

MARKET ASSESMENT OF ANTI-DIABETIC DRUGS IN INDIA AND TO PERFORM INTERNAL SALES ANALYSIS

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Pharmaceutical Management

by

Hima Bindu Nayakanti

Under the Supervision and Guidance of

Mr. Rahul Sharma

Assistant Professor, School of Pharmaceutical Management,

IIHMR University, Jaipur-302029

2022

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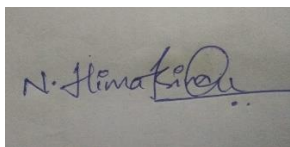
Assistant Professor, School of Pharmaceutical Management,

IIHMR University, Jaipur-302029

2022

DECLARATION BY STUDENT

I hereby declare that this dissertation titled “Market Assessment of Anti-Diabetic drugs in India and to perform internal sales analysis” is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

A rectangular box containing a handwritten signature in blue ink. The signature appears to read "N. Hima Bindu" with a stylized flourish at the end.

N Hima Bindu

Date: 24-06-2022

CERTIFICATE

This is to certify that dissertation titled “Market Assessment of Anti-Diabetic drugs in India and to perform internal sales analysis Antidiabetic drugs” is a record of the research work undertaken by Hima Bindu in partial fulfillment of the requirements for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur under my guidance and supervision and his approach to the research study has been sincere, scientific, and analytical.

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ABSTRACT

The antidiabetic medicine industry segment is extremely competitive and fragmented, causing several problems for consumers; thus, research is necessary to have a deeper knowledge and assessment of the Antidiabetic market. Diabetes is a major established risk factor for renal and eye problems. Diabetes treatment is continuously developing in response to new information published on a regular basis, and an excess of new medicines are being added at a quick rate. There has been a shift in the medicines administered, because of their positive impact on lowering underlying comorbid disorders. Outdated medicines are being phased out in favor of newer, more effective treatments with fewer adverse effects. As a result, this research focuses on the market estimation and growth of Oral antidiabetics, as well as the assessment of new competitors in the same segment. For conducting the research, a well-defined questionnaire was prepared for the survey where the target audience were the dispensing pharmacists. They were requested to respond to the questions and their responses were finally recorded digitally. A graphical analysis was performed on the responses obtained, following that the conclusion was framed.

Keywords- Antidiabetic drugs, market, competitive landscape, brands, oral and insulin-based antidiabetic drugs.

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Himabindu

(Roll No. 0254)

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LIST OF ABBREVIATIONS

Abbreviations	Meaning
CAGR	Compounded Annual Growth Rate
MS	Market Share
DKA	Diabetic Ketoacidosis
DM	Diabetes Mellitus
GAD65	Glutamic Acid Decarboxylase
GDM	Gestational Diabetic Mellitus
Hb1Ac	Glycated Hemoglobin
YTD	Year till date
MAT	Moving Annual total
ICAs	Antibodies to Islet Cell
IDF	International Diabetes Federation
IFG	Impaired Fasting Glucose
IGT	Impaired Glucose Tolerance
IPR	Intellectual Property Rights
GR	Growth Rate
T2DM	Type 2 Diabetes Mellitus

Chapter 1: Introduction:

Diabetes mellitus (DM) is perhaps one of the oldest diseases in mankind. It was first mentioned around 300 decades ago in an Egyptian text (Awad.M. Ahmed, 2002). A diverse collection of metabolic illnesses marked by chronic hyperglycemia caused by insufficient or impaired insulin production, insulin action, or both is known as Diabetes Mellitus (DM). The significance of insulin as an anabolic hormone causes metabolic irregularities in glucose, lipids, and proteins (Kharroubi & Darwish, 2015).

Diabetes mellitus has reached pandemic proportions. Except for gestational diabetes, early detection of diabetes and prediabetes is critical using established haemoglobin A1c (HbA1c) criteria. (Kharroubi & Darwish, 2015). In 2011, around 360 million individuals were predicted to suffer with diabetes; by 2030, that number will surge to around 550 mn. Each and every nation is observing a rise in the number of individuals with T2DM, with 80 percent of those who are affected are inhabitants in poor and working-class countries. In 2011, Diabetes mellitus claimed the lives of 4.6 million inhabitants. (Olokoba, Obateru, & Olokoba, 2012).

The most common reasons for T2DM, a disease spectrum originating from tissue insulin resistance and progressing gradually to a state characterized by complete loss of pancreatic secretive activity of beta cells, are found by impaired insulin secretion, tissue action resistance or combination of both. T2DM contributes significantly to the extremely substantial growth in the rate of non-communicable illnesses affecting industrialized and emerging countries. (Chaudhury, 2017)

Patients are at serious risk for long-term macro- and microvascular issues as a result of the severe metabolic instability associated with this disease, which can lead to recurrent hospitalizations and consequences, including a higher risk of heart disease if not treated properly.

1.1 Classification of Diabetes Mellitus:

1.1.1 Type 1 Diabetes:

Immune mediated: This kind of diabetes is a consequence of the cell-mediated autoimmune destruction of β -cells of the pancreas, which accounts for just 5–10 per cent of diabetes previously referred to as insulin-dependent diabetes, type 1 diabetes, and juvenile-onset diabetes. (Diagnosis

and Classification of Diabetes Mellitus, 2010) Antibodies to the islet cell (ICAs), glutamic acid decarboxylase (GAD65), tyrosine phosphatases IA-2 and IA-2b, ZnT8, and insulin auto-antibodies (IAAs) are all markers of immunological degradation of the β - cell. When fasting hyperglycemia is first discovered, one or more of these autoantibodies are found in 80-85 percent of people. (Solis-Herrera, Triplitt, & Reasner, 2000). In some persons (primarily newborns and kids) the speed of β -cell breakdown in this form of diabetes is extremely variable and slow in others (mainly adults). In certain individuals especially notably infants and adults, ketoacidosis may be the earliest sign of the condition. Others have moderate fasting hyperglycemia which, if exposed to infection or other triggers, can move swiftly towards serious hyperglycemia

Idiopathic diabetes: Type 1 Idiopathic variants DM often majorly come from Africa or Asia. There is an irregular threat of diabetic ketoacidosis (DKA) based on their differing low insulin concentration in the bloodstream (Diagnosis and Classification of Diabetes Mellitus, 2010)

1.1.2 Type 2 Diabetes:

This kind of diabetes, which affects 90–95 percent of people with diabetes and was previously known as non–insulin-dependent diabetes, type 2 diabetes, or adult-onset diabetes, is characterized by insulin resistance and relative inadequacy of insulin. (RA, 1997) Although the plasma insulin level (both fasting and meal-stimulated) is usually raised in absolute terms, it is inadequate to sustain optimal glucose regulation "relative" to the degree of insulin resistance.

