

Product: Market Strategy and Performance: An Analysis of Extralube (Carboxymethylcellulose) in New Delhi

By

Ankit Gupta

*Dissertation submitted for the partial fulfillment of the
MBA Pharmaceutical Management*

Academic year, 2016-2018



The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: www.iihmr.edu.in

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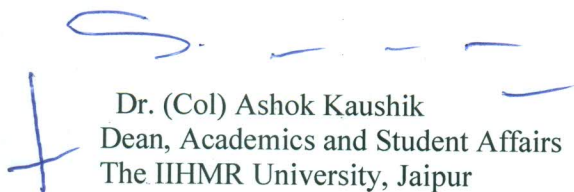
TO WHOMSOEVER MAY CONCERN

This is to certify that **Ankit Gupta** student of MBA Pharmaceutical Management from The IIHMR University, Jaipur has undergone internship training at **Microlab Ltd.** from **12th February 2018 to 12th May 2018.**

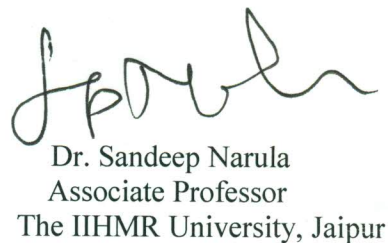
The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.



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



Dr. Sandeep Narula
Associate Professor
The IIHMR University, Jaipur



MICRO LABS LIMITED

REGD. & CORPORATE OFFICE: # 27, RACE COURSE ROAD, BANGALORE 560 001, KARNATAKA, INDIA
Tel.: +91- 80-2237 0451- 57 Fax : +91-80-2237 0463 CIN: U24232KA1973PLC002401 Website: www.microlabsltd.com Email : info@microlabs.in

TO WHOM IT MAY CONCERN

This is to certify that Mr. Ankit Gupta, student of Master of Business Administration (MBA) in Pharmaceutical Management program of institute of Health Management Research University, Jaipur has successfully completed dissertation entitled " Product : Market Strategy and Performance: An Analysis of Extralube (Carboxymethylcellulose) in New Delhi " at Micro Labs Ltd , New Delhi for two months starting from 5 March, 2018 to May 12,2018.

We found him sincere and hard working.

We wish him all the best for his future.

Ashok Kumar

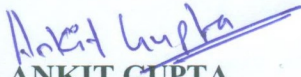
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Certificate of Ethical Clearance

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled “**Product-market Strategy and Performance: An Analysis of Extralube(carboxymethylcellulose) in New Delhi**”


ANKIT GUPTA
Signature of student

Acknowledgement

Having been exposed to a fair amount of theoretical concept, I was looking forward to get a firsthand experience of a business organization and try to relate what I am encouraged to do at Institute of Health Management Research, Jaipur.

My Acknowledgement is incomplete without heartfelt thanks to Dr. Sandeep Narula, Internal Project Guide for showing me the right direction in doing this project.

I would like to give very special recognition to the countless other people who have been generous with their time, support & encouragement and have contributed to this project report in their own

Thank you

Ankit Gupta

MBAPM-08

ABSTRACT

Title: Product Market Strategy and Performance: An Analysis of Carboxymethylcellulose in New Delhi

Author: Ankit Gupta.

Background: Dry eye syndrome is caused by a chronic lack of sufficient lubrication and moisture on the surface of the eye. Consequences of dry eyes range from subtle but constant eye irritation to significant inflammation and even scarring of the front surface of the eye.

In addition to being called dry eye syndrome, dry eye disease, or simply "dry eye," alternative medical terms used to describe dry eyes. **Carboxymethylcellulose** (CMC), a high-molecular-weight polysaccharide, is one of the most common viscous polymers used in artificial tears to achieve their prolonged residence time on the ocular surface. It has been shown to be efficacious in the treatment of aqueous tear-deficient dry eye symptoms and ocular surface staining,^{1 2} and this effect has been found to be dose-dependent, with greater improvement observed with 1.0% CMC than with 0.5% CMC

- **Objectives:**

- To identify the market scenario of Carboxymethylcellulose.
- To analyze the prescription pattern of Carboxymethylcellulose
- To determine highest sales volume & stock of Carboxymethylcellulose
- To investigate the factors responsible for Prescribing Carboxymethylcellulose

Methodology:

A descriptive type of study was conducted in New delhi and a sample of 183 i.e 98 doctors and 85 were taken under study through Non probability sampling technique. A structured questionnaire was formulated and Primary data was collected through personal interview of doctors and pharmacist.

Results and conclusion: Prescription pattern also follow with the information shared by the company all the updated views provided for use of Carboxymethylcellulose and various studies changes the prescription pattern is Carboxymethylcellulose. As Refresh tear has highest volume in sales which is 23.3% as well as in prescription which states that availability of your product in the market makes foundation even for substitution at times. Many factors affects the prescription pattern of Carboxymethylcellulose such as 56.2 of doctors says Clinical evidences is an important parameter and 57.14% of doctors says Availability also because many many patients want symptomatic relief and due to unavailability of the product which prescribed by doctors is substitute with other one. But in doctors chamber information shared and communicating the required information is necessary

Key Words: carboxymethylcellulose, doctors, market strategy.

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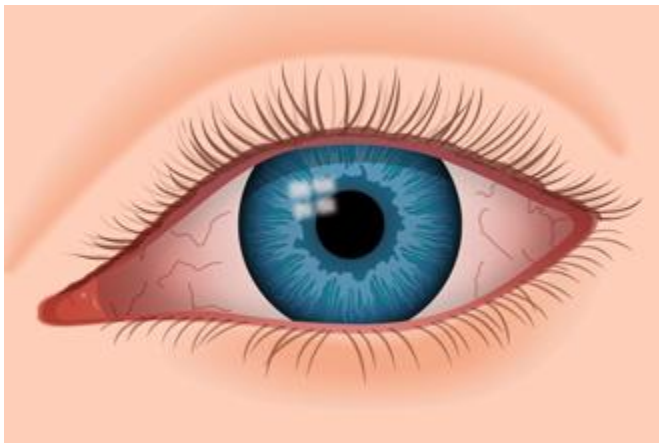
INTRODUCTION

DRY EYE

Dry eye syndrome is caused by a chronic lack of sufficient lubrication and moisture on the surface of the eye. Consequences of dry eyes range from subtle but constant eye irritation to significant inflammation and even scarring of the front surface of the eye.

In addition to being called dry eye syndrome, dry eye disease, or simply "dry eye," alternative medical terms used to describe dry eyes include:

- **Keratitis sicca.** Generally used to describe dryness and inflammation of the cornea.
- **Keratoconjunctivitis sicca.** Used to describe dry eye that affects both the cornea and the conjunctiva.
- **Dysfunctional tear syndrome .** Used to emphasize that inadequate quality of tears can be just as important as inadequate quantity.



Dry eyes can become red and irritated, causing a feeling of scratchiness.

Dry Eye Symptoms

Symptoms of dry eyes and dry eye syndrome include:

- Burning sensation
- Itchy eyes
- Aching sensations
- Heavy eyes
- Fatigued eyes

- Sore eyes
- Dryness sensation
- Red eyes
- Photophobia (light sensitivity)
- Blurred vision

What Causes Dry Eye Syndrome?

An adequate and consistent layer of tears on the surface of the eye is essential to keep your eyes healthy, comfortable and seeing well. Tears bathe the eye's surface to keep it moist and wash away dust, debris and microorganisms that could damage the cornea and lead to an eye infection.

A normal tear film consists of three important components:

1. An oily (lipid) component
2. A watery (aqueous) component
3. A mucous-like (mucin) component

Each component of the tear film serves a critical purpose. For example, tear lipids help keep the tear film from evaporating too quickly and increase lubrication, while mucin helps anchor and spread the tears across the surface of the eye.

Each tear component is produced by different glands on or near the eye:

1. The oily component is produced by meibomian glands in the eyelids.
2. The watery component is produced by lacrimal glands located behind the outer aspect of the upper eyelids.
3. The mucin component is produced by goblet cells in the conjunctiva that covers the white of the eye (sclera).

A problem with any of these sources of tear film components can result in tear instability and dry eyes, and there are different categories of dry eyes, depending on which component is affected.

For example, if the meibomian glands don't produce or secrete enough oil (meibum), the tear film may evaporate too quickly — a condition called "evaporative dry eye." The underlying condition — called meibomian gland dysfunction — is now recognized as a significant factor in many cases of dry eye syndrome.

