

Study on Prescription Pattern and Behavioural of Segmentation through Quadrant Analysis in India

By

Manish Kumar Bhattacharjee

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

Academic year, 2018-2020



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To Whomsoever it may concern

This is to certify that Shri Manish Kumar Bhattacharjee has successfully completed his internship in our organization under my personal guidance.

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PROJECT TITLE: *A study of doctors' prescription and Behavioral Segmentation through Quadrant Analysis*

TIMELINE: 15th February, 2020 to 20th May, 2020



Dr. SANDEEP BHATTACHARYA
MANAGING DIRECTOR



Dated in Kolkata
4th June, 2020

AUREAX HEALTHCARE CONSULTING PVT. LTD.

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled “**A Study on prescription pattern and behavioral segmentation through Quadrant Analysis in India**” submitted by Manish Bhattacharjee Enrolment No. 0137 under the supervision of **Mr. Rahul Sharma** for award of MBA in Pharmaceutical Management of the University carried out during the period from 19th February to 20th May, 2020 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 learning.

ACKNOWLEDGEMENT

I would first like to thank my mentor Dr. Sandeep Bhattacharya, Managing Director, AUREAX Healthcare Consultancy. He was always open whenever I ran into a trouble spot or had any question. He consistently allowed this project to be my own work but steered me in the right direction whenever she thought I needed it.

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Manish Bhattacharjee

MBA-PM (2018-2020)

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LIST OF SYMBOLS AND ABBRIVIEATION:

TYPE2 DM- Type 2 Diabetes Mellitus

PSR- Public Service Representative

SU+MET- Sulfonyl urea and Metformin

SPR- Systemic Prescription Research

CVD- Cardio Vascular Disease

ABSTRACT

Title of Report: A Study on prescription pattern and behavioural segmentation through Quadrant Analysis in India.

Mentor: Dr. Sandeep Bhattacharjee (M.D, Aurea Healthcare Consulting)

Name of the Student: Manish Bhattacharjee

Background –

Diabetes mellitus is a group of metabolic disease characterized by chronic hyperglycemia resulting from defects in insulin secretion or insulin action or both. Low degrees of insulin to accomplish satisfactory reaction and additionally insulin obstruction of target tissues, for the most part skeletal muscles, fat tissue, and to a lesser degree, liver, at the degree of insulin receptors, signal transduction framework, and additionally effector compounds or qualities are answerable for these metabolic variations from the norm. The seriousness of side effects is because of the sort and term of diabetes. A portion of the diabetes patients are asymptomatic particularly those with type 2 diabetes during the early long stretches of the infection, others with checked hyperglycemia and particularly in youngsters with outright insulin insufficiency may experience the ill effects of polyuria, polydipsia, polyphagia, weight reduction, and obscured vision. India is confronting a pestilence of diabetes, with high pervasiveness in urban territories. In the course of recent years, the predominance of diabetes has expanded to 12-18% in urban India and 3-6% in rural India with significant regional variations. Diabetes right now affects in excess of 62 million Indians, which is over 7.2% of the grown-up population. The normal age on beginning is 42.5 years. About 1 million Indians dies because of diabetes consistently.

The Diabetes market belongs to an exciting phase where lot of treatment options available and this market upsurge to growth of 7441.6 Mn by 2025.

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INTRODUCTION:

Diabetes is a chronic, metabolic disease characterized by elevated level of Blood glucose which tends to a serious damage to heart and blood vessel, kidneys, eyes, heart and nerves.

The pathophysiology of type 1 diabetes gets from the immune system pulverization of insulin-emitting pancreatic β -cells, bringing about insulin insufficiency and ensuing hyperglycaemia. If diabetes could not be treated it cause many complications. Acute phases include **Ketoacidosis, Hyperosmolar state or death**. A very fatal long-term complications include **CVD, Stroke, CKD, Nerve damage, Diabetic Foot, Eyes damage, Cognitive impairment**.

Diabetes is expected to either the pancreas not creating enough insulin, or the cells of the body not reacting appropriately to the insulin delivered.

SYMPTOMS:

Diabetes of numerous types can prompt confusions in numerous pieces of the body and can build the general danger of passing on rashly. Potential complexities incorporate kidney distress, leg removal, vision misfortune and nerve harm. Grown-ups with diabetes likewise have a few overlaps expanded danger of coronary episodes and strokes. In pregnancy, ineffectively controlled diabetes builds the danger of fatal demise and different confusions.

About 3% of worldwide visual deficiency can be ascribed to diabetic retinopathy, which happens because of long haul amassed harm to the veins in the retina. Diabetes is additionally among the main sources of kidney disappointment. Diminished blood stream and nerve harm in the feet brought about by diabetes can prompt foot ulcers, and the related diseases and complexities can prompt the requirement for appendage removal, just as serious and long-lasting medical issues.

TYPES: There are 3 types of diabetes:

1. Type 1
2. Type2
3. Gestational diabetes

TYPE1:

It is due to pancreas failure where pancreas not able to produce enough beta cells. This form was previously referred to as "**insulin-dependent diabetes mellitus**" (**IDDM**) or "**juvenile diabetes**". Individuals develop type 1 diabetes before their 40th year, regularly in early adulthood or high school years. Type 1 diabetes is not even close as regular as type 2 diabetes. Around 10% of all diabetes cases are type 1. Patients with type 1 diabetes should take insulin infusions for a mind-blowing remainder. They should likewise guarantee legitimate blood-glucose levels via completing ordinary legitimate blood-glucose levels via completing ordinary.

TYPE2:

The body doesn't deliver enough insulin for legitimate capacity, or the cells in the body do not respond to (insulin obstruction). Around 90% of all instances of diabetes overall are type 2. A few individuals might have the option to control their sort 2 diabetes side effects by getting in shape, following a sound eating regimen, doing a lot of activity, and checking their blood glucose levels. Be that as it may, type 2 diabetes is regularly a dynamic infection - it bit by bit deteriorates - and the patient will likely wind up need to take insulin, for the most part in tablet structure. Overweight and corpulent individuals have a lot higher danger of creating type 2 diabetes contrasted with those with a sound body weight.

Those with a close relative who had/ had type 2 diabetes, people of Middle Eastern, African, or South Asian descent also have a higher risk of developing the disease.

GESTATIONAL DIABETS:

This sort influences females during pregnancy. A few ladies have significant levels of glucose in their blood, and their bodies can't produce enough insulin to ship the entirety of the glucose into their cells, bringing about logically rising levels of glucose. Finding of gestational diabetes is made during pregnancy. Most of gestational diabetes patients can control their diabetes with exercise and diet. Between 10 to 20 percent of them should take a few sorts of blood-glucose-controlling drugs.

Analysed or uncontrolled gestational diabetes can raise the danger of confusions during labour.

TREATMENTS:

The drugs available for Diabetes management:

1. DPP4 inhibitors: Sitagliptin, Vildagliptin, Sitagliptin, Linagliptin
2. GLP-1 antagonist: Exenatide
3. SU: Tolbutamide, Glimepiride, Gliclazide, Glipalamide
4. Biguanides: Metformin
5. Thiazolidine: Pioglitazone, Troglitazone
6. Meglitinides: Repaglinide
7. Alpha glucose inhibitors: Acarbose

In Diabetes treatment most of the cases molecule combination is mostly preferred.

BASICS OF PHARMA MARKETING:

It is important for the Marketer to understand the mind of the doctor, his beliefs, his attitude towards therapies, his basic decision-making process as he chooses to prescribe in one way or another in specific patients.

Doctors, once a patient enters their chamber and until they get a prescription and leave, go through in their minds, three distinct decisions:

1. **Diagnostic Decision:** - Through which a doctor categorizes a patient by his disease and his co-morbidities, mindset, affordability, etc. (By ordering Diagnostic Test / by Questioning the patient and accompanying persons, if any). For example, he sees a

patient is a diabetic (mild, moderate or severe, fasting sugar 140, 200 or 350?), with concomitant IHD (angioplasty done 2 yrs. ago), overweight, busy executive, poor adherence behavior, good affordability, etc.