Ketoacidosis is unlikely to occur with this kind of mellitus, and if it does occur, it's generally due to the stress of another condition, such as an infection. Because hyperglycemia develops slowly and is frequently not severe enough for the patient to notice any of the typical symptoms of diabetes in its early stages, this kind of diabetes can go undetected for years.

According to a report issued in 2013 by the International Diabetes Federation (IDF), the prevalence of diabetes all over the world in adults (21-80 years old) was 8.3% (382 million people), the large proportion comes under the ages of 40 and 60 years, and the number is expected to rise beyond 590 million by 2030, with a 10 percent global prevalence. (Aguirre, 2013). The main causes of type 2

diabetes are genetics and lifestyle choices. (Cynthia M Ripsin, 2009) A variety of lifestyle activities have been linked to the rise of type 2 diabetes such as lack of physical activity, a lack of exercise, smoking tobacco, and excessive alcohol consumption. (F B Hu, 2001)

Chapter 2: Literature Review:

As can be seen from the International Diabetic Federation's worldwide map image of diabetes (<http://www.diabetesatlas.org/>), Type 2 diabetes mellitus (T2DM) is a global epidemic. Diabetes mellitus is a severe metabolic disease defined primarily by hyperglycemia that progresses and is not entirely understood. The most frequent reasons for the pathophysiology of T2DM, a spectrum of disease originated from tissue-insulin resistance and progressively advancing to the state characterized by total lack of secretion activity in pancreatic beta cells are thought to be improper insulin secretion, tissue resilience, or a combination of both. T2DM contributes significantly to the enormous increase in non-communicable illnesses in industrialized and emerging countries. This brief review seeks to describe the current management concepts for the reduction of T2DM high blood glucose, which include the spectra of medicines presently being utilized for pharmacological control. (Chaudhury, 2017).

In terms of diagnostic criteria, pathophysiology, and genomics, several classifications of Diabetes mellitus, their types are compared. In recent years several notable researchers and research organizations in the field of biomedicine have paid close attention to the molecular genomics of diabetes. A wide range of mutations and single nucleotide polymorphisms (SNP) in genes which have an important function in different stages and processes in the breakdown of carbohydrates and in the formation, regulation, and function of pancreatic cells at different levels are investigated. In comparison to the prior understanding in this subject, the main breakthroughs in molecular understanding of diabetes in connection to distinct kinds of diabetes are briefly examined here. The mechanism of diabetes progression and complications has yet to be fully understood despite the gathering of substantial evidence at both molecular and cellular levels. More study is clearly necessary in this sector, which will focus on the ultimate goal of improving diagnoses, therapy and limiting the likelihood of developing chronic problems. (Kharroubi & Darwish, 2015).

In study report to assess the influence of lifestyle activities in Diabetes they investigated 84,941 women nurses were tracked, free of cardiovascular disease, diabetes, and cancer on the basis of diagnosis in the base line. Diet and lifestyle information was regularly updated. In conjunction with five factors, a low-risk category was defined: Body mass index below 25; high grain fiber and unsaturated fat and less trans-fat and glycemic stress diet- this impacts the blood sugar effect as a result of diets; adequate to high body exercise of at least 30 minutes a day; non-current smoking; and a daily average consumption of a minimum of a half alcohol content. The most powerful determinant of diabetes was overweight or obesity. Avoiding exercise, poor nutrition, ongoing cigarette smoking were all related to a substantial rise of diabetes risk, even following body mass index correction. In the low-risk category (3.4% of women) there was a proportional risk of diabetes of 0.09 compared to the remainder of the cohort. Total 91 percent of cases of diabetes may be ascribed to routines and types of behaviour not compliant with a low-risk pattern in this cohort. (Hu, Manson, & Stampfer, 2001).

In another study researchers assessed in identifying and investigating the cluster implications and results of Type 2 diabetes among Asian Indians. We picked around 19,000 participants with T2DM (aged 10–95 years) with diabetes tenure of less than 5 years before meeting of first doctor's visit from a channel of 50 diabetes facilities across nine Indian states and performed k-means clustering utilizing dependent indicators: age at during diagnostic test, BMI, waist size, glycated haemoglobin, serum triglycerides, serum high-density lipoprotein, and serum high-density lipoprotein. This was subsequently confirmed in a nationwide epidemiologic studies data collection containing representative individuals from 15

Indian states. Cluster 1 (Severe Insulin Deficient Diabetes SIDD), Cluster 2 (IRDD Insulin resistant diabetes), cluster 3 (Combined Insulin Resistant and Deficient Diabetes, CIRDD) and Cluster 4 (Mild Age-Related Diabetes, MARD), researchers found four patient clusters, varying in both the phenotypic features as well as the illness outcome. Cluster 1. (Severe Insulin Deficient Diabetes SIDD), Cluster 2 (IRDD Insulin resistant diabetes), and Cluster 4 We found four patient clusters, varied in both the phenotypic traits as well as the illness outcome: Cluster 1. (Mild Age-Related

Diabetes, MARD). Though SIDD and MARD resemble clusters described in other demographic groups, new clusters are IROD and CIRDD. Cox proportional dangers demonstrated that retinopathy, followed by CIRDD, is the largest risk for SIDD, whereas renal disease is at risk of CIRDD. (Anjana, Baskar, & Nair, 2020).

In another article the aim of the Systematic Literary Study is to evaluate the aspects of self-management education (DSME) for the women from Africa and Latin America with Type 2 diabetes mellitus in attempt to optimize their education in Diabetes. For randomized controlled trials and comparative analysis, we conducted literature searches in various health databases. Efficacy in improvement of glycated haemoglobin (HbA1c), physical activity, and diet results have been estimated as a basis for successful intervention. Rate differences calculations examined if an intervention function has influenced an outcome favorably or adversely. We found 38 interventional characteristics in connection to their effectiveness using the results of 13 trials included within our research. There have been favorable rate differences across five interventional characteristics with at least three results: hospital intervention, group interventions, utilization of situation solution, numerous sessions, and the incorporation as interventionist of dietitians. Six operational characteristics exhibited strong positive result differentials. (Enza Gucciardi, 2013).

