segments such as psychiatry, cardiovascular, gastroenterology and neurology. While most of the top Indian companies have focused on antibiotics and anti-infectives (acute), Sun Pharma focused on therapeutic areas such as depression, hypertension and cancer. The company has introduced the entire range of products and has gained leadership position in each of these areas. Being a specialty company insulates Sun Pharma from the industry growth. The first quarter results for FY02 explain this to some

Extent. While the industry was affected to a large extent by a slowdown in the domestic Formulations market, Sun Pharma logged a growth of 26% in revenues. Over the years Sun has also used the strategy of acquisitions and mergers to grow quickly. It acquired Knoll Pharma's bulk drug facility, Gujarat Lyka Organics, 51.5% in M. J. Pharma, Merged Tamil Nadu Dadha Pharma & Milmet Labs and acquired Natco's brands. Post Merger with Tamil Nadu Dadha Pharma the company gained presence in gynaecology and Oncology segments.

The bases of marketing strategies can be best described in these two models in both Acute and chronic segments:

(i) Super Core Model involving the search for, and distribution of a small number of drugs from Chronic Therapy Area that achieve substantial global sales. The success of this model depends on achieving large returns from a small number of drugs in order to pay for the high cost of the drug discovery and development process for a large number of patients. Total revenues are highly dependent on sales from a small number of drugs. This model incorporates highly specialized approach in all the manner . Initially the competition is seems more at entry level but since growth is stable and more in this area ; every company is striving very hard to enter in this area. The major strategy in this model involves right focus to highly specialized customer by well trained team.

(ii) Core Model in which a larger number of drugs from Acute Therapy Area are marketed to big diversified markets. The advantage of this model is that its success is not dependant on sales of a small number of drugs. Here presenting a large number of product and taking the advantage of opportunity cost is one of the important strategy. Other strategy includes daily reminders to cross the perceptual filter and get the brand name in to the sub-conscious state of mind .

### **Marketing approaches of Super Core Model**

In pharmaceutical market there has been a significant shift from Acute towards Chronic Therapy area. Chronic segments are driving the growth of the market as leading prescribers in these segments are specialists as opposed to general practioners. This is evident from high growth rates achieved by firms like Sun Pharma, Dr.Reddy Laboratories and Dabur Pharma Ltd. Who have focused on these segments

The doctor's prescription has become just the starting point in determining what drug the retailer dispenses. During last five years pharma companies have started identifying the hidden potential of oncological market also. A number of drugs have been launched into the oncological market by pharmaceutical companies, including new biological drugs and drugs that can be used as a support for patients undergoing cytotoxic chemotherapy. As a matter of fact, pharmaceutical companies are merging, and, through the merging process, the portfolio of the new companies changes.

Medical representatives are rearranged throughout the new companies. Some of the sales representatives are now afraid of losing their job, due to the changing scenario and the possible lay offs. On the other hand, the new, bigger, pharmaceutical companies are competing more and more with one another, and, in order to stress their products, might adopt a more aggressive sales strategy. For example, sometimes in the same geographical area there are eight to ten representatives for just one company, or different representatives for the same drug in different settings. As a result of the new, aggressive strategy, the aggressiveness of representatives has also been increasing, since the larger stress exerted by their companies might affect their stay in the company. Therefore, they tend to have more frequent visits to encourage doctors to prescribe drugs and thus increase sales.

In this model medical representatives are the key actors for example in a small cardiology unit almost 40 sales representatives interacting with doctors, and most of them are coming for a visit on a regular once-a-month basis as this is the restriction put by doctors of meeting only once in a month that to on a fix time only, in order to stress the usefulness of their products and push clinicians towards the use of their drugs. This means that, basically, there are at least two representatives every day in busy clinic asking for a „short“ meeting to support their product.