2. **Therapy choice:** Based upon the above profile, he decides that the patient needs a DPP4i, Metformin, Telmisartan.
3. **Brand Choice:** . Here a doctor goes from the molecule choice to a brand choice and prescribes Janumet 1000 bid, Telma 40 bid.

Here comorbidities play an important role to come up in a diagnostic decision. Not always are these decision points taken consciously but by habit a doctor skips steps, but subconsciously these are the steps taken.

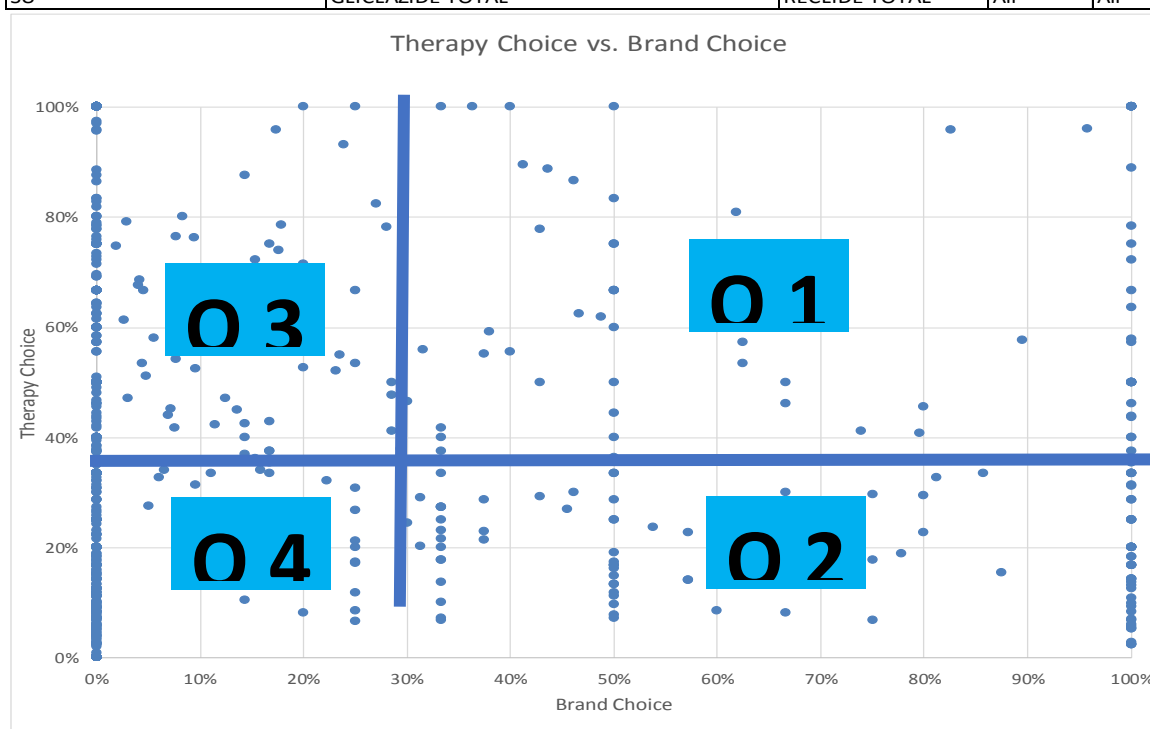
QUADRANT ANALYSIS OF DOCTOR

It goes through a specific process:No of patient to a specific doctor---- How many prescriptions of given molecule--- How many brands the doctors write---- Proportion of Molecule to patient & Brand to molecule

Collect the following data from doctors in the country:

1. Number of target patients seen by each doctor (in the real world, PSRs can ask their doctors during the visit and note the number
2. Number of patients treated by each doctor (either through chemist surveys or through asking the doctor)
3. Number of patients treated by the target brand (Either through chemist surveys or

Market	Molecule	Brand	Zone	Specialty
SU	GLICLAZIDÉ TOTAL	RECLIDE TOTAL	All	All



Source: Strategic Marketing Solution and Research Center (2020)

Average- Q2 Doctors

- ❖ Therapy choice greater than National Average, Brand Choice less than National Average- Q3 Doctors
- ❖ Therapy choice less than National Average, Brand Choice less than National Average- Q4 Doctors.

Behavioural and Belief characteristics of Doctors in Different Quadrant:

Q1 doctors: Convinced about the usefulness of the molecule in a significant proportion of patients. Convinced about value added by the target brand either through quality, company equity or service provided by local PSR. Hence preferentially prescribes Molecule and Brand.

Q2 doctors: Not very convinced about role of molecule in most of his patients. However satisfied with value added by the target brand either through quality, company equity or service provided by local PSR. Hence preferentially prescribes Brand whenever he prescribes molecule but that is not very frequent.

Q3 doctors: Convinced about the usefulness of the molecule in a significant proportion of patients. However, not convinced about value added by the target brand either through quality, company equity or service provided by local PSR or has a special relationship with a competitive brand of the same molecule. Hence preferentially prescribes Molecule but not Brand.

Q4 doctors: They preferentially prescribes OTHER Molecules and OTHER Brands

INDIAN DIABETES MARKET:

According to Indian Brand Equity Foundation,

Indian pharmaceutical industry supplies more than 50 percent of worldwide demand for different immunizations, 40 percent of generic demand in the US and 25 percent of all medication in UK1.

The Indian diabetes showcase arrived at an estimation of US\$ 1,954 Million of every 2018. The market is additionally expected to develop at a CAGR of 16.7% during 2019-2024. Diabetes is quickly picking up the status of a potential pandemic in India with around 65 million individuals right now being influenced by it. Combined with a terrible wholesome history and the way that Indians are hereditary increasingly helpless against diabetes contrasted with other populace gatherings, India's battle with diabetes is relied upon to be perhaps the greatest plague the nation has ever seen.

DRIVERS FOR MARKET GROWTH:

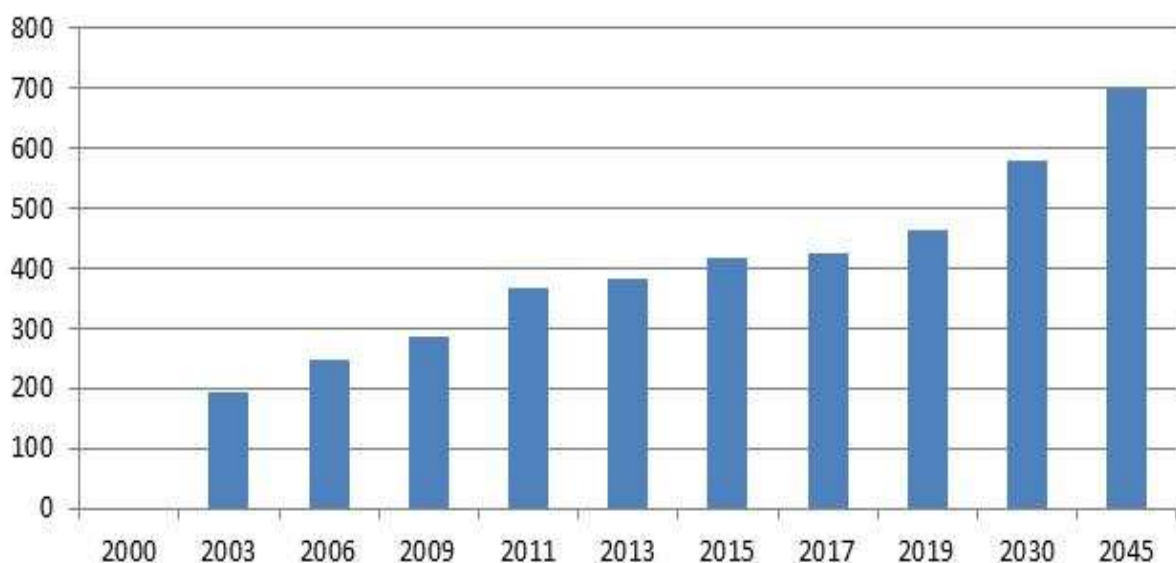
1. Increasing patient base.
2. Introduction of new drug
3. Increasing aging population
4. Comprehensive health insurance policies

MAJOR PLAYERS:

SUN Pharmaceuticals, Novo Nordic, USV, Torrent Pharmaceuticals, Macleod Pharmaceuticals, Cipla, Merck, Dr Reddys etc.

