- Study the Chronic Kidney Disease Market in INDIA: Pipeline Review, Developer Landscape, and Competitive Insights
- Study the Role of Uremic Toxins in Progression of CKD and Market Potential of Products used for Elimination Uremic Toxins in India
- Market Strategy for the Renal medicine - Renolog

By

Melvin Philip

Dissertation submitted for the partial fulfillment of the

MBA Pharmaceutical Management

Academic year, 2018-2020

The IIHMR University, Jaipur

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

- Study the Chronic Kidney Disease Market in INDIA: Pipeline Review, Developer Landscape, and Competitive Insights
- Study the Role of Uremic Toxins in Progression of CKD and Market Potential of Products used for Elimination Uremic Toxins in India
- Market Strategy for the Renal medicine – Renolog

By

Melvin Philip

Dissertation submitted for the partial fulfillment of the

MBA Pharmaceutical Management

Academic year, 2018-2020

La Renon Healthcare Private Limited., Ahmedabad

The IIHMR University, Jaipur

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

La Renon®

This certificate is awarded to

MELVIN PHILIP

In recognition of having successfully completed his Dissertation in the department of Product Management Team (PMT)

And has successfully completed his project-

"Study on the Chronic Kidney Disease Market in INDIA: Pipeline Review, Developer Landscape and Competitive Insights"

"Study the Role of Uremic Toxins in Progression of CKD and Market Potential of Products used for Elimination Uremic Toxins in India

Market strategy for the Renal medicine-Renolog"

Duration: 17.02.2020 to 28.05.2020

La Renon Healthcare Private Limited, Ahmedabad

He came across as a committed, sincere and diligent person who has a strong drive and zeal for learning

We wish him all the best for future endeavors

La Renon Healthcare Pvt. Ltd. AHMEDABAD

Richa Kesarwani

Head-Human Resources

La Renon Healthcare Private Limited

Registered Office

207-208 ISCON Elegance | Circle-P | Prahlad Nagar Cross Roads | S.G. Highway
Ahmedabad - 380015 | Gujarat | India
Phone: +91-79-6616-8998 / 2693-6656 | Fax: +91-79-6616-8998

Corporate Office

La Renon Corporate House | Behind Rajpath Club | Kensville Road | Opp. Infostretch Building
Off S.G. Highway | Ahmedabad - 380059 | Gujarat | India
Phone: +91-79-6616-1000/ 6160-1000/ 2683-1000/ 7126-1000 | Fax: +91-79-6160-1001

(CIN: U24233GJ2007PTC051467) | E-Mail: info@larenon.com | www.larenon.com

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Study the Chronic Kidney Disease Market in INDIA: Pipeline Review, Developer Landscape, and Competitive Insights.**
Study the Role of Uremic Toxins in Progression of CKD and Market Potential of Products used for Elimination Uremic Toxins in India and Market strategy of Renal Medicine - Renolog and submitted by (Name) **MELVIN PHILIP** Enrollment No. **IIHMR-U/02/2018-20/0141** under the supervision of **Dr. Sandeep Narula** for award of MBA in Pharmaceutical Management of university carried out during the period from 17-02-2020 to embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher of higher learning.

MELVIN PHILIP

Acknowledgement

I extremely thankful for the completion of this summer intern work to the almighty god and my family who support and blessings were with me in every moment of my life.

I would like to extend my sincere gratitude to Mr. Pankaj Singh, Managing Director, La Renon Healthcare private limited limited for providing me an opportunity to learn and develop professionally.

I would like to extend my sincere gratitude to my Project mentor Mr. Ankit Singh and Dr. Harsh Shah, La Renon Healthcare private limited for providing me an opportunity to learn and develop professionally for her valuable suggestions support and keen interest throughout the study that help me in completing this project. I thank for the freedom of thoughts expression and trust which was greatly upon me. I would also like to pay my gratitude to entire team of La Renon Healthcare limited, Ahmedabad who has helped me by sparing their valuable time support and guidance to achieve my task successfully.

I would like to express my deep sense of gratitude for my academic mentor Dr. Sandeep Narula, Associate professor IIHMR University, Jaipur Rajasthan. I am greatly thankful to him for providing his guidance at all stages of study the constructive suggestions and continuous encouragement help me to complete this project.

I would also like express my deep sense of gratitude to Dr. Saurabh Kumar Banerjee, Dean School of pharmaceutical management, IIHMR University, Jaipur Rajasthan. I am greatly thankful to him for providing his guidance at all stages of study and continuous encouragement help me to complete this project.

I am very much thankful to all the executive members and staff of La Renon Healthcare Private Limited, Ahmedabad for their supports and cooperation.

I would like to thank all those who helped me directly and indirectly to complete this work.

At last but not the least most importantly I am thankful to God who is the creator and director of all the initial and final modes to reach the destiny.

Melvin philip

MBA pharmaceutical management

IIHMR University, Jaipur, Rajasthan, India

CONTENT TABLE

List of Tables

List of figures

Introduction

Chronic kidney disease (CKD) describes the gradual loss of kidney functions, the main function of kidneys filter wastes and extra fluids from your blood and excreted in your urine. When chronic kidney disease reaches to an advanced stage, high levels of fluid, electrolytes and wastes can accumulate up in your body. In the early stages of chronic kidney disease (CKD), patients may experience signs or symptoms. Chronic kidney disease may not become visible until kidney function is significantly decreased. Treatment for chronic kidney disease focuses and targeted on slowing the progression of the kidney damage, usually by controlling the underlying cause. Chronic kidney disease can progress to end-stage kidney failure, which is fatal without artificial filtering (dialysis) or a kidney transplant.

Signs and symptoms of Chronic kidney disease may include: -

- Fatigue and weakness
- Changes in how much you urinate
- Muscle twitches and cramps
- Swelling of feet and ankles
- High blood pressure

Diseases and associated conditions that cause chronic kidney disease include:

- Type 1 or type 2 diabetes mellitus
- Hypertension
- Glomerulonephritis, an inflammation of the kidney's filtering units (glomeruli)
- Interstitial nephritis, an inflammation of the kidney's tubules and surrounding structures
- Polycystic kidney disease
- Prolonged obstruction of the urinary tract, from conditions such as enlarged prostate, kidney stones and some cancers.

Chronic kidney disease or CKD, causes more deaths than breast cancer or prostate cancer. It is the under-recognized public health crisis. It affects an estimated 37 million people in the U.S. (15% of the adult population; more than 1 in 7 adults) and approximately 85% of those with CKD don’t even know they have it. 1 in 3 American adults (approximately 75 million people) is at risk for CKD. CKD is more common in women (14%) than men (11%). The two main causes of CKD are diabetes and high blood pressure. In 2016, Medicare costs for all people with all stages of CKD were $113 billion. Medicare spent $35 billion in 2016 to care for people with ESKD, and $79 billion for people with CKD without kidney failure. The same year, Medicare spent an estimated $22,558 approximately per-person to care for someone with non-ESKD CKD, nearly double the spending on the average Medicare beneficiary. The global Chronic Kidney Disease (CKD) market was valued at 12400 million US$ in 2018 and will reach 16800 million US$ by the end of 2025, growing at a CAGR of 3.9% during 2019-2025.

The Chronic kidney disease market is growing fastest in India as well as in neighbouring countries and as the awareness about the disease is increasing among the patients the new market opportunities are increasing and new market trends can be seen and companies are coming up with new innovative solutions to tackle the problem of patients and save life and improve their quality of life.

Rationale

To study and understand the market of Chronic kidney disease and there product offerings in various segments through competitive analysis and pipeline developments for opportunities assessment in this segments.

Objectives

1. To Study the Chronic Kidney Disease Market in INDIA: Pipeline Review, Developer Landscape, and Competitive Insights

   Sub Objectives
   - Prevalence of CKD in India
   - Pathophysiology
   - Diagnosis
   - Treatment modalities specific emphasis on conservative treatment therapy for Chronic Kidney disease and Transplant
   - Treatment gaps
   - Market segmentation: completive landscape of CKD market: company profiles, product basket and equivalent product la Renon nephrology basket
   - Market opportunities and future trends

2. Market Strategy for the Renal medicine – Renolog

   Sub - Objective

   - To promote and establish that Alpha ketoanalogous has better results in treatment of Chronic kidney patients as compared to other traditional drugs.
   - To establish that use Alpha ketoanalogous will help to reduce economic burden and most economical as compared to any other treatment option.
   - To make and sustain Renolog as market leader.

3. To Study the Role of Uremic Toxins in Progression of CKD and Market Potential of Products used for Elimination Uremic Toxins in India.

Research Question

To study the Chronic kidney disease market in India?

Methodology

Study type – Cross sectional and Descriptive

Data collection

- Primary
- Secondary

Data Collection Methods

• Information is collected from various publicly available as well as organizational financial Report.

• Survey based Questioners.

• Public sources involved of different associations and governments, annual Reports and statements of companies and research academia etc.

Sample size (in Second topic) – 60 Doctors

Statistical Analysis software:
• MS -Excel

Study duration
• 3 months

Data Analysis

Prevalence

CKD is more prevalent in the elderly population. While younger patients with CKD typically experience progressive loss of kidney function. In India diabetes and hypertension today account for 50–60% cases of CKD., prevalence of diabetes in Indian adult population has risen to 7.1%.(varying from 5.8% in Jharkhand to 13.5% in Chandigarh) and in urban population (over the age of 40 years) the prevalence is as high as 28%.the reported prevalence of hypertension in the adult population today is 17% (14.8% from rural and 21.4% from urban belt the present study population is younger and even the prevalence of diabetes is low but surprisingly despite that prevalence of stage 3 CKD is reported to be higher (6.3%). We found that the rising prevalence of hypertension and CKD in rural areas as compare to urban area. An age-adjusted incidence of end-stage kidney disease (ESKD) as 230/million population. Population screened, and criteria used for CKD diagnosis are different urban population and reported stage 3 prevalence of 0.785%. Today life expectancy of an Indian has increased from 41.38 years to 66 years (2013) and prevalence of diabetes and hypertension is steadily rising. Therefore, like in western world prevalence of CKD is expected to rise with the passage of time.

S.no	N	Mean age (in years)	DM (%)	HTN (%)	Criteria of CKD	Stage and prevalence	Limitations
1	4712 urbans	42±13	10.7	22.13	Creatinine ≥1.8 mg/dl on two occasions 8-12 weeks apart	Stage 3 and above=0.785%	Creatinine cut off 1.8 mg/dl is high Proteinuria subset not included as CKD GFR not calculated
2	3398 mixed	35.65±8.72	1.53	15	Albuminuria >30 mg/L or albumin/creatinine ratio >30 and/or GFR <60 ml/min by MDRD and CKD-EPI	Stage 1-3=13%	Albuminuria done only once
3	5588 urbans	45.2±15.2	18.8	43.1	Dip stick proteinuria GFR <60 ml/min	Stage 1-5=17.2%, 6% stage 3 and above	Voluntary approach Large number having DM and HTN (high-risk group), population not true representative
4	5252 semi-urban		7.3	31.2	Dip stick proteinuria and GFR <60 ml/min	Stage 3 and above=4.2%	Proteinuria not repeated

DM: Diabetes mellitus, HTN: Hypertension, CKD: Chronic kidney disease, GFR: Glomerular filtration rate, MDRD: Modification of diet in renal disease, CKD-EPI: Chronic kidney disease epidemiology

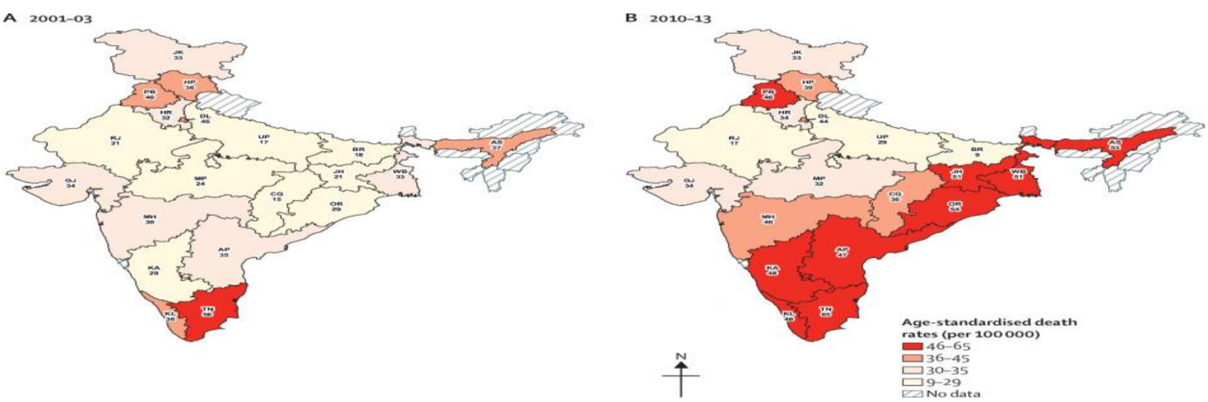
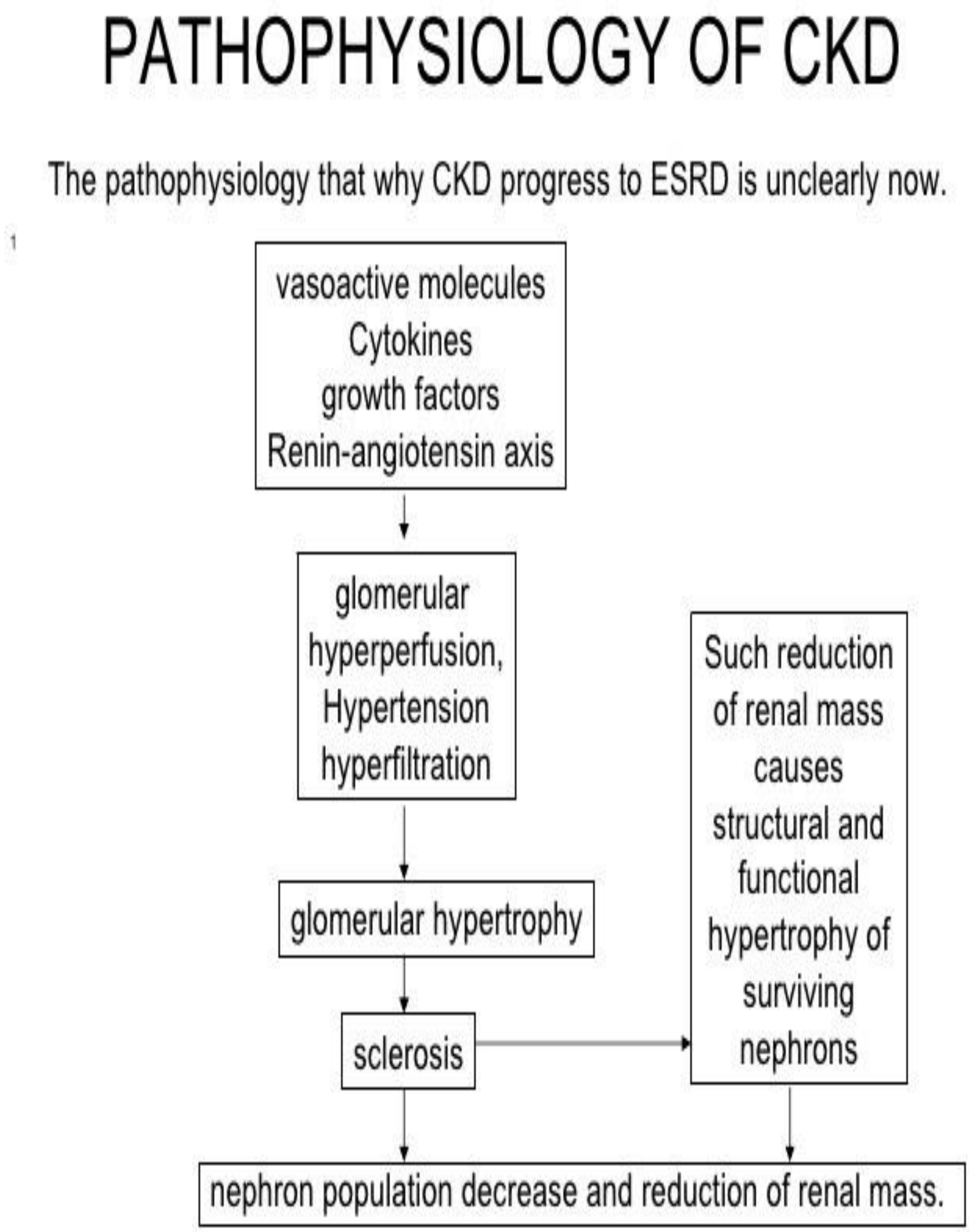
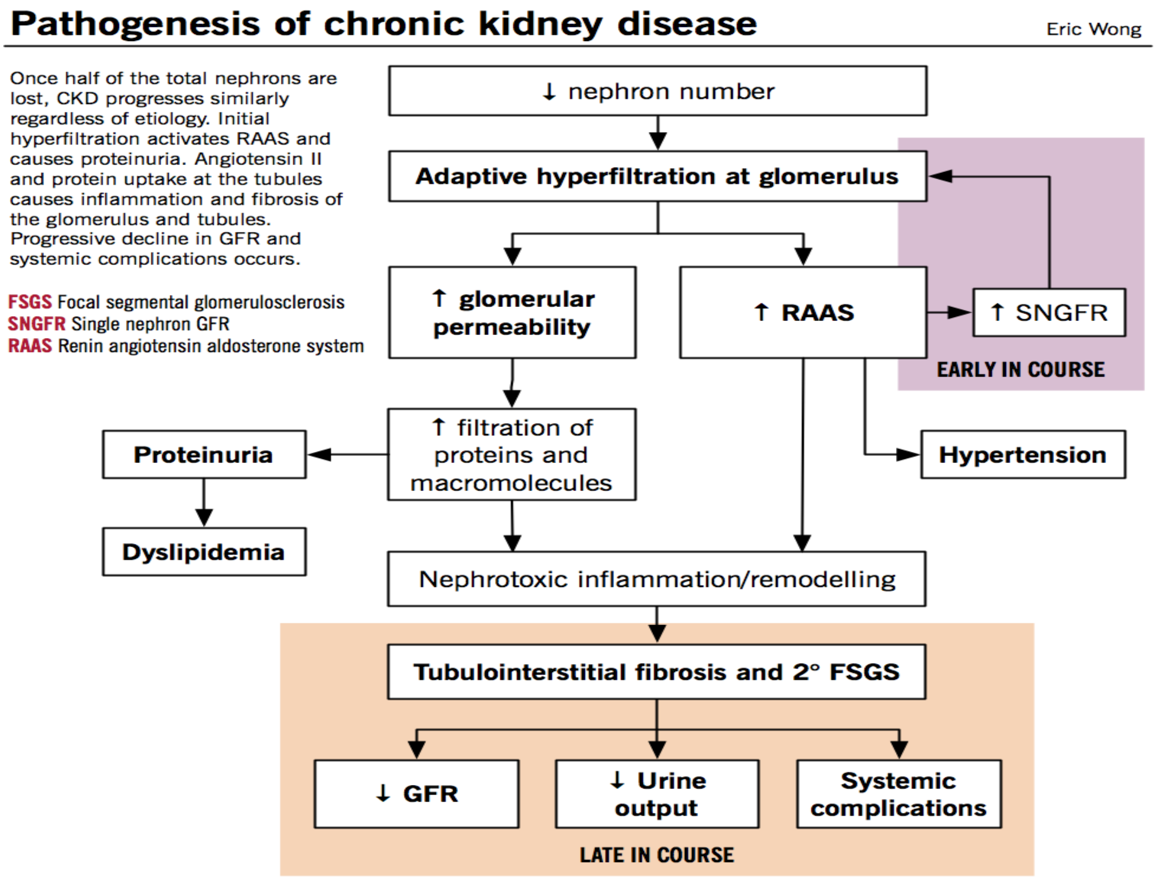


Figure 1: - The above map of India marked the high prevalence state and death caused by the Chronic kidney disease.

Pathophysiology

Chronic kidney disease also called as chronic kidney failure it can be described the gradual loss of kidney function. Patients kidneys filter wastes and extra fluids from blood of your body which are then excreted in your urine.





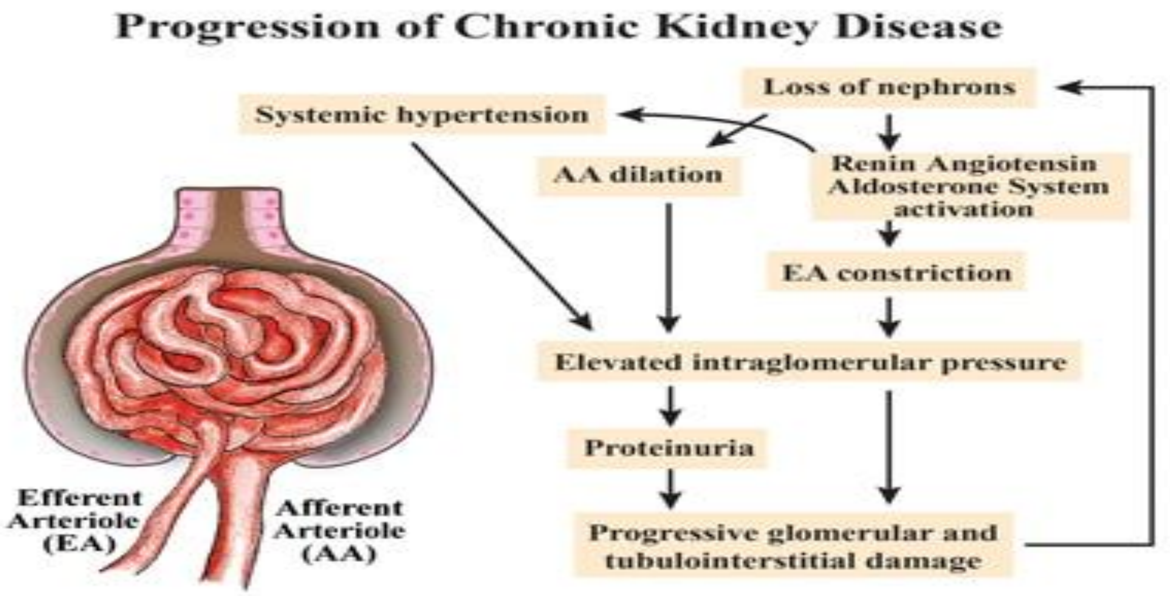


Figure 2: - The above figure show that how the Chronic kidney disease will progress and it will affect the body functions

Diagnosis

Early Diagnosis of Kidney disease play an important for the treating of disease s early we can detect the disease we can provide better solution to patients and can cure and save the life of Patients. for diagnosis of Disease the physician follows certain procedure like: -

- Patients clinical history collection
- Physical Examinations
- Pathological Tests
- Imaging Diagnostics Test

Such procedure includes

Patients history collection – It includes like about previous medications, Other Disease, Family History of Chronic Kidney disease etc.

Physical examination – Blood Pressure, Pulse, Respiration Rate etc.

Blood tests - Kidney function tests will tell about the level of waste products, such as creatinine, uric acid and urea in blood.

Urine tests - Analysing a sample of urine may reveal about the abnormalities that point to chronic kidney failure and help identify the real cause of chronic kidney disease.

Radiological Test - Imaging tests. Ultrasound, CT Scan and MRI Scan used to assess your kidneys' structure and size.

Other imaging tests may be used in some cases in that a sample of kidney tissue removed for testing this called as Kidney biopsy it is often done with local anaesthesia using a long, thin needle that's inserted through your skin and into your kidney. The biopsy sample is sent to a laboratory for testing to help determine causes of kidney problem.

our eGFR results is given as a stage from 1 of 5:

Stages	Criteria
Stage 1 (G1)	A normal eGFR above 90ml/min, but other tests have detected signs of kidney damage
Stage 2 (G2)	A slightly reduced eGFR of 60 to 89ml/min, with other signs of kidney damage
Stage 3a (G3a)	An eGFR of 45 to 59ml/min
Stage 3b (G3b)	An eGFR of 30 to 44ml/min
Stage 4 (G4)	An eGFR of 15 to 29ml/min
Stage 5 (G5)	An eGFR below 15ml/min, meaning the kidneys have lost almost all of their function

Table: - 1 According the above table after blood test will decide about the severity and the progression of disease.

Treatment Gaps

There are many barriers to optimizing evidence-based nephrology care around the world, including accessibility to health care, affordability of kidney diseases treatments, consumer attitudes and circumstances, the lack of appropriate knowledge, the availability of expertise and infrastructures of health care. Other major implementation science that addresses the major barriers to effective care in a cost-effective manner could yield both local and global benefits

- The prevalence of uncontrolled hypertension was high among patients with Chronic Kidney Diseases patients.
- Patients with Chronic Kidney Diseases and diabetes mellitus there was a high prevalence of uncontrolled diabetes.
- Chronic Kidney Diseases management must involve primary care physicians as a central component of multispecialty care teams.
- Use of an ACE inhibitor or angiotensin receptor blocker (ACEi/ARB).
- Use of Statin is very low and not according to guidelines.
- Financial Barrier: - as treatment of CKD disease the cost of therapy is much higher than expected so it acts as barrier for low income patient to afford treatment.
- Lack of proper guidelines for use of medication in Chronic kidney disease patients.
- Lack of well qualified personals which deal with the chronic disease management.

Treatment modalities specific emphasis on conservative treatment therapy for CKD and transplant

To understand the correct treatment, for kidney disease patient you choose is depends on there condition and stage of kidney disease. Treatments has their own positive effects and negative impacts. The treatments will have a big effect on your daily life. There are three major treatment options to filter the blood and substitute a small part of the work of damaged kidneys. A fourth option offers care without replacing the work of the kidneys. However, they all can help you feel better and decrease the mortality rate due to kidney diseases.

Haemodialysis in this method machine is used to move your blood through a filter outside the body for removing wastes.

Peritoneal dialysis uses the lining of your belly to filter your blood inside your body, removing wastes.

Kidney transplant is surgergical option to place a healthy kidney from a person who has just died or from a living person into your body to filter your blood.

Conservative management treats kidney failure without dialysis or a transplant with the help of medicine and health care teams to manage symptoms and preserve your kidney function and quality of life as long as possible and also in delaying the progression of the kidney diseases.

Haemodialysis can replace a small part of your kidney function. In haemodialysis your blood goes through a filter outside your body and filtered blood is returned to your body.

- It filters your blood to remove harmful wastes and extra fluid
- It helps control blood pressure
- It helps balance important minerals, such as potassium, sodium, and calcium in your blood

Haemodialysis isn't a cure for kidney failure, but it can help you feel better and live longer. You will a have to change your eating habits and limit the amount of water and other liquids you drink and get from food.

Peritoneal dialysis uses the lining of your belly to filter wastes and extra fluid from your body. This lining, called the peritoneum, surrounds your abdominal cavity and replaces part of your kidney function.

Kidney transplant is surgery to place a healthy donor kidney into your body. A working, transplanted kidney does a better job filtering wastes and keeping you healthy than dialysis. When patients go for a transplant surgeon usually leave your old kidneys in place and connect the donated kidney to an artery and a vein in your groin. The surgeon also transplants the ureter from the donor to let urine flow from your new kidney into your bladder. The transplanted kidney takes over the job of filtering your blood. Your body normally attacks anything it sees as foreign, so to keep your body from attacking the donor kidney, you will need to take immunosuppressants —also called anti-rejection medicines.

The pros and cons of a kidney transplant.

Pros

- It makes feel healthier and have a better quality of life.
- Patients have fewer diet restrictions.
- No need of dialysis.
- People who get a donated kidney have a greater chance of living a longer life than those who stay on dialysis.

Cons

- A kidney transplant requires surgery, which involves certain risks, such as infection.
- Your body may reject the donor kidney, so one transplant may not last a lifetime.
- You'll need to take anti-rejection medicines—which may cause other health problems—for as long as the transplanted kidney works.

Conservative management for kidney failure means that health care teams continues care without dialysis or a kidney transplant. The main focus of care is to increase the quality of life. For most the people's dialysis may extend and improve quality of life. For others who have co-morbid conditions in addition to kidney failure, Dialysis may seem like a burden that only prolongs suffering. Conservative management is also called as comprehensive conservative care, supportive care, nondialytic care, and comfort care. Sometimes the term "palliative care," which is one part of the conservative management. Palliative care addresses the physical, psychological, and spiritual needs of someone with a serious illness.

The treatment goals are to: -

- Provide the best quality of life.
- Avoid treatments and hospital stays that may worsen quality of life. This may mean fewer medical appointments, blood draws, and medicines.
- Your care plan may change as your quality of life and health status change.

Treatment includes

- Managing your symptoms, such as nausea, poor appetite, and your feelings.
- Managing problems associated or caused by kidney failure, such as anaemia.
- Medicine which help to decrease the progression of chronic kidney diseases.
- Change in Food and water intake habit

Market segmentation: completive landscape of CKD market: company profiles, product basket and equivalent product la Renon nephrology basket

Global Market of Chronic Kidney Disease

The increase in population suffering from Chronic kidney diseases the growing prevalence of diabetes and hypertension, and rapid growth in the geriatric population across the globe is expected to enhance market growth. The Global Renal Disease Market is expected to register a CAGR of 6.32% to reach USD 133,451.6 Million till 2023**.**

According to the National Chronic Kidney Disease Fact sheets in 2017, around 30 million people in the US had chronic kidney disease. Such a vast population suffering from chronic kidney disease boosts market growth during the forecast period.