In other cases, the primary cause of dry eye is a failure of the lacrimal glands to produce enough watery fluid (aqueous) to keep the eyes adequately moistened. This condition is called "aqueous deficiency dry eye."

The specific type of dry eye often will determine the type of treatment your eye doctor recommends to give you relief from your dry eye symptoms.

Factors Associated With Dry Eye Syndrome

A number of factors can increase your risk of dry eyes. These include:

- **Computer use.** When working at a computer or using a smartphone or other portable digital device, we tend to blink our eyes less fully and less frequently, which leads to greater tear evaporation and increased risk of dry eye symptoms.
- **Contact lens wear.** Though it can be difficult to determine the exact extent that contact lens wear contributes to dry eye problems, dry eye discomfort is a primary reason why people discontinue contact lens wear.
- **Aging.** Dry eye syndrome can occur at any age, but it becomes increasingly more common later in life, especially after age 50.
- **Menopause.** Post-menopausal women are at greater risk of dry eyes than men of the same age.
- **Indoor environment.** Air conditioning, ceiling fans and forced air heating systems all can decrease indoor humidity and/or hasten tear evaporation, causing dry eye symptoms.
- **Outdoor environment.** Arid climates and dry or windy conditions increase dry eye risks.
- **Frequent flying.** The air in the cabins of airplanes is extremely dry and can lead to dry eye problems, especially among frequent flyers.
- **Smoking.** In addition to dry eyes, smoking has been linked to serious eye problems, including macular degeneration, cataracts and uveitis. (For details, see our infographic about why smoking is bad for your eyes.)
- **Health conditions.** Certain systemic diseases — such as diabetes, thyroid-associated diseases, lupus, rheumatoid arthritis and Sjogren's syndrome — contribute to dry eye problems.
- **Medications.** Many prescription and nonprescription medicines — including antihistamines, antidepressants, certain blood pressure medications and birth control pills — increase the risk of dry eye symptoms.
- **Eyelids Problem.** Incomplete closure of the eyelids when blinking or sleeping — a condition called lagophthalmos, which can be caused by aging or occur after cosmetic blepharoplasty or other causes — can cause severe dry eyes that can lead to a corneal ulcer if left untreated.

Also, LASIK and other corneal refractive surgery can sometimes cause dry eyes. In most cases, however, dry eye discomfort after LASIK is temporary and resolves within a few weeks of the procedure.

Artificial tears are the primary treatment for dry eye disease. Although there are many effective artificial tear formulations, carboxymethylcellulose (CMC) and hyaluronate (HA) are the two most commonly prescribed and used

Carboxymethylcellulose (CMC), a high-molecular-weight polysaccharide, is one of the most common viscous polymers used in artificial tears to achieve their prolonged residence time on the ocular surface. It has been shown to be efficacious in the treatment of aqueous tear-deficient dry eye symptoms and ocular surface staining,^{1 2} and this effect has been found to be dose-dependent, with greater improvement observed with 1.0% CMC than with 0.5% CMC (Prather et al., *IOVS* 2002;43:ARVO E-Abstract 3152). It is generally understood that it is the physical properties of CMC, such as its viscous and mucoadhesive properties, that contributes to its prolonged retention time in the ocular surface. It is not known, however, whether there are any direct interactions of CMC with the ocular surface, in particular, with the epithelium.

CMC-based artificial tears have also been widely used after laser in situ keratomileusis (LASIK) to accelerate postoperative ocular surface recovery and to minimize dry eye symptoms.³ CMC has been reported to be effective in reducing the incidence of epithelial defects during LASIK.^{4 5} Also, it has cytoprotective properties on the ocular surface when used before

contact lens insertion.⁶ Contact lenses preconditioned with CMC before insertion produces less corneal staining and limbal and conjunctival redness and are more comfortable to wear than are nonconditioned lenses.⁷ Although the precise role of CMC in the protective effect observed is not known, these findings suggest that CMC may be involved in the repair of the ocular surface.

Side effects

Major and minor side effects for Cmc 0.5% Eye Drops

- Visual disturbances
- Eye irritation
- Eye pain RARE

NEED FOR STUDY

Problem of Dry eye is a growing problem in world, especially in India. Seeing the scenario Microlab pharma took Pleasure to Introduce Carboxymethylcellulose in the market in eye drop form with the Name of Extralube. product was launched with aggressive Promotions which results in good number of sales with continuous growth Quarter by Quarter. Since last few Quarter sales of Extralube is in Negative growth. This study is carried out to find out the preference of Prescriber while prescribing Carboxymethylcellulose and Preferred Brand.

This study will also help us in analysis of market potential & prescription trends are needed to find out unmet medical needs.

The study helps to find:

- ✓ Market Strategy analysis for Carboxymethylcellulose.
- ✓ Market scenario of Carboxymethylcellulose.
- ✓ Indication for usage of Carboxymethylcellulose.
- ✓ Most commonly prescribed Carboxymethylcellulose with other parameters.
- ✓ Most prescribed combination therapy with Carboxymethylcellulose.
- ✓ Identification of highest stock & sale of Carboxymethylcellulose.
- ✓ Most prescribed brands
- ✓ Major competitors
- ✓ Unmet Medical Need in case of Dry eye with future scopes of Carboxymethylcellulose.

Research Questions

- What are the factors affecting the sales of Extralube (Carboxymethylcellulose)?
- What are the attributes of products responsible for Prescribers?
- What is the market potential of Carboxymethylcellulose in patients with Dry eye in New Delhi city?

Objectives

- To identify the market scenario of Carboxymethylcellulose.
- To analyze the prescription pattern of Carboxymethylcellulose
- To determine highest sales volume & stock of Carboxymethylcellulose
- To investigate the factors responsible for Prescribing Carboxymethylcellulose

Methodology

Sample Designe

The research conducted was descriptive (Cross-sectional)

Sampling Method

The sampling method was Non-Probability (Purposive) sampling

Study Area

The study was carried out in North Delhi.

Sample population

It includes all doctors (Ophthalmologists) and Pharmacists

Sample size

Sample size for the study is 183:

Doctors: 98

Pharmacist: 85

Data collection

Primary and secondary data

Primary data- The primary data for this project was gathered through survey using questionnaire, face to face interview online format also.

Secondary data- The secondary data for this project was gathered through different dependable articles and research reports and data available in PMT Department.

Research Instrument(Tool and Techniques)

Research instrument is the semi-structured questionnaire consists of both type of open and close ended questions for both Pharmacist and doctors.

The information was collected by interviewing with doctors and Pharmacist.

Study Duration

3 months (12th February to 12th May)

LITERATURE REVIEW

1. **Hans-Walter Roth, Taryn Conway, David A Hollander et al (2011)** explained about the Artificial tears are commonly used for the symptomatic treatment of dry eye and compared the efficacy and safety of two preservative-free formulations of artificial tears, carboxymethylcellulose 0.5%/glycerin 0.9% (CMC/glycerin) and sodium hyaluronate 0.18% (sodium hyaluronate), in patients with mild to moderate dry eye symptoms and found that Both CMC/glycerin and sodium hyaluronate effectively relieved dry eye symptoms. Scores were consistently similar across all measures, and both artificial tears were highly acceptable to patients.
2. **Ke Yao*, Yongzhen Bao, Jian Ye,YiLu, Hongsheng Bi, Xin Tang, Yune Zhao, Jinsong Zhang and Jinling Yang et al (2015)** reviewed of patients who experience dry eye after phacoemulsification, vision and quality of life can significantly deteriorate. In which the efficacy and safety of carboxymethylcellulose sodium (CMC) 1% ophthalmic solution combined with conventional therapy in treating dry eye signs and symptoms after phacoemulsification were evaluated for that they did controlled study, 180 patients with age-related cataract were randomized to treatment with conventional therapy plus CMC 1% (n = 90) or to conventional therapy only (controlgroup, n = 90) after phacoemulsification and intraocular lens implantation. Tear breakup time (TBUT), the Schirmer test with anesthesia, and fluorescein and lissamine green staining were performed. The Ocular Surface Disease Index(OSDI) questionnaire and a patient subjective symptom evaluation were administered preoperatively (baseline) and postoperatively at 7 and 30 days And found that treatment with CMC 1% can provide significant improvement in tear film stability after phacoemulsification for age-related cataract.
3. **Julie M Albietz, Lee M Lenton et al (2004)** reviewed about the best practice strategies for managing the ocular surface and tear film before, during, and after laser in situ keratomileusis (LASIK) for that they comprehensive review of relevant published literature, evidence-based recommendations for best practice management strategies are presented and found Strategies to manage the integrated ocular surface/lacrimal gland

functional unit before, during, and after LASIK can optimize outcomes. As problems with the ocular surface and tear film are relatively common, attention should focus on the use and improvement of evidence-based management strategies. [J Refract Surg 2004;20:62-71].