The future patient base in diabetes is uncontrollable to India.

Estimations say that there will be 578 million adults with diabetes by 2030, and 700 million by 2045



SOURCE: EXPRESS PHARMA 2020

CHALLENGES:

1. Low cost and easily accessible treatment alternatives.
2. Cultural resistance on surgical procedure.
3. Lack of knowledge on the seriousness of Diabetes.

PURPOSE OF THE RESEARCH:

This research is designed to study the Prescription analysis and Behavioural segmentation of the Physician regarding the use of different **Drugs in the treatment of Diabetes.**

- **This study will help in getting an image of current market patterns in treatment of Diabetes.**
- The knowledge about prescription preference, therapy choice, brand choice and behavioral analysis and overall situational analysis help in making marketing strategies and communication message.
- To know the Behavioral mindset of the doctor.

PROBLEMS BEING INVESTICATED:

Pharma marketing process going through 2 steps:

- a) Deciding whom we as the Marketing company will communicate with
- b) What we wish to communicate- Through digitally or through physical visit.

Saying the same thing to all doctors was a waste of effort in a face to face visit world, it is a disastrous waste of resources in a post COVID digitally driven social distancing world.

So, there is a perception change is needed when any company develop any communication message for their PSR. There should be a different content of message for different quadrant of doctors.

LITRETURE REVIEW:

BACKGROUND OF THE PROJECT:

Diabetes mellitus is a group of metabolic disease characterized by chronic hyperglycaemia resulting from defects in insulin secretion or insulin action or both. . A portion of the diabetes patients are asymptomatic particularly those with type 2 diabetes during the early long stretches of the infection, others with checked hyperglycaemia and particularly in youngsters with outright insulin insufficiency may experience the ill effects of polyuria, polydipsia, polyphagia, weight reduction, and obscured vision. India is confronting a pestilence of diabetes, with high pervasiveness in urban territories. In the course of recent years, the predominance of diabetes has expanded to 12-18% in urban India and 3-6% in rural India with significant regional variations. Diabetes right now affects in excess of 62 million Indians, which is over 7.2% of the grown-up population.

1.(Abhishek Pandey, MD, 30th April 2019) In their report “Prescription pattern of Physicians treating Diabetes in India”. The report highlighted about the Therapy Choice and Brand choice in treating Diabetes. Out of 80,000 prescription collected from India 69,423 prescription (91.9%) prescription were from combination therapy, 35% prescription comes from Metformin in contraindicated subjects. Metformin is the mostly use prescription molecule (94.6%) , followed by Glimepiride (91.12%), DPP-4 inhibitors 32.5% , Voglibose contribution is 34.3%. Insulin was prescribed by 16.4.

2.(Lalit Kumar, Dr. S.K Gupta, Dr. Anupam Prakash, 2018) In their report “Assessment of Prescription pattern of Anti Diabetic Drugs in Type 2 Diabetes Mellitus patients”. The report described about the Glycemic control measures in treating diabetes. Poor Glycemic control prevented by rational and safe use of Anti Diabetic Drugs. This cross-sectional study involves 160 prescription of Type -2 DM patients. Metformin is the most prescribed drug because it reduces Cardiovascular risks also. Glimepiride and Metformin is also the most prescribed combination because it reduces the Hyperglycemic activity. This suggests that sulfonylureas and Metformin are the choices of most physicians in the treatment of Type 2 DM.

3. (Rajiv Singla ,JatinBindra ,Ankush Singla , Yashdep Gupta, 2019) In their report “Drug prescription pattern and cost analysis of Diabetes therapy in India : Audit of an endocrine practice in India” . The report described about An ongoing report from Delhi evaluated that 27% of urban India's (Delhi) populace as of now has diabetes and another 46% are experiencing prediabetes. The mean expense of antidiabetic treatment expanded from INR 5.44 to 7.25 every day in individuals with under 5 years of diabetes, from INR 9.5 every day to 24.23 with the span of diabetes somewhere in the range of 5 and 10 years, from INR 12.69 to 52.12 with 10–15 years' length of diabetes, and from INR 17.50 to 63–78 among individuals with over 15 years of diabetes. Metformin remains the most favored medication over all the length of diabetes. DPP4i is by all accounts quick finding sulfonylureas as second-line treatment after metformin. SGLT2 inhibitors are being utilized as third-or fourth line medicate. Following 20 years or a greater amount of diabetes term, 46% individuals would require insulin for glycemic control

RESEARCH QUESTION:

1. What is the prescription preference in Diabetes management by the Physician?
2. What are the different strategies for different doctors?
3. What is the behavioral segmentation for the doctors?

RESEARCH OBJECTIVES:

1. **To determine the prescription preferences of Physicians in Diabetes Management**
2. To understand the mind of the doctor, his beliefs, his attitude towards therapies, his basic decision-making process as he chooses to prescribe in one way or another in specific patients.
3. To decide whom to communicate, how to communicate and what to communicate.

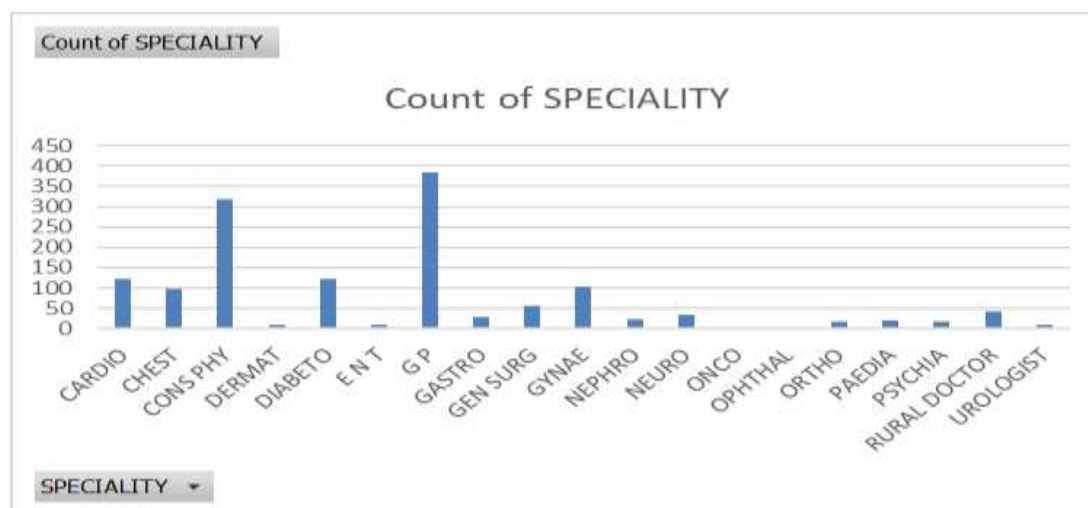
RESEARCH METHODOLOGY:

1. **Type of Research:** Secondary Research
2. **Study Population:** Physician (Include all specialties)
3. **Study Area:** India
4. **Duration of the Data Collection:** FEB 2020- MAY 2020
5. **Type of Data:** Secondary Data
6. **Sample size:** 1417 Physician
7. **Inclusion criteria:** Physician include all specialties
8. **Exclusion Criteria:** Chemists
9. **Data Collection source:** Strategic Marketing Solution and Research Centre (2020)
10. **Data collection tool:** Prescription Pads
11. **Data Entry:** Microsoft Excel

OBSERVATION AND RESULT:

It is important for the Marketer to understand the mind of the doctor, his beliefs, his attitude towards therapies, his basic decision-making process as he chooses to prescribe in one way or another in specific patient.