The global renal disease market, by disease type, has been segmented into chronic kidney disease and end-stage renal diseases (ESRD). The chronic kidney disease segment accounted for a value of USD 60,228.68 million in 2017. In Australia, treatment for all current and new cases of kidney failure through 2020 will cost an estimated $12 billion. In China, the economy will lose US$558 billion over the next decade due to effects on death and disability attributable to heart disease and kidney disease.

The Global market, can be segmented into dialysis, medications and kidney transplantation on the basics of treatments. On the basis of end user, the global renal disease market is segmented dialysis centres hospitals & clinics, and research and academic institutes. Medication segment will register the fastest growth in the treatment type segment of the global renal disease market and register the CAGR of 7.37%**.** Growing demand for medications for the primary treatment of renal diseases is expected to drive the market growth.

The dialysis centres segment would dominate the end-user segment in the global renal disease market segment accounted for a value of USD 31,737.35 million in 2017. The rising number of dialysis patients is anticipated to boost the market growth of dialysis centres during the assessment period.

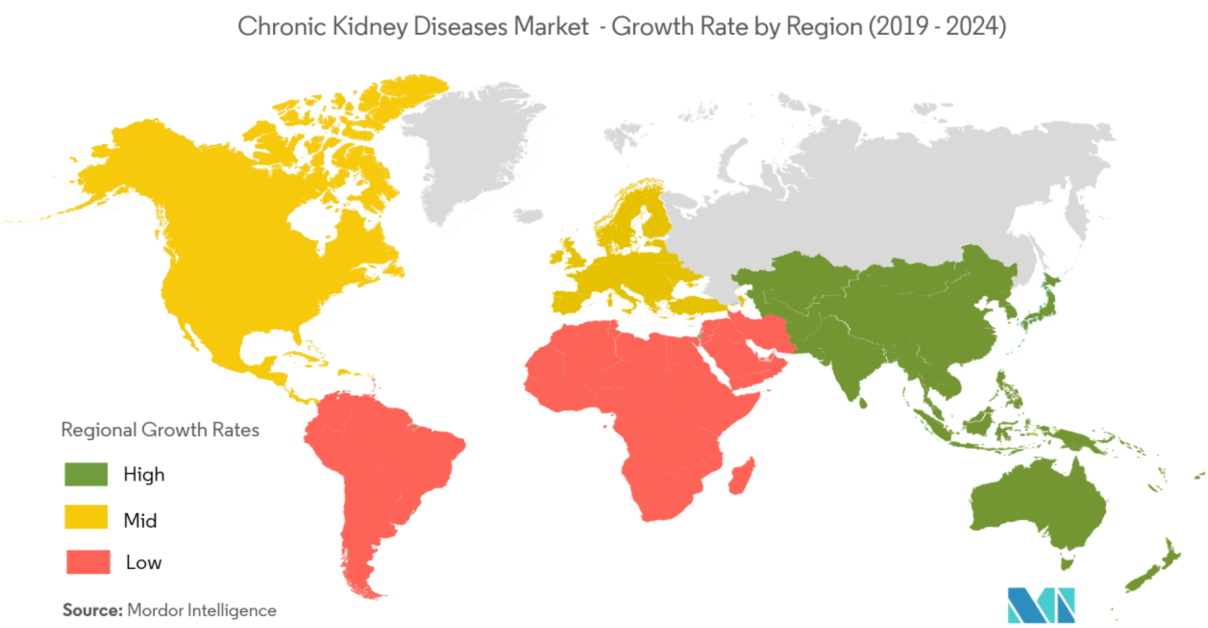


Figure 3: - The figure shows the global growing market of Chronic kidney diseases.

Indian Market of Chronic Kidney Disease

- Chronic kidney disease (CKD) is a chronic, non-communicable disease epidemic that affects the world, including India
- Global Burden of Disease 2015 ranks chronic kidney disease as the eighth leading cause of death in India.
- Incidence of Chronic Kidney Disease in India is increasing at an alarming rate; at least 16% of the population suffers from Chronic Kidney Disease.
- Approximately 1,80,000 kidneys are needed for transplantation in India every year to save the lives of patients suffering from kidney failure. Just about 4,000 transplants are conducted annually.
- The mean age of people with Chronic Kidney Disease was assessed and it was found that about 20% of patients aged 38 years.
- In India, at least 30% of diabetics will develop chronic kidney disease because of diabetes.
- In India, 2,00,000 new patients need dialysis treatment every year
- The majority of chronic kidney failure patients are diagnosed in the End stage; almost 50% first see nephrologists only in the End stage.
- Chronic kidney disease (CKD) affects 10% of the population worldwide and millions die each year because they do not have access to affordable treatment.

Market dynamics

Drivers

- High incidence of chronic kidney disease
- Rise in the incidence of cardiovascular disorders and diabetes
- Increase in the global geriatric population

Restraints

- Competition from biosmilars
- Complex drug development

Opportunities

- Promising chronic kidney drug pipeline
- Market expansion opportunities in emerging nations
- Novel therapeutics approches such as cell therapy

Weakness

- No single therapy can address all the problem of kidney disease
- Companies need huge finiancial backup to support R&D

Threats

- More no of Players in market
- Companies coming with Biosmilars

Strength

- Innovative products
- Ageging population
- Awarness about the Chronic kidney disease is increasing

Pipeline development

Today the healthcare providers and companies is looking to give better and innovative product to their customer which help them with better option of treatment of disease. There are many companies who are developing innovative product to treat chronic kidney disease as list of their product which are in pipeline with their development phases listed below.

Marketed Drugs

Drug Name	Developer(s)	Phase of development	Type of Molecule	Mechanism of Action	Dosage Frequency	Indication(s)	Route of Administration
Auryxia	Keryx Biopharmac-euticals	Marketed	Small Molecule	Phosphate Binding Protein Modulators	Thrice daily	Hyperphosphatemia -CKD	Oral
JYNARQUE	Otsuka Pharmaceuti-cals	Marketed	Small Molecule	Vasopressin in V2 Receptor Antagonists	Twice Daily	Autosomal Dominant Polycystic Kidney Disease	Oral
Velphoro	Vifor Pharma	Marketed	Small Molecule	Phosphate Binding Modulator	Thrice Daily	Hyperphosphatemia -CKD	Oral

Table 2: - The above table will show the various pipeline product which are in marketed phase for the treatment of Chronic kidney disease.

Clinical Pipeline

S.no	Drug Name	Developer(s)	Phase of Development
1	Anifrolumab	AstraZeneca	Phase I
2	Blisibimod	Anthera Pharmaceuticals	Phase II
3	Ceftolozane	Merck Sharp & Dohme	Phase I
4	Belimumab	Human Genome Sciences	Phase II

Table 3: - The above table shows the pipeline product with their developer and phase of developments these products are for the treatment of Chronic kidney diseases.

Preclinical/Discovery Pipeline

S.no	Drug Name	Developer(s)	Phase of Development
1	A717	Glycadia Pharmaceuticals	Preclinical
2	ANG-3586	Angion Biomedica	Preclinical
3	DN-007	Goldfinch Bio	Preclinical
4	INS-3001	Inositec	Preclinical

Table 4: - The above table shows the pipeline product with their developer and phase of developments these products are for the treatment of Chronic kidney diseases.

Chronic Kidney Disease: Pipeline Analysis

Pipeline analysis of products for the treatment of chronic kidney disease is done on the three bases like

- Distribution on the phase of development
- Distribution by type of treatment
- Distribution by route of Administration

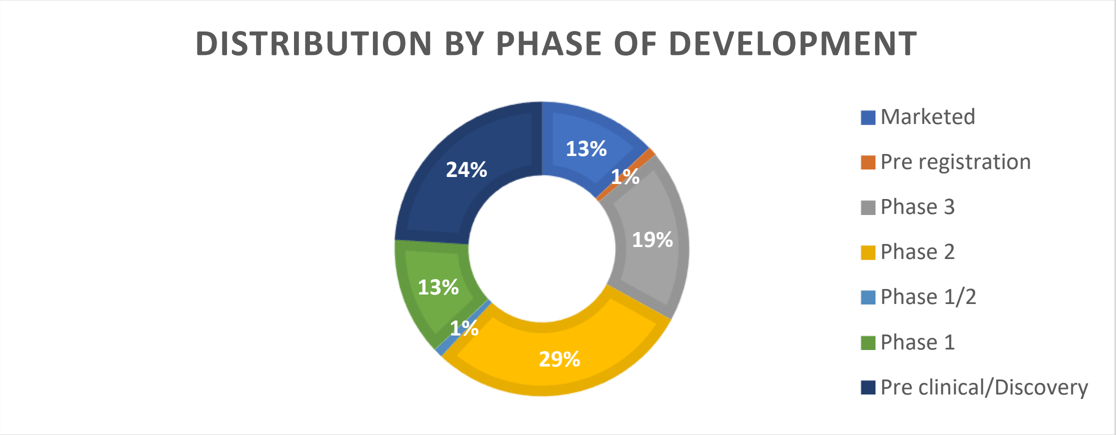


Figure 4: - With several marketed drugs and a strong clinical and Preclinical Pipeline, the opportunity in this domain is expected to evolve at steady pace

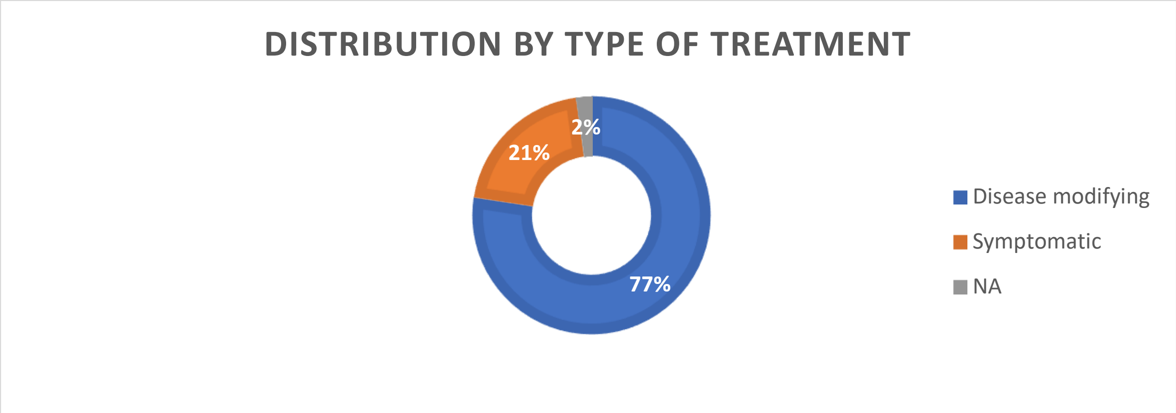


Figure 5: -With the potential to slow the progression of chronic kidney disease the pipeline is driven by molecules with disease modifying abilities

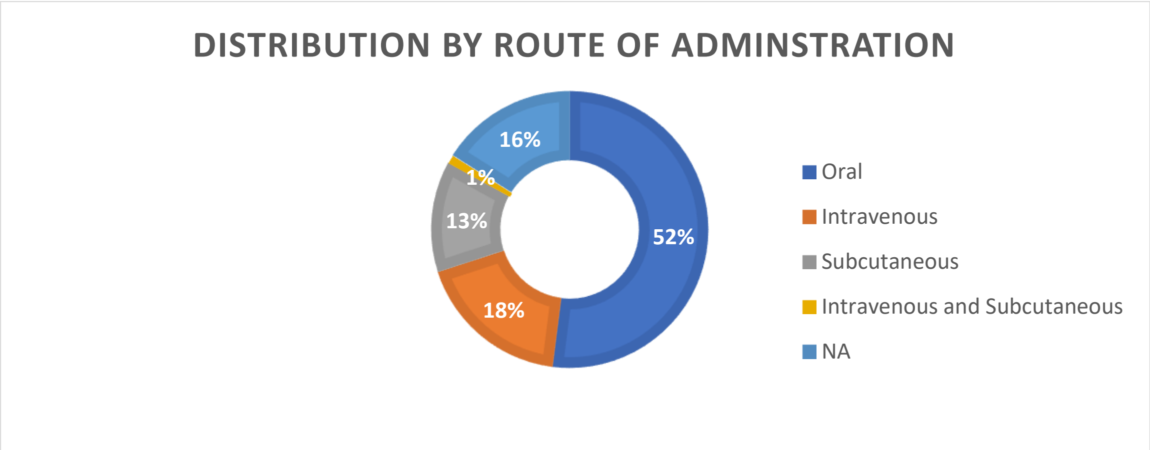


Figure 6: -Owing to the ease of administration and better compliance majority of the drugs are being developed for the delivery through the oral route

<u>Product basket and their Data Analysis</u>

Chronic kidney disease (CKD) is an important, chronic, non-communicable disease epidemic that affects the world including India. The market of Chronic kidney disease is very vast and emerging many multinational companies are the major player of these segment and the companies are developing many innovative solutions to prevent the Chronic kidney disease which help the customer to get better treatment option with the wide range of product available in the market. The major product includes in following category: -

- Haemodialysis
- Renal medicine
- Transplant
- Renal nutrition

The market and product basket analysis of includes the market share of various brand of molecule and their growth pattern.

Haemodialysis Medicine Segment Analysis

Darbepoetin alfa Molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market Share
CRESP	DR. REDDYS LABORATORIES LTD	2.0	26%
DARGEN	LUPIN LTD	7.5	25%
KABIDARBA	FRESENIUS KABI INDIA PVT LTD	-33.4	11%
JUVOBIN	LA RENON	29.6	7%
CRESP-ONCO	DR. REDDYS LABORATORIES LTD	-25.5	7%
DARBELIFE	HETERO HEALTHCARE LTD	15.4	6%
DARBITOP	ALNICHE LIFE SCIENCES PVT.LTD	519.4	6%
ZYNESP	ZYDUS CADILA	30.3	3%
DARBECURE	EMCURE PHARMACEUTICALS LTD	70.9	2%
DARBOSIS	MICRO LABS LTD	-57.9	2%

Table 5: - The table contain the various brands of the darbepoetin alfa molecule and their growth rate in 2020 and market share in which Dr, Reddy's lab having a maximum share.

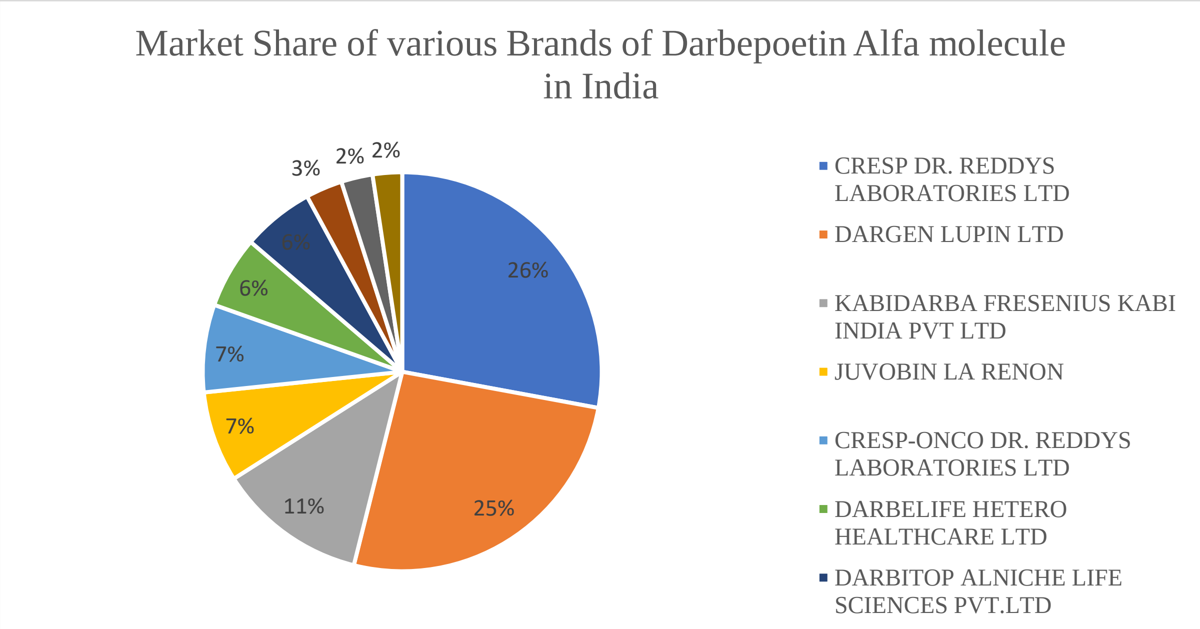
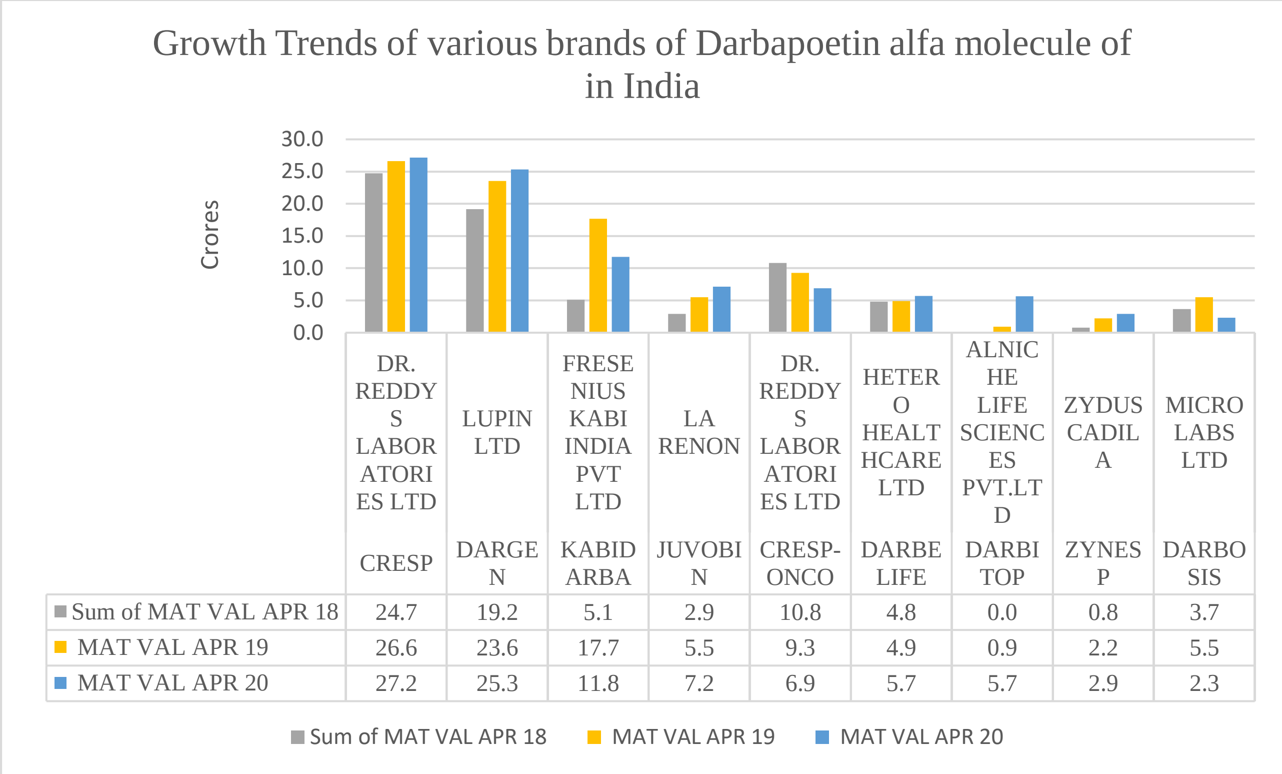


Figure 7: - The figure shows market share of different brands of Darbepoetin molecule in India Dr. Reddy's having maximum share 26% followed by the Dargen brand of Lupin.



	DR. REDDYS LABORATORIES LTD	LUPIN LTD	FRESENIUS KABI INDIA PVT LTD	LA RENON	DR. REDDYS LABORATORIES LTD	HETERO HEALTHCARE LTD	ALNICHE LIFE SCIENCES PVT.LTD	ZYDUS CADILA	MICRO LABS LTD
	CRESP	DARGEN	KABIDARBA	JUVOBIN	CRESP-ONCO	DARBELIFE	DARBITOP	ZYNESP	DARBOSIS
Sum of MAT VAL APR 18	24.7	19.2	5.1	2.9	10.8	4.8	0.0	0.8	3.7
MAT VAL APR 19	26.6	23.6	17.7	5.5	9.3	4.9	0.9	2.2	5.5
MAT VAL APR 20	27.2	25.3	11.8	7.2	6.9	5.7	5.7	2.9	2.3

Figure 8: - The figure shows about the growth of the various brands in that Cresp is still in growth phase kabidarba is fluctuating growth phase and juvobin is showing the gradual growth.

<u>Disodium hydrogen citrate molecule</u>

BRAND	COMPANY	MAT VAL GR APR 20	Market Share
ALKASOL	STADMED PVT. LTD	17.9	33%
CITRALKA	PFIZER LTD	27.3	32%
CITAL	INDOCO REMEDIES LTD	4.2	26%
ORICITRAL	TTK HEALTHCARE LTD	0.7	3%
ALKACITRON	GLUCONATE HEALTH LTD	7.8	1%
EXELYTE	USV PVT LTD	-12.4	1%
ALKARATE	MACLEODS PHARMACEUTICALS PVT.LTD	0.9	1%
UROSOL	SYNCHEM LAB	10.3	1%
ALKEL	ALKEM LABORATORIES LTD.	-40.3	1%
ALKORINA	EISEN PHARMACEUTICALS CO. PVT. LTD	-9.5	0%
SEROCIT	LA RENON	-7.9	0%

Table 6: - The table contain the various brands of the Disodium hydrogen citrate molecule and their growth rate in 2020 and market share in which Stadmed pvt ltd having a maximum share.

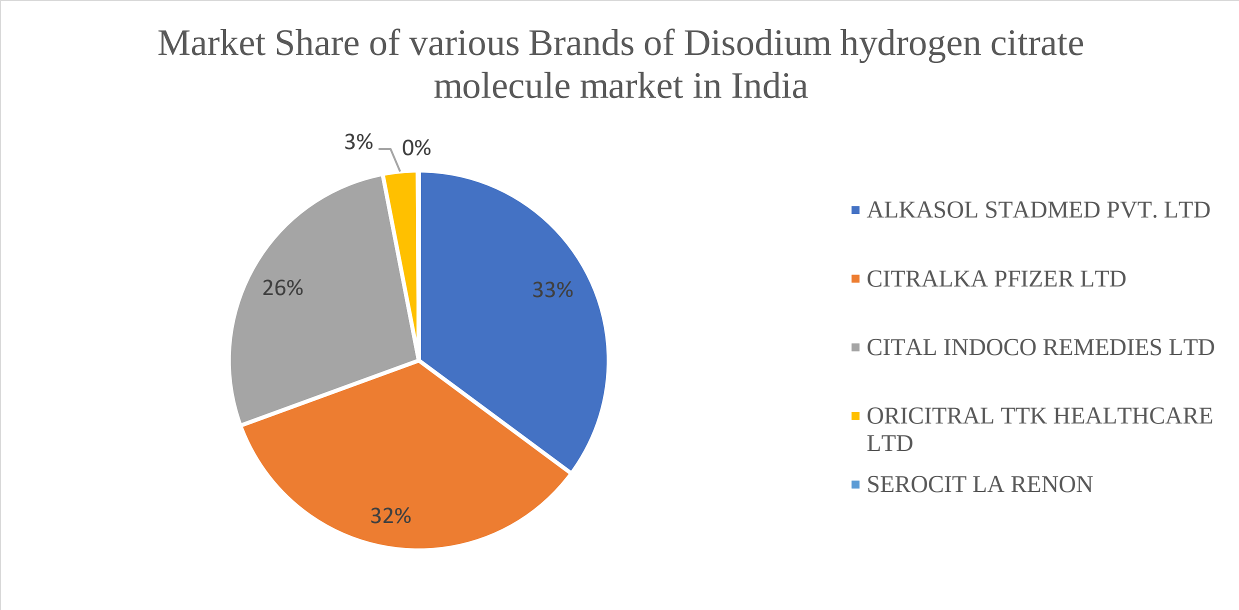
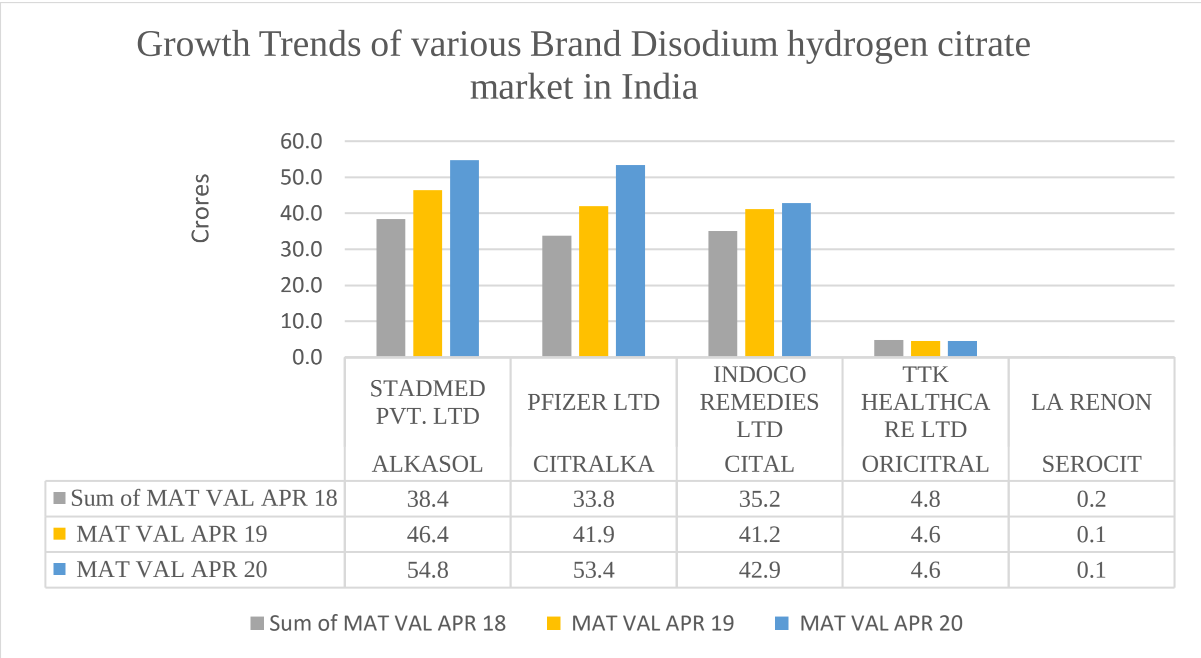


Figure 9: - The figure shows market share of different brands of Disodium hydrogen citrate molecule in India Alkasol brand having maximum share 33% followed by the Citralka brand of Pfizer.



	STADMED PVT. LTD ALKASOL	PFIZER LTD CITRALKA	INDOCO REMEDIES LTD CITAL	TTK HEALTHCARE LTD ORICITRAL	LA RENON SEROCIT
Sum of MAT VAL APR 18	38.4	33.8	35.2	4.8	0.2
MAT VAL APR 19	46.4	41.9	41.2	4.6	0.1
MAT VAL APR 20	54.8	53.4	42.9	4.6	0.1

Figure 10: - The figure shows about the growth of the various brands in that Alkasol is still in growth phase Citralka is also in growth phase and Serocit is shows decline growth.

Ferric hydroxide sucrose complex

BRAND	COMPANY	MAT VAL APR 20	Market share
OROFER-S	EMCURE PHARMACEUTICALS LTD	85.8	44%
IMAX S	ARISTO PHARMACEUTICALS PVT.LTD	32.2	16%
HEMFER	ALKEM LABORATORIES LTD.	12.4	6%
R.B TONE	MEDLEY PHARMACEUTICALS	12.2	6%
FERIKIND S	MANKIND PHARMACEUTICALS LTD.	8.7	4%
RUBIRED S	MACLEODS PHARMACEUTICALS PVT.LTD	5.8	3%
VITCOFOL S	FDC LTD.	4.8	2%
FERONIA	ZUVENTUS HEALTHCARE LTD	4.2	2%
IROZORB S	MACLEODS PHARMACEUTICALS PVT.LTD	3.5	2%
LIVOGEN	MERCK SPECIALITIES PVT.LTD	3.4	2%
QRON	LA RENON	1.3	1%

Table 7: - The table contain the various brands of the ferric hydroxide sucrose molecule and their growth rate in 2020 and market share in which Emcure pharmaceutical ltd. having a maximum share.