The transformation of the business environment and the global incidence of diabetes mellitus will greatly increase the business activity and trends in this area. The cost of the therapy will certainly affect the future market for diabetes mellitus; products with the appealing index therapeutic effectiveness may infiltrate the market. The development of the market interest of the major antidiabetic brands is driven mostly by their abrogation and the implied launch of generic products on the market. (Claudiu Morogvan, 2010)

The purpose of this study was to record the research after market in the pharmaceutical business and the implications on post-market studies of oral antidiabetics of labelling changes. A study literature identified metformin, glipizide, and pioglitazone post-market trials. Labeling modifications in MedWatch® have been identified as FDA reaction indicators for post-market pharmaceutical safety. The data for the pre- & post-market studies, study sponsorships, drug labelling changes and outcomes after drug use have become generic were evaluated by comparing industries and non-industries funded studies. Industry-wide studies were financed which revealed 149 (49%) and 155 (51%) on metformin; 33 (44%) and 42 (56%) on glipizide; and 85 (80.2%) compared with 21 (19.8%) pioglitazones. For metformin and glipizide, the variations in the positive outcomes between industry and non-industry trials were similar. After metformin and glipizide became generic, the number of research financed by the industry did not considerably rise. In compared with research promoted by the competitors in the business, studies supported by Glipizide manufacturers

showed considerably better results (90% positive, 10% neutral, 0% negative, $P < 0.05$). In industry-sponsored research (88.2 per cent), the outcomes for pioglitazone were considerably more positive than in non-industry studies (66.7 per cent) ($p = 0.008$). The numbers of labelling modifications to pioglitazone and post-market studies have a considerable connection ($p = 0.008$). Pharmaceutical industry and researchers' interests drive post-market research. Studies financed by the pharmaceutical company support the beneficial usage of the breakdown medication and reveal negative generic effects. There is a potential link between modifications to medication labelling and post-market research. (Nabil Khalidi, 2014).

Whereas lifestyle changes, like change in the diet and increased exercise, can be highly successful in improving glycemic control, medicines are required to achieve glycemic control over the long term

for persons with T2DM. This chapter is intended to offer healthcare workers an overview of the present pharmacological alternatives available for treatment of T2DM patients orally and injected (non-insulin). Moreover, injection can be used to deliver glucagon such as peptide 1 (GLP-1) receptor agonists or amylin. Medications from the separate pharmacological classes may be used in a combination of two or more medications from various classes and with different mechanisms of action, for themselves (monotherapy). USA and many other countries have a range of set combinations of 2 agents. This chapter discussed the usage of the glucose reduction medications, the action mechanism, and the influence on glycemic control, additional advantages, adverse effects, and contraindications. (Feingold, 2000).

Chapter 3: Research Objective:

The objective of this study is to identify the current and future market potential of anti-diabetic drugs in India. And also, to find out which of the diabetic drugs are mostly used in the regions of Delhi, Gurgaon, and Noida. To perform the internal sales analysis of diabetic market and give suggestion for marketing strategies.

- To Assess the current market for anti-diabetic drugs in India.

Focus of the Analysis:

- Performance of the Oral Antidiabetics market and insulin market in India
- Performance of key classes
- Performance of key players
- Market outlook

Chapter 4: Research Methodology

4.1 Research Design-

- Type of Research: Descriptive study
- Source of Data: Primary and Secondary Research.
- Data collection technique: Through survey- 80% through online mode of survey, 10% through telephone and rest 10% through physical interaction.
- Data collection tool: Questionnaire tool.
- Data Collection Method:
 - Primary Data Collection: A pretested structured questionnaire was framed for data collection.
 - Secondary Data Collection: Journals, PubMed Articles
- Duration of the study: 3 months (March 22 to June 20, 2022)

4.2 Sample Design-

- Target Population: Dispensing Pharmacists

- Sample Size: 100 Pharmacists
- Sampling technique: Non-Probability-Convenience sampling.
- Study Area: Jaipur, Noida, Delhi, Ahmedabad.
- Data Collection and Analysis: The responses obtained was collected, filtered, and statistically analyzed using tools like Microsoft Excel / R-studio.
- Measure of Ethics: Respondents were assured of Privacy and Confidentiality.
- Data Analysis and Interpretation: With the use of suitable statistical techniques, the data was analyzed and interpreted to arrive at the results.

Chapter 5: Results and Discussions:

The study includes 100 respondents (pharmacies and retailers) from different locations. We analysed the data in different graphical representations such as

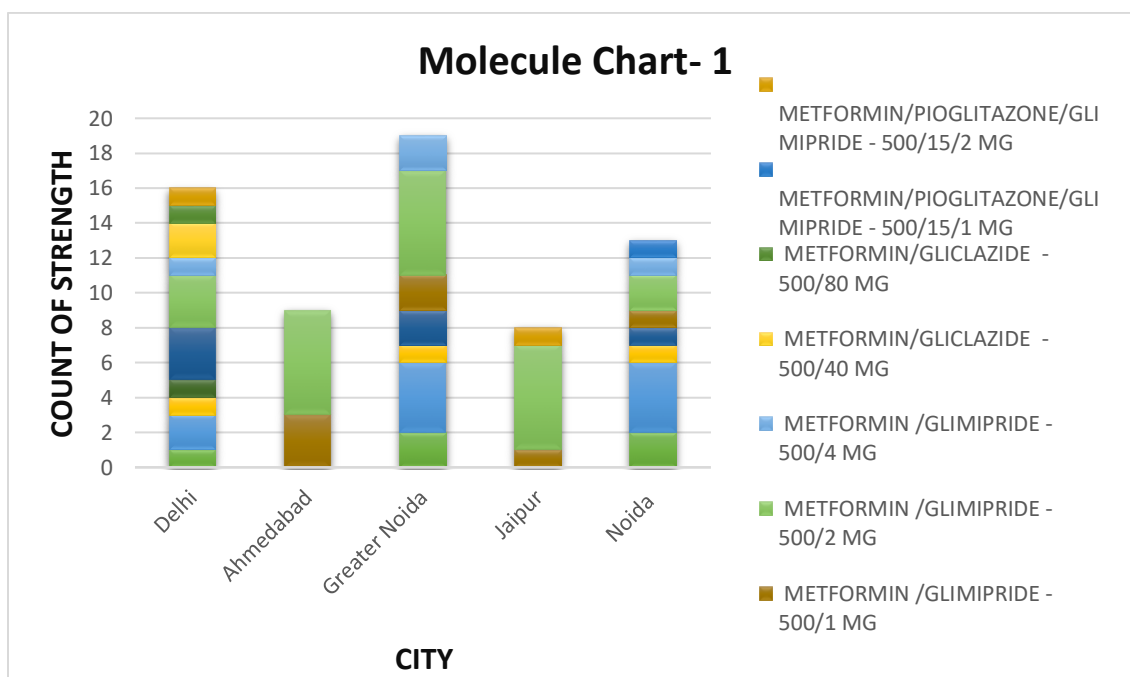


Figure 5.1.1: Molecule chart -1

The above chart represents the analysis of drugs from locations like Delhi, Ahmedabad, greater Noida, Jaipur, and Noida. It shows that Metformin/Glimepiride 500/2 MG is mostly used in the above regions.