4. **Nan Jiang , Lin-Hong Ye , Lei Ye¹, Jing Yu, Qi-Chen Yang³, Qing Yuan ,Pei-Wen Zhu¹, Yi Shao et al (2017)** reviewed about the protective effect of mistletoe combined with carboxymethyl cellulose eye drops on dry eye in postmenopausal women for that they did Sixty post menopause female patients diagnosed of dry eye were assigned randomly to mistletoe combined with carboxymethyl cellulose eye drops treatment group (n=30) and control group treated with normal saline eye drops (n=30). The subjective symptoms of ocular surface, Ocular Surface Disease Index (OSDI), tear film function tests, tear protein and corneal morphology by confocal scanning microscopy were analyzed before treatment and at 1, 2, 4 and 8wk after treatment respectively. To ensure the safety of the trial, all patients were examined with systolic pressure, diastolic pressure, glutamic-pyruvic transaminase, glutamic oxaloacetic transaminase, urine creatinine, and blood urea nitrogen at 8wk after treatment and found that Mistletoe combined with carboxymethyl cellulose eye drops can alleviate the symptoms and signs of dry eye symptoms.
5. **Sangeeta Shah, Badri P. Badhu , Poonam Lavaju , Santosh Chaudhary and Arvind K. Sinha et al (2017)** reviewed about the dry related problems and their causes and try to find out the efficacy of carboxymethylcellulose and topical cyclosporine A 0.05% in the treatment of dry eyes and their effect on the density of conjunctival goblet cells (GCD). Settings and design: Hospital based, Randomized clinical trial on 90 patients of dry eyes were enrolled and were randomly divided into two groups of 45 each. Group A was treated with topical cyclosporine A 0.05% twice daily and group B with preservative free carboxymethyl cellulose 0.5% (CMC) four times daily for 6 weeks. Different parameters like dry eye symptoms through visual analogue score (VAS), tear break up time (TBUT), Schirmer's tests (SCH), fluorescein stain (FLU) and goblet cell density (GCD) were obtained prior to treatment and compared with the results after 6 weeks of treatment. Statistical analysis used: SPSS software, version 12.0. Results: After 6 weeks of treatment both the groups showed significant improvement from baseline values of all the parameters and found that Both the topical CMC 0.5% and cyclosporine A 0.05% showed improvement of ocular surface at 6 weeks interval. However, there was no significant difference between the outcome of two groups.

SECONDARY DATA ANALYSIS

SWOT ANALYSIS

Strength

- Special eye drops with extra APIs.
- Company reputation
- Competitive Pricing
- Promoted for any age groupe

Weakness

- Less Promotion as compared to competitor.
- No Sustained Inputs for extralube
- Less efficiency of representing for major indication

Opportunity

- Growing market for Carboxymethylcellulose
- Combination with extra APIs
- High Prevalence rate of Dry eye patients
- High Growth recorded continuously in this Segment

Threats

- Ability to solve Query

- Major players Entry in the competition
- Small Scale industries with competitive pricing Strategy
- Various combination in the market of carbocymethycellulose.

Porter 5 Model

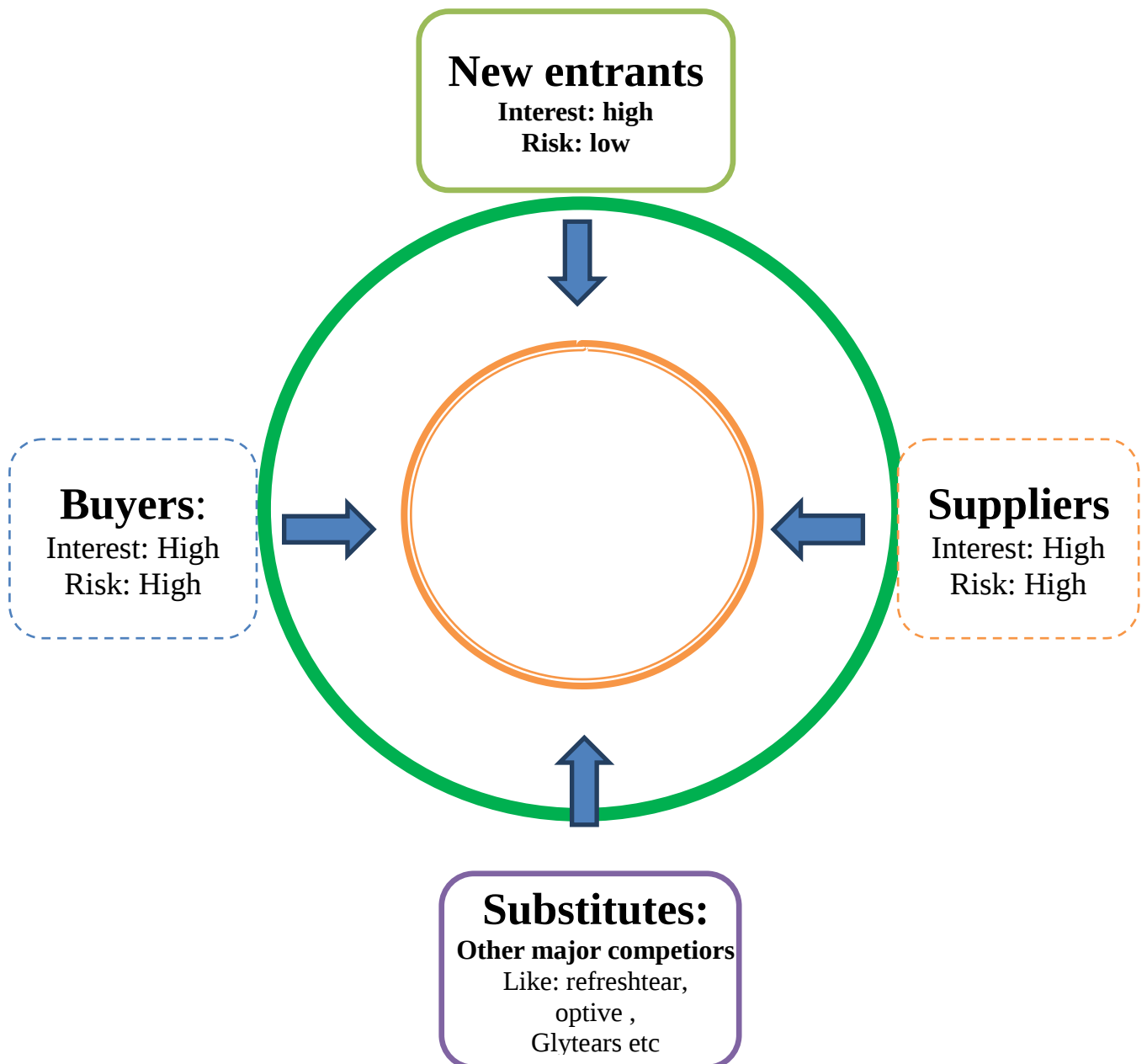


Figure : Porter 5 force Model for Extralube Market

Market STP (Segmentation, Targeting and Positioning)

Segmentation:

Segmentation is done on the basis of indications in which Carboxymethylcellulose can be prescribed.