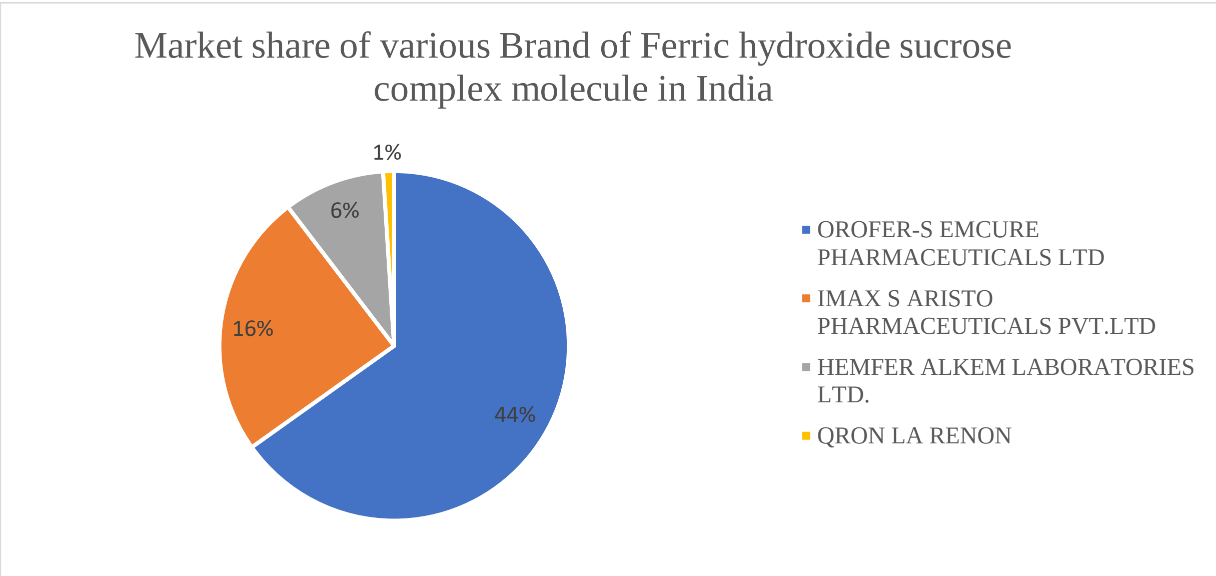


Figure 11: - The figure shows market share of different brands of Ferric hydroxide surcose molecule in India Orofer-s brand having maximum share 44% followed by the Imaxas brand of aristo and Qron brand of La renon having 1% share.

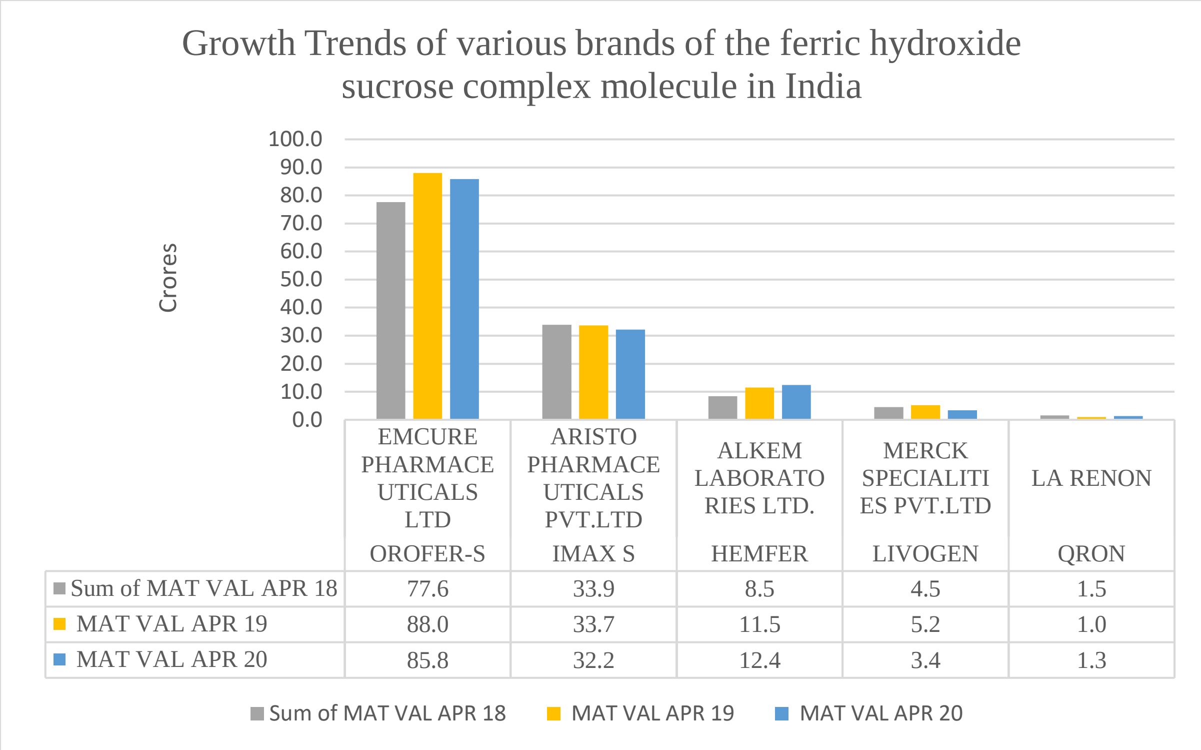


Figure 12: - The figure shows the growth of the various brands in that Orofer-s show fluctuating growth Imaxsa is showing slight decline and Qron is shows fluctuation growth.

Calcitriol molecule

BRAND	COMPANY	MAT VAL APR 20	Market share
ROCALTROL	ABBOTT HEALTHCARE PVT. LTD	25.6	49%
BIO D3	MACLEODS PHARMACEUTICALS PVT.LTD	12.6	24%
LARETOL	LA RENON	7.8	15%
CALCIT SG	ZYDUS CADILA	1.6	3%
AUXITROL	ALNICHE LIFE SCIENCES PVT.LTD	1.4	3%
CALTROL	ORCHID CHEMICALS & PHARMACEUTICALS LTD	1.2	2%
OSTA D3	RAVENBHEL PHARMACEUTICALS PVT LTD.	0.4	1%
ACTIVE D	STEADFAST MEDISHIELD PVT LTD	0.4	1%
PEDIAWISE	ASTRUM HEALTHCARE PVT. LTD.	0.4	1%
PSORALYS	MED MANOR ORGANICS PVT LTD.	0.3	1%

Table 8: - The table contain the various brands of the Calcitriol molecule and their growth rate in 2020 and market share in which Abbott healthcare pvt ltd. having a maximum share of 49% and Laretol of La renon is having 15% market share in India

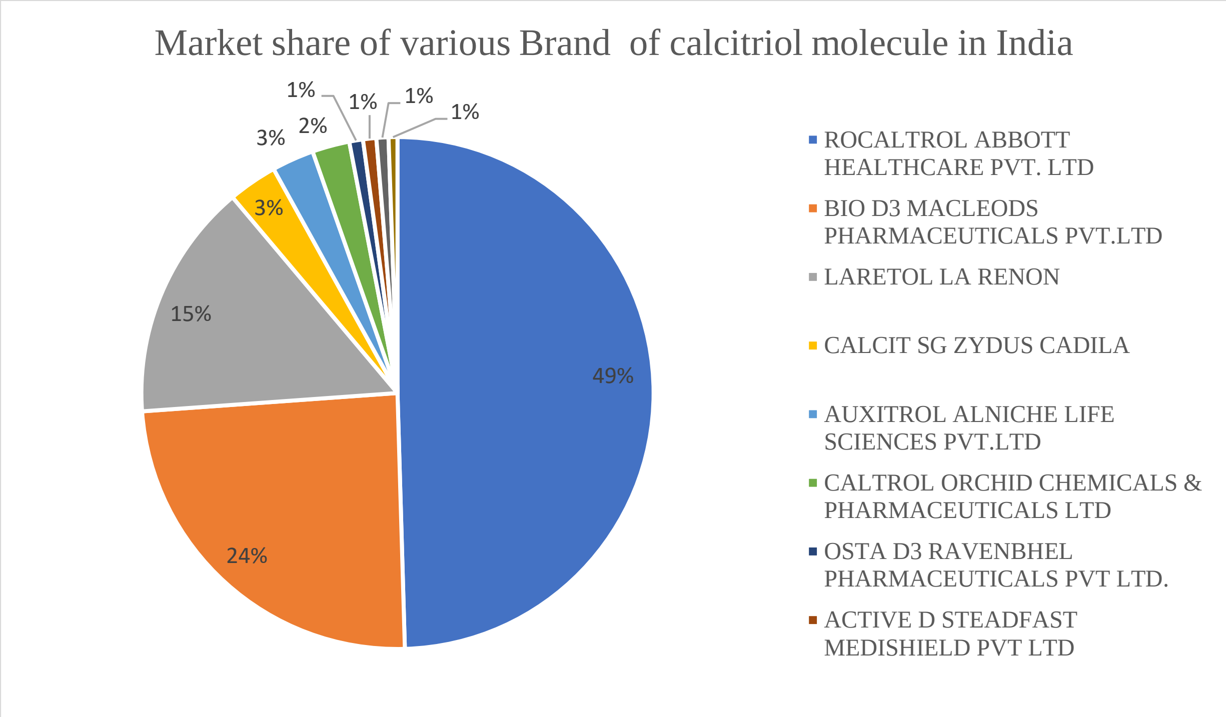
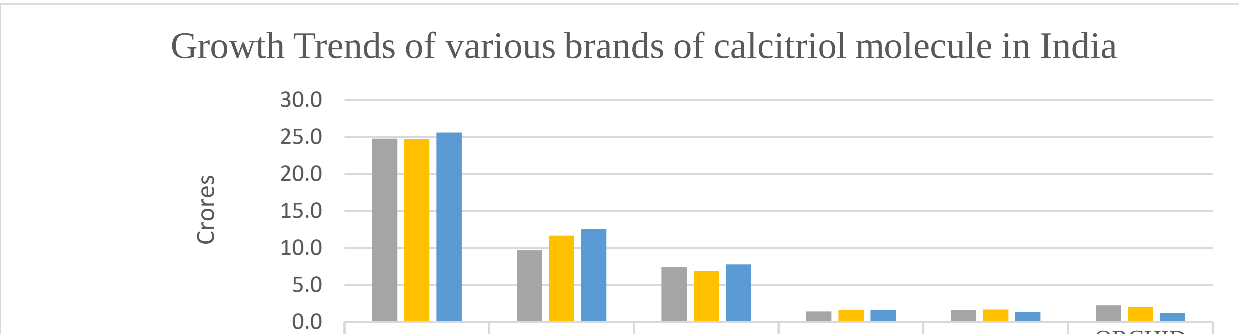


Figure 13: - The figure shows market share of different brands of Calcitriol molecule in India Rocaltrol brand having maximum share 49% followed by the Bio D3 brand of macleods and Laretol brand of La renon having 15% share.



	ABBOTT HEALTHCARE PVT. LTD ROCALTROL	MACLEODS PHARMACEUTICALS PVT.LTD BIO D3	LA RENON LARETOL	ZYDUS CADILA CALCIT SG	ALNICHE LIFE SCIENCES PVT.LTD AUXITROL	ORCHID CHEMICALS & PHARMACEUTICALS LTD CALTROL
Sum of MAT VAL APR 18	24.8	9.7	7.4	1.4	1.6	2.2
MAT VAL APR 19	24.7	11.7	6.9	1.6	1.7	2.0
MAT VAL APR 20	25.6	12.6	7.8	1.6	1.4	1.2

Figure 14: - The figure about the growth of the various brands in that Rocaltrol show progressive growth Bio D3 is also in progressive growth phase and Laretol is showing fluctuation growth.

Levocarnitine molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market share
CARNISURE	TORRENT PHARMACEUTICALS LTD.	5.9	44%
CARNITOR	WIN-MEDICARE PVT. LTD.	6.3	19%
NUCARNIT	EMCURE PHARMACEUTICALS LTD	1.8	15%
LACARNIT	LA RENON	33.5	10%
REE	EMCURE PHARMACEUTICALS LTD	69.9	5%
CARNIGLOM	LINUX LABORATORIES		3%
VERNACE	SUN PHARMA LABORATORIES LTD.	-10.4	3%
CARNIMAC	MACLEODS PHARMACEUTICALS PVT.LTD	-8.3	2%
LEVOCARNIL	MODI MUNDI PHARMA PVT LTD	-35.2	1%
SPERMOTIL	MERYL PHARMA	-3.2	0%

Table 9: - The table contain the various brands of the Levocarnitine molecule and their growth rate in 2020 and market share in which Torrent pharmaceutical pvt ltd. having a maximum share of 44% and Lacarnit of La renon is having 10% market share in India

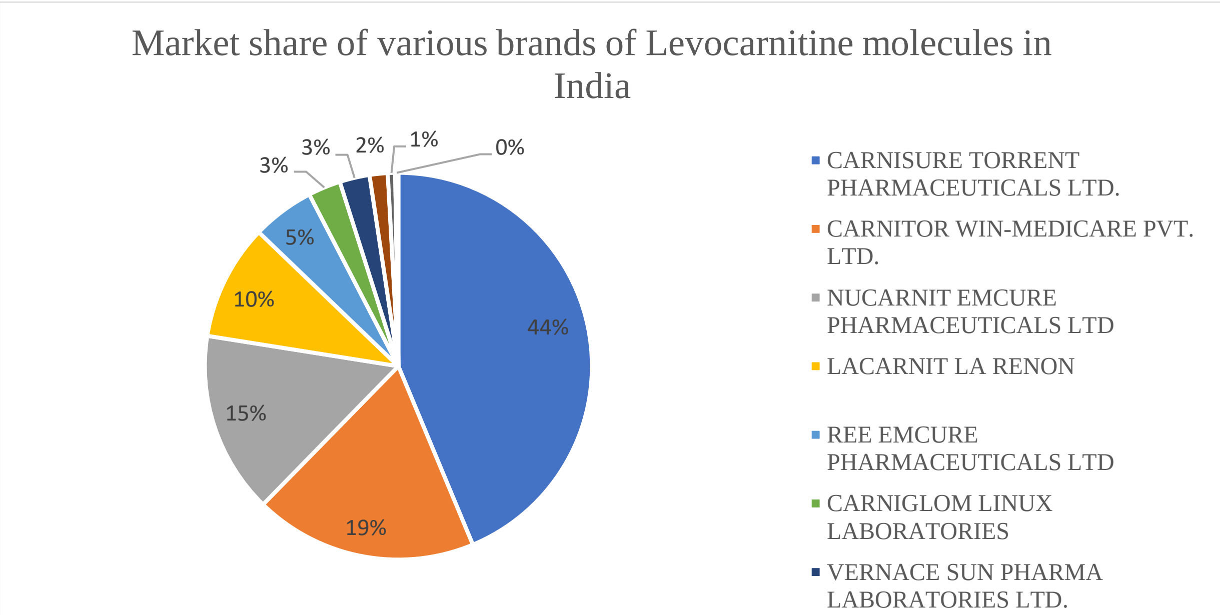


Figure 15: - The figure shows market share of different brands of Levocarnitine molecule in India Carnisure brand having maximum share 44% followed by the Carnitor brand and Lacarnit brand of La renon having 10% share in India.

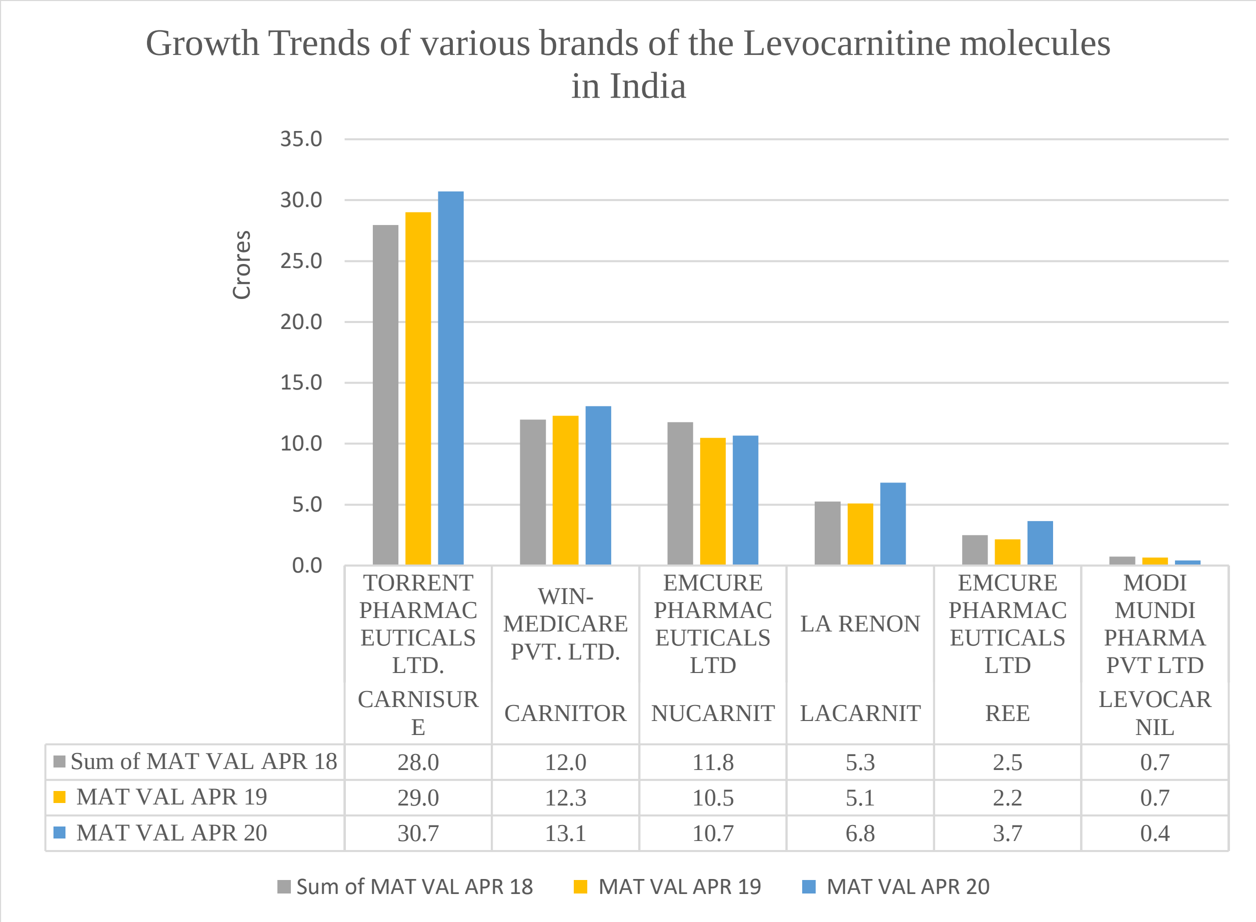


Figure 16: - The figure about the growth of the various brands in that Carnisure show progressive growth Carnitor is also in progressive growth phase and Lacarnit is showing Progressive growth.

<u>Erythropoietin products</u>

BRAND	COMPANY	MAT VAL GR APR 20	Market share
RENOCRIT	ZYDUS CADILA	136.6	48%
ANFOE	LA RENON	39.6	33%
TRANSFER	ALNICHE LIFE SCIENCES PVT.LTD	-12.4	18%
EPOTREND	ANTHEM BIOPHARMA PVT LTD	-26.0	1%
EPOFIT	INTAS PHARMACEUTICALS LTD		0%
ALPHARED	SAMARTH LIFE SCIENCES PVT LTD		0%

Table 10: - The table contain the various brands of the Erythropoietin molecule and their growth rate in 2020 and market share in which Zydus cadila having a maximum share of 48% and Anfoe brand of La renon is having 33% market share in India

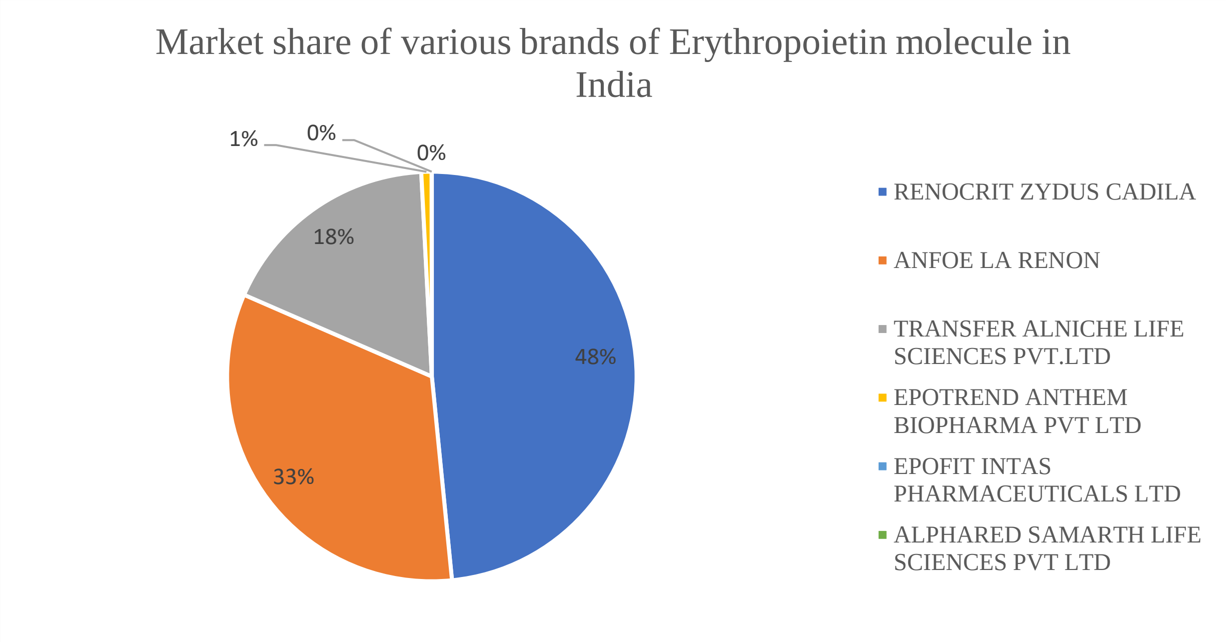
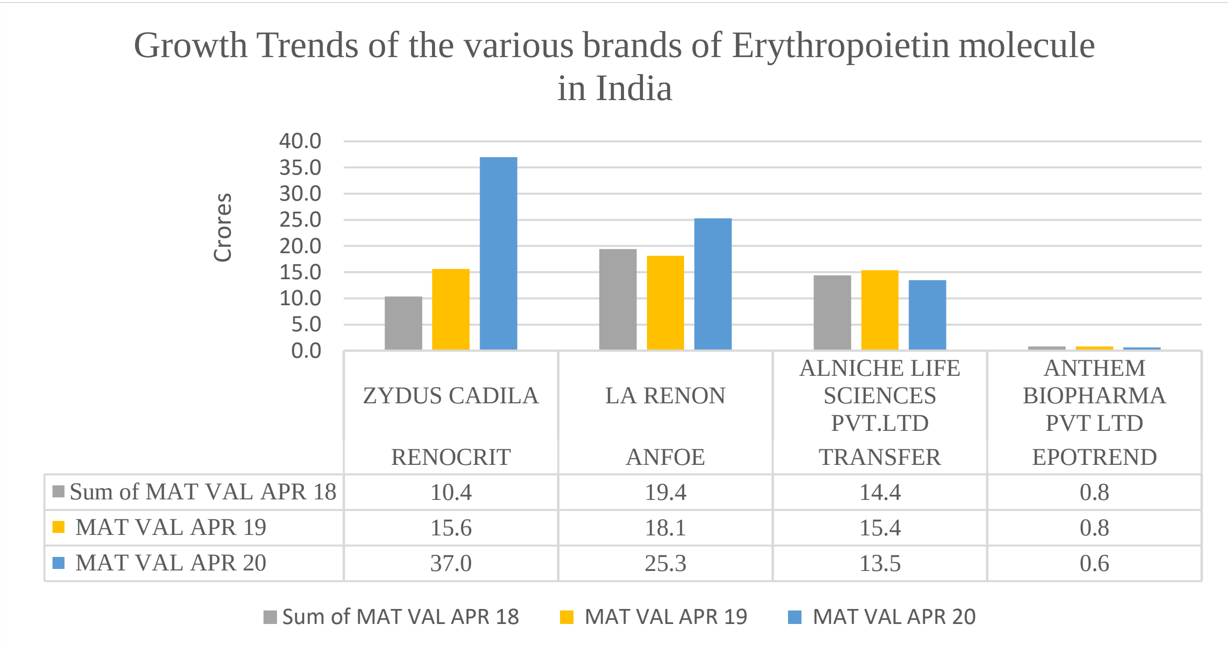


Figure 17: - The figure shows market share of different brands of Erythropoietin molecule in India Renocrit brand having maximum share 48% followed by the Anfoe brand of La renon having 33% share in India.



	ZYDUS CADILA RENOCRIT	LA RENON ANFOE	ALNICHE LIFE SCIENCES PVT.LTD TRANSFER	ANTHEM BIOPHARMA PVT LTD EPOTREND
Sum of MAT VAL APR 18	10.4	19.4	14.4	0.8
MAT VAL APR 19	15.6	18.1	15.4	0.8
MAT VAL APR 20	37.0	25.3	13.5	0.6

Figure 18: - The figure about the growth of the various brands in that Renocrit show progressive growth Anfoe is also in progressive growth phase.

Multivitamin Molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market Share
EIDO FE	LA RENON	2.5	14%
A TO Z NS	ALKEM LABORATORIES LTD.	24.7	14%
MYLAMIN	MACLEODS PHARMACEUTICALS PVT.LTD	5.2	10%
BIFOLATE	KEPLER HEALTH CARE	26.1	9%
INTAFOL D	INTAS PHARMACEUTICALS LTD	-0.6	7%
VITNEURIN	CORONA	282.9	4%
VISYNERAL	USV PVT LTD	-5.8	4%
MOVNWAK	LUPIN LTD	-11.0	4%
B N C (AGLOWMED)	AGLOWMED PHARMACEUTICALS LTD.	12.4	4%
CUTEE	TALENT INDIA	3.9	3%
EIDO	LA RENON	15.1	3%

Table 11: - The table contain the various brands of the multivitamins molecule and their growth rate in 2020 and market share in which La renon having a maximum share of 17% share in India

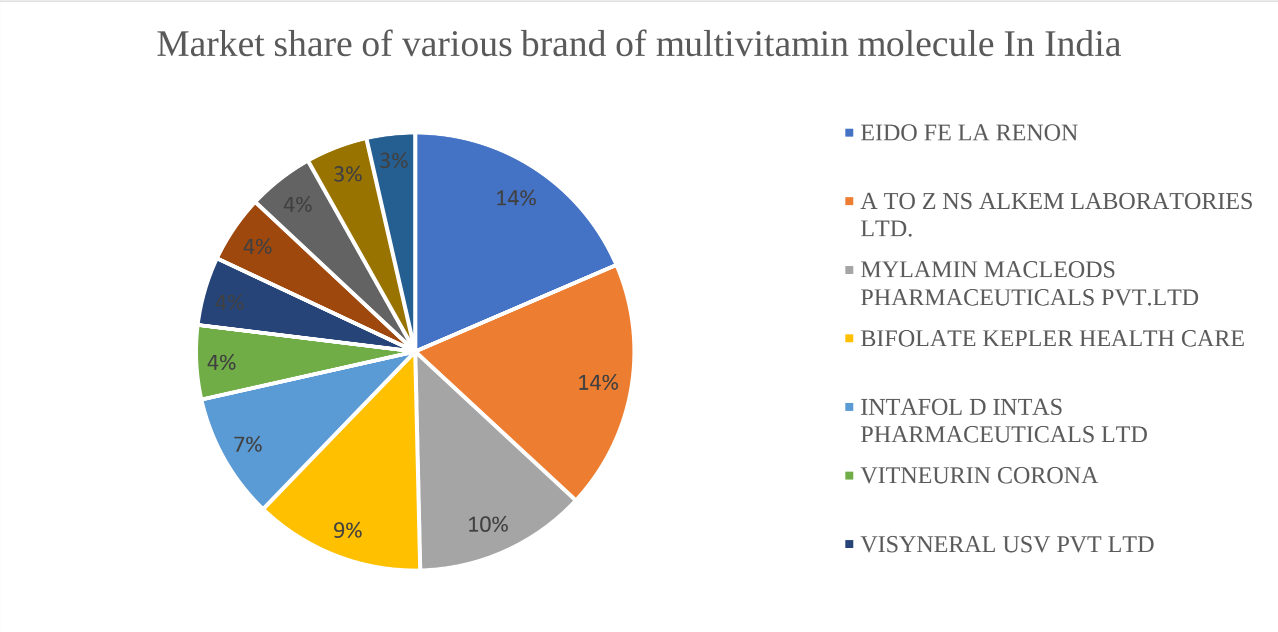


Figure 19: - The figure shows market share of different brands of Multivitamins molecule in India Eido fe brand having maximum share 14% of share followed by A to Z NS brand of Alkem laboratories in India.