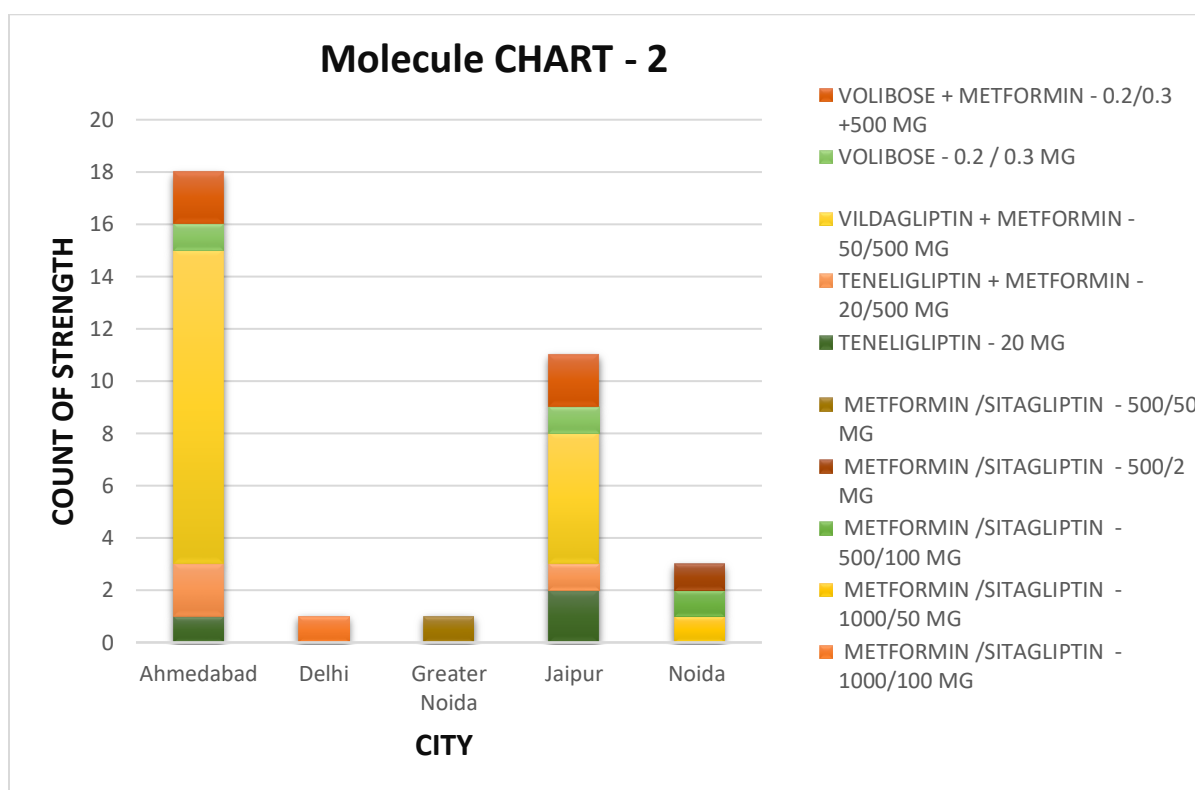


Figure 5.1.2: Molecule chart -2

The above chart represents the analysis of drugs from locations like Delhi, Ahmedabad, greater Noida, Jaipur, and Noida. It shows that VILDAGLIPTIN + METFORMIN – 50/500 MG is mostly used in the above regions.

5.1 Data analysis of Anti-Diabetic Market In 2021

The recent data of anti-Diabetic's market has been taken for the current study. Based on the analysis, the following interpretations has been done.

1.

GROUP WISE ANALYSIS								
Row Labels	VALUE WISE				UNIT WISE			
	MAT MAR'20	MAT MAR'21	MS%	GR%	UNIT MAT MAR'20	UNIT MAT MAR'21	MS%	GR%
Grand Total	14422.14	15679.23	100.00	8.72	1475151	1552909	100.00	5.27
A10B ORAL ANTIDIABETICS	10603.96	11663.66	74.39	9.99	1324441	1398855	90.08	5.62
A10C HUMAN INSULIN N ANALOGUES	3531.28	3788.81	24.16	7.29	113434	119347	7.69	5.21
A10E INSULIN DEVICES	156.74	107.20	0.68	-31.60	36928	34390	2.21	-6.87
A10S GLP1 AGONIST ANTIDIABETIC	130.16	119.55	0.76	-8.15	347	318	0.02	-8.48

Table 5.1.1: Showing group wise analysis of Anti-Diabetic market

Interpretation:

This analysis shows that The Anti-Diabetic market is divided into 4 groups. Such as:

1. Oral Anti-Diabetics
2. Human Insulin analogues
3. Insulin devices and
4. GLP1 Agonist antidiabetics.

2.