1. Doctors wise specialty and no of doctors:



SPECIALITY	Count of SPECIALITY
CARDIO	121
CHEST	96
CONS PHY	319
DERMAT	9
DIABETO	121
E N T	9
G P	385
GASTRO	29
GEN SURG	57
GYNAE	102
NEPHRO	22
NEURO	34
ONCO	4
OPHTHAL	2
ORTHO	18
PAEDIA	21
PSYCHIA	18
RURAL DOCTOR	41

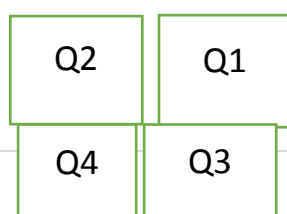
2. QUADRANT ANALYSIS OF GLIPTINS:

Gliptins, also called dipeptidyl peptidase 4 (DPP4) inhibitors, are group of antidiabetic mixes incorporate sitagliptin, sitagliptin, linagliptin, and alogliptin. They are accessible as single-ingredient products and in mix with different diabetes molecule, for example, metformin.

From the data provided by SMSRC, after calculating the percentage of Therapy choice and Brand choice and we make an average of the Therapy and brand choice. The filtered data comprised with Therapy choice, Brand choice, Quadrant, No of Prescriptions and Doctors speciality.

CHOICE	AXIS	% VALUE
Y AXIS	Therapy Choice	20%
X AXIS	Brand choice	14%

X axis indicate Brand choice, where Y axis indicate Therapy choice



PRESCRIBER AND % OF PRESCRIBER

138	227	12%	19%
332	485	28%	41%

Rx

Rx%

For Therapy -GLIPTIN (DPP4 Inhibitors)

INTERFERENCE:

In Quadrant 1 there is 227 prescribers, approximately 19% of the total prescribers fall in Q1. They believe on the gliptin therapy. They convinced on the molecule's effectiveness.

In Q2 there are 138 prescribers, 12% of the total prescriber. Total 31% doctors of these two Quadrant.

Almost 28% of the prescriber in Quadrant 4 not prescribe DPP-4 inhibitors. They prescribe other molecules in Diabetes management.

2.FOR BRAND SITAGLIPTIN:

Rx		Rx %	
362	3692	7%	75%
0	872	0%	18%

INTERFERENCE:

Q1 doctors almost prescribe 3692 prescription, almost 75% of the total prescription. They are the fond believer of the sitagliptin molecule. This Q1 doctors our star doctors. They convinced about value added by the target brand either through quality, company equity or service provided by local PSR. Hence preferentially prescribes Molecule and Brand.

Q2 doctors give 7% of the brand prescription. They are not a prescriber of Gliptin therapy but when they prescribe Gliptin, they always prescribe Sitagliptin. They convinced about value added by the target brand either through quality, company equity or service provided by local PSR.

Q3 doctors prescribe 18% prescription of sitagliptin, but they are preferentially prescribing the molecule not the brand.

Q4 doctors neither prescribe the therapy nor the brand.

3. FOR THERAPY GLIPTINS IN DPP-4 INHIBITOR:

Rx of Gliptin

1003	11758
2752	20146

%Rx

3%	33%
8%	56%

Q1- These doctors are the great admirer of the molecule and Brand.

Q2- These quadrants doctors are not an admirer of the Brand.

Q3- These quadrants doctors' admirer of the Therapy not the Brand.

Q4- These quadrant doctors neither prefer the Therapy nor the Brand.

4. % OF SITAGLIPTIN OUT OF GLIPTIN:

36%	31%
0%	4%

Q1: These quadrant doctors prescribe 31% of the sitagliptin prescription out of the total gliptin prescription.

Q2: 36% prescription comes from this quadrant.

As a company we must target these 2 Quadrants doctors.

5. PRESCRIPTION PER DOCTOR(P/D):

It means a doctor prescribe avg prescription.

For Gliptins

7	52
8	42

For Sitagliptin

2.6	16.3
0	1.8

For Q1 – Avg. P/D 52,16.3- it means 227 doctors prescribe avg. 52 gliptin prescription, out of 16.3 avg. prescription is for Sitagliptin.

Q2- P/D- 7, 2.6- it means 138 doctors prescribe avg. 7 gliptin prescription and 2.6 avg. Sitagliptin prescription.

Q3- 42, 1.8 P/D- it means 485 doctors prescribe avg. 42 gliptin prescription and 1.8 avg. sitagliptin prescription.

Q4- 8, 0 – out of 332 doctors avg gliptin prescription 8 and out of them none of the sitagliptin prescription.

6. Total 36% (Q1+Q2) Gliptin prescription and 82% of the Sitagliptin prescription comes from the 31% of the doctors. Rest 64% of the Gliptin prescription, 18% of the sitagliptin prescription comes from 69% of the doctors.

7. FOR SULFONYL UREA:

CHOICE	AXIS	% AVG
Therapy Choice	Y axis	27%
Brand choice	X axis	9%

QUADRANT	Q1	Q2	Q3	Q4
PRECRIBERS	125	211	519	470
% PRESCRIBERS	9%	16%	39%	35%
AMARYL RX	1163	1271	276	260
AMARYL RX%	39%	43%	9%	9%
GLIM RX	4118	5068	14803	8932
GLIM RX%	13%	15%	45%	27%
P/D GLIM	32.9	24.0	28.5	19.0
P/D AMARYL	9.3	6.0	0.5	0.6
% AMARYL/SU	28%	25%	2%	3%

Q1 - 125 Q1 doctors, 9% of the total doctors prescribe 13% of the Glimepiride and 39% of the Amaryl prescription and 28% of the total Amaryl prescription among the 4118 prescription of Glimepiride prescribed by the Q1 doctors.

MARKETING INSIGHT: It means that Q1 doctors are the great admirer of the molecule and the brand. They completely believe on the molecule's effectiveness. Convince by the Brands effectiveness, companies' equity, PSR's service. As a brand we are doing well because in a market when doctor prescribe Glimepiride or its prescription, doctor always prefer Amaryl as their trusted brand.

Q2- : 211 Q2 doctors, 16% of the total doctors prescribe 15% of the Glimepiride and 43% of the Amaryl prescription and 25% of the total Amaryl prescription among the 5068 prescription of Glimepiride prescribed by the Q2 doctors.

MARKETING INSIGHT: Q2 doctors are the Brand lover but not the Therapy lover. They prescribe the 25% of the Amaryl prescription out of total Glimepiride prescription. These doctors also the asset of the company. However, satisfied with value added by the target brand either through quality, company equity or service provided by local PSR.

Q3: 519 Q1 doctors, 39% of the total doctors prescribe 45% of the Glimepiride and 9% of the Amaryl prescription and 2% of the total Amaryl prescription among the 14803 prescription of Glimepiride prescribed by the Q3 doctors.

MARKETING INSIGHT: They are Therapy lover doctor. Not convinced about value added by the target brand either through quality, company equity or service provided by local PSR or has a special relationship with a competitive brand of the same molecule. According to data this quadrant of doctors has large pool of prescription of Therapy, but they prescribe only 2% Amaryl.

Q4: 470 Q4 doctors, 35% of the total doctors prescribe 27% of the Glimepiride and 9% of the Amaryl prescription and 3% of the total Amaryl prescription among the 8932 prescription of Glimepiride prescribed by the Q4 doctors.

MARKETING INSIGHT:

They are not Convinced about the usefulness of the molecule in a significant proportion of patients. Also not Convinced about value added by the target brand either through quality, company equity or service provided by local PSR. Out of total 8932 prescription of Glim, they only prescribe 3% total Amaryl prescription.