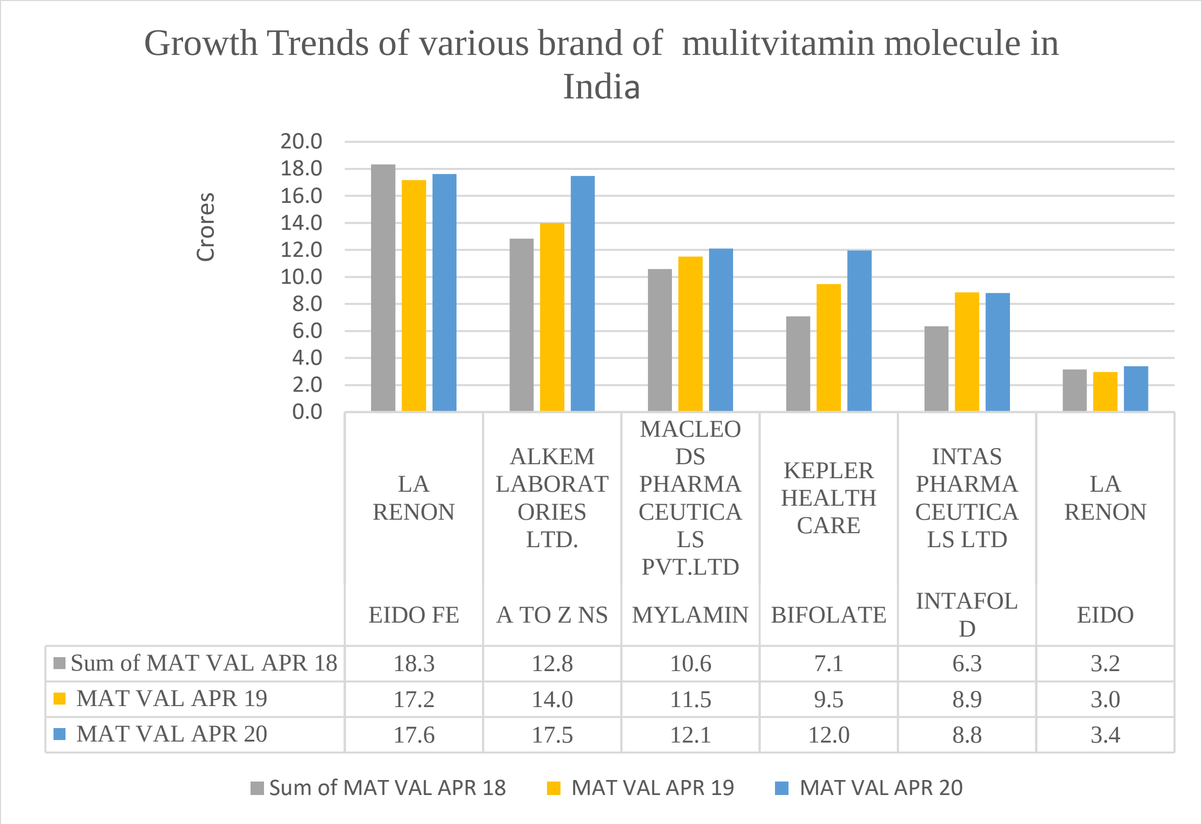


Figure 20: - The figure about the growth of the various brands in that Eido fe show progressive growth A to ZNS is also in progressive growth phase.

Ferric carboxymaltose complex molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market share
OROFER FCM	EMCURE PHARMACEUTICALS LTD	17.1	49%
FERIUM	EMCURE PHARMACEUTICALS LTD	5.3	13%
FERINJECT	LUPIN LTD	9.3	12%
ENCICARB	EMCURE PHARMACEUTICALS LTD	43.6	10%
REVOFER	LUPIN LTD	13.6	9%
FERIUM 1K	EMCURE PHARMACEUTICALS LTD	28.9	6%
LARINJECT	LA RENON	-13.6	1%
PALDELA	LA RENON	-25.0	0%

Table 12: - The table contain the various brands of the Ferric carboxymaltose complex molecule and their growth rate in 2020 and market share in which Emcure pharmaceutical having a maximum share of 49% and larinject of La renon having 1% market share in India.

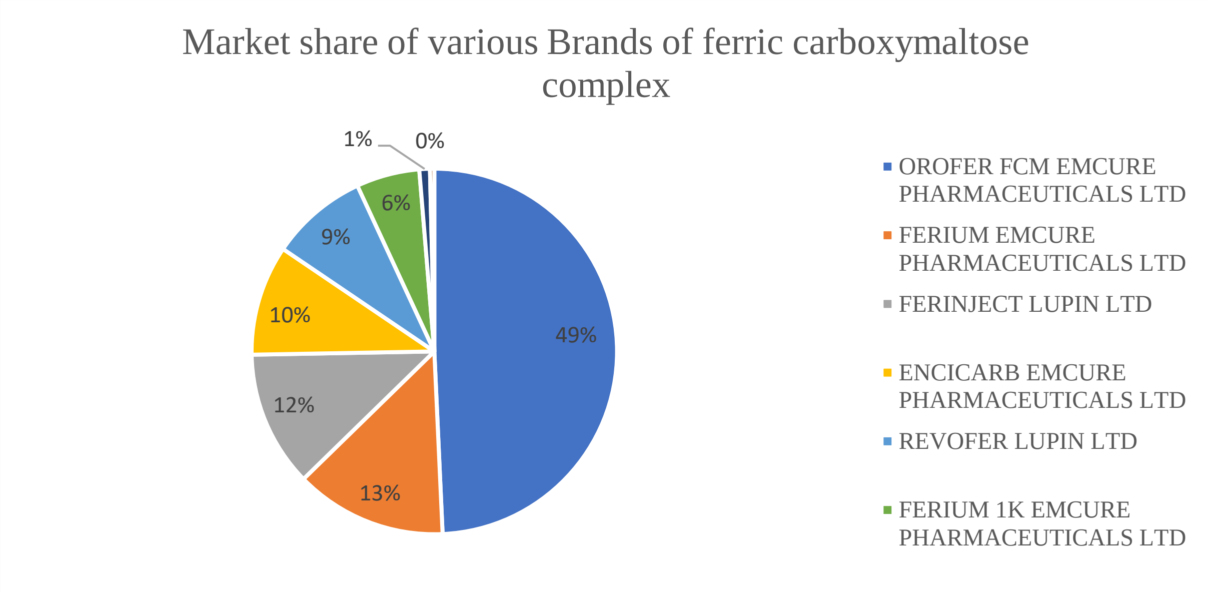
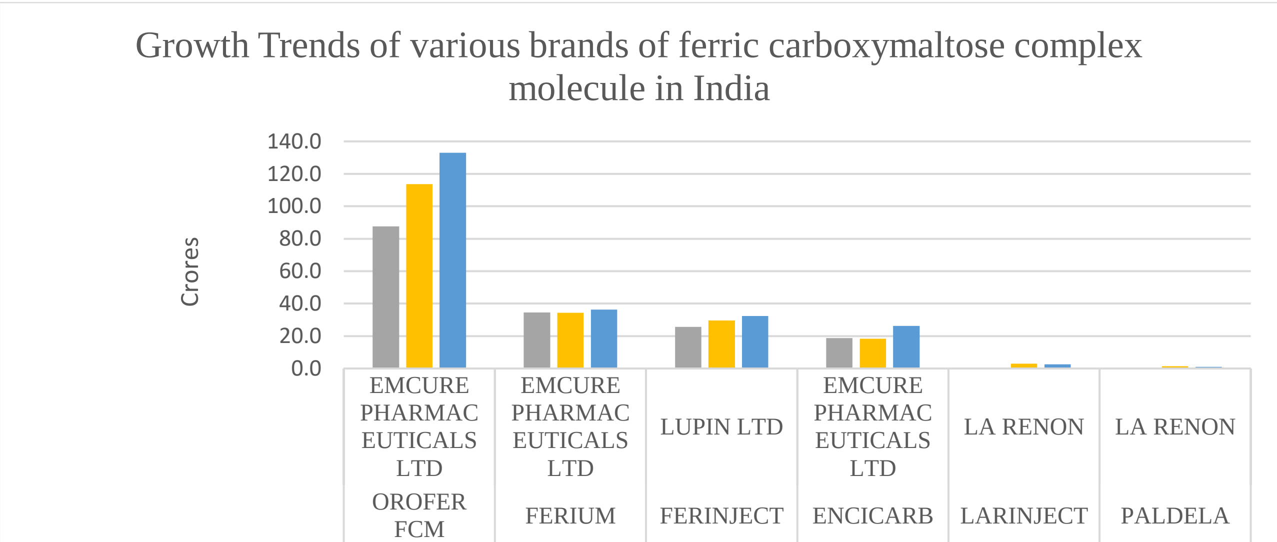


Figure 21: - The figure shows market share of different brands of Ferric carboxymaltose complex molecule in India Orofer FCM brand having maximum share 49% followed by the Ferium brand of Emcure having 13% and Larinject of la renon having 1% market share in India.



	EMCURE PHARMACEUTICALS LTD OROFER FCM	EMCURE PHARMACEUTICALS LTD FERIUM	LUPIN LTD FERINJECT	EMCURE PHARMACEUTICALS LTD ENCICARB	LA RENON LARINJECT	LA RENON PALDELA
Sum of MAT VAL APR 18	87.5	34.6	25.7	18.7	0.0	0.0
MAT VAL APR 19	113.6	34.4	29.7	18.3	2.9	1.4
MAT VAL APR 20	133.0	36.2	32.4	26.3	2.5	1.0

Figure 22: - The figure about the growth of the various brands in that Orofer FCM show progressive growth Ferium is also in progressive growth phase and Larinject is showing Progressive growth.

Renal Medicine

Sodium Bicarbonate molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market share
SOBISIS	LA RENON	36.6	62%
NODOSIS	STEADFAST MEDISHIELD PVT LTD	41.5	16%
AUXISODA	ALNICHE LIFE SCIENCES PVT.LTD	44.9	7%
SODIUM BICARBONATE	TROIKAA PHARMACEUTICALS LTD	153.8	6%
SODAC	NEON LABORATORIES LTD	47.6	4%
NODOSIS GST	STEADFAST MEDISHIELD PVT LTD	574.4	1%
SODABICARB	SAMARTH LIFE SCIENCES PVT LTD	42.4	1%
AUXISODA EC	ALNICHE LIFE SCIENCES PVT.LTD	61.9	1%
DIOSIS	CMR LIFE SCIENCES	15.7	1%
SARPIX	AJANTA PHARMA LTD	53.3	0%
SOBISIS EC	LA RENON	1453.9	0%

Table13: - The table contain the various brands of the sodium bicarbonate molecule and their growth rate in 2020 and market share in which La Renon having a maximum share.

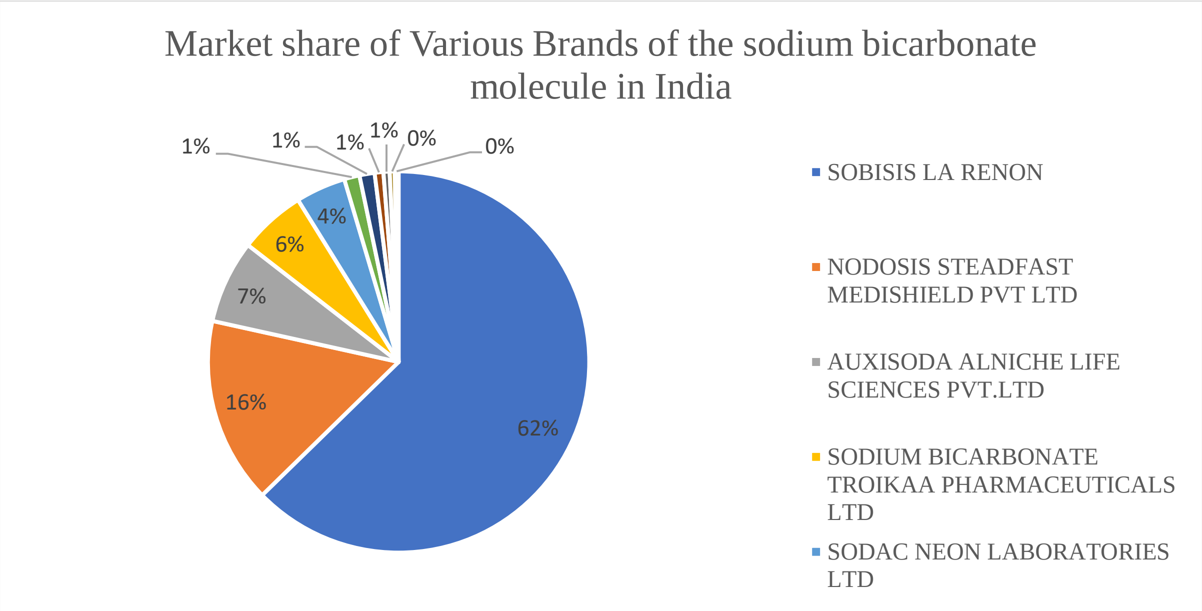


Figure 23: - The figure shows market share of different brands of sodium bicarbonate molecule in India Sobisis brand of La renon having maximum share 62% followed by the Nodosis brand of having 16% market share in India

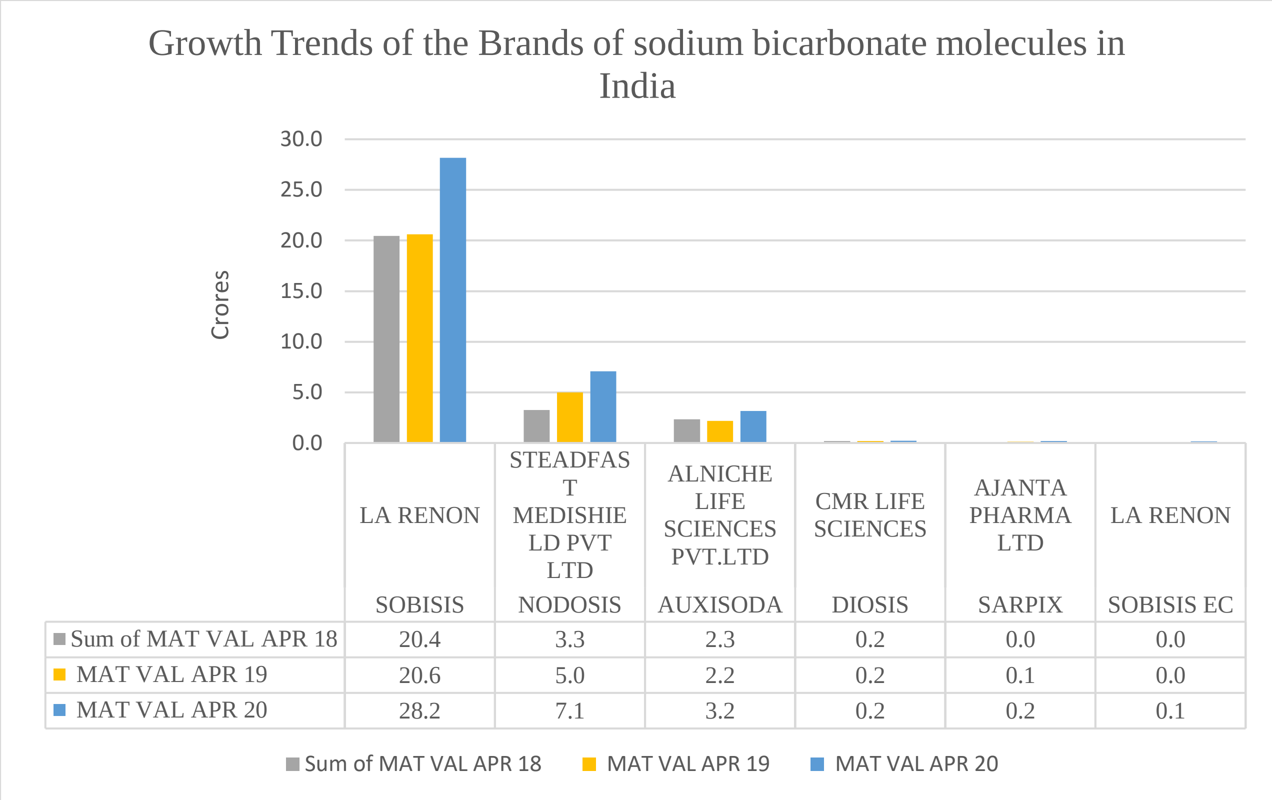


Figure 24: - The figure about the growth of the various brands in that Sobisis show progressive growth Nodosis is also in progressive growth phase and Auxisoda is showing Progressive growth.

Alpha ketoanalogue with essential amino acids

BRAND	COMPANY	MAT VAL GR APR 20	Market share
RENOLOG	LA RENON	26.9	57%
KETOADD	SUN PHARMA LABORATORIES LTD.	30.3	22%
KETOALFA	ALNICHE LIFE SCIENCES PVT.LTD	-27.4	11%
RENOALFA	ALNICHE LIFE SCIENCES PVT.LTD	55.8	4%
IMPULOG	LA RENON	4843.2	2%
APLAZAR	STEADFAST MEDISHIELD PVT LTD	100.9	2%
RENHOLD	PANACEA BIOTEC LTD	-62.1	1%
RENCHEK	INTAS PHARMACEUTICALS LTD	-27.2	1%
KETOHUNT	ANTHEM BIOPHARMA PVT LTD	83.2	1%
KETOFIX	EMCURE PHARMACEUTICALS LTD	374.8	0%

Table 14: - The table contain the various brands of_Alpha ketoanalogue with essential amino acids the molecule and their growth rate in 2020 and market share in which La Renon having a maximum share.

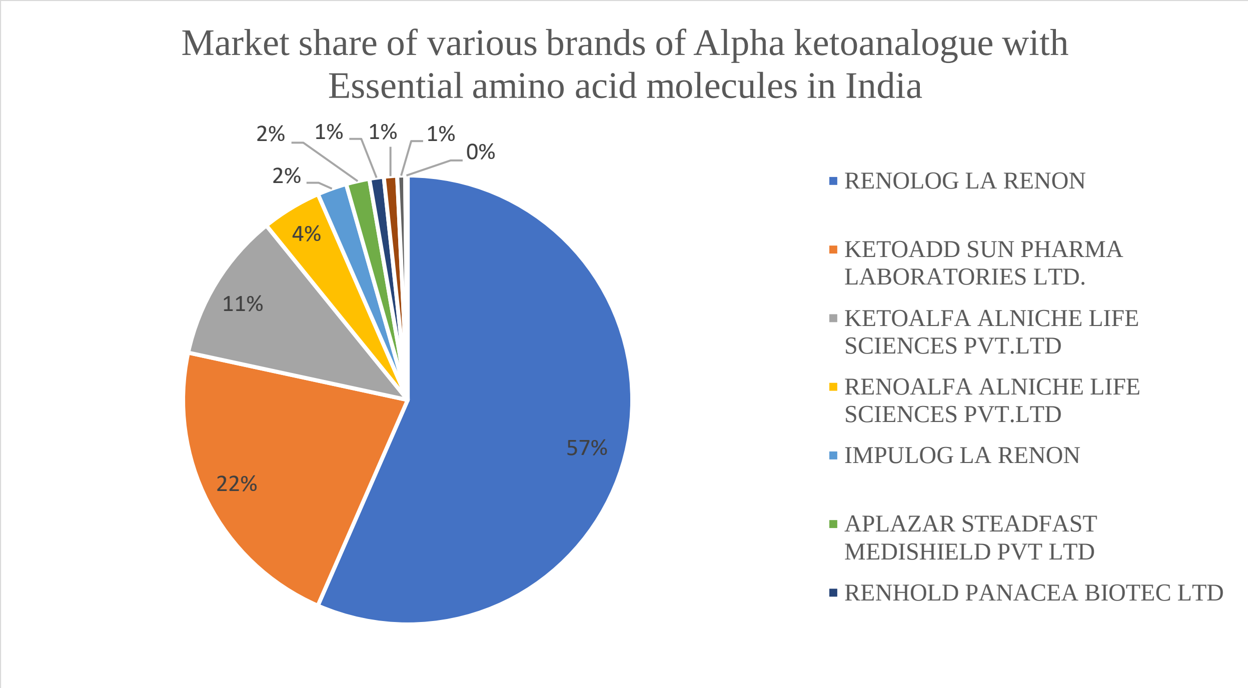


Figure 25: - The figure shows market share of different brands of Alpha ketoanalougue molecule in India Renolog brand of La renon having maximum share 57% followed by the Ketoadd brand of having 22% market share in India.

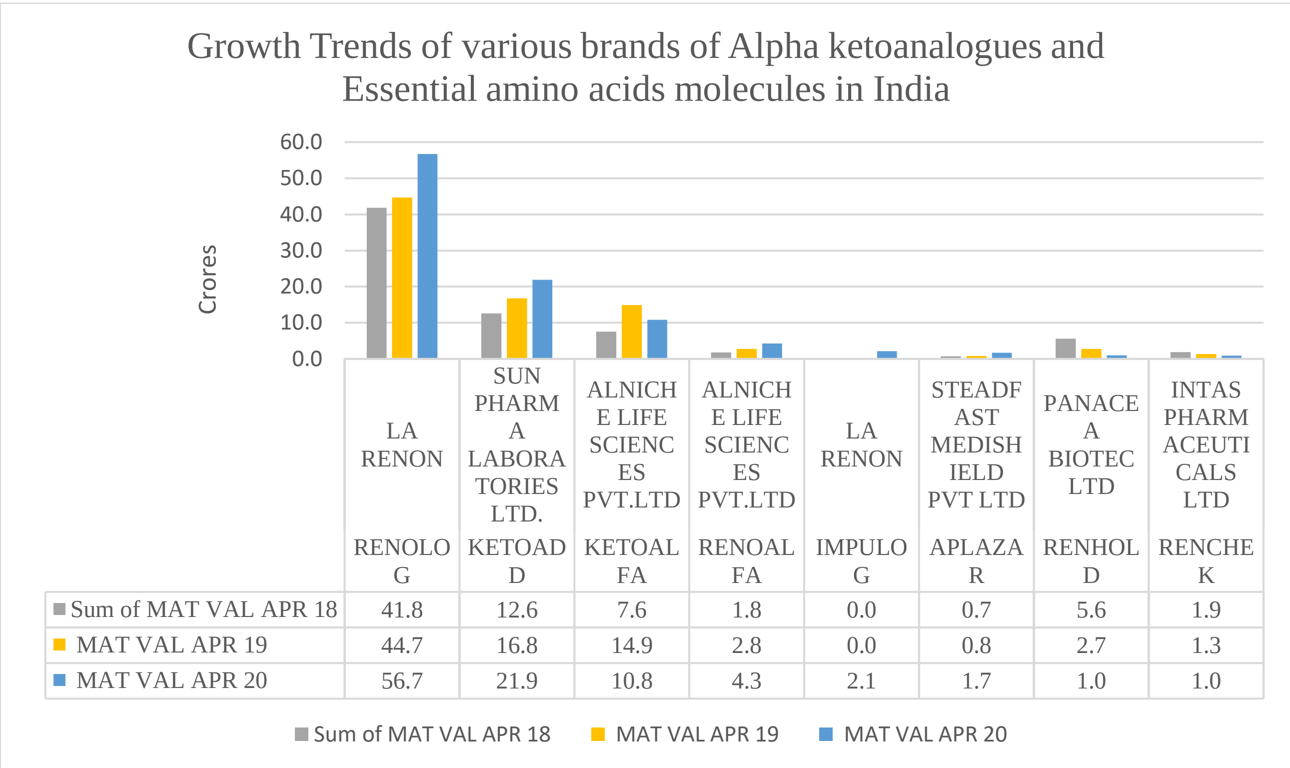


Figure 26: - The figure about the growth of the various brands in that Renolog show progressive growth ketoadd is also in progressive growth phase and Ketoalfa is showing Fluctuating growth.

Coenzyme Q10 combination molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market share
QUOGRESS	LA RENON	-3.7	16%
OVARES PLUS	SUN PHARMA LABORATORIES LTD.	6.1	9%
UBICAR	FOURRTS INDIA LABORATORIES PVT. LTD	-14.3	8%
COQ FORTE	SANOFI INDIA LTD.	-7.0	8%
TRAZER M	CORONA	7.9	6%
CARNI Q	TTK HEALTHCARE LTD	-3.0	5%
KQ	SERUM INSTITUTE OF INDIA LTD	10.0	5%
COQ LC	SANOFI INDIA LTD.	-11.7	4%
RENOQUE	LA RENON	53.2	3%
ASTHOQUE	LA RENON	25.4	3%

Table 15: - The table contain the various brands of Coenzyme Q10 combination the molecule and their growth rate in 2020 and market share in which La Renon having a maximum share in India.

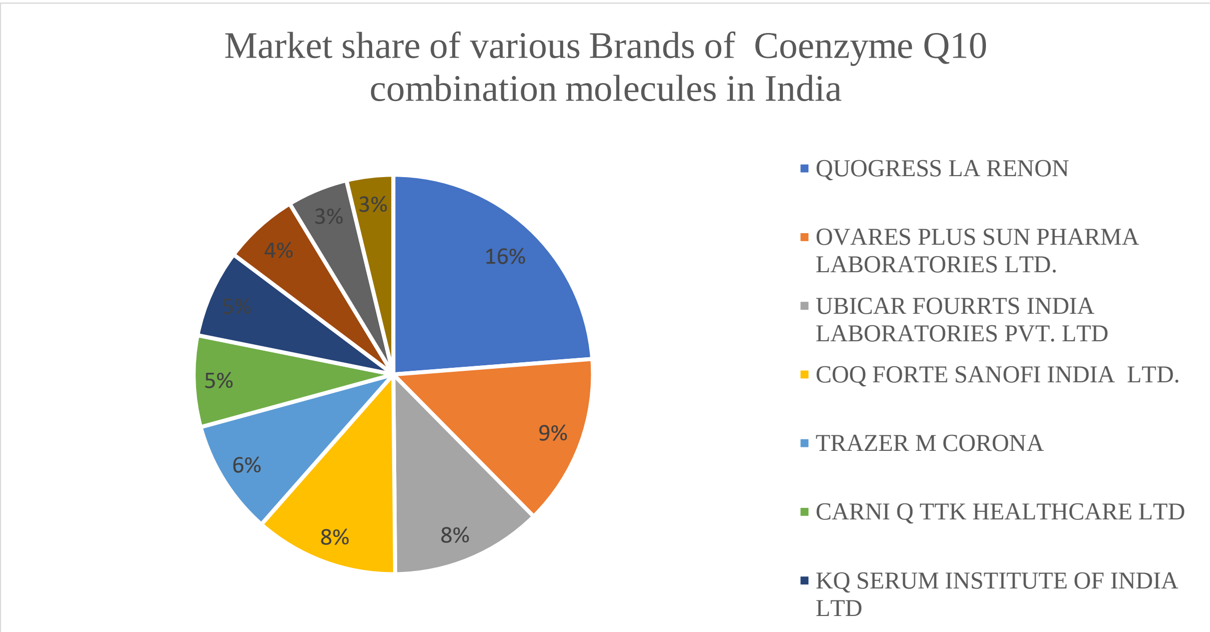


Figure 27: - The figure shows market share of different brands of Coenzyme Q10 in India Quogress brand of La renon having maximum share 16% followed by the Ovares plus brand of having 9% market share in India.

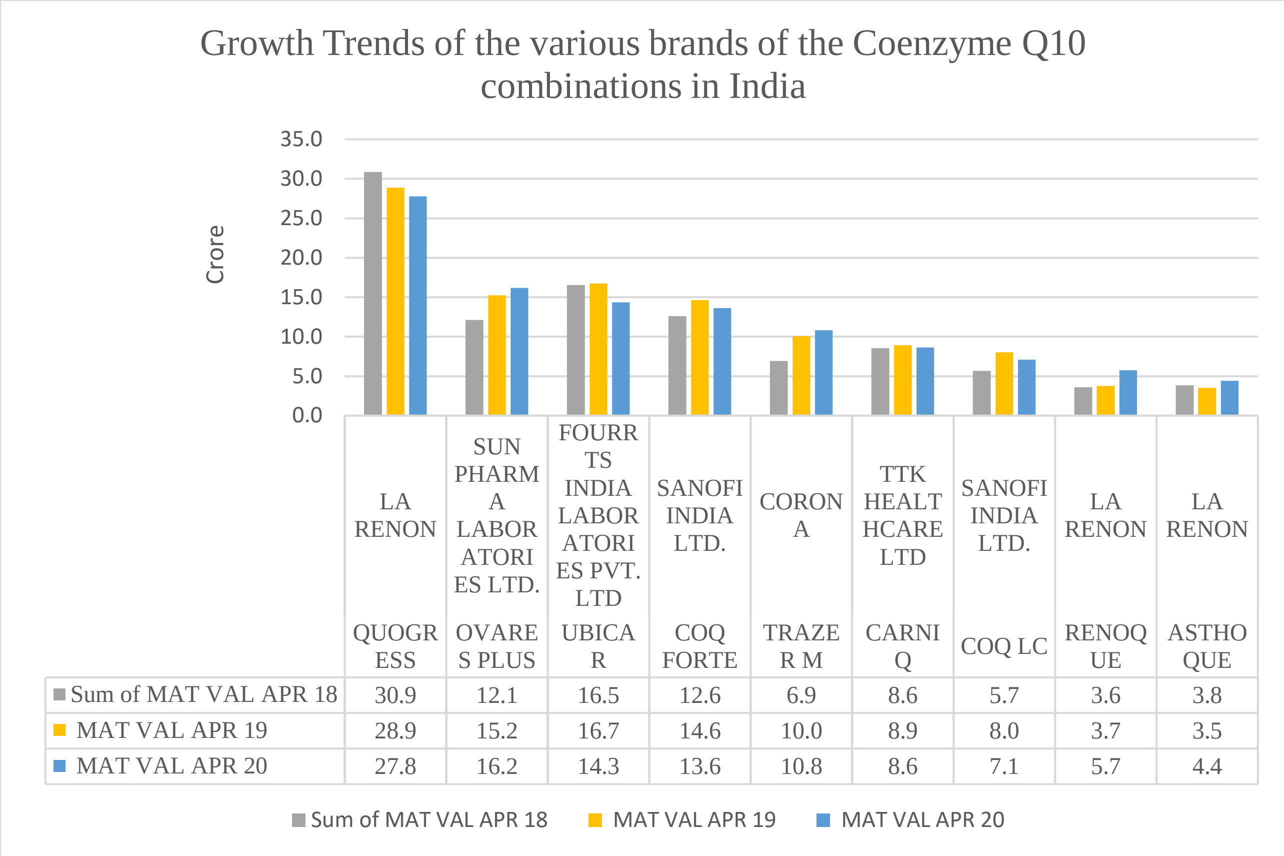


Figure 28: - The figure about the growth of the various brands in that Quogress show decline in growth ovares plus is also in progressive growth phase and Ubicar is showing Fluctuating growth.