ORAL ANTI-DIABETIC MARKET								
Row Labels	VALUE WISE				UNIT WISE			
	MAT MAR'20	MAT MAR'21	MS% 21	GR% 21	UNIT MAT MAR'20	UNIT MAT MAR'21	MS%	GR%
Grand Total	10603.96	11663.66	100.0 0	9.99	1324441	1398855	100.0 0	5.62
A10B0Q GLIMEPIRIDE+METFORM.	2472.60	2763.93	23.70	11.7 8	337427	356216	25.46	5.57
A10B0B GLIMEPIRIDE+METFOR+VOGLI B	815.43	935.75	8.02	14.7 5	82089	86307	6.17	5.14
A10B0D METFORMIN + VILDAGLIPTIN	611.06	739.34	6.34	20.9 9	29902	57056	4.08	90.81
A10B07 METFORMIN + SITAGLIPTIN	733.79	712.16	6.11	-2.95	27034	26191	1.87	-3.12
A10B0O METFORMIN + TENELIGLIPTIN	611.55	653.75	5.61	6.90	59963	59172	4.23	-1.32
A10B0W PIOGLITAZ. +METFORM. +GLIM.	561.24	636.72	5.46	13.4 5	73540	77612	5.55	5.54
A10B04 METFORMIN	427.21	452.59	3.88	5.94	205571	212478	15.19	3.36
A10B0M GLICLAZIDE + METFORMIN	403.97	443.29	3.80	9.73	53982	55856	3.99	3.47
A10B0F TENELIGLIPTIN	437.08	422.27	3.62	-3.39	56198	49662	3.55	-11.63
A10B13 EMPAGLIFLOZIN	341.85	385.31	3.30	12.7 1	8454	8869	0.63	4.91
A10B05 GLIMEPIRIDE	280.08	296.24	2.54	5.77	57948	58872	4.21	1.59
A10B0P LINAGLIPTIN	269.37	277.09	2.38	2.87	7330	7460	0.53	1.77
A10B12 DAPAGLIFLOZIN	212.82	271.32	2.33	27.4 9	3946	9473	0.68	140.0 4
A10B0H VOGLIBOSE	265.95	262.73	2.25	-1.21	35706	32425	2.32	-9.19
A10B0I VILDAGLIPTIN	231.39	260.75	2.24	12.6 9	11236	23837	1.70	112.1 4

Table 5.1.2: Showing Oral Anti-Diabetic market

Interpretation:

The above table shows different Oral anti-diabetic molecules in the overall Anti-Diabetic market.

Vildagliptin is highlighted, as it is the interest of study.

3.

TOP COMPANY ANALYSIS				
COMPANY	MAT MAR'20	MAT MAR'21	MS%	GR%
Grand Total	14422.14	15679.23	100.00	8.72
ABBOTT*	2435.15	2491.45	15.89	2.31
U S V	1446.18	1535.94	9.80	6.21
LUPIN LIMITED	1205.64	1366.30	8.71	13.33
SUN*	1073.09	1116.35	7.12	4.03
SANOFI*	944.80	1047.91	6.68	10.91
MANKIND	359.30	466.93	2.98	29.96
TORRENT PHARMA*	391.77	447.92	2.86	14.33
ERIS LIFESCIENCES*	394.49	433.06	2.76	9.78
MICRO LABS*	323.88	373.18	2.38	15.22
FRANCO INDIAN	222.56	249.29	1.59	12.01

Table 5.1.3: Showing Top Company analysis

Interpretation:

This analysis shows the top 10 Companies having highest sales in the Anti-Diabetic Market in India. Abbott is in 1st place with 15.89% Market share and growing at a rate of 2.3%. Followed by USV, Lupin, Sun Pharma, Sanofi, Mankind, Torrent Pharma, Eris life sciences, Micro Labs, and Franco Indian.

4.

VILDAGLIPTIN TOP COMPANIES								
Row Labels	MAT MAR'21	RANK	MS%	GR%	UNIT MAT MAR'21	RANK	MS%	GR%
Grand Total	1000.09		100.0	18.7	80892.85		100.0	96.6
NOVARTIS INTL.*	375.68	1	37.6	-4.1	17290.954	1	21.4	3.1
U S V	251.68	2	25.2	-17.8	10578.945	2	13.1	-14.3
ERIS LIFESCIENCES*	48.15	3	4.8	-23.4	4538.303	6	5.6	71.9
INTAS PHARMA*	34.09	4	3.4	472.8	5703.119	4	7.1	462.6
TORRENT PHARMA*	30.74	5	3.1	638.7	6934.063	3	8.6	623.2
MICRO LABS*	28.12	6	2.8	385.9	4096.668	7	5.1	384.6
MACLEODS PHARMA	26.03	7	2.6	469.2	3202.987	8	4.0	472.8
LUPIN LIMITED	25.83	8	2.6	395.7	2662.223	11	3.3	395.6
EMCURE*	22.70	9	2.3	452.9	2763.516	10	3.4	448.2
MANKIND	21.40	10	2.1	1169.1	4889.138	5	6.0	1161.0

Table 5.1.4: Showing Top companies of vildagliptin Molecule

Interpretation:

This analysis shows that, 50% of the Vildagliptin market is contributed by Novartis and USV alone.

The above tables show MAT sales for both value and unit market.

5.

BRAND WISE ANALYSIS									
		VALUE				UNIT			
BRANDS	COMPANY	MAT MAR'21	RANK	MS%	GR%	UNIT MAT MAR'21	RANK	MS%	GR%
Grand Total		1000.09		100	18.71	80892.85		100	96.63
GALVUS MET	NOVARTIS INTL.*	294.27	1	29.42	-3.52	13479.16	1	16.66	3.67
JALRA-M	U S V	179.89	2	17.99	-14.13	7228.56	2	8.94	-17.55
GALVUS	NOVARTIS INTL.*	81.41	3	8.14	-5.94	3811.80	3	4.71	1.09
JALRA	U S V	71.80	4	7.18	-25.70	3350.38	5	4.14	-6.44
ZOMELIS-MET	ERIS LIFESCIENCES*	31.94	5	3.19	-16.65	3239.29	6	4.00	84.80
VILDAMAC-M	MACLEODS PHARMA	19.13	6	1.91	507.84	2270.25	7	2.81	519.55
TORGLIP-M	TORRENT PHARMA*	17.83	7	1.78	554.44	3599.71	4	4.45	547.25
ZOMELIS	ERIS LIFESCIENCES*	16.21	8	1.62	-33.92	1299.01	17	1.61	46.32
VILDAPRIDE-M	MICRO LABS*	14.87	9	1.49	410.68	2082.79	10	2.57	411.77
VYSOV-M	CIPLA	14.33	10	1.43	-29.73	1391.77	15	1.72	26.46

Table 5.1.5: Showing Top brands of Vildagliptin molecule

Interpretation:

This analysis shows the top brands of Vildagliptin molecule. The brands GALVUS MET, JALRA-M, GALVUS, and JALRA constitute for more than 60% of the Market compared to other brands.

6.