1. For General Ophthalmologists/PG's
2. Cornea specialists
3. Retina specialists
4. Lasik Surgeons
5. Pediatric Ophthalmologist
6. Neuro Ophthalmologists
7. Optometrists

Positioning

Positioning of Extralube amongst all competitors in the market

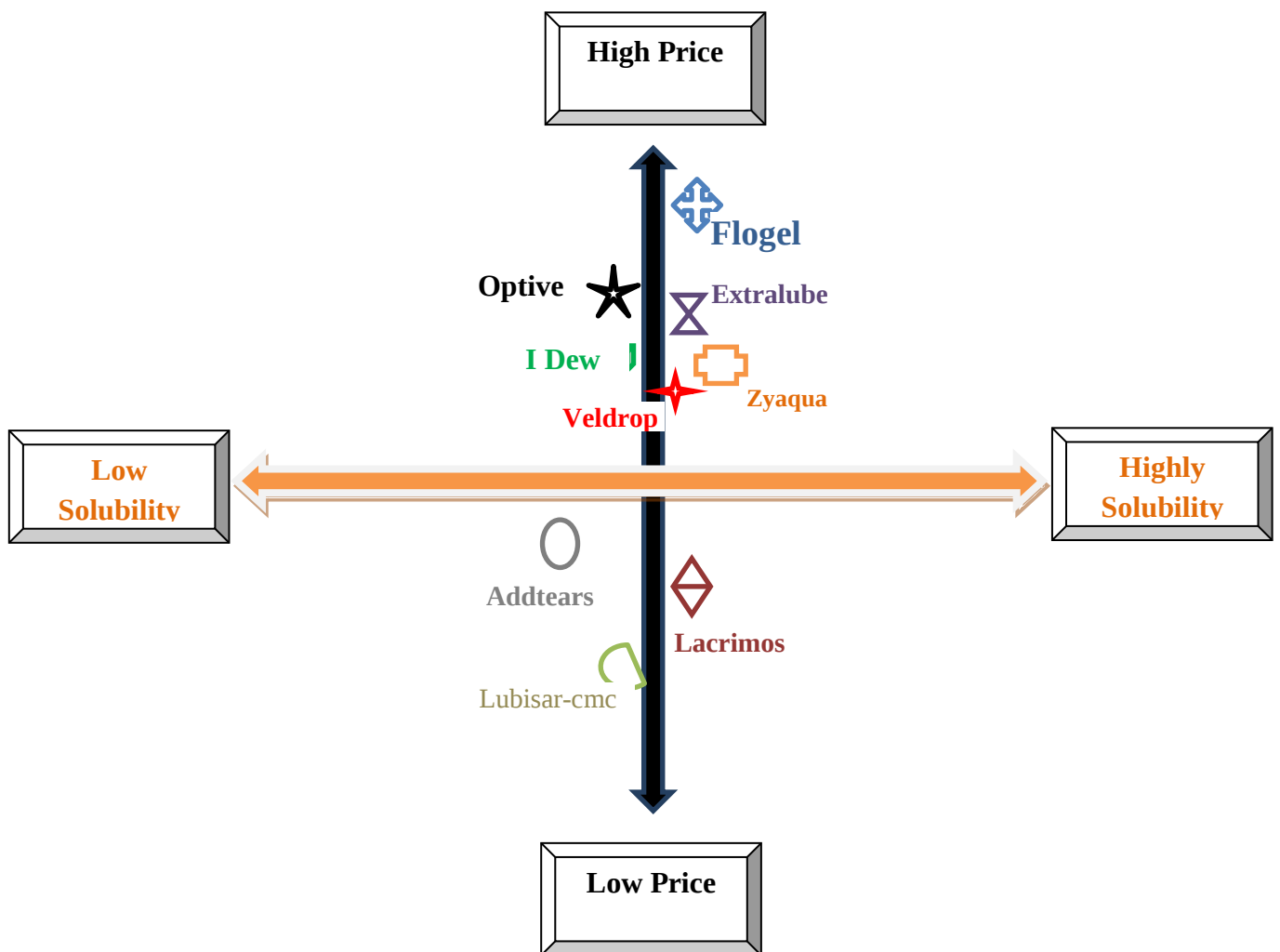


Figure: Positioning map of Extralube

Brand	Company	Per ml Price
Optive	Allergen	12.9
Extralube	Micro labs	12.9
Flogel	Cipla	14.2
Veldrop	Alembic	12.75
Lacrimos	Lupin	8.08
I Dew	Entod	12.9
Lubisar-cmc	Mankind	8.06
Addtears	Cipla	11
Zyaqua	Zydus Cadila	12.72

Table: List of brand names with their Company and Price

Call Planning for Doctors

Call planning for Extralube structured for sales representatives for every visit. And once in 15 days visit is fixed.

20 doctors from the total DCR (Doctors call Receipt) of 110 doctors were selected and for them call planning is described in figure below

Month	Visit 1	Visit 2
March	Sample : 2 Drop + literature	Input 1+ Literature + 2 drops
April	Sample 2 Drop+ Literature (Loading Dose)	Input 2 + Literature-2 (Role in dry eye beyond 40 years) + 2 drops

(Figure: call planning for 20 doctors selected for Extralube)

Remaining 90 doctors from 110 DCR list put into other call planning for them visit plan 2 is framed and is described in figure below

Month	Visit 1	Visit 2
March	Sample : 2 drops +	Samples: 2 Drops
April	Sample 2 Drops + Literature (Loading Dose)	Samples 2 Drops

(Figure: call Planning for Remaining DCR Doctors)

Our organization organize a extralube campaign for doctors for attraction their attention toward product extralube in which they distributing a 2 pakacge of juice(1+1) and call planning is prepared from list of 10 doctors which is repeated twice in a month described in figure below:

Month	Visit 1	Visit 2
March	Sample : 2 Drops + literature	2 Drops+ Literature + juices(1+1)
April	Sample Drops	Sample 2 Drops + juices(1+1)

(Figure: Call planning for extralube campaign doctors)

DATA ANALYSIS (FINDINGS & INFERENCES)

Analysis of Doctors' views

Market scenario of Carboxymethylcellulose

Number of Patients per doctor weekly

It was found out that approximately 30.61% of doctors examined around 21-30 patients weekly followed by 24.49% in the range of 10-20 patients and only 8% are in the range of more than 40 patients visited by doctors.

Table as well as figure below provides a data of number of patients and percentage of doctor's response in each array.

no. of Patients	Response	% of Patient
Less then 10	16	16.33
10-20	24	24.49
21-30	30	30.61
31-40	20	20.41
More than 40	8	8.16
Total	98	100.00

Table 1: Number of Dry Eye patients examine by doctors weekly

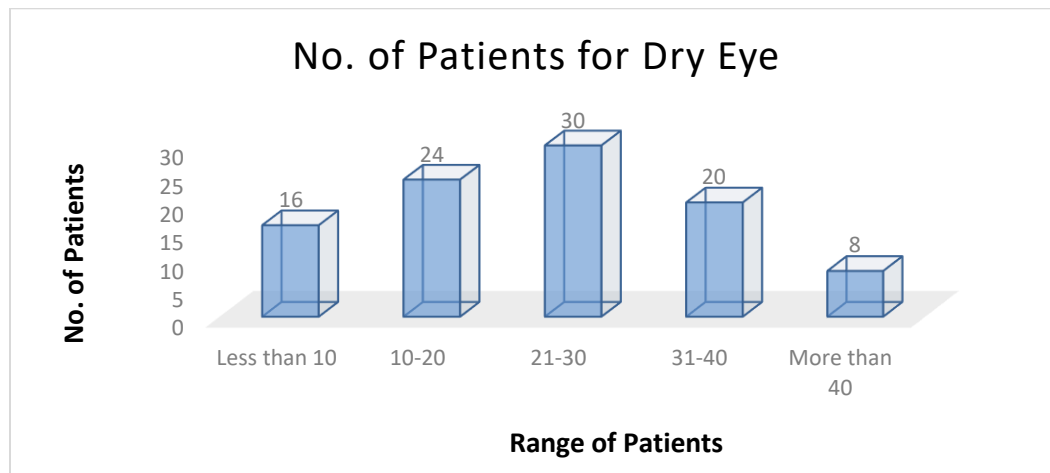


Figure 1: Number of Dry Eye patients examine by doctors weekly

Top 3 Brands Prescribed by Doctor

It was found out that approximately 22.06% of doctors responded for top 3 brands of Carboxymethylcellulose prescribed was Refreshtear to patients with Dry eye followed by 17.79% and 17.44% for Glytear and Aqualube.

Table number as well as figure number provides a data of number of Brands of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor's

Row Labels	Count of Brands of Carboxymethylcellulose	% of Brands of Carboxymethylcellulose
Glytears	50	17.79
extralube	22	7.83
refreshtear	62	22.06
aqualube	49	17.44
optive	42	14.95
others	56	19.93
Total	281	100.00

response in each array.