Elemental Iron molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market share
LUPIHEME	LUPIN LTD	2.1	59%
IMFERON	SHREYA LIFE SCIENCES PVT. LTD	16.9	14%
HAEM UP	CADILA PHARMACEUTICALS LTD	-20.5	10%
JECTOCOS	OAKNET HEALTHCARE	3.6	6%
SURBEX FE	ABBOTT HEALTHCARE PVT. LTD		4%
CITRAPHOS	LA RENON	15.8	2%
FERISE	INTAS PHARMACEUTICALS LTD	-16.2	1%
HAEMADAY	AKUMENTIS HEALTHCARE LTD	-6.5	1%
PHOSFOMIN IRON	ABBOTT HEALTHCARE PVT. LTD	-68.6	0%
ZEMCIFER	ZUVENTUS HEALTHCARE LTD	18.7	0%

Table 16: - The table contain the various brands of Elemental iron molecule and their growth rate in 2020 and market share in which Lupin having a maximum share and Larenon have 2% market share in India.

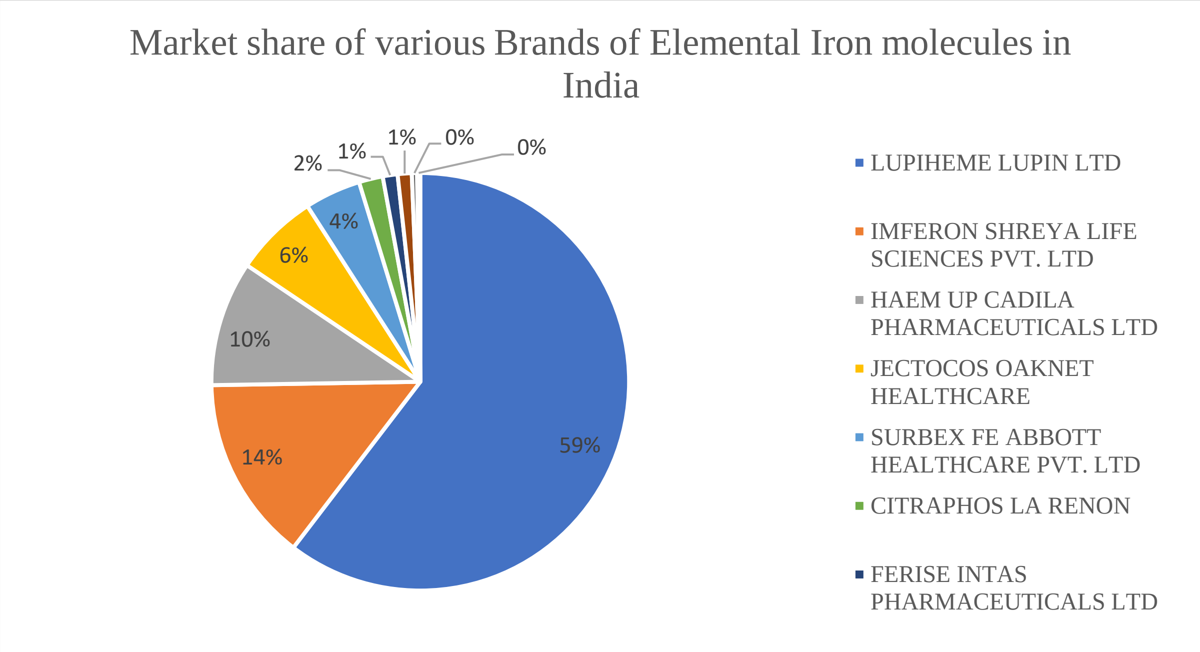
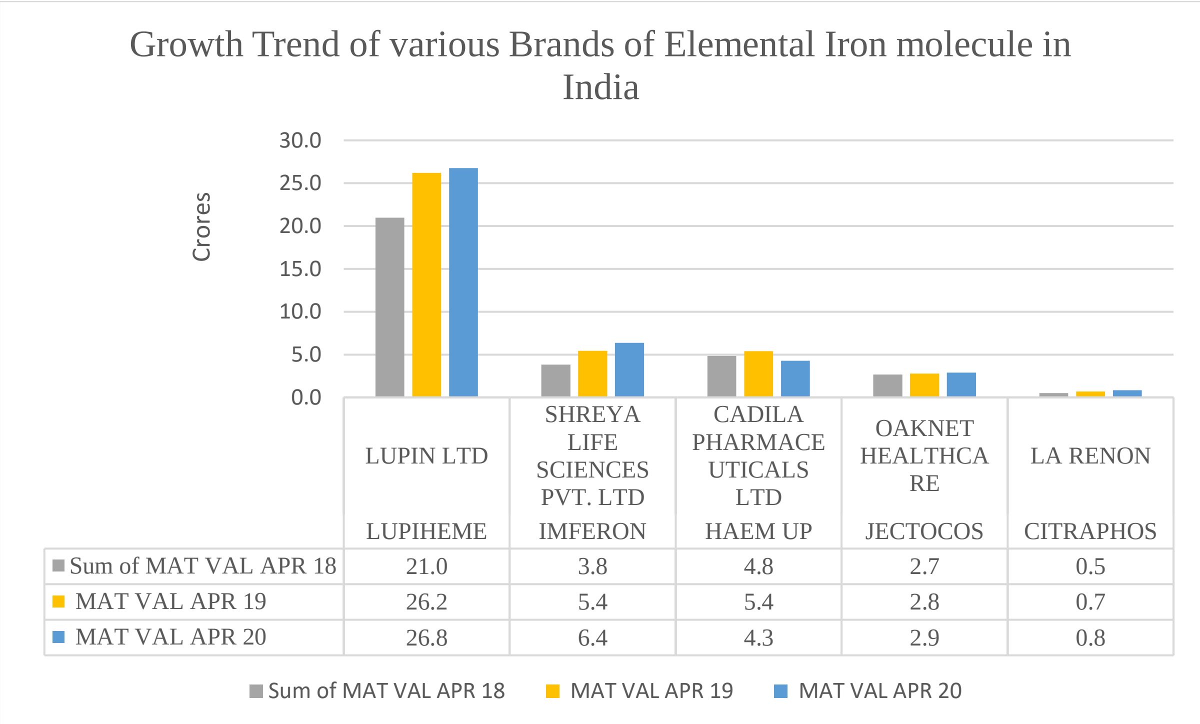


Figure 29: - The figure shows market share of different brands of Elemental iron in India Lupiheme brand of Lupin having maximum share 59% followed by the Imferon brand of having 14% and Citraphos of La renon having 2% market share in India.



	LUPIN LTD LUPIHEME	SHREYA LIFE SCIENCES PVT. LTD IMFERON	CADILA PHARMACEUTICALS LTD HAEM UP	OAKNET HEALTHCARE JECTOCOS	LA RENON CITRAPHOS
Sum of MAT VAL APR 18	21.0	3.8	4.8	2.7	0.5
MAT VAL APR 19	26.2	5.4	5.4	2.8	0.7
MAT VAL APR 20	26.8	6.4	4.3	2.9	0.8

Figure 30: - The figure about the growth of the various brands in that Lupiheme show progressive in growth Imferon is also in progressive growth phase and Citraphos is showing progressive growth.

Sevelamer molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market Share
REVLAMER	SUN PHARMA LABORATORIES LTD.	18.5	39%
SEVCAR	EMCURE PHARMACEUTICALS LTD	88.6	33%
SEVLAREN	LA RENON	13.5	10%
ACUTROL-C	INTAS PHARMACEUTICALS LTD	4.5	4%
RENVELLA	SANOFI INDIA LTD.	-15.4	4%
VELACAR	ALNICHE LIFE SCIENCES PVT.LTD	-14.2	2%
PHOSCUT	STEADFAST MEDISHIELD PVT LTD	65.7	2%
FORSEMER	MICRO LABS LTD	-85.9	1%
SEVAPIK	ALNICHE LIFE SCIENCES PVT.LTD	28.7	1%
FOSEAL	EMCURE PHARMACEUTICALS LTD	184.2	1%

Table 17: - The table contain the various brands Sevelamer molecule and their growth rate in 2020 and market share in which Sun pharma having a maximum share and Larenon have 10% market share in India.

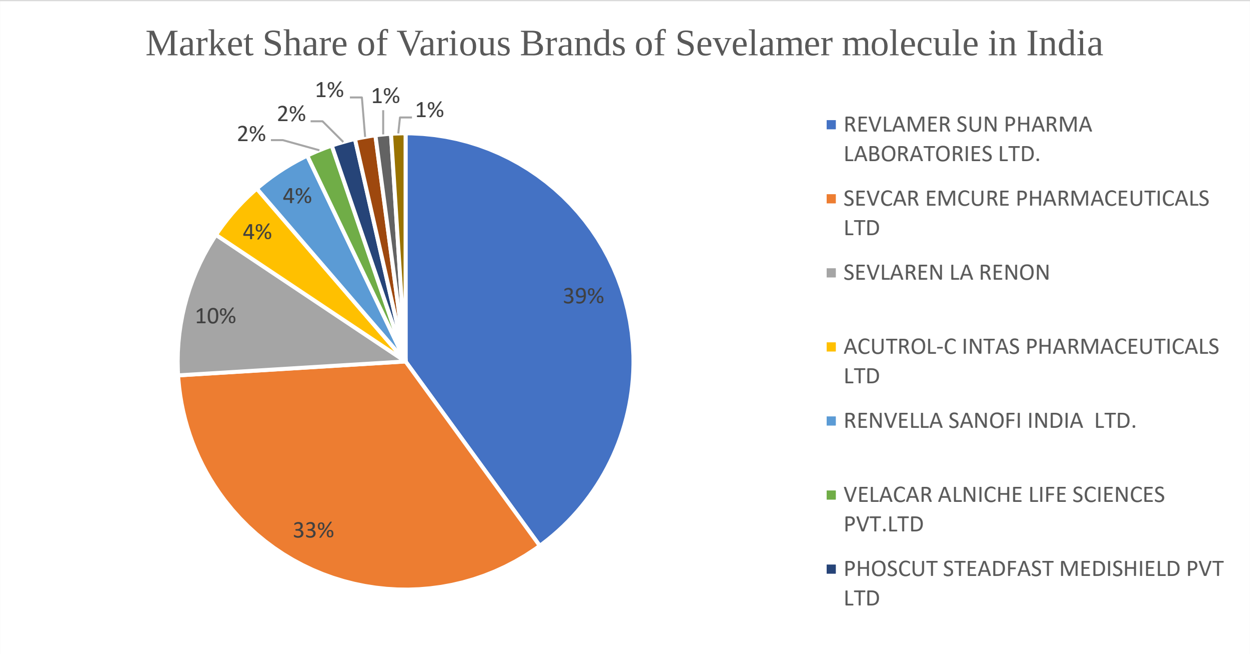
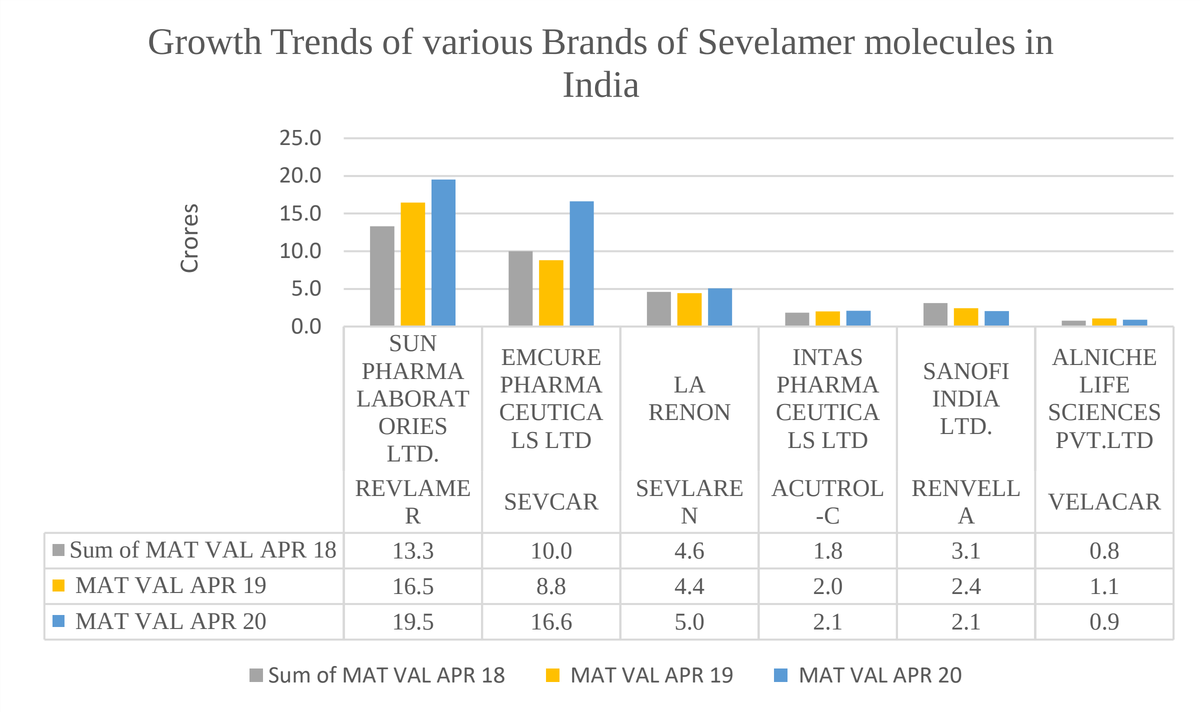


Figure 31: - The figure shows market share of different brands of Sevelamer in India Revelamer brand of Sun pharma having maximum share 39% followed by the Sevcar of having 33% and Sevlaren of La renon having 10% market share in India.



	SUN PHARMA LABORATORIES LTD. REVLAMER	EMCURE PHARMACEUTICALS LTD SEVCAR	LA RENON SEVLAREN	INTAS PHARMACEUTICALS LTD ACUTROL-C	SANOFI INDIA LTD. RENVELLA	ALNICHE LIFE SCIENCES PVT.LTD VELACAR
Sum of MAT VAL APR 18	13.3	10.0	4.6	1.8	3.1	0.8
MAT VAL APR 19	16.5	8.8	4.4	2.0	2.4	1.1
MAT VAL APR 20	19.5	16.6	5.0	2.1	2.1	0.9

Figure 32: - The figure about the growth of the various brands in that Revlamer show progressive in growth Sevcar is also in Fluctuating phase and Sevlaren is showing progressive growth.

<u>Calcium molecule</u>

BRAND	COMPANY	MAT VAL GR APR 20	Market share
TRIPLEACAL	USV PVT LTD	-5.5	25%
PHOSTAT	ZYDUS CADILA	-1.9	11%
CORCAL	LUPIN LTD	23.2	10%
LANUM	LA RENON	46.1	10%
MACZORB	MACLEODS PHARMACEUTICALS PVT.LTD	5.8	9%
COECORAL	KOYE PHARMACEUTICALS PVT. LTD.	-20.3	7%
ALMITY	LUPIN LTD	-15.2	5%
CORAL CALCIUM	PREMIER NUTRACEUTICALS PVT LTD	-16.3	4%
OROTATE	AKESISS PHARMA (P) LTD	-38.5	3%
EZORB	OVERSEAS HEALTHCARE PVT LTD.	-9.6	3%

Table 18: - The table contain the various brands Calcium molecule and their growth rate in 2020 and market share in which USV Pvt Ltd having a maximum share and Larenon have 10% market share in India.

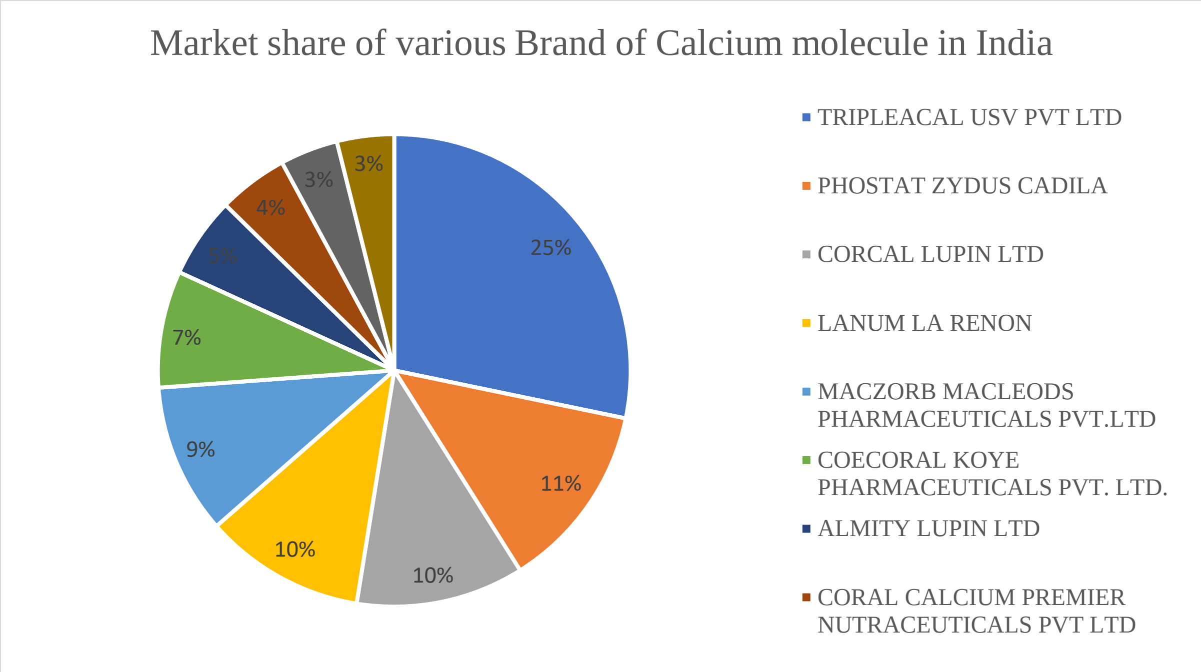


Figure 33: - The figure shows market share of different brands of Calcium molecule in India Tripleacal brand of USV Ltd having maximum share 25% followed by the Phostat of having 11% and Lanum of La renon having 10% market share in India.

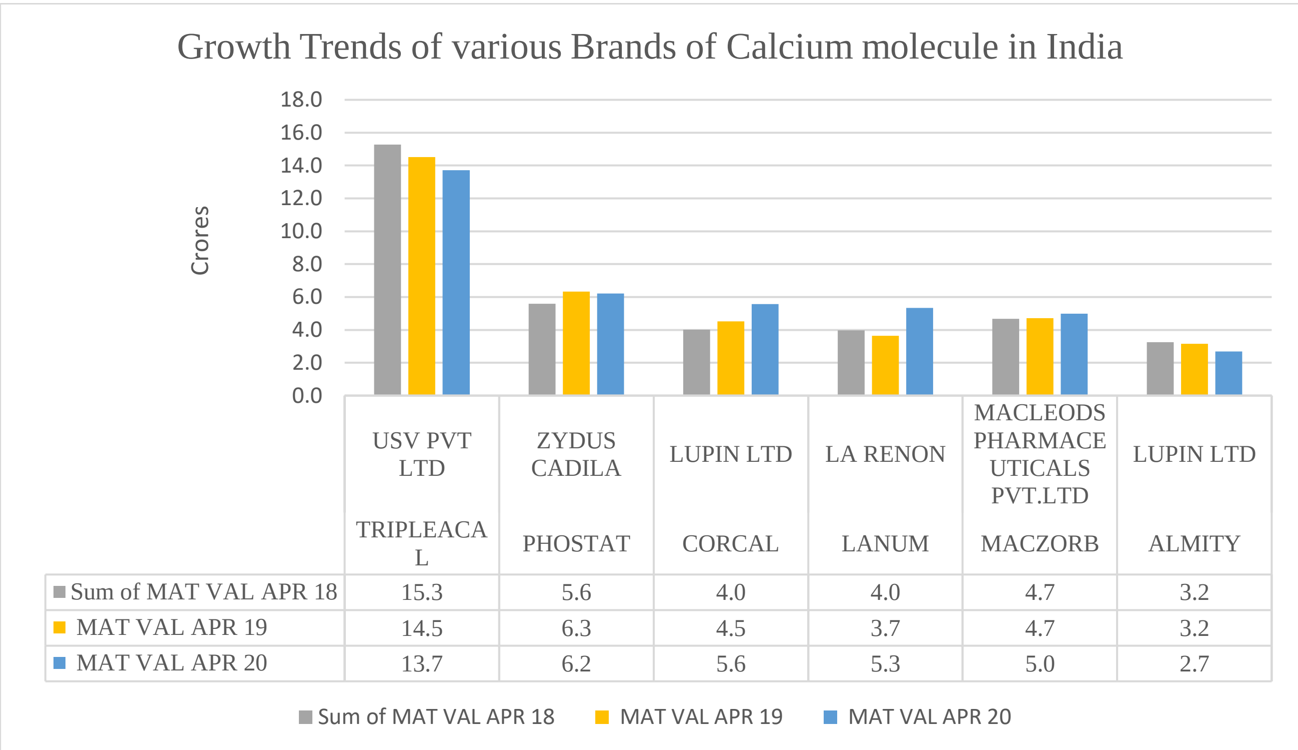


Figure 34: - The figure about the growth of the various brands in that Tripleacal show decline in growth Phostat is also in Fluctuating phase and Lanum is showing progressive growth.

Transplant medicines

Immunosuppressants are drugs or medicines that lower the body's ability to reject a transplanted organ. Another term for these drugs is anti-rejection drugs Immunosuppressants used in the kidney transplant and treatment of auto immune disorder. There are usually 4 classes of maintenance drugs:

- Calcineurin Inhibitors: Tacrolimus.
- Antiproliferative agents: Mycophenolate Mofetil, Mycophenolate Sodium.
- mTOR inhibitor: Sirolimus.

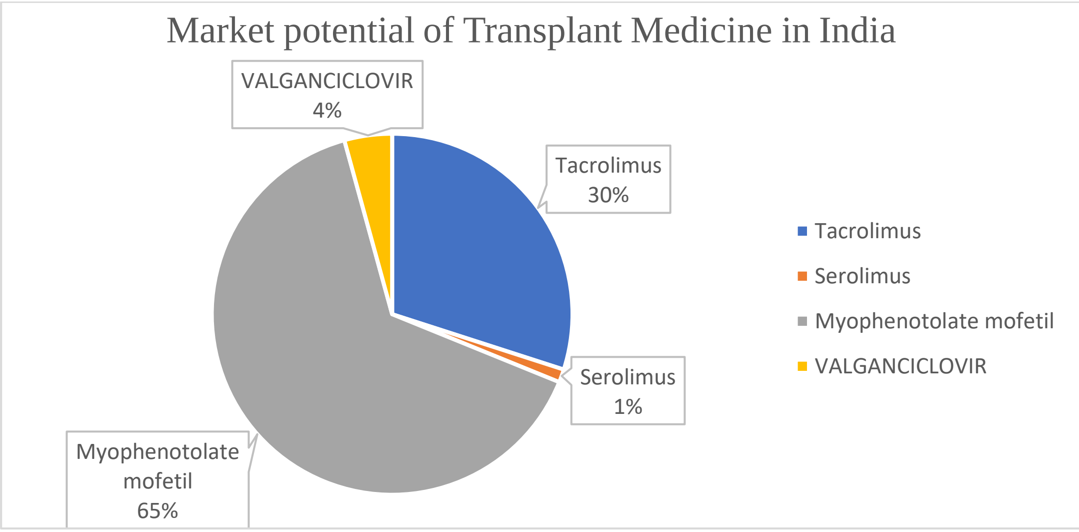


Figure 35: - The figure shows the market share acquired by the various molecules in transplant medicine in India.

Tacrolimus molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market share
PANGRAF	PANACEA BIOTEC LTD	-5.1	52%
VINGRAF	EMCURE PHARMACEUTICALS LTD	227.1	12%
TACROMUS	ZYDUS CADILA	42.2	12%
TACROGRAF	BIOCON LTD	3.6	10%
TACROREN	LA RENON	67.5	7%
TAKFA	INTAS PHARMACEUTICALS LTD	11.1	2%
BIOMUS	ALNICHE LIFE SCIENCES PVT.LTD	164.1	1%
MYLIMUS	MYLAN	1434.6	1%
TACLORAN	WOCKHARDT LTD	-51.7	1%
IMUNOTAC	RPG LIFE SCIENCES LTD.	142.2	1%

Table 19: - The table contain the various brands Tacrolimus molecule and their growth rate in 2020 and market share in which Panacea biotech having a maximum share and Larenon have 7% market share in India.

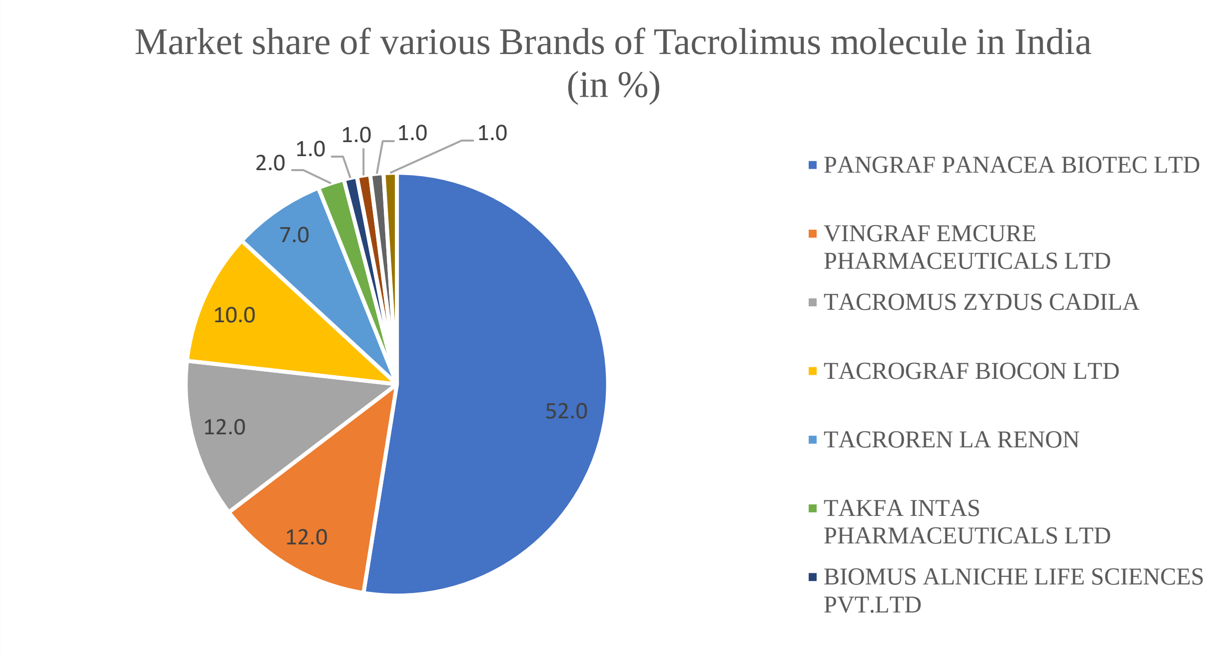
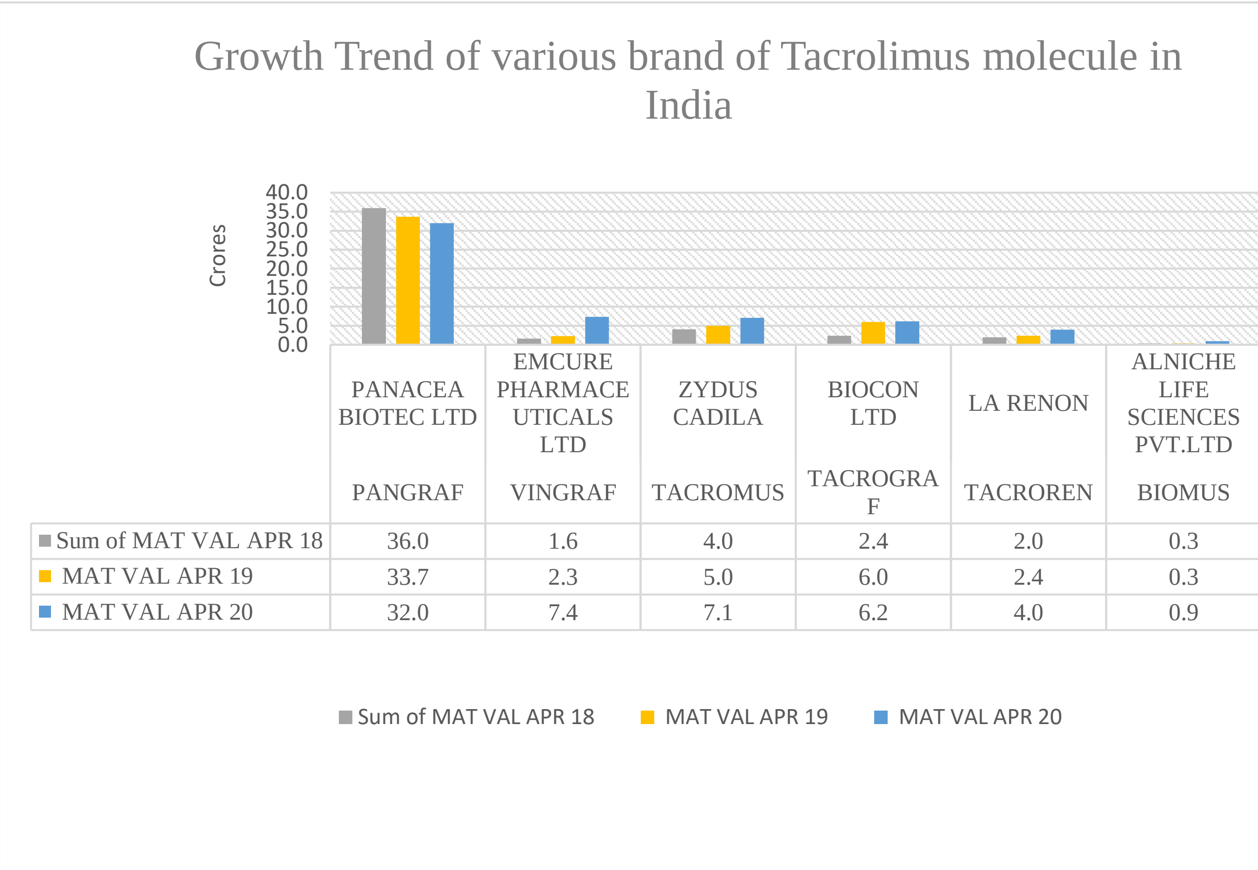


Figure 36: - The figure shows market share of different brands of Tacrolimus molecule in India Pangraf brand of Panacea Biotec having maximum share 52% followed by the Vingraf of having 12% and Tacroren of La renon having 7% market share in India.