7. ANTIDIABETIC SOLID AND EFFECTIVE COMBINATION:

SPR : Rx RESPONSE SHARE TREND

	NOV-FEB 2019	MAR-JUN 2019	JUL-OCT 2019	NOV-FEB 2020	(%) +/- in MAR-FEB '20 over	(%) +/- in NOV-FEB '20 over	
	68668	75713	71718	72231	MAR-FEB '19	J-O '19	N-F '19
ANTIDIABETICS SOLID	100.0	100.0	100.0	100.0	4	1	5
GLIMEPIRIDE + METFORMIN	20.2	20.6	20.1	19.7	4	-1	3
METFORMIN-SR / ER	8.6	8.2	8.4	8.1	2	-3	-1
TENELIGLIPTIN + METFORMIN	8.0	8.3	8.3	7.6	10	-8	-1
TENELIGLIPTIN	7.7	8.0	7.4	7.1	-1	-3	-3
METFORMIN	7.4	7.4	7.0	6.9	0	-1	-2
VOGLIBOSE + GLIMEPIRIDE + METFORMIN	5.2	5.3	5.2	5.3	10	2	6
GLIMEPIRIDE	5.4	4.9	5.0	5.2	-5	6	2
PIOGLITA (HIGH-DOSE) + GLIMEP + METFORMIN	3.6	3.6	3.6	3.7	1	4	8
VOGLIBOSE	4.3	4.3	4.1	3.6	-6	-12	-12
VILDAGLIPTIN + METFORMIN	2.2	2.1	2.1	3.3	18	58	61
GLICLAZIDE + METFORMIN	3.3	3.2	3.0	3.2	-2	7	0
GLICLAZIDE	2.6	2.7	2.8	2.6	1	-4	6
SITAGLIPTIN + METFORMIN	2.5	2.6	2.6	2.6	-2	-2	9
VILDAGLIPTIN	1.0	1.0	1.1	2.3	40	113	148

SOURCE- Strategic Marketing Solution and Research Centre (2020)

Glimepiride + Metformin is the ideal prescription for the Antidiabetic doctors. At least 20% prescription share of this combination and there is a significant increase in Mar – Feb 2019 to 2020 in growth.

8. Rx SHARE TREND VS COMPANIES:

SPR : Rx RESPONSE SHARE TREND

	NOV-FEB 2019	MAR-JUN 2019	JUL-OCT 2019	NOV-FEB 2020	(%) +/- in MAR-FEB '20 over	(%) +/- in NOV-FEB '20 over	
	68668	75713	71718	72231	MAR-FEB '19	J-O '19	N-F '19
ANTIDIABETICS SOLID	100.0	100.0	100.0	100.0	4	1	5
USV LIMITED	14.9	14.4	14.3	14.4	1	2	2
SUN PHARMA	7.4	7.1	6.9	6.5	-2	-6	-8
LUPIN LIMITED	5.6	5.7	6.0	5.8	11	-3	8
FRANCO INDIAN	5.5	5.5	5.3	5.5	6	4	7
TORRENT PHARMACEUTICALS	4.2	4.3	4.3	4.3	4	2	8
MANKIND PHARMACEUTICALS	4.6	4.9	4.3	4.1	-1	-4	-7
INTAS PHARMA	3.6	3.5	3.7	3.9	8	6	12
SANOFI	3.8	3.8	3.4	3.7	-1	8	1
MICRO LABS	3.1	3.1	3.2	3.5	8	11	22
GLENMARK PHARMACEUTICALS	3.1	2.9	3.9	3.1	10	-19	6
ERIS LIFE SCIENCES	2.8	3.1	2.8	3.1	3	12	16
DR REDDY S LAB	2.8	2.6	2.6	2.7	1	6	1
MACLEODS PHARMACEUTICALS	2.0	2.1	2.2	2.3	20	4	22

SOURCE- Strategic Marketing Solution and Research Centre (2020)

As a company USV performs well in Indian market because of their low-cost drugs and different range of brands.

9. Rx SHARE TREND VS BRAND:

SPR : Rx RESPONSE SHARE TREND

	NOV-FEB 2019	MAR-JUN 2019	JUL-OCT 2019	NOV-FEB 2020	(%) +/- in MAR-FEB '20 over	(%) +/- in NOV-FEB '20 over	
	68668	75713	71718	72231	MAR-FEB '19	J-O '19	N-F '19
ANTIDIABETICS SOLID	100.0	100.0	100.0	100.0	4	1	5
GLYCOMET-GP TAB[USV-CORVETTE]	3.1	3.1	3.1	3.2	5	5	11
GLYCOMET TAB[USV-CONDOR]	2.3	2.3	2.1	2.1	-6	0	-5
GLYCIPHAGE TAB[FRANCO-DIABETIX]	2.1	2.1	1.9	2.0	0	5	-2
GLYCOMET-SR TAB[USV-CONDOR]	2.0	1.9	2.0	1.9	4	-4	-1
GLYCIPHAGE-SR TAB[FRANCO-DIABETIX]	1.7	1.6	1.6	1.6	10	1	4
JANUMET TAB[MSD-CHR CARE]	1.4	1.4	1.4	1.4	-8	-4	5
GEMER TAB[SUN-AZURA]	1.4	1.4	1.4	1.3	5	-4	0
AMARYL TAB[SANOFI-DIABETO]	1.3	1.2	1.1	1.3	-4	20	7
GALVUS MET TAB[NOVARTIS-CVM]	1.2	1.1	1.1	1.1	-1	0	1
ZORYL-M TAB[INTAS-SUPRIMA]	1.1	1.1	1.1	1.1	5	0	3
GLUCONORM TAB / SR TAB[LUPIN-DIABET]	1.2	1.2	1.3	1.1	2	-13	-8
GLUCONORM-G TAB[LUPIN-DIABET]	0.9	1.0	1.0	1.0	10	-3	13
ISTAMET TAB[SUN-ARIAN]	0.8	0.8	0.8	0.9	4	21	28
GLYNASE-MF TAB[USV-FORCE ONE]	1.1	1.1	1.0	0.9	-5	-5	-13

SOURCE- Strategic Marketing Solution and Research Centre (2020)

Most of the USV brand like Glycomet performs very well in the market and prescription growth also increased in compare to Mar- Feb 19.

10. Rx RESPONSE TREND VS COMBINATION:

	NOV-FEB 2019	MAR-JUN 2019	JUL-OCT 2019	NOV-FEB 2020	(%) +/- in MAR-FEB '20 over	(%) +/- in NOV-FEB '20 over	
	68668	75713	71718	72231	MAR-FEB '19	J-O '19	N-F '19
ANTIDIABETICS SOLID	100.0	100.0	100.0	100.0	4	1	5
SU + MET	26.0	26.3	25.5	25.0	2	-1	1
MET	16.1	15.6	15.4	15.1	1	-2	-1
DPP 4 + MET	13.3	13.6	13.7	14.1	9	4	12
DPP 4 I	10.9	11.1	10.8	11.8	5	9	13
SU	9.2	8.6	8.7	8.8	-3	2	1
AGI + SU + MET	5.4	5.4	5.5	5.5	9	1	7
SU + TZD + MET	4.7	4.6	4.7	4.7	-4	1	6
AGI	4.8	4.8	4.7	4.1	-6	-12	-12
SGLT2	2.5	2.7	3.5	3.6	37	4	53
TZD	2.0	1.9	1.8	1.8	2	-2	-5
AGI + MET	1.7	1.6	1.5	1.4	-12	-6	-13
SGLT2 CB	0.6	1.0	1.1	1.3	11	13	13
MEGLI	0.9	0.8	0.9	1.0	3	17	23
TZD + MET	0.5	0.6	0.6	0.6	-5	3	22
ANTIDIABETICS AYURVEDIC PREPS.	0.6	0.5	0.6	0.6	-8	-11	-4

SOURCE: Strategic Marketing Solution and Research Centre (2020)

Doctors mostly prefer SU+MET as a combination drug. SGLT2 also prescribe by many doctors.