Table 2: Top Brands of Carboxymethylcellulose Prescribed by doctors

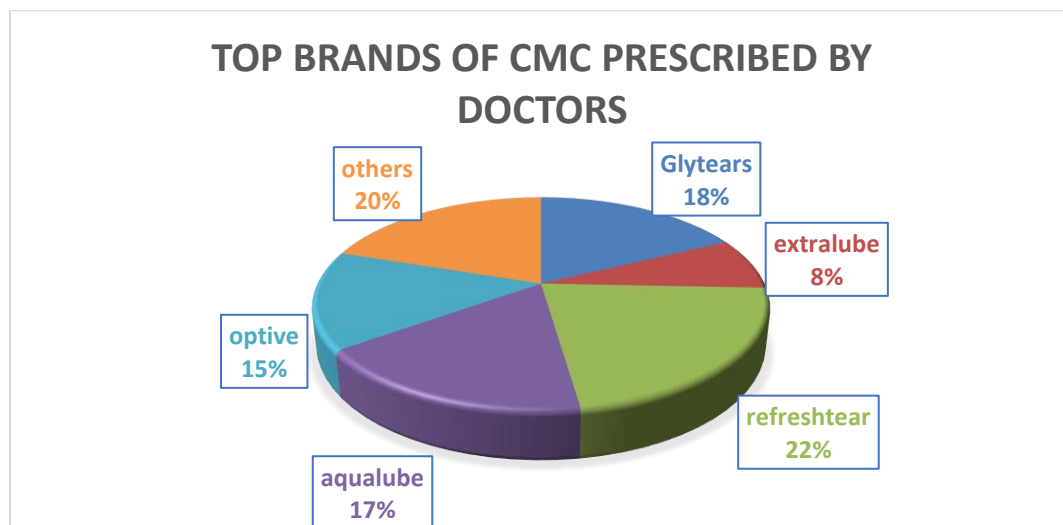


Figure2 : Top Brands of Carboxymethylcellulose Prescribed by doctors

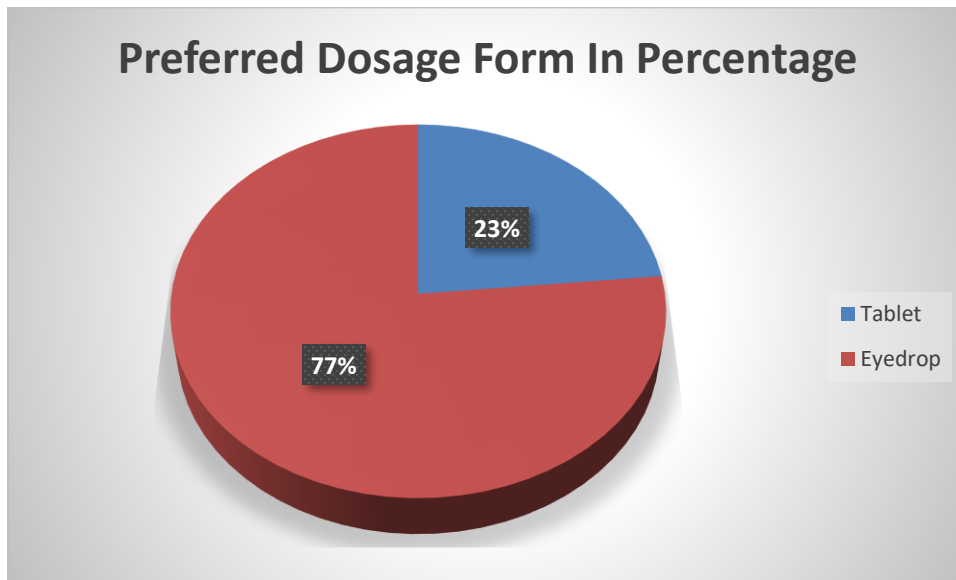
Preferred Dosage form of Dry eye patients by Doctor

It was found out that approximately 76.53% of doctors responded for Preferred Dossage form for Carboxymethylcellulose Mentioned is Eyedrops to patients with Dry Eye followed by 23.47% for Tablet.”

“Table number as well as figure below number provides a data of Preferred Dosage of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor’s response in each array.

Respondents	Dosage Form	Response in %
Tablet	23	23.47
Eyedrop	75	76.53
Total	98	100

Table 3: Preferred Dosage form for Dry Eye patients Prescribed by doctors”



“ Figure 3: Preferred Dosage form for Dry Eye Patients Prescribed by doctors

Any combination therapy preferred with Carboxymethylcellulose

It was found out that approximately 57.14% of doctors responded for Preferred to use combination therapy for Carboxymethylcellulose to patients when diagnosed with other symptoms also like pain, post and pre cataract/lasik surgery CMC is given with Dry Eye which is either with Disfunctioning of the glands through which three layers of tear film produce.

Table number as well as below figure number provides a data of percentage of Doctors use combination therapy of Carboxymethylcellulose response in each array.

Count of Respondents	Response	Combination Therapy in %
Yes	56	57.14
No	42	42.86
Total	98	100.00

Table 4: use of combination for Carboxymethylcellulose

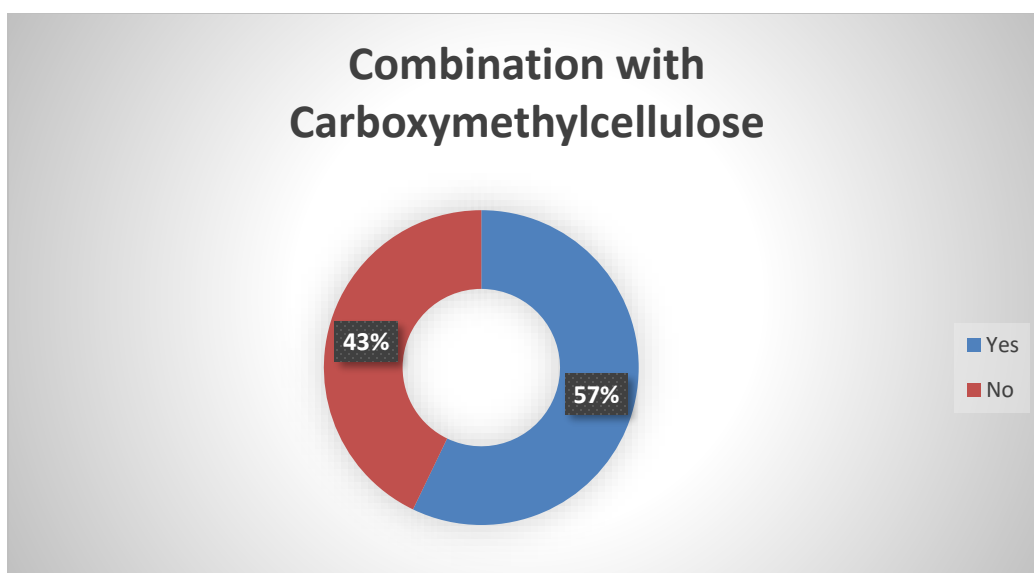


Figure 4: Use of combination for Carboxymethylcellulose “

Indication in which you prescribe Carboxymethylcellulose

It was found out that approximately 93.88 % of doctors Prescribe in Dry Eye followed by as placebo/as routine drop 80.61%, P.cataract/Lasik surgery 69% and tear film stability 64.2% are the indications where Carboxymethylcellulose in been Prescribed.

Table number as well as figure below number provides a data of Preferred Dosage of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor's response in each array.

Row lables	Indications	% of Indications
Dry Eye	92	93.88
Tear Film Stability	63	64.29
Placebo/as routin Drop	79	80.61
P. cataract/ Lasik surgery	68	69.39
Other	46	46.94
Total	98	100.00

Table: Indications for Carboxymethylcellulose is prescribed

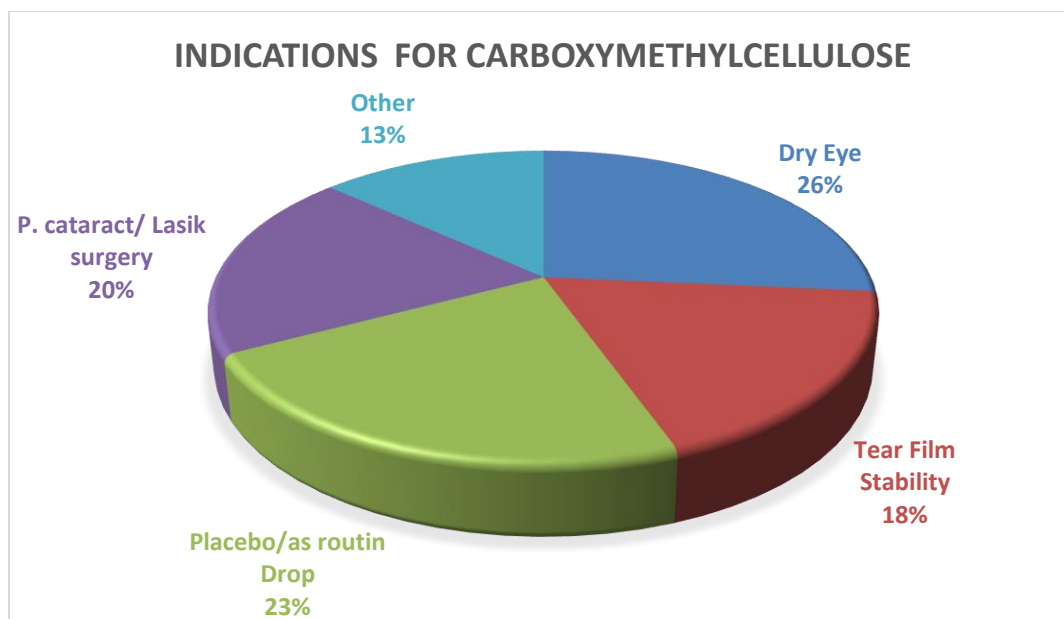


Figure: Indication for Carboxymethylcellulose is prescribed

What catches attention of doctor during the product promotion

It was found out that approximately 42.22% of doctors replied for Ability to solve query by sales representative for Carboxymethylcellulose by doctor.