MOLECULE WISE ANALYSIS						
SUBGROUP	Sum of MAT MAR'21	MS%	GR%	Sum of UNIT MAT MAR'21	MS%	GR%
Grand Total	1000.088	100.00	18.71	80892.85	100.00	96.63
A10B0D METFORMIN + VILDAGLIPTIN	739.34	73.93	20.99	57056.20	70.53	90.81
A10B0I VILDAGLIPTIN	260.75	26.07	12.69	23836.65	29.47	112.14

Table 5.1.6: Showing Molecule wise analysis of Vildagliptin

Interpretation:

This analysis shows that Combination of METFORMIN + VILDAGLIPTIN has the highest Market share of 73.93%, when compared to the Plain Vildagliptin market.

7.

VIDAGLIPTIN COMBINATION MARKET	
BRANDS	COMPANY
GALVUS MET	NOVARTIS INTL.*
JALRA-M	U S V
ZOMELIS-MET	ERIS LIFESCIENCES*
VILDAMAC-M	MACLEODS PHARMA
TORGLIP-M	TORRENT PHARMA*
VILDAPRIDE-M	MICRO LABS*
VYSOV-M	CIPLA
VYLDA-M	EMCURE*
VINGLYN-M	ZYDUS CADILA*
ZAVA MET	INTAS PHARMA*

Table 5.1.7: Showing Combination market of VILDAGLIPTIN

Interpretation: This analysis shows top brands and companies in combination market.

8.

VIDAGLIPTIN PLAIN MARKET	
BRANDS	COMPANY
GALVUS	NOVARTIS INTL.*
JALRA	U S V
ZOMELIS	ERIS LIFESCIENCES*
TORGLIP	TORRENT PHARMA*
VILDAMAC	MACLEODS PHARMA
VINGLYN	ZYDUS CADILA*
VYLDA	EMCURE*
VILDAPRIDE	MICRO LABS*
VYSOV	CIPLA
GLIPTAGREAT	MANKIND

Table 5.1.8: Showing Plain market of VILDAGLIPTIN

Interpretation: This analysis shows top brands and companies in Plain market.

5.2 Internal sales analysis

This analysis can be used in identifying top brands and competitors and to suggest a better marketing technique.

- Brand Wise Sales Overview
- Zone Wise Sales Performance
- QTR Wise Performance of Zones
- Zone Wise Analysis
- Zone Wise Unit Progression & Value Progression
- Region Wise Performance Value & Units
- Top 5 Regions and Lowest 5 Regions Monthly Progression Unit Wise

Brand Wise Sales Overview

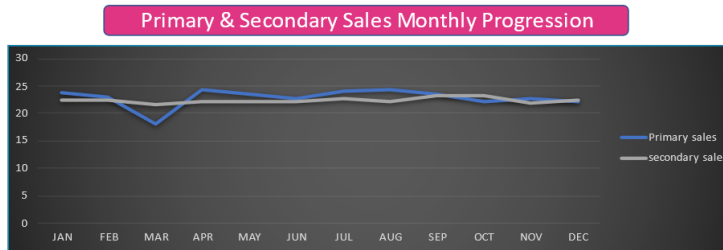
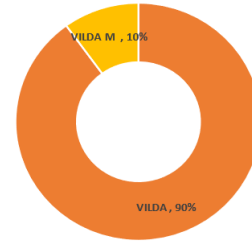
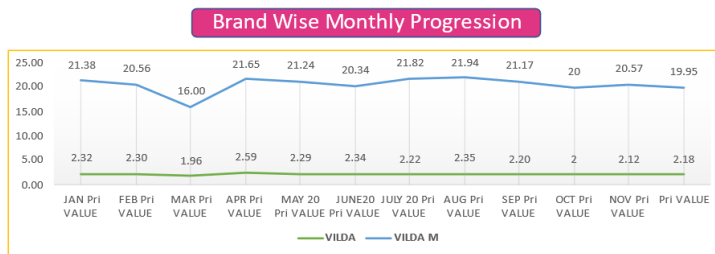


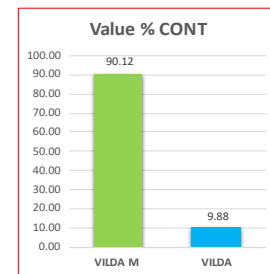
Figure 5.2.1: Analysis of Brand-wise sales overview

Interpretation:

This graph shows the brand-wise monthly progression of Brands VILDA & VILDA-M along with Primary and secondary sales monthly progression data.

Brand Wise Sales Overview

Product	Sum of YTD Tgt VALUE	Sum of YTD Pri VALUE	Sum of YTD Last Yr Pri VALUE	% ACH	%GR	CONT
Grand Total	292.80	273.58	239.43	93.43%	14.26	100.00
VILDA M	264.73	246.54	215.70	93.13%	14.29	90.12
VILDA	28.08	27.04	23.73	96.32%	13.94	9.88



Product	Sum of YTD Tgt UNITS	Sum of YTD Pri UNITS	Sum of YTD Last Yr Pri UNITS	% ACH	%GR	CONT
Grand Total	10243381	9574376	9221496	93.47%	3.83	100.00
VILDA M	9151497	8522704	8204412	93.13%	3.88	89.02
VILDA	1091884	1051672	1017084	96.32%	3.40	10.98

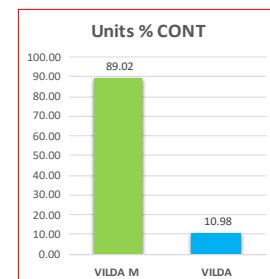


Figure 5.2.2: Analysis of brands Value wise and Unit wise

Interpretation:

The above graph shows that VILDA-M contribution is more when compared to VILDA.