11. Rx SHARE TREND VS SU+MET COMBINATION:

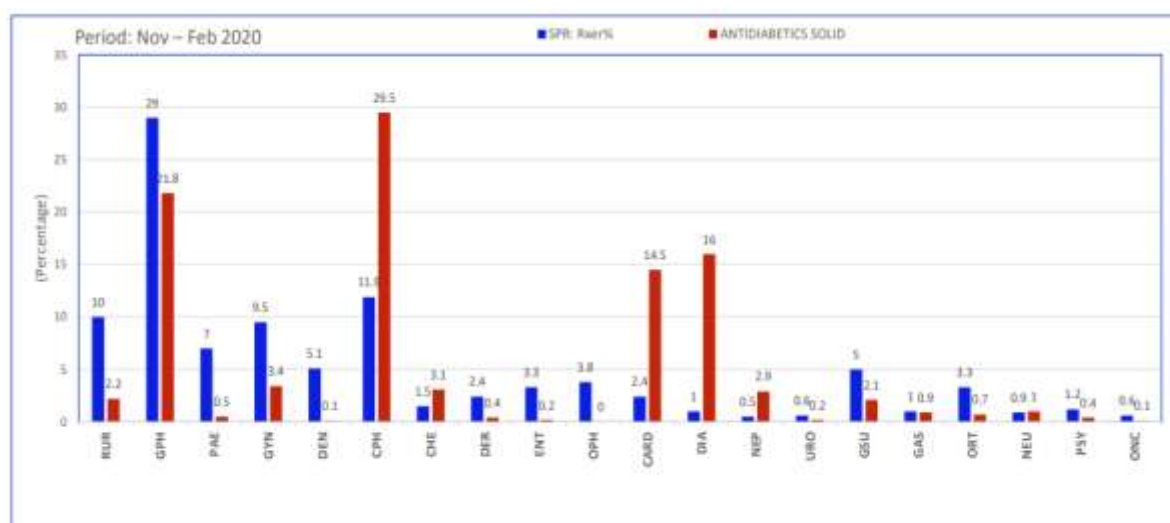
SPR : Rx RESPONSE SHARE TREND

	NOV-FEB 2019	MAR-JUN 2019	JUL-OCT 2019	NOV-FEB 2020	(%) +/- in MAR-FEB '20 over	(%) +/- in NOV-FEB '20 over
	17831	19922	18284	18048	MAR-FEB '19	J-O '19
SU + MET	100.0	100.0	100.0	100.0	2	-1
GLIMEPIRIDE + METFORMIN	77.8	78.3	79.0	79.0	4	-1
GLICLAZIDE + METFORMIN	12.8	12.3	11.7	12.6	-2	7
GLIPIZIDE + METFORMIN	6.1	5.7	5.5	5.5	-3	-1
GLIBENCLAMIDE+METFORMIN	3.1	3.6	3.8	2.8	-2	-26
GLIMEP + METFOR + ATORVAS	0.1	0.0	0.0	0.0	10	150
METFORMIN+GLIMEPIRIDE+METHYLCOBALAMIN	0.0	0.0	0.0	0.0	100	150
GLIMEP + METFOR +RAMIPRIL			0.0	0.0		400

SOURCE- Strategic Marketing Solution and Research Centre (2020)

Glimepiride and Metformin has the maximum prescription share in the SU+MET composition.

12. DISTRBUTION VS SPECIALITY:

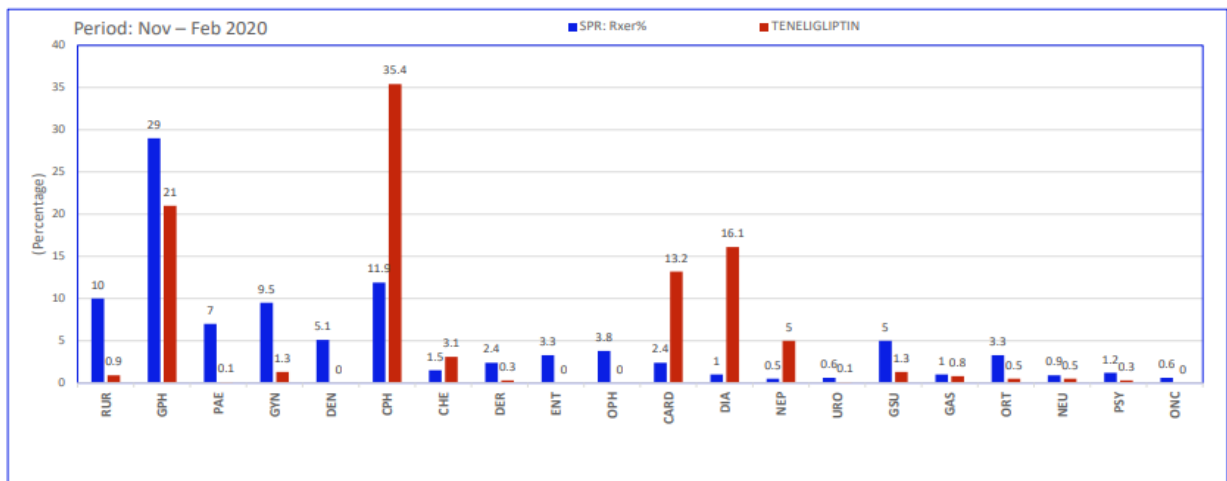


SOURCE- SMSRC(2020)

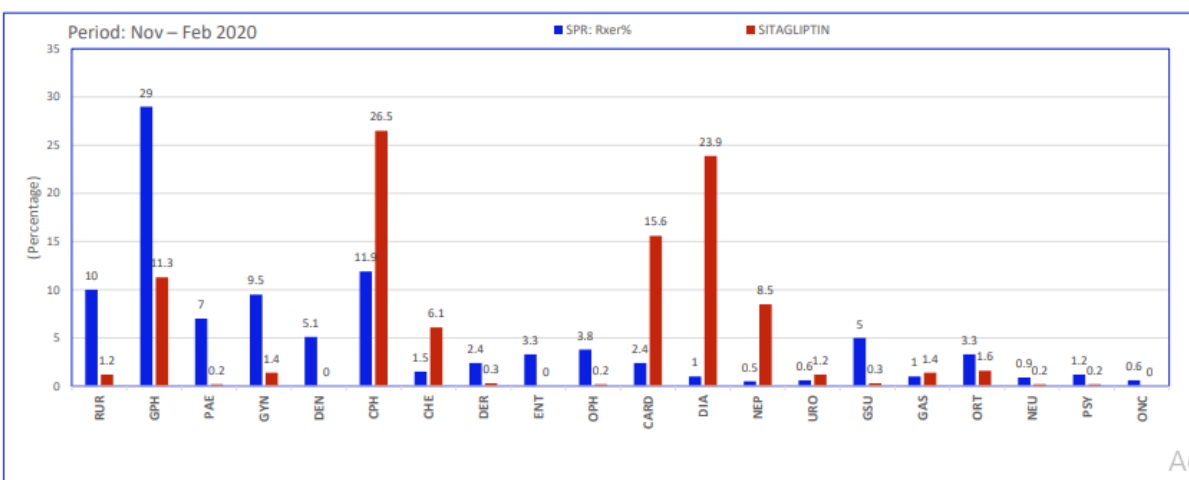
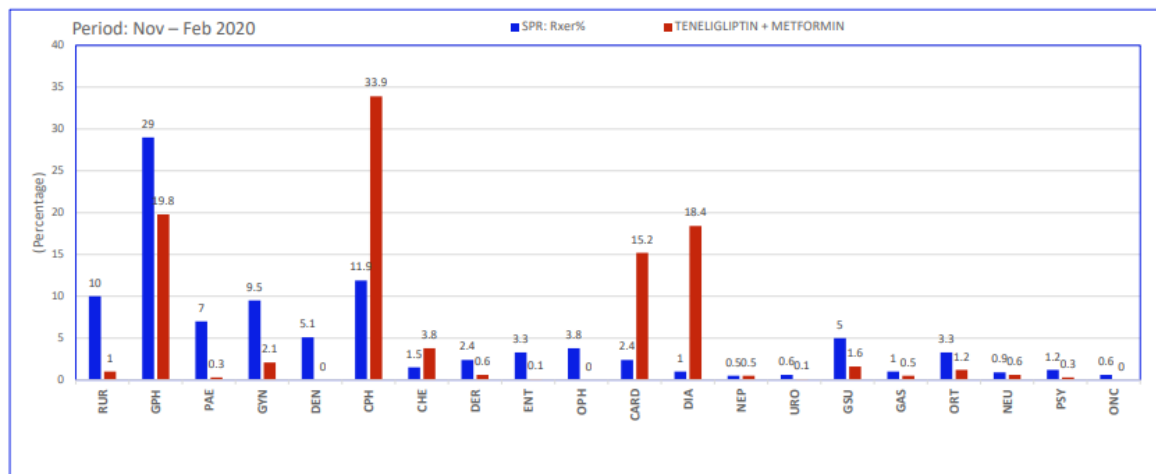
In Consultant Physician and General physician has the maximum prescription share in total antidiabetics solid.