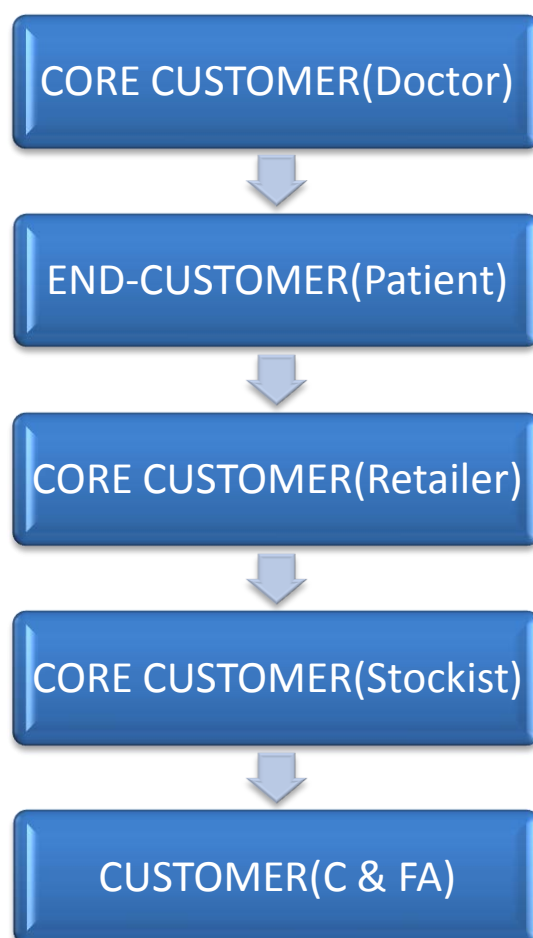
Pharmaceutical marketing is a specialized field where medical representatives from the backbone of entire marketing effort. Pharmaceutical companies also appoint medical representatives and assign them defined territories. Medical representatives meet doctors,

chemists and stockiest as per company norms. Medical representatives try to influence prescription pattern of doctors in favor of their brands.

The pharmaceutical distribution channel is indirect with usually three channel members i.e. depot/C&F, stockiest and chemist. Pharmaceutical companies appoint one company depot or C&F agent usually in each state and authorized stockist(s) in each district across the country. Company depot/C&F sends stocks to authorized stockists as per the requirement. Retail chemists buy medicines on daily or weekly basis from authorized stockiest as per demand. Patients visit chemists for buying medicines either prescribed by a doctor or advertised in the media. Here patient is end customer and doctor is direct customer for any pharmaceutical company. But for doctor customer (patient) is more important so he wants an effective supply chain management from prescribed company. And for pharmaceutical companies their customer that is doctor is more important that's why they emphasize more on supply chain management. Ultimately end customer is benefited out of this.

For marketing of these type of products companies require more and more skilled field force to develop good rapport with their direct customer (doctor). Moreover field force should have good product knowledge and USP of their products over other so as to convince doctors and PULL the demand for their products i.e. from Doctor to Retailer to Stockist to CFA to company.

**Fig.3.Pull System Working In Chronic Therapy Segment**



In this system, doctors are the core customers and the major thrust is given to build and retain these customer because they are pulling the demand for products hence companies

also give main emphasis in building and retaining these customers. All efforts are being put for generating secondary sales i.e. from stockist to retailer. Ensuring of auto demand with limited availability and maximum liquidation of the products is the main characteristic of this approach.

For retaining and developing customers, the companies normally provide gifts like sponsorship for various conferences like RSSDI, FOGSI, APICON, UPCON etc. For example Dabur having PASS (Professional Academic and Scientific Services) activities for promoting its chronic therapy range.

#### **Marketing approaches of Core Model**

In present scenario companies are focusing more and more on the availability of products so as to enjoy good image in their customer's (doctors) chamber. Many companies such as Glaxo, Pfizer, Dabur, FDC, Aventis, and Cipla etc. are known for their availability of products.

For marketing of these types of products companies require more and more field force to remind their products on daily basis to their direct customer (doctor). Moreover field force should have good knowledge of product schemes and offers. Also field force is required to have a good rapport with retailers. Field force also required to ensure good availability of their products to convince doctors and PUSH their products i.e. from to Stockist to Retailer to Doctor.