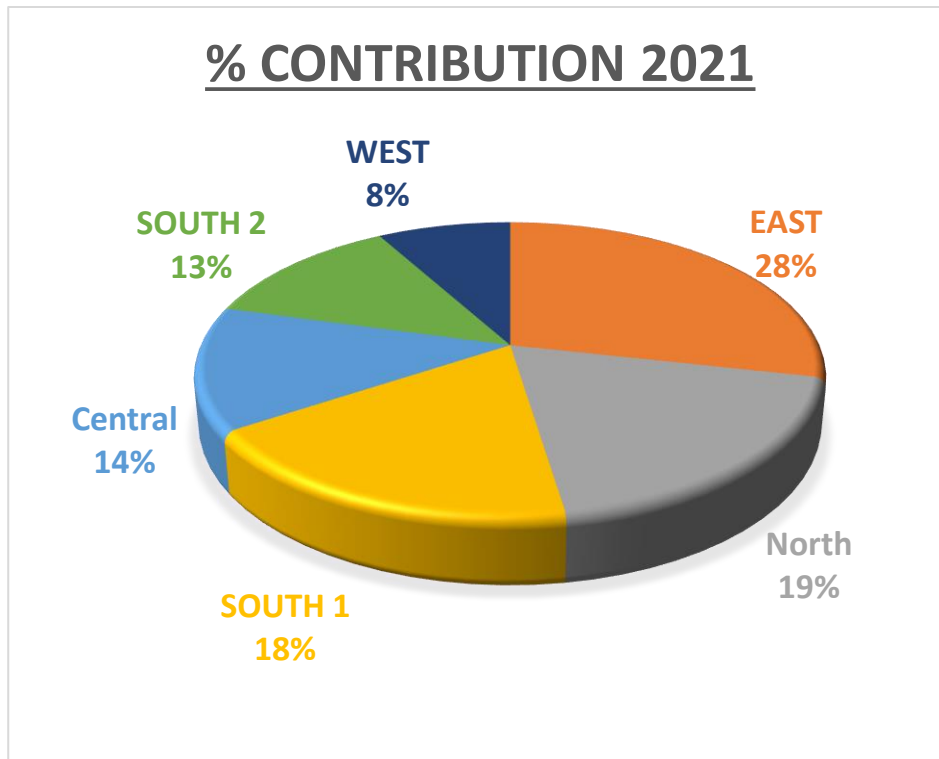


Figure 5.2.3: Showing percentage contribution of Zones

Interpretation:

The above pie chart depicts the contribution of each Zone in the year 2021. They are divided into 5 zones. Such as:

1. East
2. North
3. South 1
4. South 2
5. Central
6. West

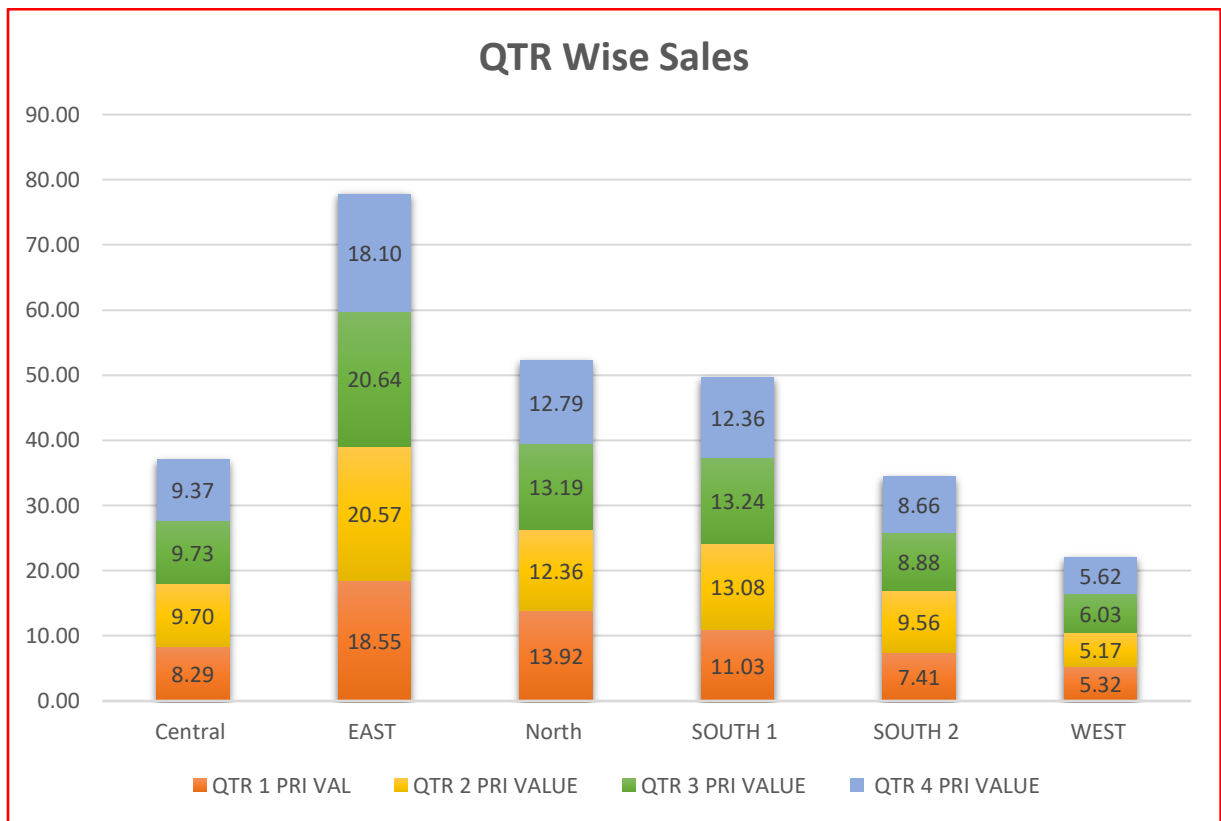


Figure 5.2.4: QTR wise performance – Zone level

Interpretation:

- The above graph shows that EAST Zone performs more when compared to the other zones in every quarter.
- North zone quarter performance stands at 2nd place, followed by South 1, Central and South 2.
- This analysis is used to know which quarter performs well while expanding the market and it is also used to build a better marketing plan.