Table number as well as figure below number provides a data of Preferred Dosage of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor's response in each array.

Name of the company	Product or brand name	Ability to solve Query by sales representative	Count of Information's shared by the sales representatives
30	45	76	29
16.67	25.00	42.22	16.11

Table 5: Attention on Product promotion

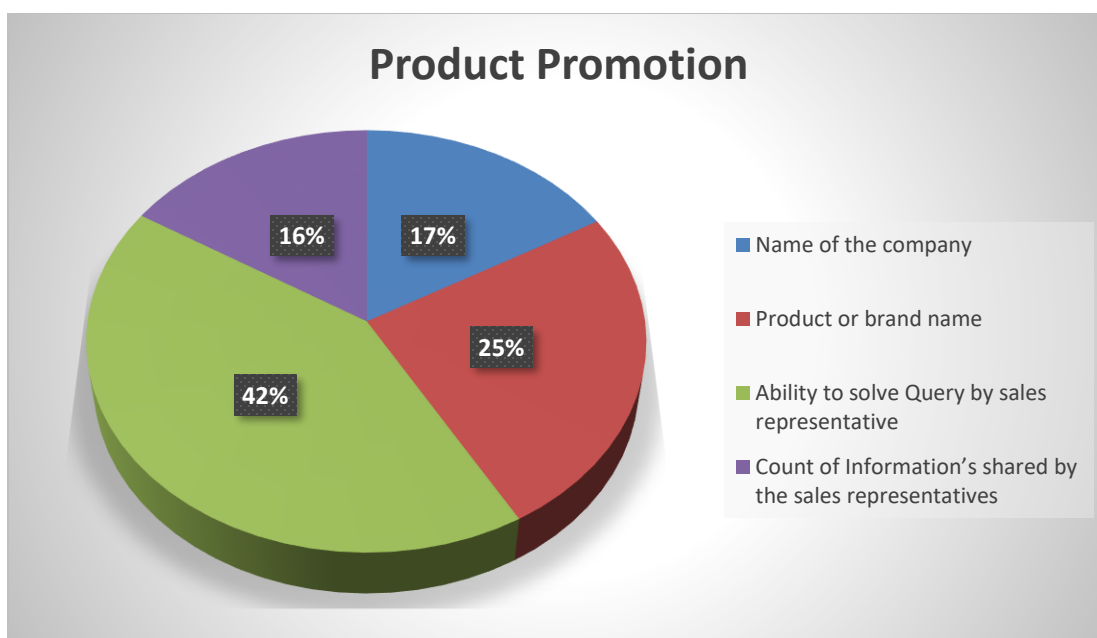


Figure 5: Attention on Product promotion

parameter consider, best define the mentioned Carboxymethylcellulose Brands

Price:

It was found out that approximately 30.61% of doctors gave 4 rating to price as a parameter to consider for Carboxymethylcellulose where only 41.84% doctors were neutral about price.

Table number as well as figure below number provides a data of Preferred Dosage of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor's response in each array.

Row Labels	Price of Brand	% of Price
1	6	6.12
2	18	18.37
3	41	41.84
4	30	30.61
5	1	1.02

Grand Total	98	100.00
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Table 1: Rating of Price by doctors

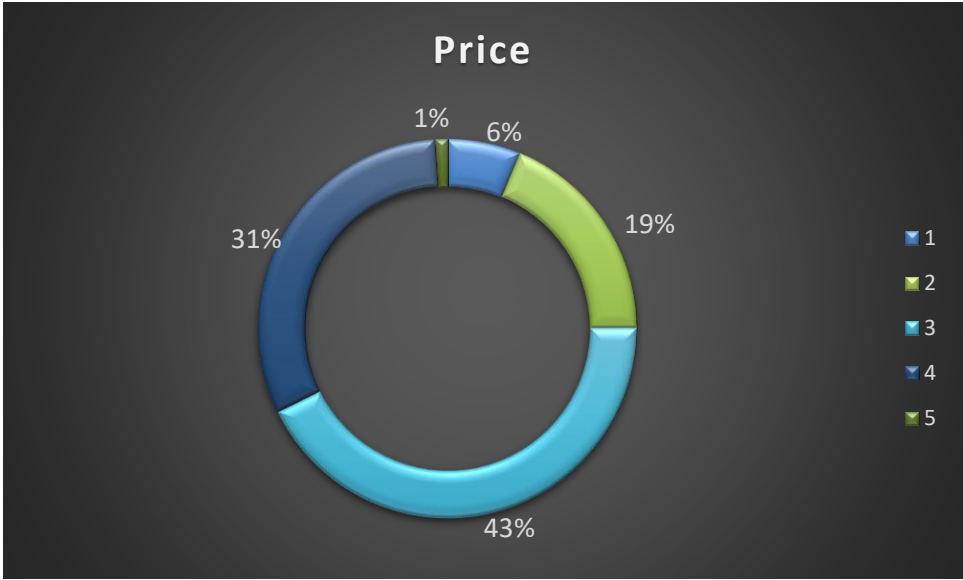


Figure : Rating of Price by doctors

Bioavailability”

It was found out that approximately 26.53% of doctors gave 5 rating and 45.92% of doctors gave 4 to Bioavailability as a parameter to consider for Carboxymethylcellulose where only 16.33% doctors were neutral about Bioavailability.

Table number as well as figure below provides a data of Preferred Dosage of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor’s response in each array.

Row Labels	Bioavailability	% of Bioavailability2
1	3	3.06
2	3	3.06
3	16	16.33
4	45	45.92
5	26	26.53
Grand Total	98	100.00

Table 1: Rating of bioavailability for Carboxymethylcellulose brand by doctors

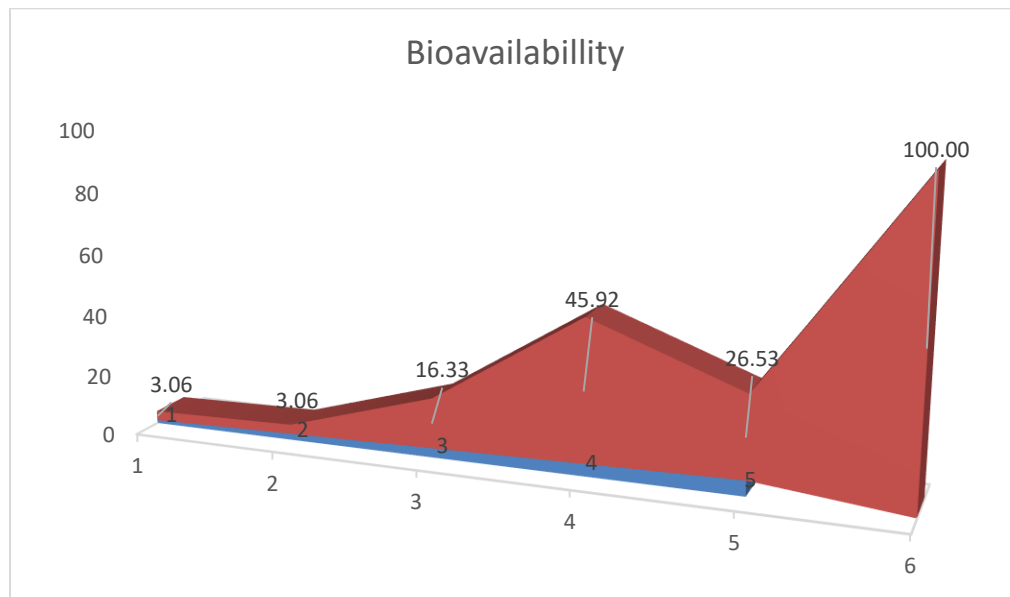


Figure: Rating of bioavailability for Carboxymethylcellulose brand by doctors

Clinical Evidence

It was found out that approximately 56.12% of doctors gave 5 rating to Clinical evidence as a parameter to consider for carboxymethylcellulose where only 7.14% doctors were neutral about Clinical evidence.