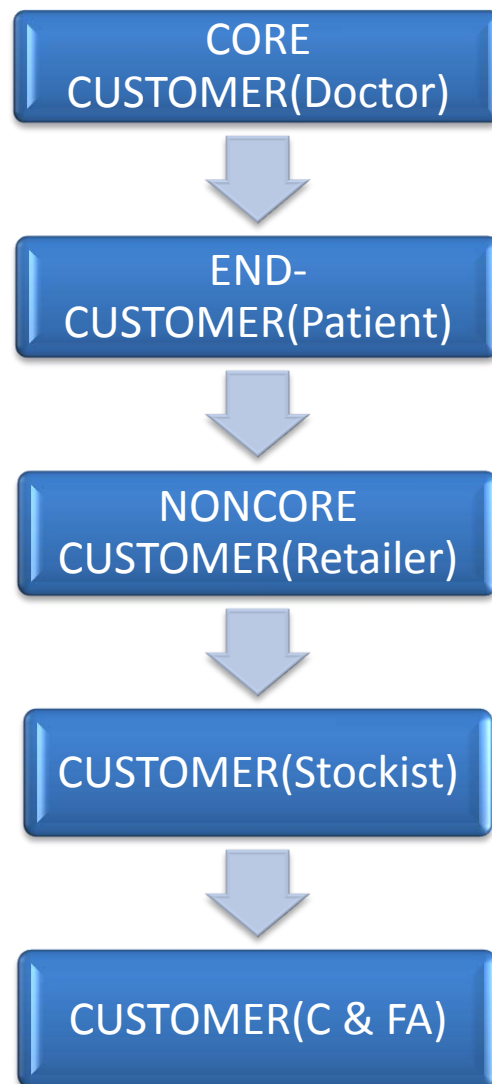
It has been observed that sometimes there are more than fifteen or sixteen representatives in a day are meeting with their customer and requesting for same type of products.

Although field force visits are important for an update on drugs and their use. The doctors are, in general, sneaking away, trying to hide from sales representatives, since there are too many and they are too pushy and there is too little time, and the representatives probably have noticed that the reluctant doctors have always less time for short meetings and less interest and tend to reduce the time of the visit. The relationship between clinicians and representatives has always been good and pharmaceutical companies have provided, and still provide, the major economical support for customers' continuous medical education. Something needs to be done to find a solution to this problem that takes into account the needs of both pharmaceutical companies and their representatives on one side and physicians on the other, for a better professional interaction.

In this system, doctors and retailers are the core customers and the major thrust is given to build and retain these customers. Here retailers are also core customer as most of the times they are substituting the products based on their own discretion.

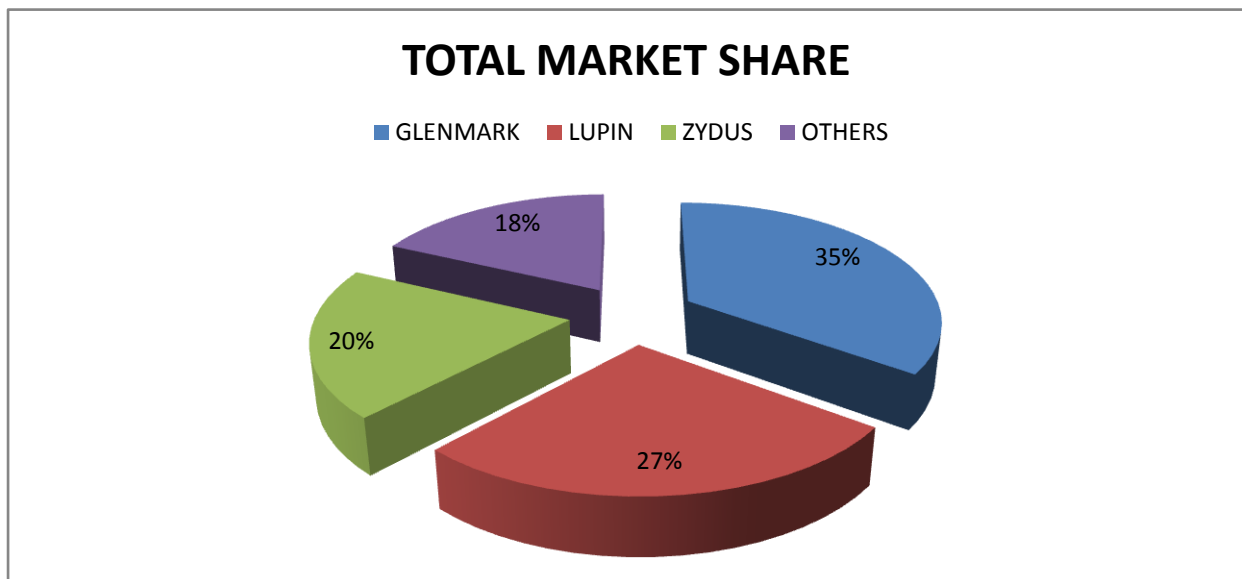
For retaining and developing customers, the companies normally provide utility gifts to remind the products on daily basis. Also it is interesting to note that since this is a push system products are being pushed in to the market so generally representatives place product orders from their stockist on the basis of SKUs sold and schemes. In this pumping the goods in the market and ensuring Team more and more primary sales i.e. from CFA to Stockist and availability of goods are major strategies. Normally the chances of dumping of goods at stockist and retailer level are reported also payment recovery of companies is also not very good. Here the role of supply chain managers can be to provide considerable value to their companies by understanding the customers' delivery requirements. A very powerful tool for understanding these requirements is account segmentation. A company can use account segmentation to identify market segments Such as Acute & Chronic therapy