	PANACEA BIOTEC LTD PANGRAF	EMCURE PHARMACEUTICALS LTD VINGRAF	ZYDUS CADILA TACROMUS	BIOCON LTD TACROGRAF	LA RENON TACROREN	ALNICHE LIFE SCIENCES PVT.LTD BIOMUS
Sum of MAT VAL APR 18	36.0	1.6	4.0	2.4	2.0	0.3
MAT VAL APR 19	33.7	2.3	5.0	6.0	2.4	0.3
MAT VAL APR 20	32.0	7.4	7.1	6.2	4.0	0.9

Figure 37: - The figure about the growth of the various brands in that Pangraf show progressive in growth Vingraf is also in progressive phase and Tacroren is showing progressive growth.

Sirolimus molecule

BRAND	COMPANY	MAT VAL GR APR 20	Market share
SIROMUS	ZYDUS CADILA	4.0	35%
RAPACAN	BIOCON LTD	-47.8	25%
ROCAS	EMCURE PHARMACEUTICALS LTD	-32.4	15%
SIROVA	INTAS PHARMACEUTICALS LTD	10.8	10%
RAPAREN	LA RENON	2480.9	9%
RAPASIM	ALNICHE LIFE SCIENCES PVT.LTD	40.6	5%
SIROPAN	PANACEA BIOTEC LTD	-68.5	1%
EMTOR	EMCURE PHARMACEUTICALS LTD	0.0	0%

Table 20: - The table contain the various brands Sirolimus molecule and their growth rate in 2020 and market share in which Zydus cadila having a maximum share and Larenon have 9% market share in India.

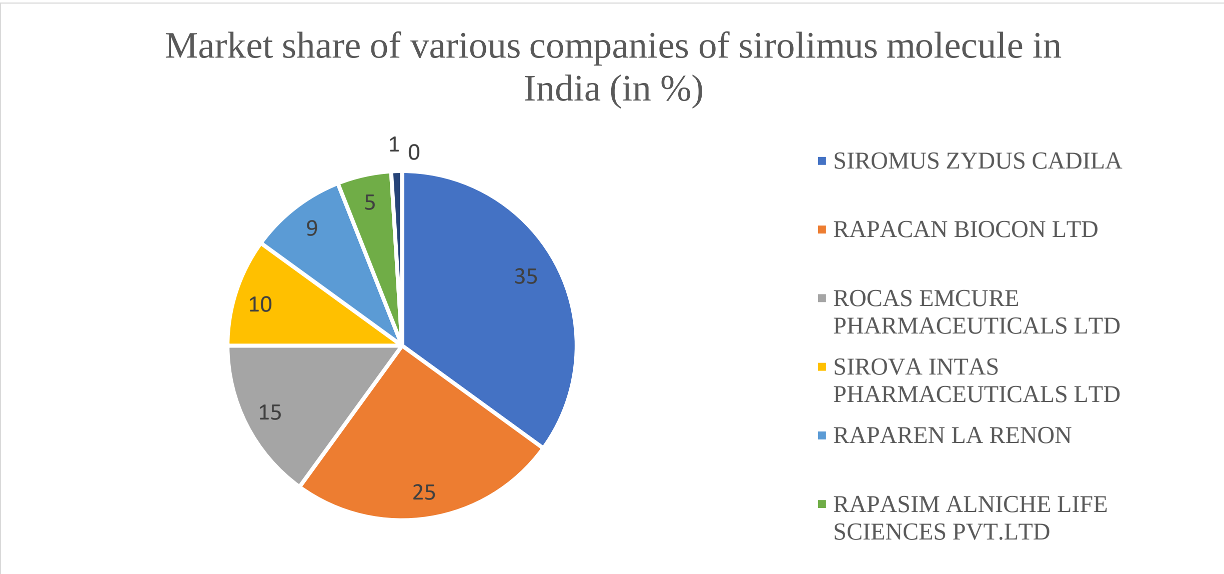


Figure 38: - The figure shows market share of different brands of Sirolimus molecule in India Siromus brand of Zydus cadila having maximum share 35% followed by the Rapacan of having 25% and Raparen of La renon having 9% market share in India.

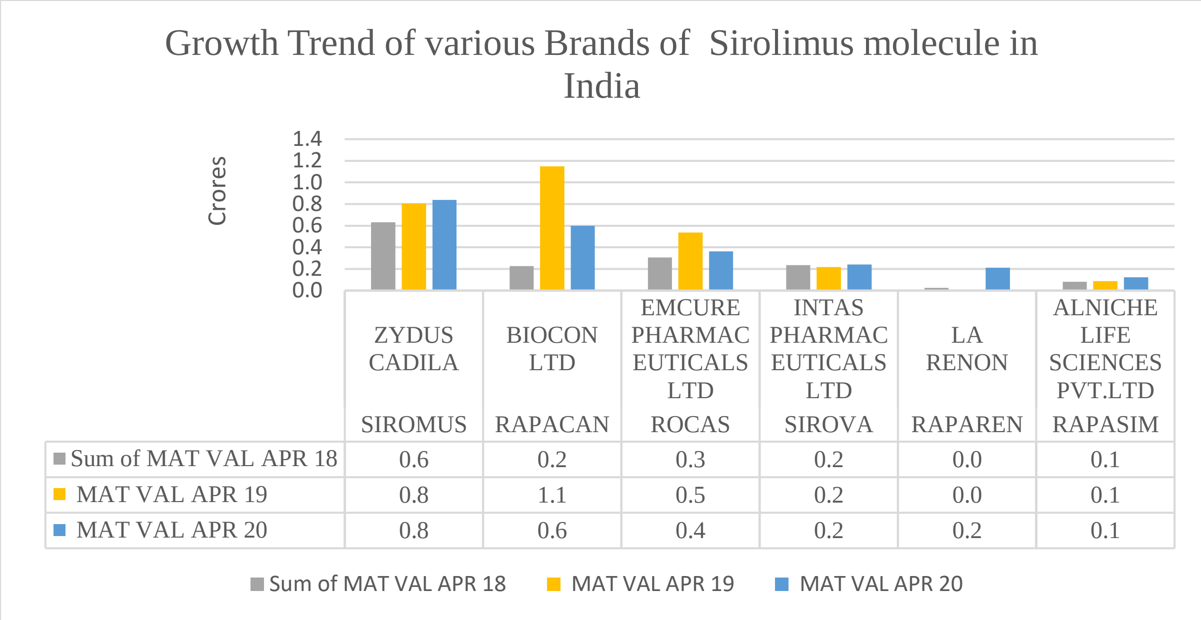


Figure 39: - The figure about the growth of the various brands in that Siromus show progressive in growth Rapacan shows fluctuating growth and Raparen is showing progressive growth.

Mycophenolate mofetil

BRAND	COMPANY	MAT VAL GR APR 20	Market share
MMF (IPCA)	IPCA LABORATORIES PVT LTD.	18.0	26%
MYCEPT	PANACEA BIOTEC LTD	-0.8	14%
MYCEPT S	PANACEA BIOTEC LTD	36.8	8%
CELLCEPT	ROCHE	78.9	8%
MYCOFIT S	INTAS PHARMACEUTICALS LTD	32.8	6%
IMMUTIL S	LA RENON	94.2	5%
MYCOFIT	INTAS PHARMACEUTICALS LTD	64.3	4%
MOFILET S	EMCURE PHARMACEUTICALS LTD	140.7	4%
MYCOMUNE	ZYDUS CADILA	210.8	3%
RENODAPT S	BIOCON LTD	18.5	3%
RENODAPT	BIOCON LTD	10.5	3%
MMF S	IPCA LABORATORIES PVT LTD.	6.3	3%
MOFILET	EMCURE PHARMACEUTICALS LTD	28.8	3%
IMMUTIL	LA RENON	1.1	2%

Table 21: - The table contain the various brands Mycophenolate mofetil molecule and their growth rate in 2020 and market share in which Ipca Laboratories having a maximum share and Larenon have 5% market share in India.

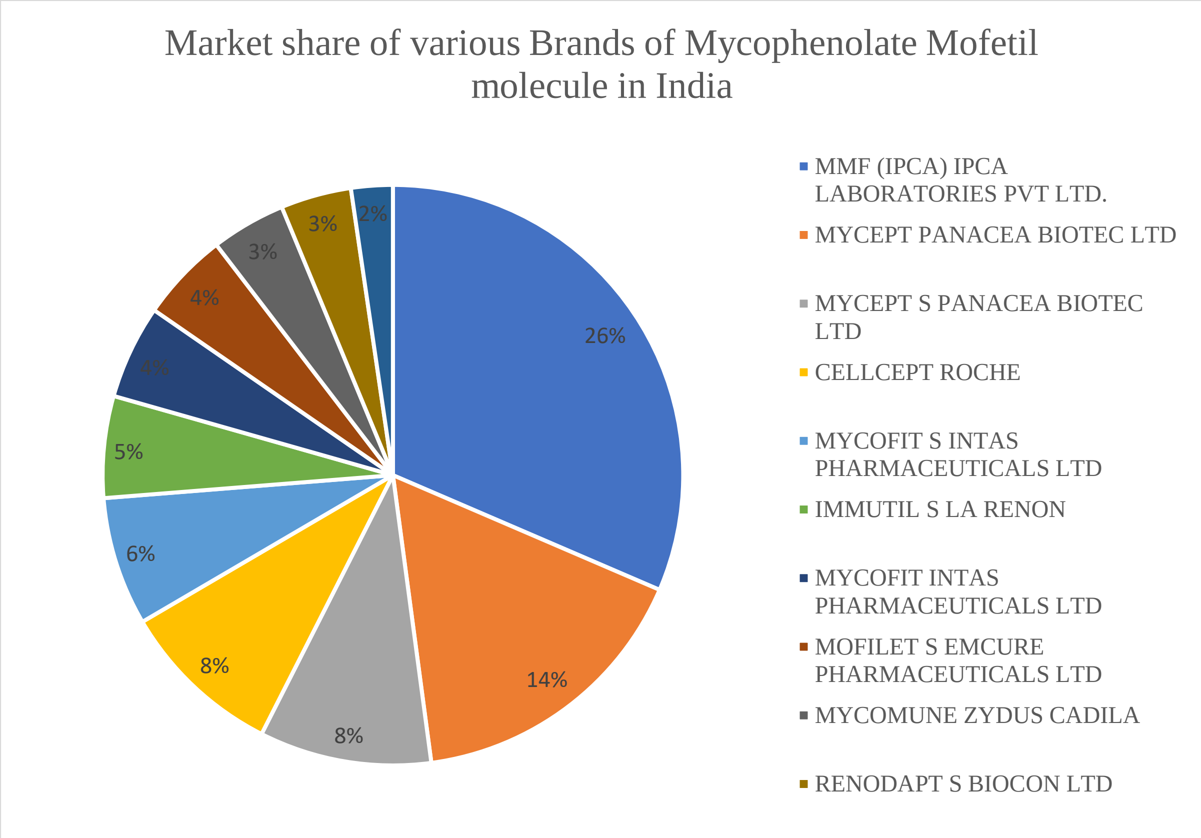
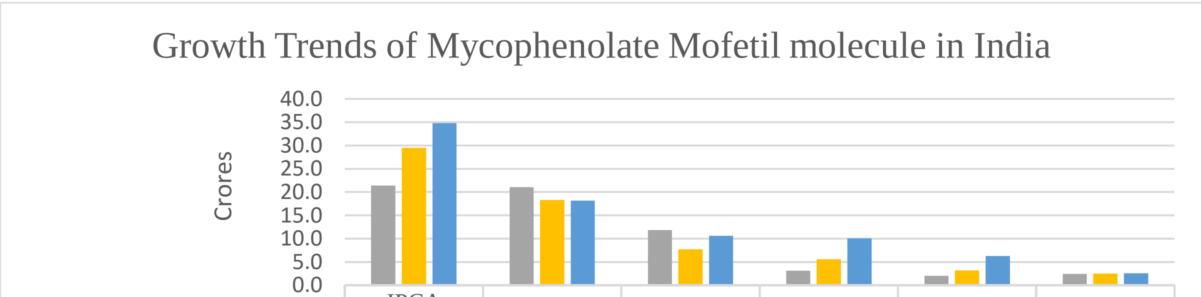


Figure 40: - The figure shows market share of different brands of Mycophenolate mofetil molecule in India Siromus brand of Zydus cadila having maximum share 35% followed by the Rapacan of having 25% and Raparen of La renon having 9% market share in India.



	IPCA LABORATORIES PVT LTD. MMF (IPCA)	PANACEA BIOTEC LTD MYCEPT	PANACEA BIOTEC LTD MYCEPT S	ROCHE CELLCEPT	LA RENON IMMUTIL S	LA RENON IMMUTIL
Sum of MAT VAL APR 18	21.4	21.0	11.9	3.1	2.0	2.5
MAT VAL APR 19	29.5	18.3	7.7	5.6	3.2	2.5
MAT VAL APR 20	34.8	18.1	10.6	10.1	6.3	2.6

Sum of MAT VAL APR 18 MAT VAL APR 19 MAT VAL APR 20

Figure 41: - The figure about the growth of the various brands in that MMF show progressive growth Mycept shows Slight decline growth and Immutil is showing progressive growth.

<u>Valganciclovir</u>

BRAND	COMPANY	MAT VAL GR APR 20	Market share
VALGAN	CIPLA LTD.	-30.5	36%
VALCHEK	LA RENON	610.5	19%
CYMGAL	BIOCON LTD	66.9	16%
VIROLFI	ZYDUS CADILA	-84.6	13%
VALSTEAD	STEADFAST MEDISHIELD PVT LTD	28.0	5%
VALCIP	CIPLA LTD.	345.1	5%
EMVAL	EMCURE PHARMACEUTICALS LTD	304.8	2%
CMVEE	RPG LIFE SCIENCES LTD.	-41.8	1%
VALGACEL	INTAS PHARMACEUTICALS LTD	-44.2	0%
VAGACYTE	PANACEA BIOTEC LTD	-60.5	0%
VALNICHE	ALNICHE LIFE SCIENCES PVT.LTD	-100.0	0%
VALCYTE	ROCHE	-100.0	0%
VALCEPT	CIPLA LTD.	0.0	0%

Table 22: - The table contain the various brands Valganciclovir molecule and their growth rate in 2020 and market share in which Cipla Ltd. having a maximum share and Larenon have 19% market share in India.

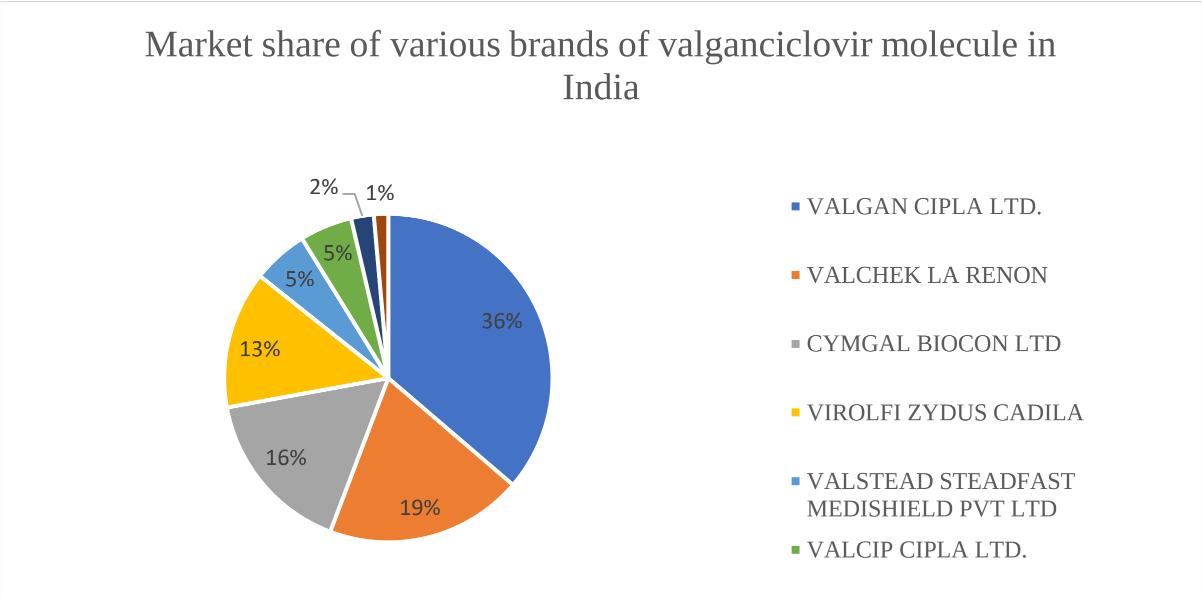


Figure 42: - The figure shows market share of different brands of Valganciclovir molecule in India Valgan brand of Cipla ltd having maximum share 36% followed by the Valchek of having 19% of La renon having market share in India.

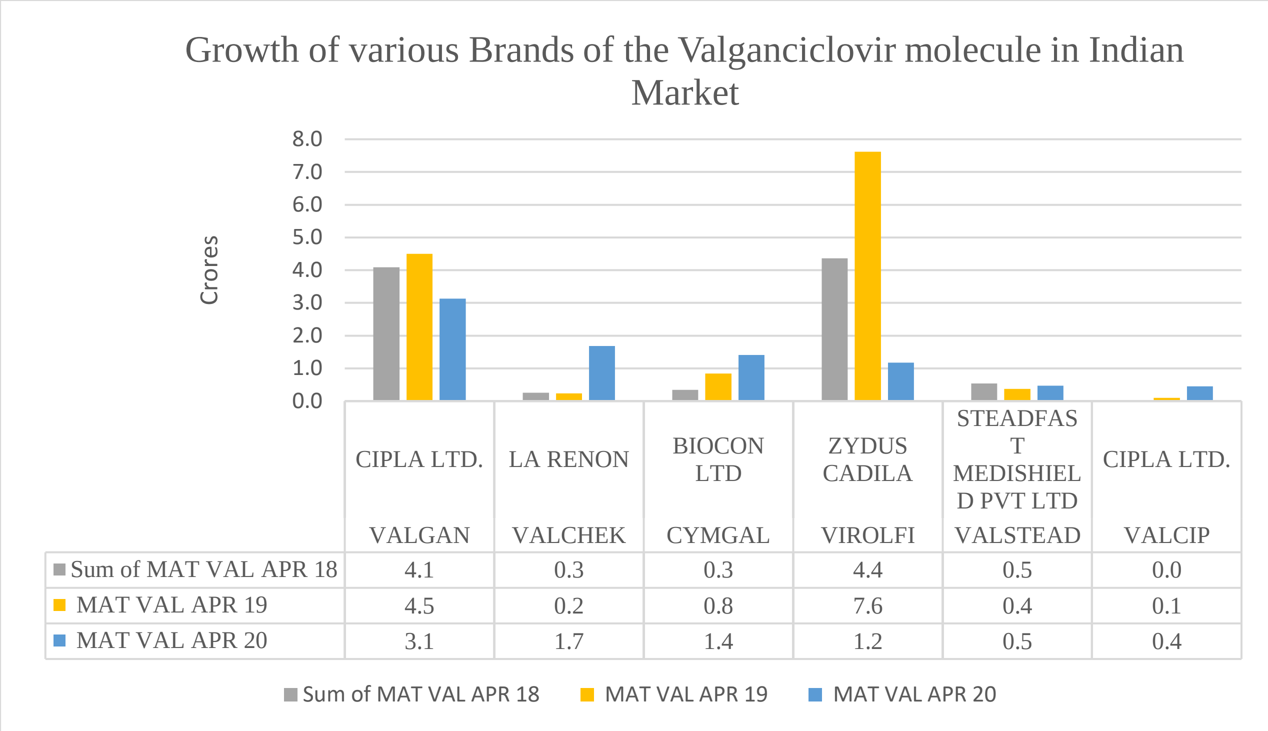


Figure 43: - The figure about the growth of the various brands in that Valgan show decline in growth Valchek shows progressive growth and Cymgal is showing progressive growth.

<u>Renal Nutrition Segment Analysis</u>

<u>Calcium D3 combination molecules</u>

BRAND	COMPANY	MAT VAL GR APR 20	Market Share
CELIZAREN	LA RENON	54.1	74%
COS 3	DELCURE LIFE SCIENCES		13%
DAILYFOL RF	GODDRES PHARMACEUTICALS LTD	3.7	12%
DELIVATE	AKESISS PHARMA (P) LTD		1%

Table 23: - The table contain the various brands of Calcium D3 combination molecule and their growth rate in 2020 and market share in which having a maximum share of La renon in India.

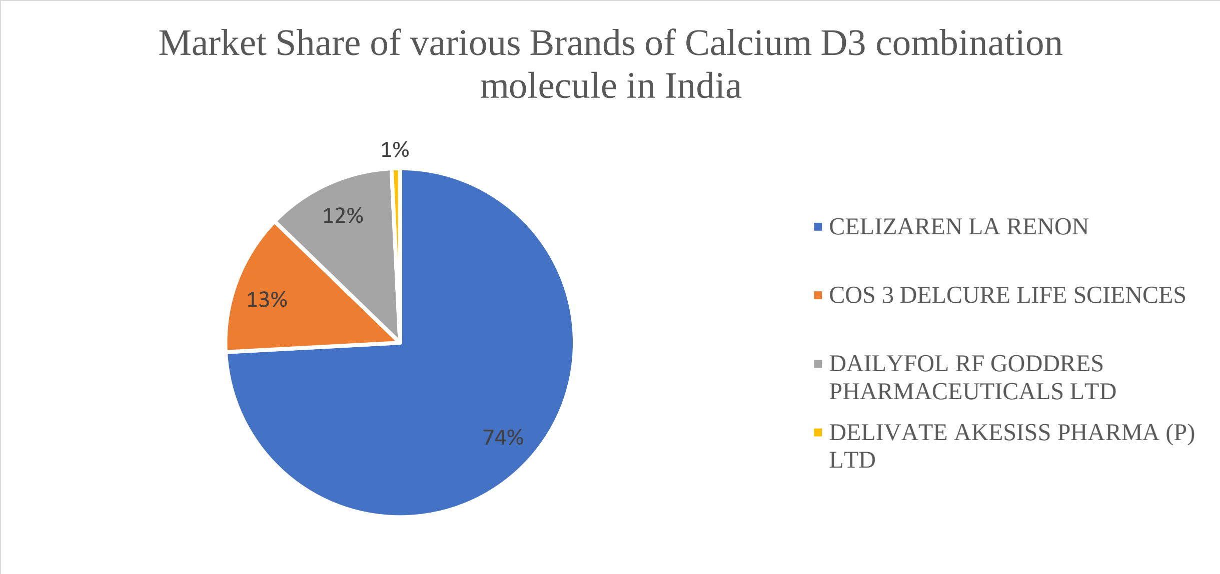


Figure 44: - The figure shows market share of different brands of Calcium D3 combination molecule in India Celizaren brand of La renon having maximum share 74% followed by the Cos 3 having 13% of Delcures market share in India.

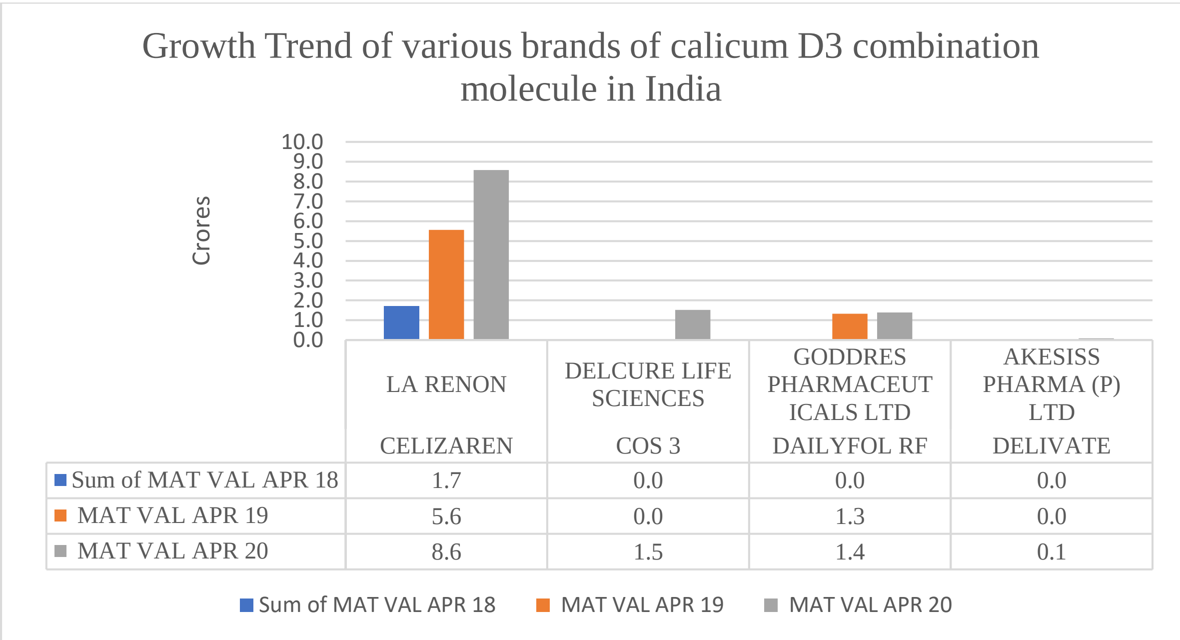


Figure 45: - The figure about the growth of the various brands in that Celizaren show progressive growth Cos 3 shows progressive growth and Dailyfol RF is showing progressive growth.

Amino Acid standard solution

BRAND	COMPANY	MAT VAL GR APR 20	Market share
ALAMIN SN	ALBERT DAVID	13.0	26%
AMINOVEN	FRESENIUS KABI INDIA PVT LTD	8.3	16%
ASTYMIN	TABLETS INDIA LTD	3.7	14%
HERMIN	ALEMBIC LTD	-10.8	12%
AMINOWEL	FRESENIUS KABI INDIA PVT LTD	13.8	12%
LAMINO NEPHRO	LA RENON	36.0	7%
AMINOVEN INFANT	FRESENIUS KABI INDIA PVT LTD	-7.8	7%
ASTYMIN SN	TABLETS INDIA LTD	23.8	4%
COMBIKLAS	ALNICHE LIFE SCIENCES PVT.LTD		1%
LAMINO PLUS	LA RENON	33.6	1%

Table 24: - The table contain the various brands of Amino acid standard solutions molecule and their growth rate in 2020 and market share in which having a maximum share of Albert David in India and la renon having 7% market share in India.