But speciality wise molecule prescription share is changed:

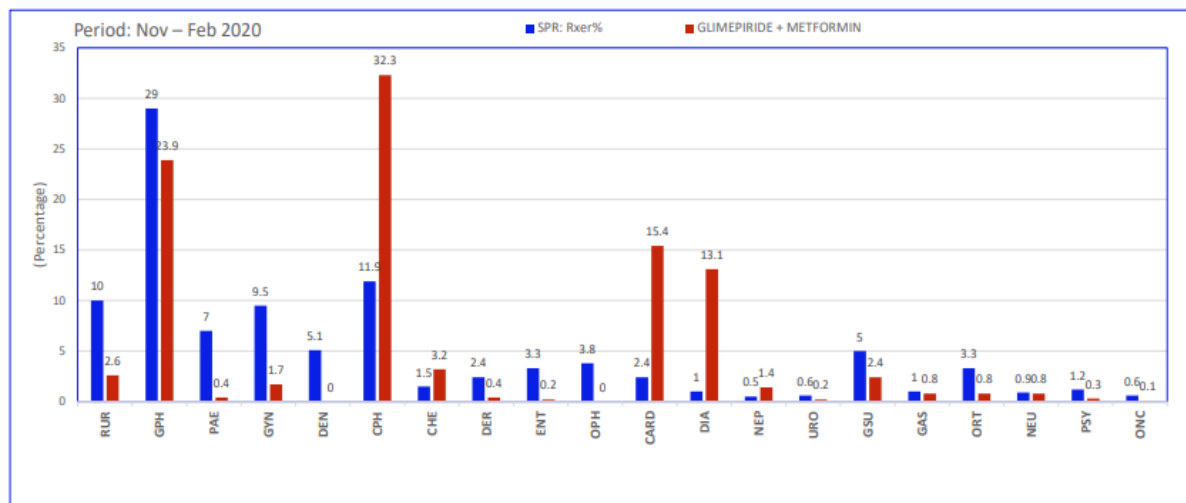
GLIPTINS VS Rx DISTRIBUTION:



SOURCE- Strategic Marketing Solution and Research Centre
(2020)



In Gliptins as a single molecule Teneligliptin is the preferable molecule for the doctors for GP and CP but for cardio and diabeto they most preferred Sitagliptin and its metformin composition.



SOURCE: SMSRC(2020)

Glimepiride and Metformin is the most ideal composition for all the specialties.

13. Rx response VS Indication:

SPR : ANTIDIABETICS SOLID : Rx Response x Indication(%)

Indication	ANTIDIABETICS SOLID	GLIMEPIRIDE + METFORMIN	METFORMIN SR / ER	TENELIGLIPTIN + METFORMIN	TENELIGLIPTIN	METFORMIN	VOGLIBOSE + GLIMEPIRIDE + METFORMIN	GLIMEPIRIDE	PIOGLITA (HIGH-DOSE) + GLIMEPIRIDE + METFORMIN	VOGLIBOSE	VILDAGLIPTIN + METFORMIN
Rx Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	100	30	12	12	11	10	8	8	6	6	5
DIABETES MELLITUS	42.2	29.4	24.3	27.9	27.4	25.3	30.7	27.8	28.3	27.9	29.7
	100	21	7	8	7	6	6	5	4	4	4
TYPE-2 (NIDDM)	39.6	27.7	25.0	33.4	25.8	13.3	34.2	21.8	26.3	25.7	25.7
	100	21	8	10	7	4	7	4	4	4	3
TYPE-1 (IDDM)	0.2	0.1	0.1	0.2	0.1		0.3	0.1	0.1	0.3	0.4
	100	11	6	12	7	3	15	4	3	10	12
DIABETIC NEPHROPATHY	1.2	0.3	0.1	0.2	2.0	0.6	0.2	2.2		0.4	0.3
	100	8	1	2	18	5	1	15		2	1
DIABETIC NEUROPATHY	0.3	0.2	0.2	0.2	0.2		0.4	0.2	0.1	0.5	0.4
	100	19	6	7	8		9	4	2	8	6
DIABETIC FOOT	0.2	0.1	0.1	0.3		0.1	0.2	0.2		0.1	0.2
	100	20	5	17	2	5	10	8	1	3	6
HYPOGLYCEMIA	0.5	0.3	0.3	0.4	0.2	0.2	0.3	0.2	0.2	0.3	0.3
	100	18	9	11	5	5	5	3	3	3	4
OBESITY	1.5	0.6	1.8	1.0	0.6	0.8	0.5	1.0	0.5	1.0	1.2
	100	13	15	8	5	6	2	5	2	4	4
HYPERTENSION	36.6	24.8	25.9	26.0	22.7	17.5	27.7	22.5	21.7	23.6	25.2
	100	20	9	8	7	5	6	5	3	4	4
HYPERTENSION ESSENTIAL	0.4	0.2	0.5	0.3	0.3	0.2	0.1	0.2	0.1	0.3	0.3
	100	14	14	9	7	6	2	4	2	4	3

SOURCE- SMSRC(2020)

Indication	ANTI DIABETICS SOLID	GLIMEPIRIDE + METFORMIN	METFORMIN-SR / ER	TENELIGLIPTIN + METFORMIN	TENELIGLIPTIN	METFORMIN	VOGLIBOSE + GLIMEPIRIDE + METFORMIN	GLIMEPIRIDE	PIOGLITA (HIGH-DOSE) + GLIMEP + METFORMIN	VOGLIBOSE	VILDAGLIPTIN + METFORMIN
Rx Total	100.0 100	100.0 30	100.0 12	100.0 12	100.0 11	100.0 10	100.0 8	100.0 8	100.0 6	100.0 6	100.0 5
I H D (ISCHEMIC HEART DISEASE)	3.1 100	1.9 18	2.6 10	1.7 6	2.0 7	1.6 5	1.4 3	2.3 6	0.4 1	2.2 4	3.2 5
C A D (CORONARY ARTERY DISEASE)	3.2 100	2.2 20	1.7 6	2.2 8	1.4 5	1.1 4	2.0 5	2.5 6	0.6 1	2.3 4	2.4 4
C V A (CEREBRO VASCULAR ACCIDENT)	1.4 100	1.1 23	1.0 9	1.0 8	1.0 8	0.9 7	1.2 7	1.0 6	0.7 3	0.8 3	0.8 3
C A B G (CORONARY ARTERY BYPASS G	1.2 100	0.7 19	1.2 12	0.6 6	0.4 4	0.5 4	0.3 2	0.7 5	0.2 1	0.7 3	1.3 6
P T C A (PERCUTANEOUS TRANSTHORA	1.5 100	1.1 21	0.7 6	0.7 6	0.6 5	0.5 4	1.1 6	1.1 6	0.1 1	1.5 5	1.5 5
L V H (LEFT VENTRICULAR HYPERTROPH	0.7 100	0.4 16	0.6 10	0.5 9	0.4 7	0.2 4	0.3 3	0.5 6		0.7 0	0.5 5
M I (MYOCARDIAL INFARCTION)	0.6 100	0.5 22	0.5 10	0.1 3	0.2 4	0.2 3	0.5 7	0.3 4		0.3 3	0.5 4
R B B B (RT BUNDLE BRANCH BLOCK)	0.4 100	0.3 21	0.4 11	0.2 6	0.2 4	0.2 4	0.1 2	0.5 9	0.1 1	0.3 4	0.4 5
MITRAL STENOSIS	0.3 100	0.2 22	0.2 9	0.2 7	0.2 8	0.1 4	0.1 4	0.2 7		0.1 2	0.1 2
L V F (LEFT VENTRICULAR FAILURE)	0.2 100	0.1 13	0.1 5	0.2 13	0.1 3	0.1 5	0.1 3	0.3 12		0.1 2	0.1 2

SOURCE- SMSRC(2020)

To perform the behavioural analysis this chart is significant. The Physicians behaviour change according to speciality , indication of disease , brand preference .