Table number as well as figure Below provides a data of Preferred Dosage of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor's response in each array.

Row Labels	Clinical evidence	% of Clinical evidence2
1	3	3.06
2	2	2.04
3	7	7.14
4	30	30.61

5	55	56.12
Total	98	100.00

Table 1: Rating of Clinical Evidence for Carboxymethylcellulose brand by doctors

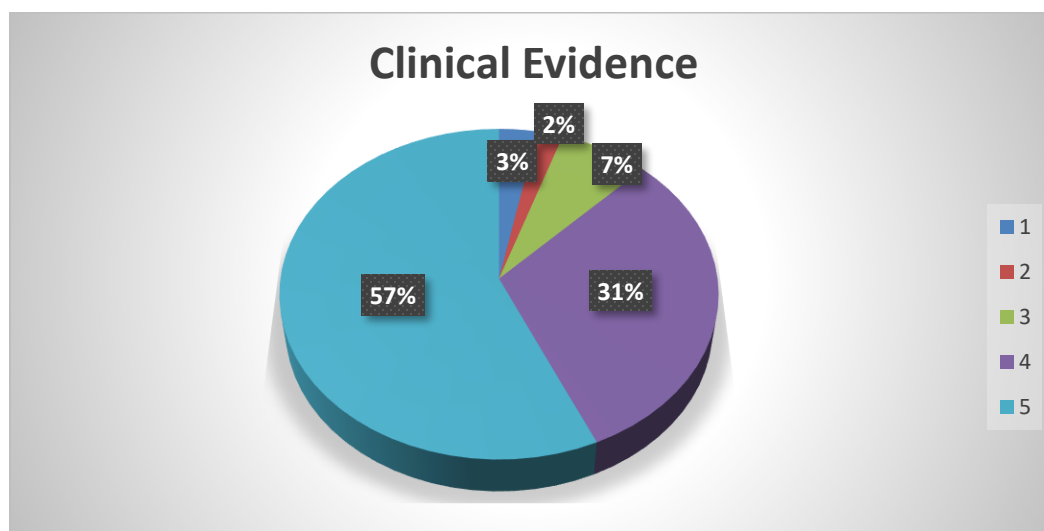


Figure: Rating of Clinical evidence for Carboxymethylcellulose brand by doctors

Availability Product

It was found out that approximately 57.14% of doctors gave 5 rating to Availability of Product as a parameter to consider for Carboxymethylcellulose where only 16.33% doctors were neutral about Availability of Product.

Table number as well as figure number provides a data of Preferred Dosage of Carboxymethylcellulose is been prescribed by doctors and percentage of doctor's response in each array.

Row Labels	Availability	% of Availability
1	6	6.12
3	16	16.33
4	11	11.22
5	56	57.14
Total	98	100.00

Table 1: Rating of Availability of Product for Carboxymethylcellulose brand by doctors

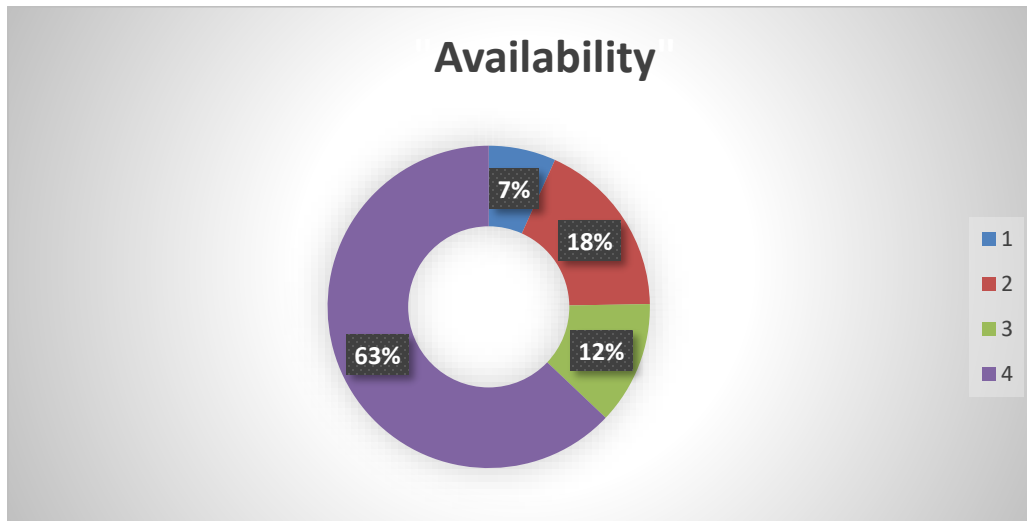


Figure: Rating of Availability of Product for Carboxymethylcellulose brand by doctors

Overall view of parameters for Carboxymethylcellulose

It was found out that approximately 70% of doctors gave 5 rating to price as a parameter to consider for Carboxymethylcellulose where only 21% doctors were neutral about price.

Table number as well as figure below provides a data of Preferred Dosage of Carboxymethylcellulose has been prescribed by doctors and percentage of doctor's response in each array.

Respondent	Price	Bioavailability	Clinical evidence	Availability
1	6	3	3	6
2	18	3	2	0
3	41	16	7	16
4	30	45	30	11
5	1	26	55	56

Table 1: Rating of all Parameters of Product for Carboxymethylcellulose brand by doctors

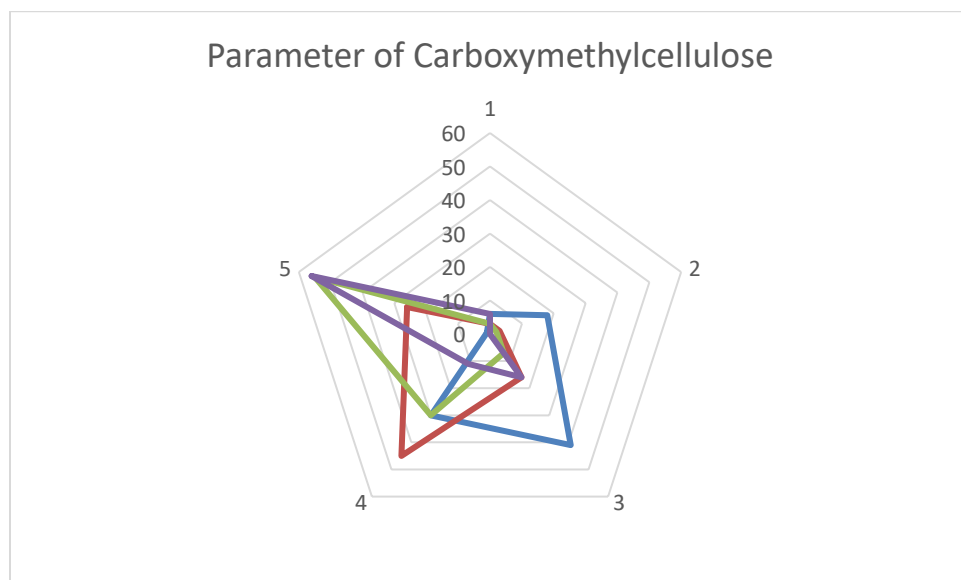


Figure: Rating of Parameters of Product for Carboxymethylcellulose brand by doctors

Analysis of Pharmacists' views

Market scenario of Carboxymethylcellulose

Number of Brands

It was found out that approximately 41.17 % of Pharmacists keep more than 6 brands.

Table number 16 as well as figure number 16 gives a data of number of brands keep by Pharmacist and percentage of Pharmacist's response in each range.