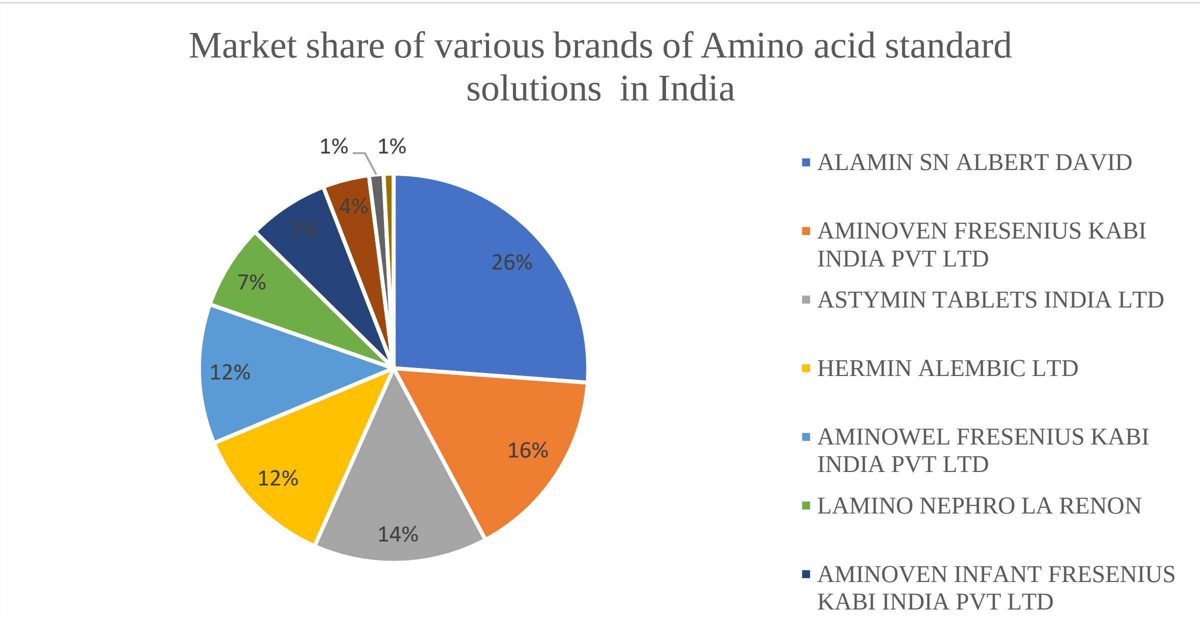


Figure 46: - The figure shows market share of different brands of Amino acid standard solution molecule in India Alamin brand of Albert David having maximum share 26% followed by the Aminoven having 16% of market share a Lamino of La Renon is having 7% market share in India.

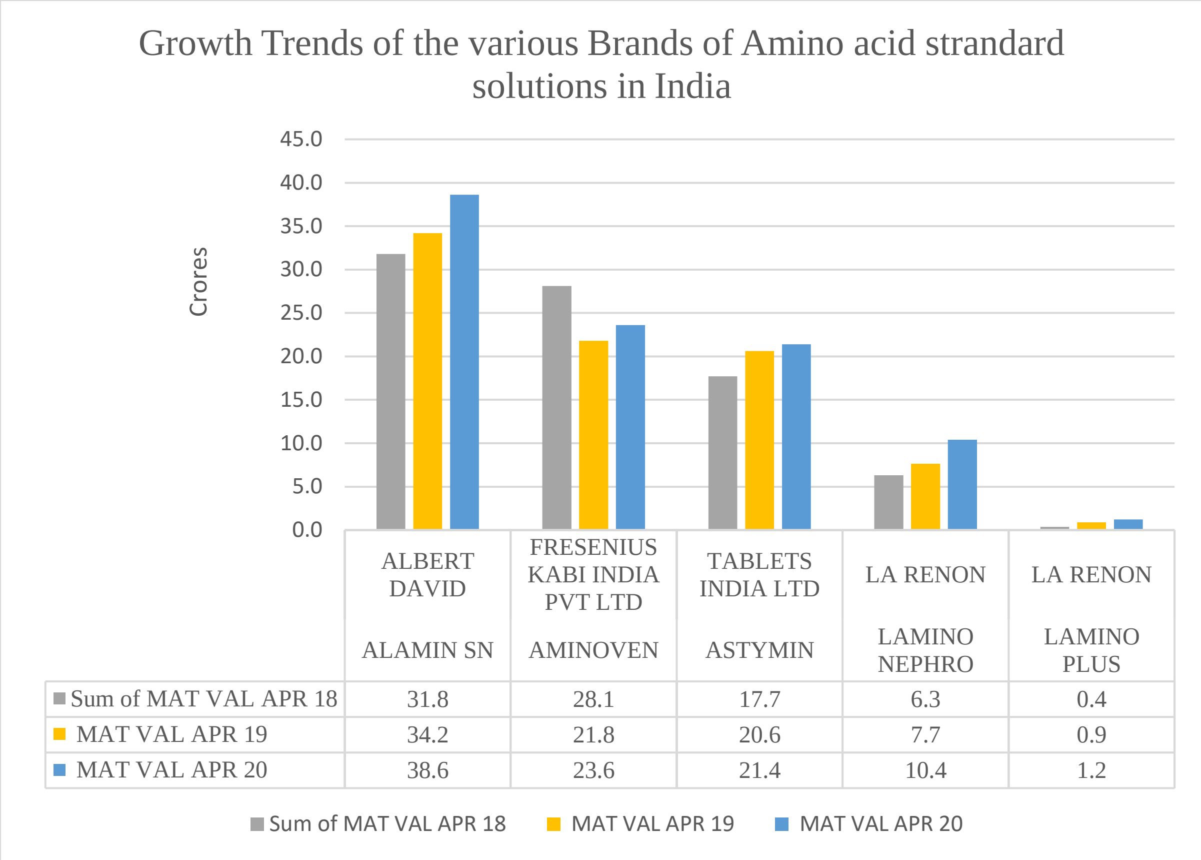


Figure 47: - The figure about the growth of the various brands in that Alamin show progressive growth Astymin shows progressive growth and Lamino is showing progressive growth.

<u>Lactoferrin combination molecule</u>

BRAND	COMPANY	MAT VAL GR APR 20	Market share
NEURONOMIC	LA RENON	112.6	68%
FERRONEMIA	LA RENON	110.2	24%
FERRONEMIA PLUS	LA RENON		8%

Table 25: - The table contain the various brands of Lactoferrin molecule and their growth rate in 2020 and market share in which having a maximum share of La Renon in India.

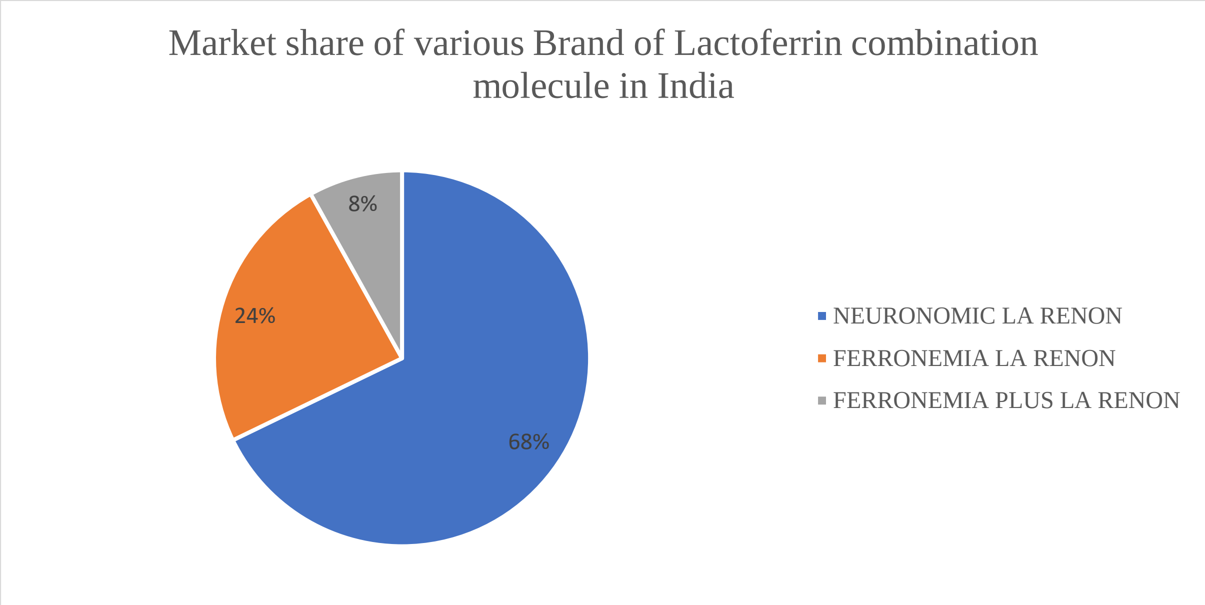


Figure 48: - The figure shows market share of different brands of Larenon in that Neuronomic has 68%of market share.

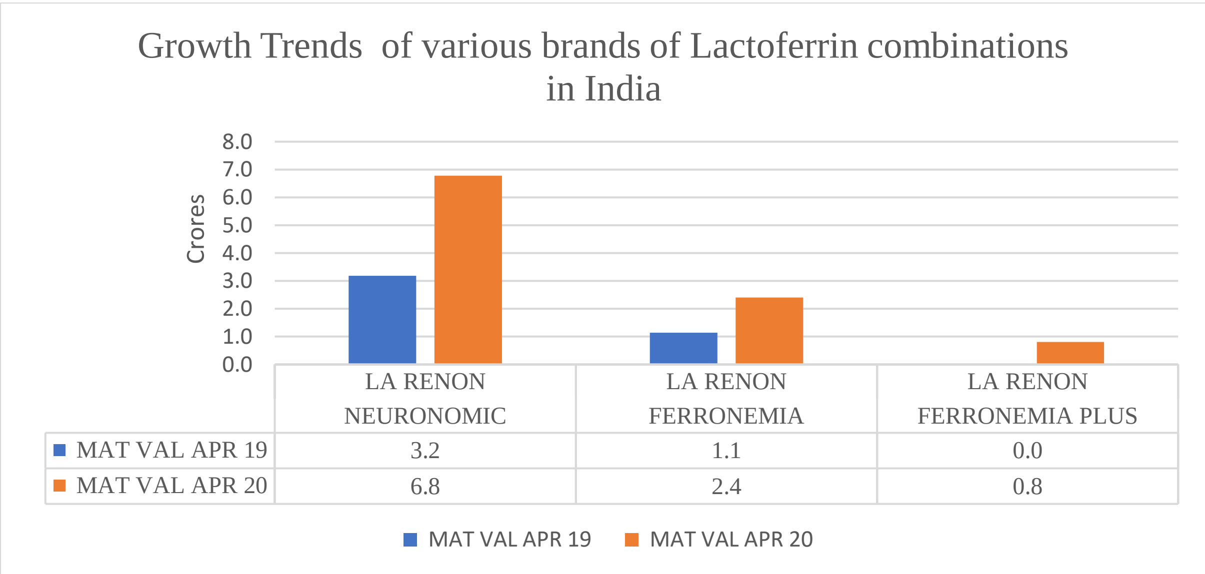


Figure 49: - The figure about the growth of the various brands in that Neuronomic show progressive growth Ferronemia shows progressive growth and Ferronemia plus is showing progressive growth.

Company profiles of various companies in CKD market

Alniche Lifesciences Private

- Alniche Lifesciences Private Limited is a Private incorporated on 09 November 2012. It is classified as Non-govt company and is registered at Registrar of Companies, Delhi. Its authorized share capital is Rs. 10,100,000 and its paid-up capital is Rs. 551,600.
- Launch the Nephrology division in 2010
- It is one of top companies in Nephrology segment. And other segment is gastroenterology, critical care, Nutritional segments.
- There are many product include in category of the Haemodialysis, Renal nutrition, Transplant etc.

Emcure pharmaceutical private limited

- Company incorporated in Emcure pharmaceutical private limited in April 16 1981.
- It is one of top companies in Nephrology segment. And other segment is gastroenterology, Nutritional segments.
- There are many products include in category of the Haemodialysis, Renal nutrition, Transplant etc.

BioKindle

- Company established in 2015
- It is one of top companies in Nephrology segment. And other segment is gastroenterology, Nutritional segments.
- There are many products include in category of the Haemodialysis, Renal nutrition, Transplant etc.

Dr, Reddy's

Dr. Reddy's commenced its generics business in India in 1986 and is today a trusted name in the healthcare industry consistently serving the needs of millions of patients with high quality, affordable and innovative medicines across therapy areas.

Over the years, the company has significantly grown its portfolio of products across mass and specialty therapies. Today, our portfolio has over 200 products covering the whole spectrum of disease areas spanning gastroenterology, oncology, pain management, cardiovascular, dermatology, urology, nephrology, rheumatology and diabetes. Seven of our brands are listed in "Top-300 of the Indian Pharma Market" and many others hold leadership positions in their respective categories.

Our Nephrology portfolio is characterized by Cresp - the first generic Darbepoetin Alfa in the world. The biosimilar was developed in-house, in line with our purpose of providing affordable and innovative medicine.

Panacea Biotech

Panacea Biotec is an Innovation driven Biotechnology company doing Research and Development, Manufacturing, Sales, Distribution and Marketing of Pharmaceuticals, Vaccines and Biosimilars.

Panacea Biotec was set up in the year 1984.

The product portfolio includes highly innovative prescription products in niche therapeutic areas such as Pain Management, Diabetes & Cardiovascular management, Oncology, Renal Disease management, Osteoporosis management, Anti-tubercular, Gastro-intestinal care products and Vaccines.

Our current business stems from our leadership segments in India i.e. Transplant, Nephrology, Diabetes & Pain with some exclusive products based on patented Drug Delivery Systems.

Market Future trends and opportunities

Todays there are many innovative treatments of the Chronic kidney disease are present to address problems of patients the role of technology is also playing great role in the discovering the treatments and novel drugs.

- The human genome study is also used to find the major cause of the Chronic kidney disease and by the help of molecular level studies the exact cause of disease is identified and treated according to that the Biomarker is also play an important role in it.
- The new model systems include 3D bioprinting and organs-on-chips use to detect and prevent the Chronic kidney diseases
- One emerging treatment strategy is to target protein expression using antisense oligonucleotides (ASOs). These are short chains of nucleotides that bind to mRNA, thereby modulating protein expression.
- Antisense-based drug discovery platform is a rapid and efficient route to use genomic information to make novel drugs,
- Use of Innovative product like Human Nephron Filter (HNF), Wearable Artificial Kidney (WAK) are encouraged.
- Xenotransplants are also used in future treatment of kidney diseases.
- Use of certain drugs which help to prevent progression of kidney diseases is prevent through various mechanisms like Aldosterone antagonist, Receptors inhibitors of tyrosine kinase growth factor, Activation of kinine receptors and, consequently, inhibition of angiotensin conversion enzyme.
- There were huge opportunities for new drugs which work on the root cause of the progression of the Chronic kidney disease.
- Development of Biosimilars.
- Development of Cell Therapy based treatments.

Market strategy for the Renal Medicine - Renolog

Introduction

In Chronic kidney patients while treating them with conservative therapy wide range of medicine used to decrease the progression of Chronic kidney disease. the conservative treatment is not only by the medicine but include the change in the life style which diet modification is having major role in slow down the progression of Chronic kidney disease. there are many major problems are associated with the diet modification it includes like malnutrition, decline level of protein in body etc. To address this problem the medicine called alpha ketoanalogues used with low protein diet to rectifies problem up to certain extents.

Introduction to Alpha keto Analogues

Among advanced Chronic Kidney Disease patients that followed Low protein Diet, Keto Analogue supplementation at an appropriate dosage which may substantially reduce the risk of initiating long-term dialysis. Keto Analogues supplementation represents an additional therapeutic strategy to slow the progression of CKD.

Mechanism of Action

Alpha Ketoanalogue belongs to a class of drugs called nutritional supplements. It follows same catabolic pathways as amino acids and works by improving the metabolism of protein in the body, thereby improving the renal function.

About the Product

- Renolog Tablet -(10Tablet in a strip)
- Price- Rs-374
- Launch Date – January 2011

Product Detail

- Renolog is a golden yellow pearl coated tablet containing a combination of 5 alpha keto amino acids.

Ingredients

Aka to isoleucine	67mg	L-lysine HCL	75mg
Aka to leucine	101mg	L-Histidine	38mg
Aka to Phenylalanine	68mg	L-Threonine	53mg
Aka to valine	86mg	L-Tryptophan	23mg
Aka methionine	59mg	L-Tyrosine	30mg
Total Nitrogen	36mg/tab		
Total Calcium	50mg/tab		

Indication - Chronic Kidney patient

Objective

- To promote and establish that Alpha ketoanalogous has better results in treatment of Chronic kidney patients as compared to other traditional drugs.
- To establish that use Alpha ketoanalogous will help to reduce economic burden and most economical as compared to any other treatment option.
- To make and sustain Renolog as market leader.

Data Analysis

Q.1 Doctor how many patients of Chronic kidney disease is diagnosed in a day?

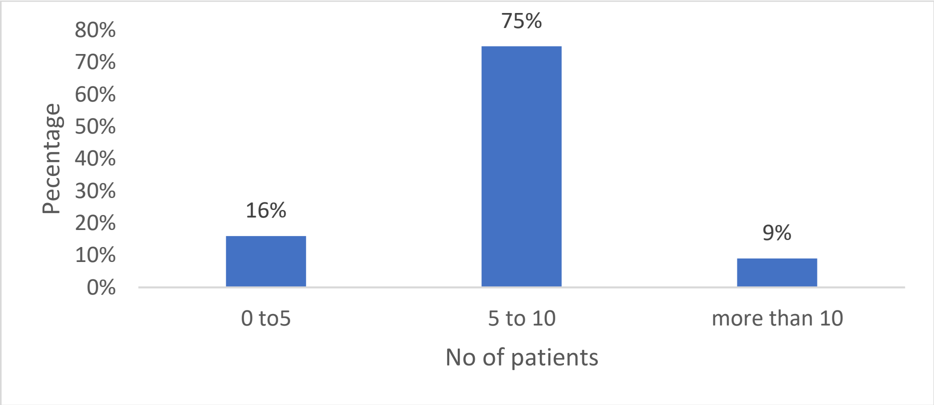


Figure 50: - The figure shows about 75% doctor diagnose 5-10 patient in a day followed by 16% doctors diagnose the 0 to 5 patient a day and only 9% doctor diagnose above 10 patients in a day.

Q.2 What are different type of conservative treatment you use for the management of Chronic kidney disease?

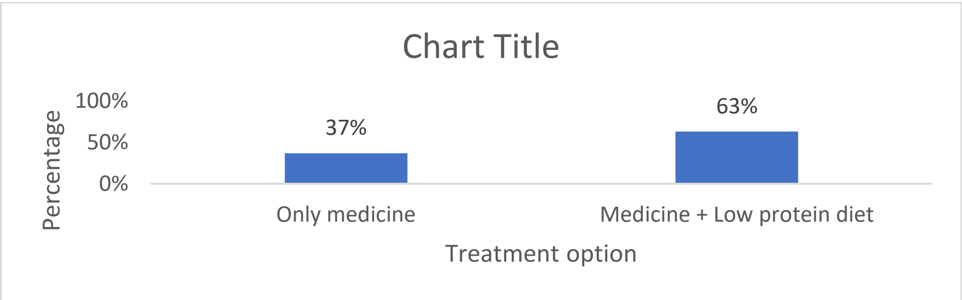


Figure 51: - The 63% doctors use Medicine + Low diet option in their treatment.

Q.3 Which type of medicine you prefer in the management to prevent the progression Chronic kidney disease along with low protein diet and also to maintain the health of patient?

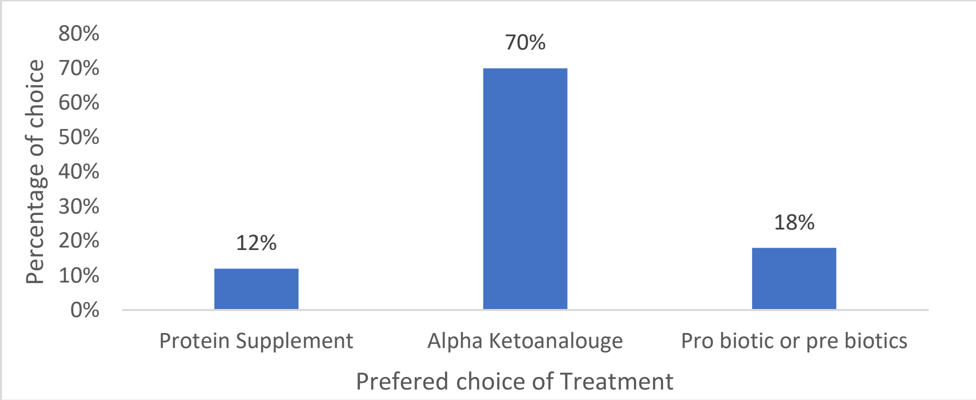


Figure 52: - The 70% doctors use Alpha ketoanalouge in their treatment.

Q.4 Which Brand do you Prefer most among Alpha ketoanalouge?

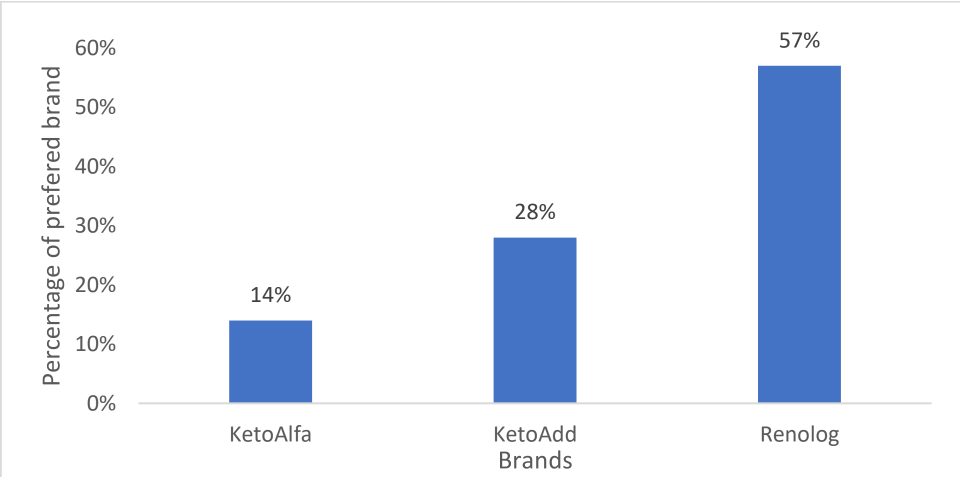


Figure 53: - The doctors pefer57% Renolog Brand followed by 28% ketoadd brand and 14% ketoAlfa brand Alpha ketoanalouge in their treatment.

Q.5 Are you satisfied by current option of treatment?

Figure 54: - The figure shows that 80% doctors are satisfied with the treatment.

Q.5 Would the use of Alpha keto analogue helped in decrease the frequency of dialysis and delayed the progression of Chronic kidney diseases.

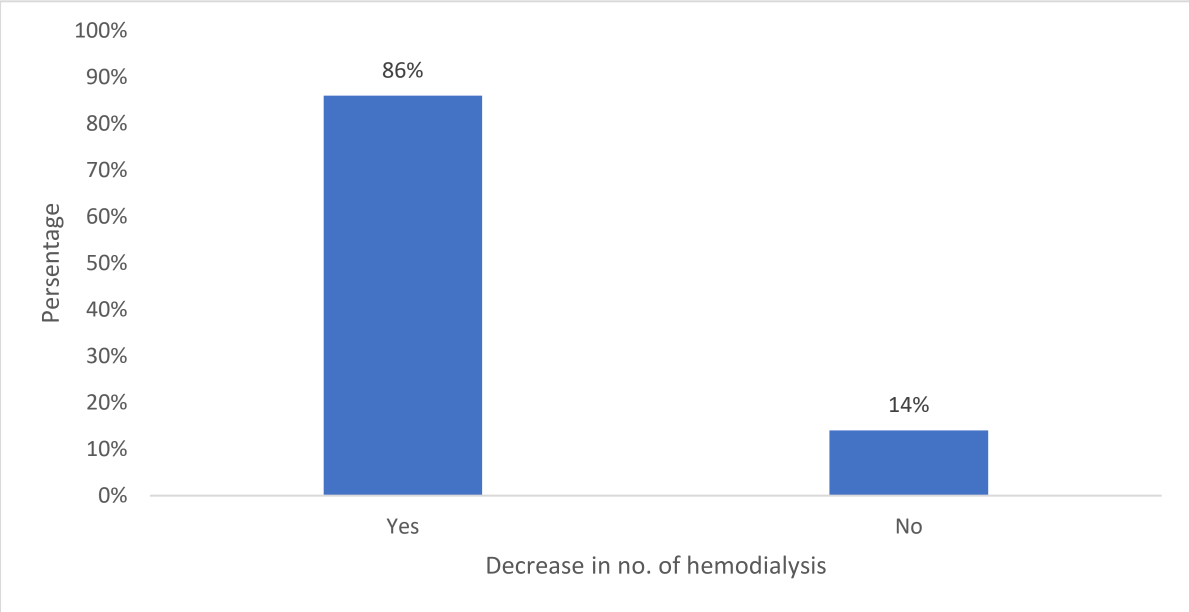


Figure 55: - the figure shows 86% doctors says yes it will reduce the cost of treatment and result as economical for patients.

Q.6 Would you like to continues the use of Alpha ketoanalouge in your treatments?

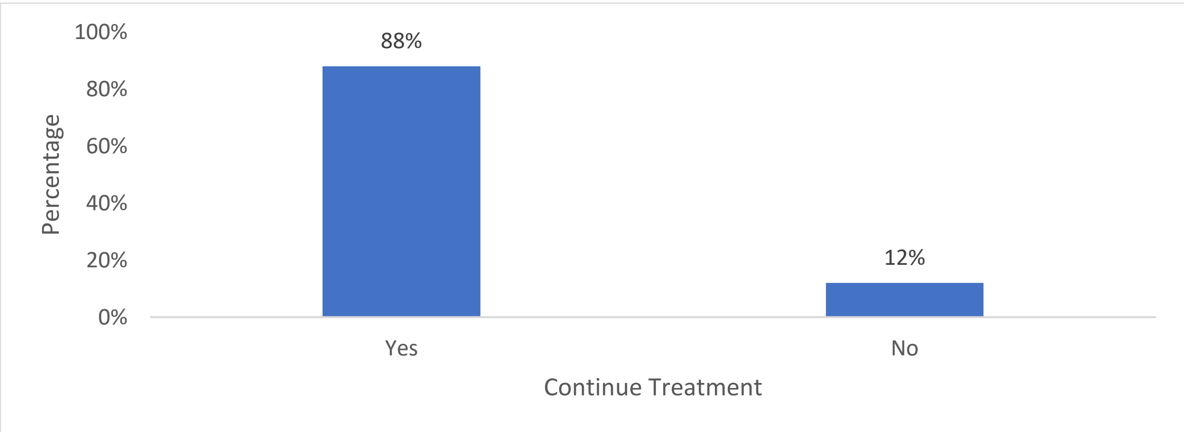


Figure 56: - The 88% doctors use Alpha ketoanalouge in their treatment.

Competitor Analysis

Major Brands of Alpha ketoAnalogues in the Indian Market.

BRAND	COMPANY	MAT VAL GR APR 20	Market share
RENOLOG	LA RENON	26.9	57%
KETOADD	SUN PHARMA LABORATORIES LTD.	30.3	22%
KETOALFA	ALNICHE LIFE SCIENCES PVT.LTD	-27.4	11%
RENOALFA	ALNICHE LIFE SCIENCES PVT.LTD	55.8	4%
IMPULOG	LA RENON	4843.2	2%
APLAZAR	STEADFAST MEDISHIELD PVT LTD	100.9	2%
RENHOLD	PANACEA BIOTEC LTD	-62.1	1%
RENCHEK	INTAS PHARMACEUTICALS LTD	-27.2	1%
KETOHUNT	ANTHEM BIOPHARMA PVT LTD	83.2	1%
KETOFIX	EMCURE PHARMACEUTICALS LTD	374.8	0%

Table 26: - The table contain the various brands of_Alpha ketoanalogue with essential amino acids the molecule and their growth rate in 2020 and market share in which La Renon having a maximum share.