market. which is well positioned to serve and then organize its product range and even SKU's and service in a superior way. Companies are fighting (for customers) like never before and if anything is certain then it is further intensification of this war, and because of this companies are increasingly looking at Logistics, as a weapon to gain Competitive Advantage and it is true that Logistics has the potential to do so. and corporate cases associated with them are given below:



## CONCLUSION

**GLENMARK(TELMA) had maximum market share in three areas out of four surveyed whereas LUPIN(TELISTA) was found to be leading in south (Kavinagar) by a substantial margin of 10% .As a result ,the surveyed products of GLENMARK got a leading edge over the products of other companies for all the four areas taken together. Hence the final standings in terms of market share in the entire survey area was GLENMARK at 35% which was found to be marginally higher than that of LUPIN (27%) followed by ZYDUS (20%) and OTHERS(18%)**



## RECOMMENDATION

1. Companies that set their products price is too high for the public to afford it. The company should set their product price in such a way that it would be convenient for both the company as well as for the consumers to afford it without any loss to them.
2. Marketing strategies should be innovative rather than aggressive.
3. The company should emphasis more on the quality of the Products
4. The company should make its marketing strategy flexible enough in order to face competition.
5. The company rate policy must be flexible enough to catch new customers

## **SUGGESTIONS**

1. **PRODUCT-:** Modification must be brought about in products in terms of quality & quantity so that its demand should get increased.

2. **PLACE-:** The brands must be made available easily in all chemist shop.

3. **PROMOTION-:** Company must undertake extensive promotional activities such as personal selling and it should be done in relevant manner and by making public aware about their health concern.

4. **PRICE-:** Company should set their product price in such a way that it would be convenient for both company and consumers to afford it without any loss to them.

## **LIMITATIONS:**

- Lack of time.
- Money played a vital role.
- Lack of proper information & experience due to short period of time.
- Some chemist did not give appropriate answers.
- Some chemist refuses to cooperate with the queries.

## **QUESTIONARE:-**

These are the following questions which I asked to different chemist:-

- I. Which is the Dominant Company in cardiovascular drugs?
- II. How many prescriptions received per day?
- III. Which age group of people approaches them?
- IV. How many types of Dosage form available?
- V. Brands frequently prescribed by doctors?
- VI. Which is the mostly availed TAELMISARTAN brand?
- VII. Which company provide most attractive offers?
- VIII. What is the stock of cardiovascular drugs at maximum retailer shops?
- IX. What are the various line segments, line depth of a brand available with them?
- X. Whether patients demands low cost drugs against high cost drugs?

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