No of Patient	Response	No. of Brands in Percentage
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1-3	16	18.82
4-6	34	40
More than 6	35	41.17
Total	85	100

Table : Number of Ccarboxymethylcellulose Brands Available

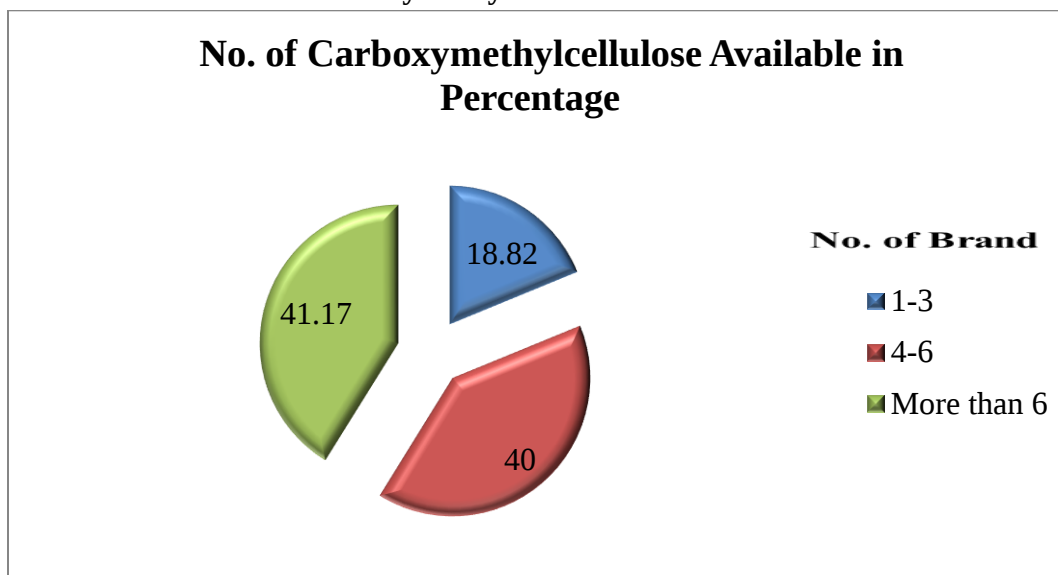


Figure : Number of Carboxymethylcellulose Brands Available

Brands of Carboxymethylcellulose available in stock at Pharmacy store

It was found out that approximately 23.3% of Pharmacists keep Refresh-tear in the store which is followed by Aqualube contain 20.5%, Extralube 10.9% Counter.

Table as well as figure below gives a data of number of brands keeps by Pharmacist and percentage of Pharmacist's response in each range.

Brands	% of available
Glytear	14.37
Extralube	10.9
Refresh-tear	23.3
Aqualube	20.5
Optive	16.3
Others	14.63

Table 1: Brands of Carboxymethylcellulose Available in Pharmacy

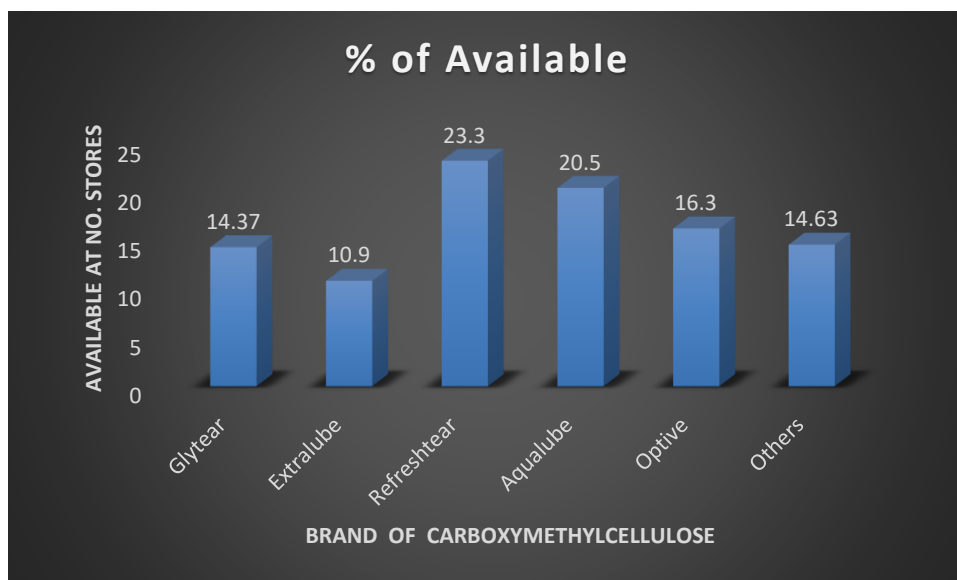


Figure 1: Brands of Carboxymethylcellulose Available in Pharmacy

Sale other brand of same molecule in absence of prescribed brand

It was found out that according to 67% of chemist they do not sale other brand of same molecule if the prescribed brand is not present.

But the 33% chemist who sale other brands say they sale the substitute with the available Brand and with the permission of doctor who prescribed.

Substitution is completely based on the availability of the product with different brand name.

Table as well as figure below gives a data of number other brands sale & percentage of chemist's response in each range.

sale of other brand than Rx	Response	% Response
No	57	33%
yes	28	67%
Total	85	100%

Table: Sale of Other Brand of same molecule name Prescribed

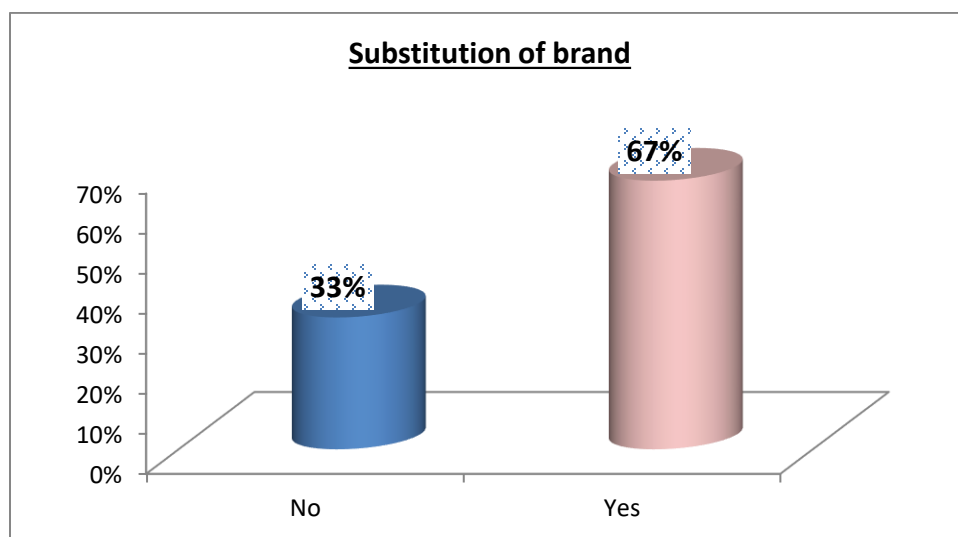


Figure: Sale of Other Brand of same molecule name Prescribed

Findings based on observation & key opinions

- ❖ Number of patients with Dry eye therapy is increasing exponentially .
- ❖ Prescription pattern of Carboxymethylcellulose depends on the presentation of sales representatives in the chamber
- ❖ Prescription pattern follows Price competitiveness of the Product
- ❖ Prescription pattern follows economy status of the patients such as PCPM (Per capita Per Month).

- ❖ Availability is the major issue need to solve for product to be approachable to consumers. Otherwise, major substitute is available in the market which will permanently evaporate the bounced prescription .
- ❖ According to some doctors prescription trend never remains equal, it keeps on changing as per Product being Promoted effectively
- ❖ Many doctors prefer approved article for the indications products being promoted.

Conclusion

1. Prescription pattern also follows with the information shared by the company all the updated views provided for use of Carboxymethylcellulose and various studies changes the prescription pattern is Carboxymethylcellulose.
2. As Refresh tear has highest volume in sales which is 23.3% as well as in prescription which states that availability of your product in the market makes foundation even for substitution at times.
3. Many factors affect the prescription pattern of Carboxymethylcellulose such as 56.2% of doctors say Clinical evidence is an important parameter and 57.14% of doctors say Availability also because many patients want symptomatic relief and due to unavailability of the product which is prescribed by doctors is substituted with other one. But in doctors' chamber information shared and communicating the required information is necessary.

Suggestions

- 1) As India is developing country, with a large population which is Dry Eye patients. Extralube Repositioning along with different parameter with same USP could be able to generate new prescriptions.
- 2) It is been observe that query handling in major indications is not upto the mark. This can cause symptomatic barrier between the products attribute and doctors understanding.
- 3) Combination therapy with CMC and CMC with glycerin, erythritol and L-carnitin as Add on therapy could be future market driver as it is having good efficacy.

- 4) Rigorous Brand Promotion of Extralube with various separate inputs segregated for the speciality could help to increase the sales of Extralube.
- 5) During the study it was found that language is a major constraint. For awareness of a particular product among doctors, company's sales representatives should know the local languages.

Limitations

- 1) Sample unit are limited for survey, it affect the accuracy of outcomes.
- 2) Survey was carried out in one region only (North Delhi).
- 3) Time duration of the survey did not allow collecting more data.
- 4) The respondents were very busy and could not afford more time to answer.

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