SPECIALITY	INDICATION	MOLECULE PREFERENCE	BRAND PREFERENCE
All doctors	Diabetes mellitus	Combination (MET+ GLIM)	GLYCOMET
	TYPE 2	SAME	GLYCOMET
	TYPE 1	COMB(VOG+GLIM+ MET	GALVUS MT
	NEPHROPATHY	SINGLE (SITA)	GLYCOPHAGE
	NEUROPATHY	COMBINATION	GALVUS MT
	HYPOGLYCEMIA	COMBINATION	GLYCOMET
	IHD	COMBINATION	GLYCOMET SR
	CAD	COMBINATION	GLYCOMET SR
	MI	COMBINATION	GLYCOMET GP
	ANGINA	COMB	GLYCOMET GP

SPECIALITY	INDICATION	MOL PREFERENCE	BRAND PREFERENCE
DIABETO	TYPE 2	COMB(GLIM+ MET	GLYCOMET SR
	DM	SAME	GLYCOMET GP
	TYPE1	TENELIGLIPTIN	
	NEUROPATHY	COMB(GLIM+MET)	PIOZ TAB
	NEPHROPATHY	TENE+ MET	JARDIANCE
	HYPERTENSION	GLIM+ MET	GLYCOMET TAB
	IHD	GLIM+ MET	GLYCOMET TAB
	MI	TENELIGLPTIN	GLYCOMET TAB
CARDIO	DIABETES MELLITUS	GLIM+ MET	GLYCOMET GP
	TYPE-2 (NIDDM)	GLIM+MET	SAME
	DIABETIC NEUROPATHY	GLIM+MET	GALVUS MT
	HYPOGLYCEMIA	SITA+ MET	ISTAMET
	HYPERTENSION	GLIM+ MET	GLYCOMET
	I H D (ISCHEMIC HEART DISEASE)	GLIM+MET	GALVUS MET

By the comparison of speciality of the doctors as per indication the molecule or their combination are same but in case of brand, they mostly believe on the brands of USV. These two specialties doctors have different brand choice in different indication.

SPECIALITY	INDICATION	MOL PREFERENCE	BRAND PREFERENCE
NEPHRO	DIABETES MELLITUS	LINAGLIPTIN	ONDERO TAB
	TYPE-2 (NIDDM)	COMB(GLIM+MET)	ONDERO TAB
	DIABETIC NEPHROPATHY	TENELIGLIPTIN	EUREPA
	HYPERTENSION	GLIM+MET	ONDERO
	I H D (ISCHEMIC HEART DISEASE)	REPAGLINIDE	EUREPA
	CAD	LINAGLIPTIN	ONDERO

CONS PHY	DIABETES MELLITUS	GLIM+MET	GLYCOMET SR
	TYPE-2 (NIDDM)	GLIM+MET	GLYCOMET GP
	TYPE-1 (IDDM)	TENE+MET	GLUCONORM
	DIABETIC NEPHROPATHY	COMBINATION	GLYCOMET GP
	DIABETIC NEUROPATHY	TENE+MET	

For Neuro specialists they mostly preferred single molecule and their brand preference different from another specialist.

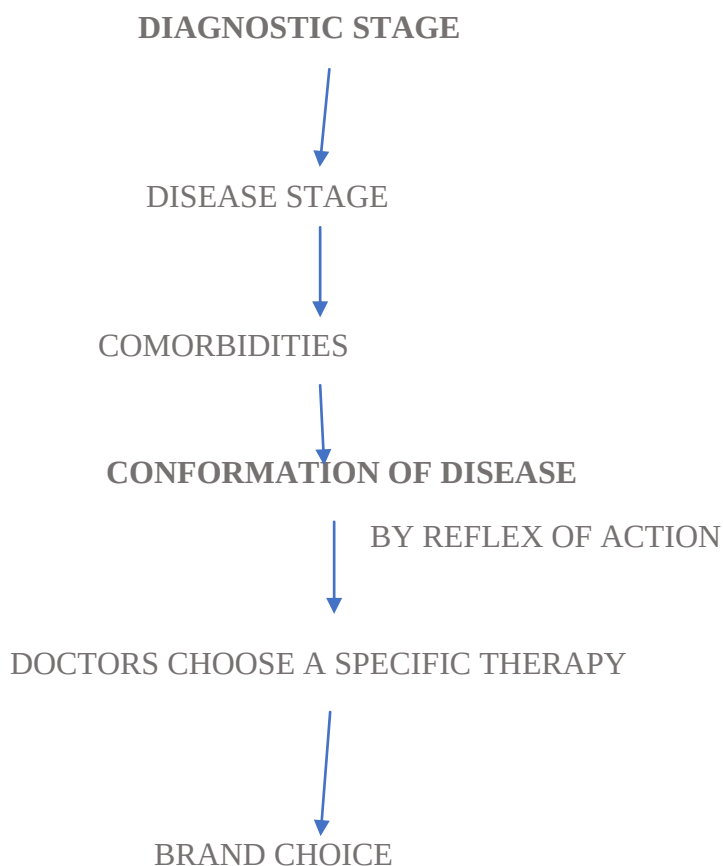
CONCLUSION:

Since it is important to know that Doctors Behaviour and their mindset. Every companies believe in **the Concept of Transactional Analysis**. But it is not a long-term thing. As company we must have to crack the

As a marketer we must understand the main basic steps by which doctors comes to decision of prescription:

- 1. Diagnostic Decision:** - Through which a doctor categorizes a patient by his disease and his co-morbidities, mindset, affordability etc. (By ordering Diagnostic Test / by Questioning the patient and accompanying persons, if any).
- 2. Therapy choice:** Based upon the above profile, he decides that the patient needs.
- 3. Brand Choice:** Here a doctor goes from the molecule choice to a brand choice

THE PROCESS OF CHOOSING A SPECIFIC BRAND FOR A DISEASE:



In pharma marketing DOCTORS are the GATEKEEPERS. DOCTORS are **the member of a decision-making unit or social group who acts to encourage a purchase of a whole therapy (Molecule+ Brand) by the symptoms of the patients**. So in prescription analysis

behavioural segmentation also a important factor which would be implemented by Marketing Managers of the companies.

SUGGESTION:

Saying the same thing to all doctors was a waste of effort in a face to face visit world, it is a disastrous waste of resources in a post COVID digitally driven social distancing world.

It is therefore important for the Marketer to understand the mind of the doctor, his beliefs, his attitude towards therapies, his basic decision-making process as he chooses to prescribe in one way or another in specific patients.

Key strategies to suggested to different quadrant of Doctors:

Q1:

1. Make the doctors our KOL doctors
2. Help the doctors for diagnose more patients.
3. Holding CME's with neighbor GP's
4. If as a company want to penetrate the rural market involve this KOL's to influence the rural doctors.
5. Help the doctors with telemedicine support.
6. Build for them a mobile responsive website.

Q2:

1. Involve them in CME program and convince them through KOL for the role of the molecule in patient groups.
2. Involve them in Therapy related seminars, webinars.
3. Give him more clinically relevant books, case studies, journals that could help him to believe on the therapy.
4. Support most of them digitally.
5. Increase the PSR visit and tell the PSR to promote mostly the Therapy not the Brand.

Q3:

1. Increase the continuous engagement of the Brand with the doctors.
2. Organize for them “Lunch and learn” programmed with the KOL and talks about the brand’s effectiveness.
3. To attract to the brand, involve them to the brand related activities.

Q4:

1. Reduce the PSR visit frequency.
2. Reduce the monetary expenditure because they believe on other therapy and brand and spend that money to Q1 and Q2.

LIMITATION:

1. This study does not include the chemists.
2. Not taken any opinion or verbal opinion from the physician

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