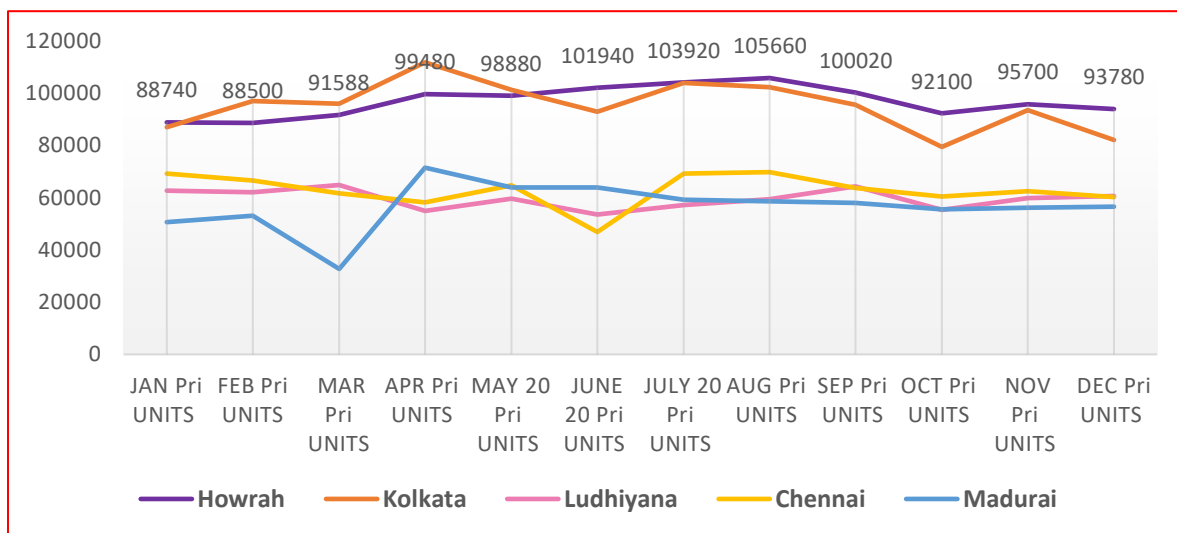


Figure 5.2.5: Region wise monthly unit progression – Top 5

Interpretation:

The above graph shows the top 5 regions with highest sales monthly progression. The top 5 regions include Howrah, Kolkata, Ludhiana, Chennai, Madurai unit wise.

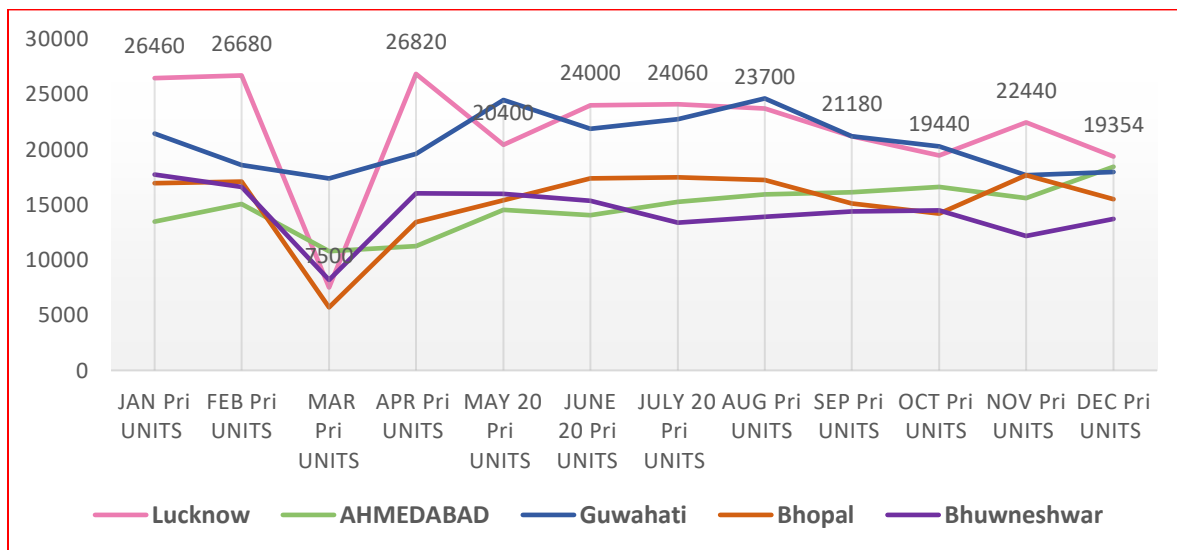


Figure 5.2.6: Region wise monthly unit progression – Lowest 5

Interpretation:

The above graph shows the lowest 5 regions with minimum monthly sales progression. The lowest 5 regions include Lucknow, Ahmedabad, Guwahati, Bhopal, Bhubaneswar unit wise.

Chapter 6: Conclusion

The survey was conducted in the region of Jaipur during March 2022 to June 2022. The target audience were the dispensing pharmacists from various pharmacies in the desired location where research is to be carried out. The sample size chosen was 100 dispensing pharmacists. From the statistical and graphical analysis of data it has been observed that oral antidiabetics are prescribed more as compared to the injectable antidiabetics and Oral antidiabetic market is more than Injectables.

Based on the analysis of drugs from locations like Delhi, Ahmedabad, greater Noida, Jaipur, and Noida, shows that Metformin/Glimepiride 500/2 MG and VILDAGLIPTIN + METFORMIN – 50/500 MG are mostly used in the above regions. This also shows that Combination market is highly affective than the plain anti-diabetic market.

The further analysis is done based on the anti-diabetic data in the market of the year 2021 and mainly focused on Vildagliptin molecule. This analysis shows the Oral anti-diabetics (with Market share 90.08%) are the market leaders compared to Human insulin analogues (7.69%), Insulin devices (2.21%) and others. Oral Anti-diabetic market consists of different combinations of drugs. The top companies according to the analysis are Abbott with 15.89% market share, followed by USV with 9.80% market share and Lupin with 8.71% market share in MAT Mar 2021.

The Top brands of Vildagliptin are found out to be GALVUS MET and JALRA-M in Combination Market and GALVUS and JALRA in plain Market holding the highest market shares.

Chapter 7: Recommendations

From the above conclusion I would recommend that Oral-Antidiabetic market is a huge place for entering into the market. It is also evident that combination drugs have more market potential than the plain molecule drugs. Many drugs are mostly recommended as oral anti-diabetic medications, through combination therapy is preferred over single dose therapy. Since, combination therapy is less expensive, it would be a good idea to enter in this market.

Chapter 8: Limitations of the Study

Due to on-going COVID-19 social distancing posed a few challenges for the effective execution of market research. In-person interviews and focus groups are tough to conduct. Virtual substitutes exist, however this raises questions regarding data reliability. Screen-to-screen discussions have different effects than face-to-face encounters. Digital sessions also make the work more difficult. It's not the same reading body language on a screen. Connecting with an interviewee or participating in a focus group isn't easy. It's difficult to duplicate the same level of efficiency as compared to the physical interaction with the participants.

Chapter 9: References

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Chapter – 10: ANNEXURE

10.1. Ethical Consideration:

The research study was carried out in accordance with the established research procedures. The study participant was provided time to express their real feelings about the research topics. The participants' consent was obtained, and proper permission was granted for the use of their data.

The respondent's identity was revealed with their permission, and if they were unwilling to do so, their identity was kept confidential.

10.2. Plagiarism report