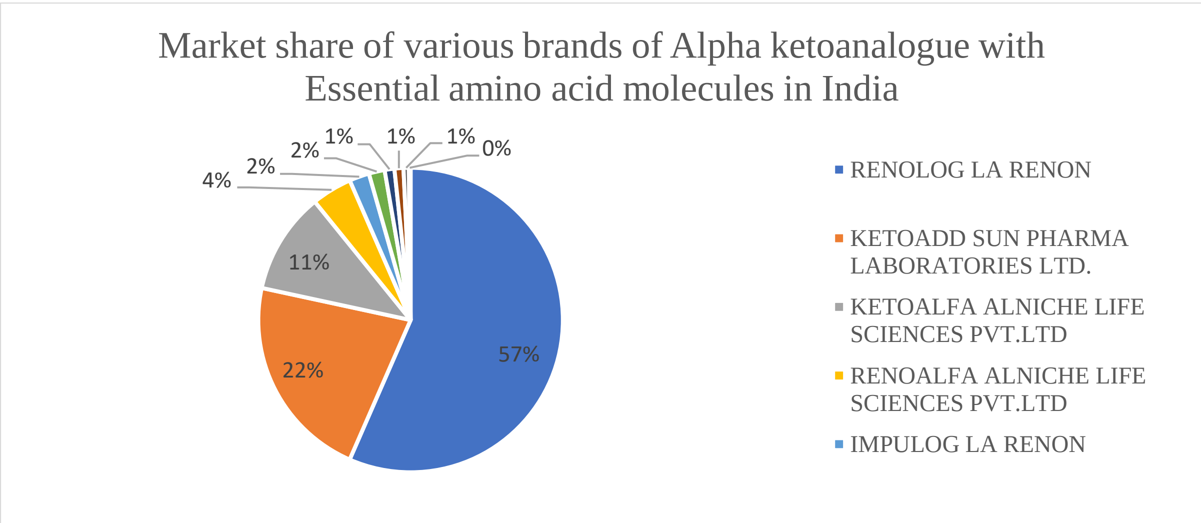
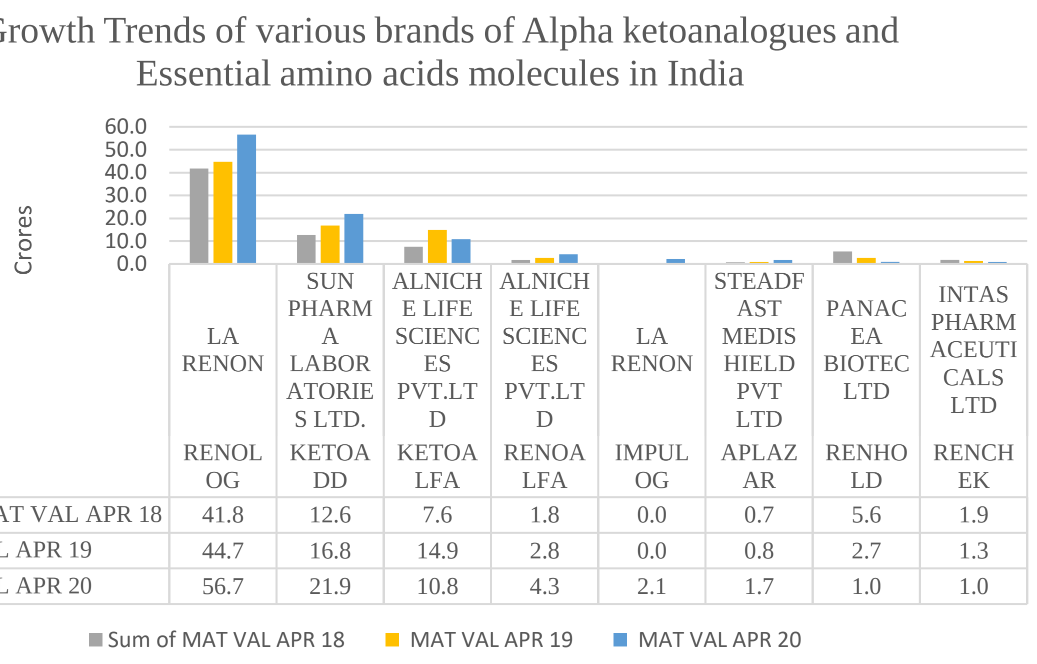


Figure 57: - The figure shows market share of different brands of Alpha ketoanalougue molecule in India Renolog brand of La renon having maximum share 57% followed by the Ketoadd brand of having 22% market share in India.



	LA RENON	SUN PHARMA LABORATORIES LTD.	ALNICHE LIFE SCIENCES PVT.LTD	ALNICHE LIFE SCIENCES PVT.LTD	LA RENON	STEADFAST MEDISHIELD PVT LTD	PANACEA BIOTEC LTD	INTAS PHARMACEUTICALS LTD
	RENOLOG	KETOADD	KETOALFA	RENOALFA	IMPULOG	APLAZAR	RENHOLD	RENCHEK
Sum of MAT VAL APR 18	41.8	12.6	7.6	1.8	0.0	0.7	5.6	1.9
MAT VAL APR 19	44.7	16.8	14.9	2.8	0.0	0.8	2.7	1.3
MAT VAL APR 20	56.7	21.9	10.8	4.3	2.1	1.7	1.0	1.0

Figure 58: - The figure about the growth of the various brands in that Renolog show progressive growth ketoadd is also in progressive growth phase and Ketoalfa is showing Fluctuating growth.

<u>Communication Task</u>

- Target Audience: Nephrologist and Nephrophysician
- Desired Behaviour: Use Renolog in management to prevent the Chronic Kidney diseases

Consumer Behaviour	**Desired Behaviour**
Haemodialysis is mostly followed	Establishing the use of Alpha ketoanalouges is more economical and reduces the cost of therapy
Only low diet	Establishing the use of Alpha ketoanalouges help in the delaying Kidney problem

SWOT Analysis

Strength

- Address the co-morbid condition
- Recommended product

Weakness

- Price
- Hypercalcemia

Renolog

Opportunities

- Large Market
- Well Acceptance
- Expansion in product

Threats

- More market players

Suggestion

- Monthly meeting the doctors with the reference material and samples
- Round table meeting is conducted with the KOLs and well-known doctors at regular intervals and their suggestion should be taken up for the promotion of products.
- Providing the brand related schemes to doctors
- To distribute the pamphlets that shows normal exercise and information of healthy diet
- Provide scientific studies related article and information regularly to doctor
- Brand based activities like providing doctors customized inputs
- Digital videos of doctors of well-known in the segments is shown which contain message about product
- The product can be launched with the compounds like Nigella sativa oil which can more effective than present
- More use of technology and digital marketing will give more better result than present one.
- Use of digital platforms encouraged for the promotion of products where sales team member can’t able to reach doctors.
- Give subscription of various medicine related journals to the doctors which help them to get updated about the product and help them to update knowledge.

Study the Role of Uremic Toxins in Progression of CKD and Market Potential of Products used for Elimination Uremic Toxins in India.

Introduction

The uremic syndrome is attributed to the progressive retention of a large number of compounds which, under normal conditions, are excreted by healthy kidneys. The compounds are called uremic toxins when they interact negatively with biological functions. Recent experimental studies have shown that protein-bound toxins are involved not only in the progression of chronic kidney disease (CKD), but also in the generation and aggravation of cardiovascular disease. Two protein-bound uremic retention solutes, namely indoxyl sulfate and *p*-cresyl sulfate, have been shown to play a prominent role.

Classification of Uremic Toxin

The uremic toxins can be classified according to their molecular weight (MW) and their protein-binding ability, the most convenient classification being

Molecules	Molecular weight	Example
Small water-soluble compounds	<500 Da	Urea, asymmetric dimethylarginine, creatine, creatinine, guanidine, hypoxanthine, uric acid, and oxalate
Protein-bound solutes	Variable	p-cresol, phenol, 3-deoxyglucosone, hippuric acid, indoxyl sulfate, melatonin, leptin, retinol-binding protein, and homocysteine
Middle molecules	>500 Da	β_2-microglobulin, parathyroid hormone, and advanced glycosylation end products

The major protein bound solutes which are responsible for the Progression of Chronic Kidney disease are identified as: -

Name	Source	Class
Indoxyl sulfate	Tryptophan	Protein-bound
Indole-3 acetic acid	Tryptophan	Protein-bound
p-cresyl sulfate	Phenylalanine, tyrosine	Protein-bound
Trimethylamine N-oxide	Choline, L-carnitine, PTC	Water-soluble
Phenylacetylglutamine	Phenylalanine	Water-soluble

CKD indicates chronic kidney disease; CVD, cardiovascular disease; PTC, phosphatidylcholine.

Table 27: - the table contain major protein bound uremic toxin.

<u>Role of various toxin progression in CKD</u>

The protein Bound toxin which not only responsible for the progression of Chronic kidney disease but also responsible for the Cardiovascular disease the three compounds mainly Indoxyl Sulfate, Indole -3 acetic acid and p-cresyl sulfate are major role progression of kidney disease.

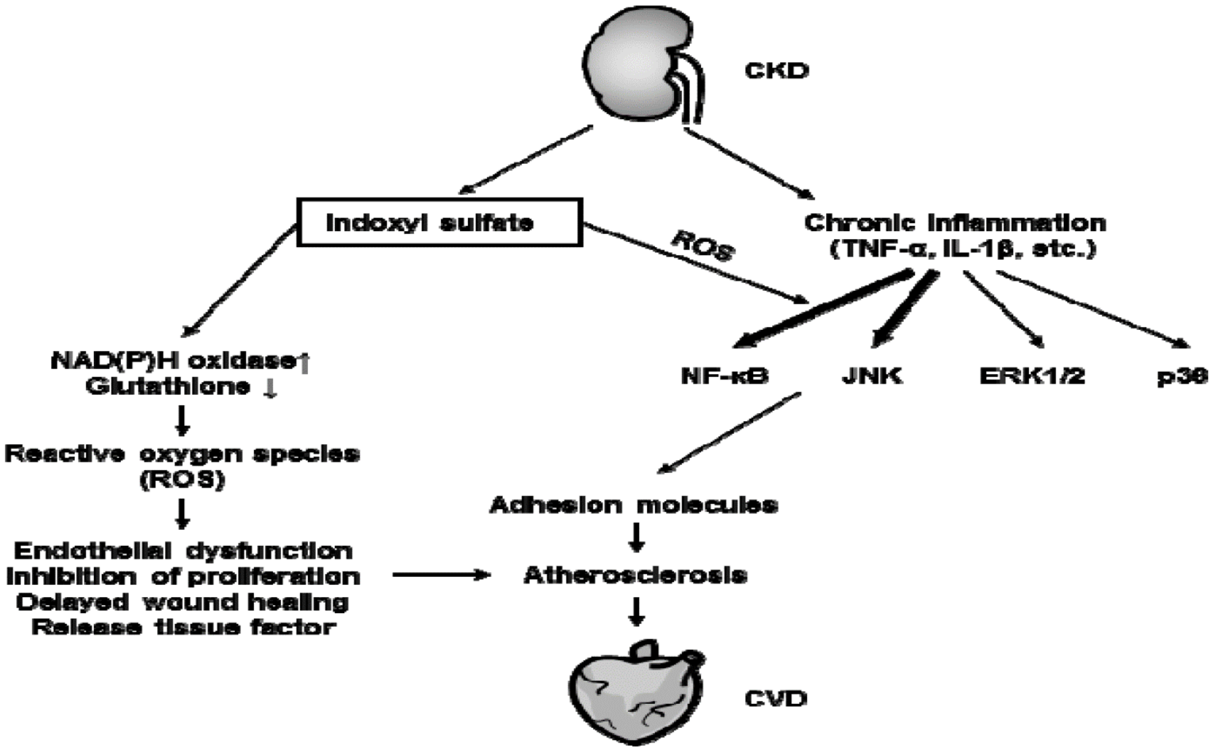
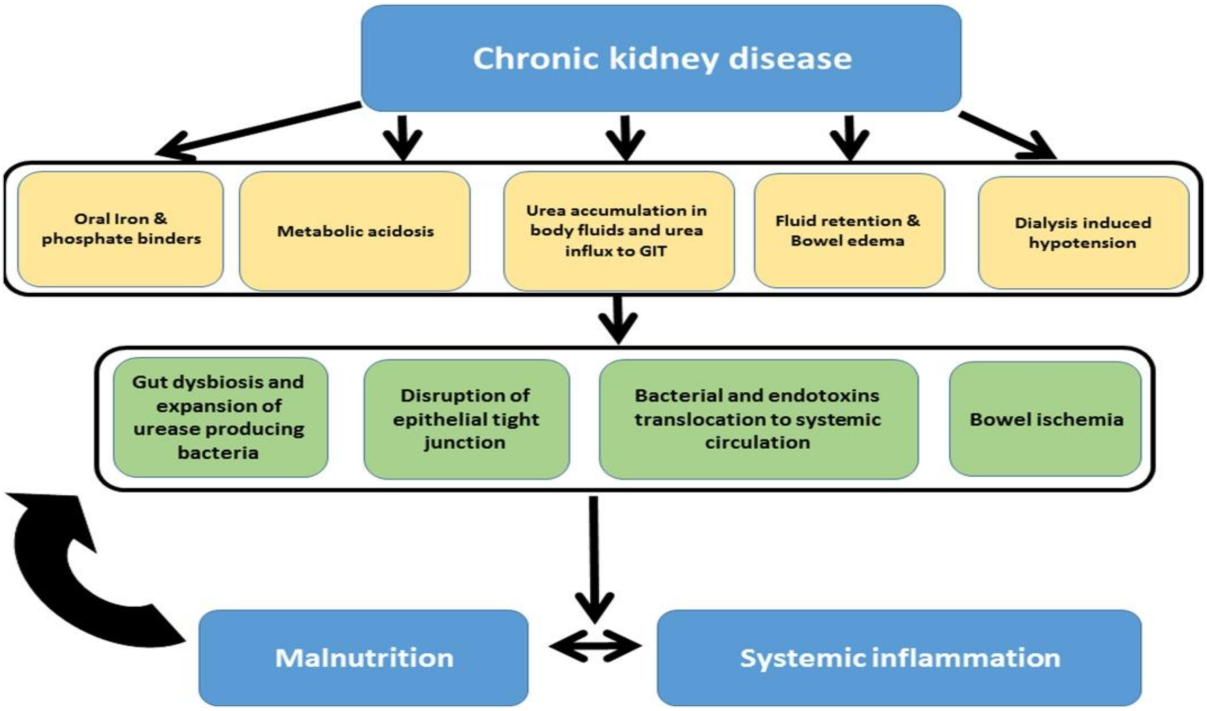


Figure 59: - the figure shows about the effect of uremic toxin in body



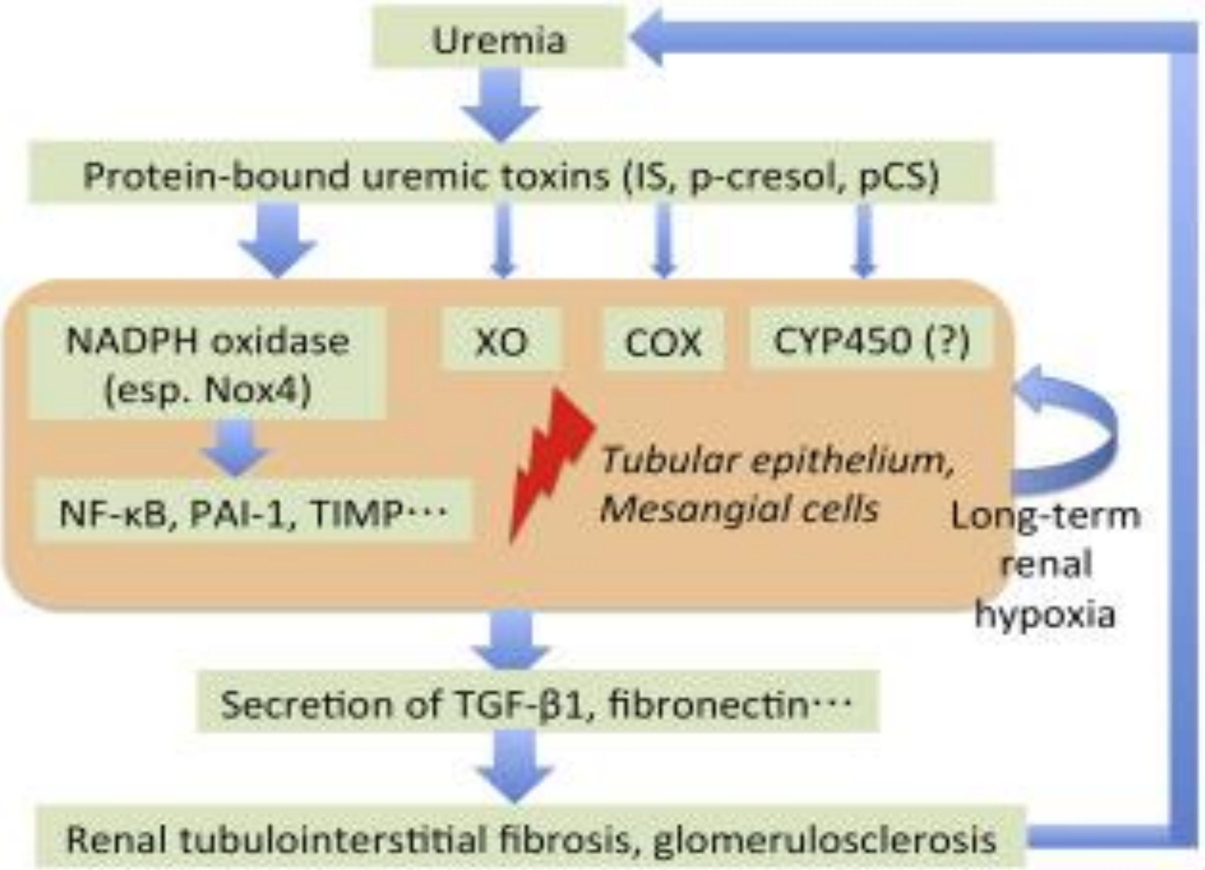


Figure 60: - The figure shows effect of uremic toxin could lead to progression of kidney disease.

Treatment

The current treatment is mainly advised by the physicians is Haemodialysis but still the protein bound uremic toxin would remain in the body and accumulate to prevent this the doctors would adviced for the conservative treatment such as

- Low protein diet
- AST 120
- Probiotic and pre biotics

Still the use of above therapy in treatment the physicians only treat condition upto a certain and treat the traditional factors but major cause remains untreated. Some of the major products are in the uremic toxin market

BRAND	COMPANY	MAT VAL GR APR 20	Market share
BIFILAC	TABLETS INDIA LTD	-1.4	13%
VIBACT	USV PVT LTD	5.2	9%
VSL 3	SUN PHARMA LABORATORIES LTD.	6.2	7%
LACTOGUT	STRIDES SHASUN LIMITED	8.8	5%
PROVIDAC	ZYDUS CADILA	-2.4	5%
LACTOVIT	STRIDES SHASUN LIMITED	-5.1	5%
CUDO	LA RENON	5.8	3%
VIZYLAC RICH	TORRENT PHARMACEUTICALS LTD.	1.9	3%
ENTROFLORA	MACLEODS PHARMACEUTICALS PVT.LTD	12.3	2%
VELGUT	ERIS LIFESCIENCES LTD	2.8	2%

Table 28: - The table contain the various brands of Probiotic microbes the molecule and their growth rate in 2020 and market share in which Tablet India having a maximum share.

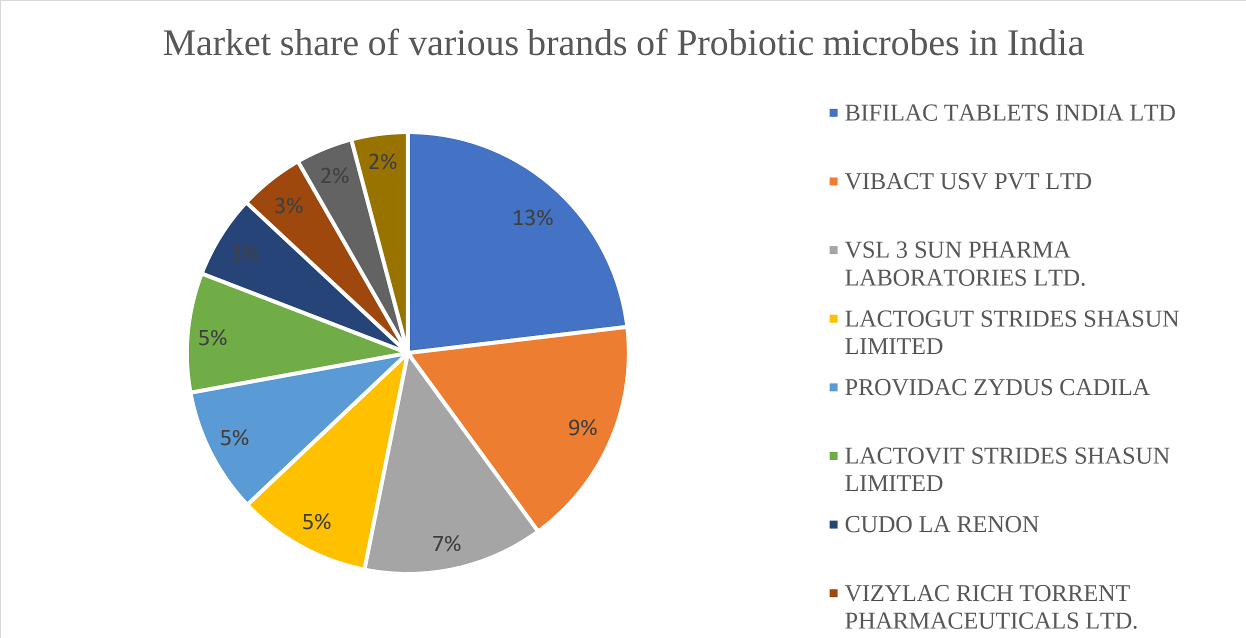
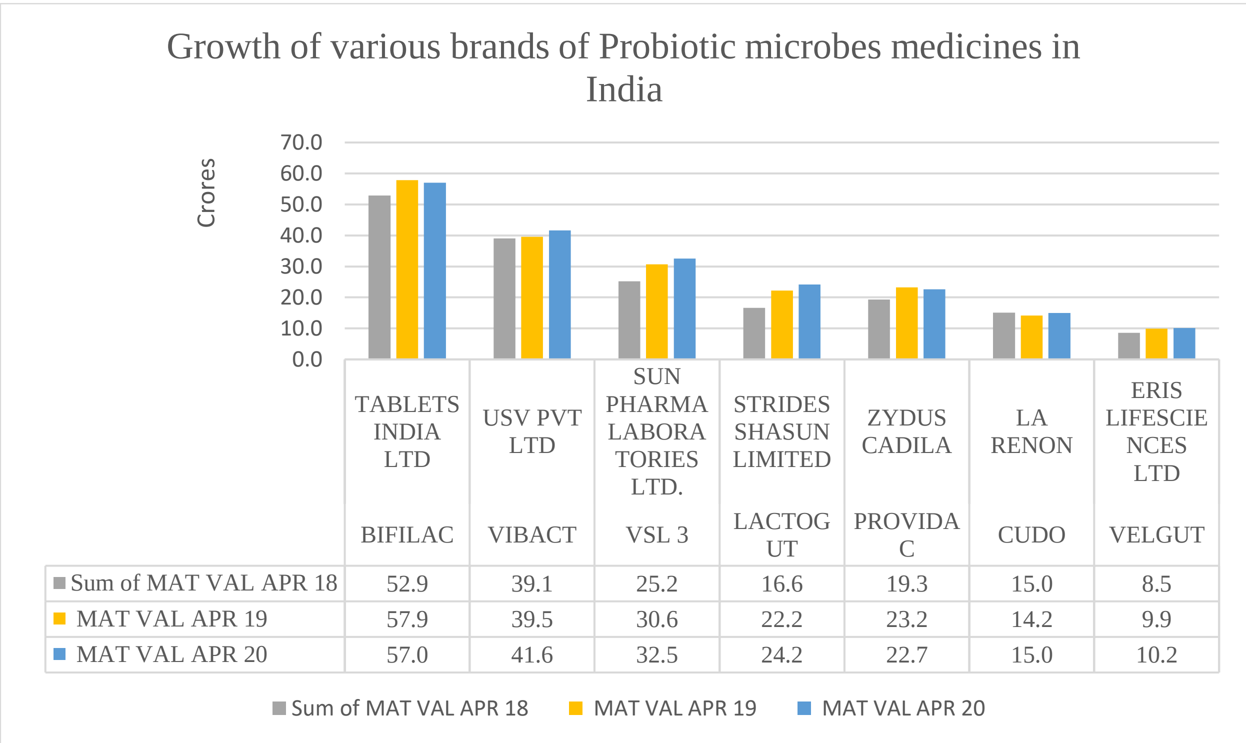


Figure 61: - The figure shows market share of different brands of Probiotic in that Bifilac brand of Tablet India having maximum share 13% followed by the Vibact brand of having 9% market share in India.



	TABLETS INDIA LTD BIFILAC	USV PVT LTD VIBACT	SUN PHARMA LABORA TORIES LTD. VSL 3	STRIDES SHASUN LIMITED LACTOG UT	ZYDUS CADILA PROVIDA C	LA RENON CUDO	ERIS LIFESCIE NCES LTD VELGUT
Sum of MAT VAL APR 18	52.9	39.1	25.2	16.6	19.3	15.0	8.5
MAT VAL APR 19	57.9	39.5	30.6	22.2	23.2	14.2	9.9
MAT VAL APR 20	57.0	41.6	32.5	24.2	22.7	15.0	10.2

Figure 62: - The figure about the growth of the various brands in that Bifilac show progressive growth Vibact is also in progressive growth phase and Cudo forte is showing Fluctuating growth.

Limitation

- Major part of study done on information available on the secondary platforms such as government platforms such as government website, company website, company annual report, press release media broadcast.
- Conflicting data are available.
- Many products are used in multiple indication, so considered in study for one indication.

Conclusion

Chronic kidney disease market is in growing state as the prevalence of the Chronic kidney disease increasing approximately by rate of 7% in world and India is also remain untouched. The wide varieties of causes of kidney diseases and today different type of treatment present which include new innovative treatment there are many multinational companies are in this market to provide wide varieties of innovative product to address the problem of kidney disease and associated problems. This report provides market potential of the of various factors driving the growth of market will continue to grow in coming year with estimated CAGR of 7.37% by year 2024 with Asia pacific being most attractive and many companies are growing in this segment and La renon healthcare is pioneer in Indian market.

Suggestions

- In Haemodialysis category some brands are like Serocit, Qron, Larinject is showing slow growth if we also focus on these brands will all contribute in increasing the revenue of company.
- In renal medicine segment some brands like Citrophos is also have huge potential can be focus on this brand also mad it may also contribute in increasing revenue in it.
- The transplant medicine is also having huge potential and having wide market.
- The development of the Biosmilars in renal medicine will provide addon effect on caputuring more market share of nephrology segment in India.
- The marketing activities should be focused on the negative growth brands such activities include

    - Round table meeting is conducted with the KOLs and well-known doctors at regular intervals and their suggestion should be taken up for the promotion of products.
    - Providing the brand related schemes to doctors
    - To distribute the pamphlets that shows normal exercise and information of healthy diet
    - Provide scientific studies related article and information regularly to doctor
    - Brand based activities like providing doctors customized inputs
    - Digital videos of doctors of well-known in the segments is shown which contain message about product. Use of digital platforms encouraged for the promotion of products where sales team member can’t able to reach doctors.

References

- https://www.medlife.com/order Accessed on 26 -04-2020
- https://hhbc.in/nephrology-market-scenario-of-india Accessed on 25-04-2020
- https://www.kidneyfund.org/kidney-disease/chronic-kidney-disease-ckd/ Acessed on 29-04-2020
- Anna j dare (2016) Renal failure deaths and their risk factors in India 2001–13: nationally representative estimates from the Million Death Study. Available from https://www.sciencedirect.com/science/article/pii/S2214109X16303084
- Chih-wei-yang(et al)(2019) Global case studies for chronic kidney disease/end-stage kidney disease care .Available from https://www.sciencedirect.com/science/article/pii/S2157171619300243
- https://www.mayoclinic.org/diseases-conditions/chronic-kidney-disease/diagnosis-treatment/drc-20354527 Assessed on 02-05-2020.
- Scott Maier (2019) Chronic Kidney Disease Patients Face Continual, Significant Gaps in Care. Available From https://www.ucsf.edu/news/2019/07/414891/chronic-kidney-disease-patients-face-continual-significant-gaps-care
- Sri Lekha Tummalapalli (et al)(2019) **Trends in Quality of Care for Patients with CKD in the United States .Available from** https://cjasn.asnjournals.org/content/14/8/1142
- Kidney Disease: The Basics. Available fromhttps://www.kidney.org/news/newsroom/factsheets/KidneyDiseaseBasics
- Meg J. Jardine(et al)2017 Closing the gap between evidence and practice in chronic kidney disease Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6341014/
- Natasha Persaud(2019) Study Finds Persistent Gaps in CKD Care Available from https://www.renalandurologynews.com/home/news/nephrology/chronic-kidney-disease-ckd/study-finds-persistent-gaps-in-ckd-care/
- https://www.medgadget.com/2019/09/chronic-kidney-disease-ckd-2019-global-market-to-reach-us-16800-million-and-growing-at-cagr-of-3-9-by-2025.html Assessed on 05-05-2020
- https://www.niddk.nih.gov/health-information/kidney-disease/kidney-failure/conservative-management Assessed on 15-05-2020
- Che-Hsiung Wu(et al)2017 Ketoanalogues supplementation decreases dialysis and mortality risk in patients with anaemic advanced chronic kidney disease. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419544/