

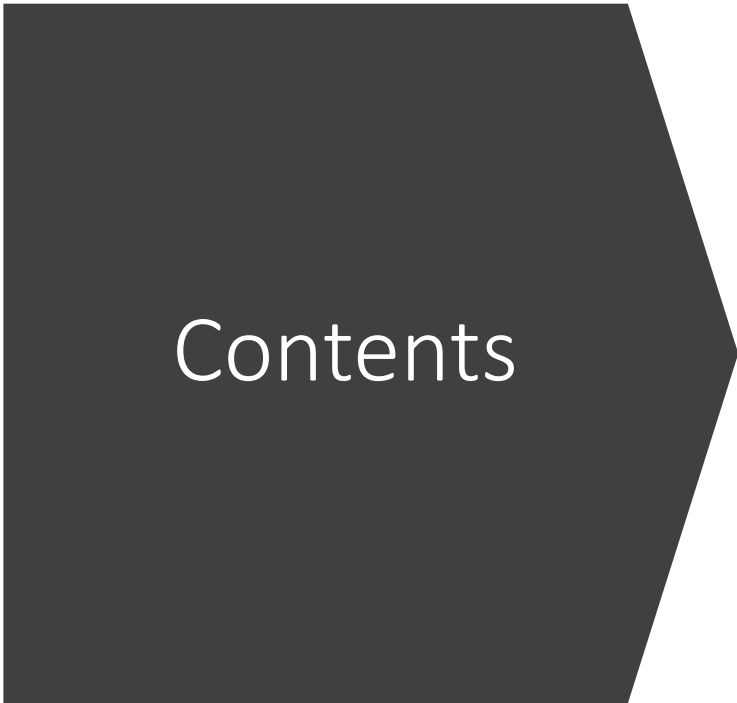
MARKET ASSESMENT OF ANTI- DIABETIC DRUGS IN INDIA AND TO PERFORM INTERNAL SALES ANALYSIS

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INTRODUCTION

Introduction:

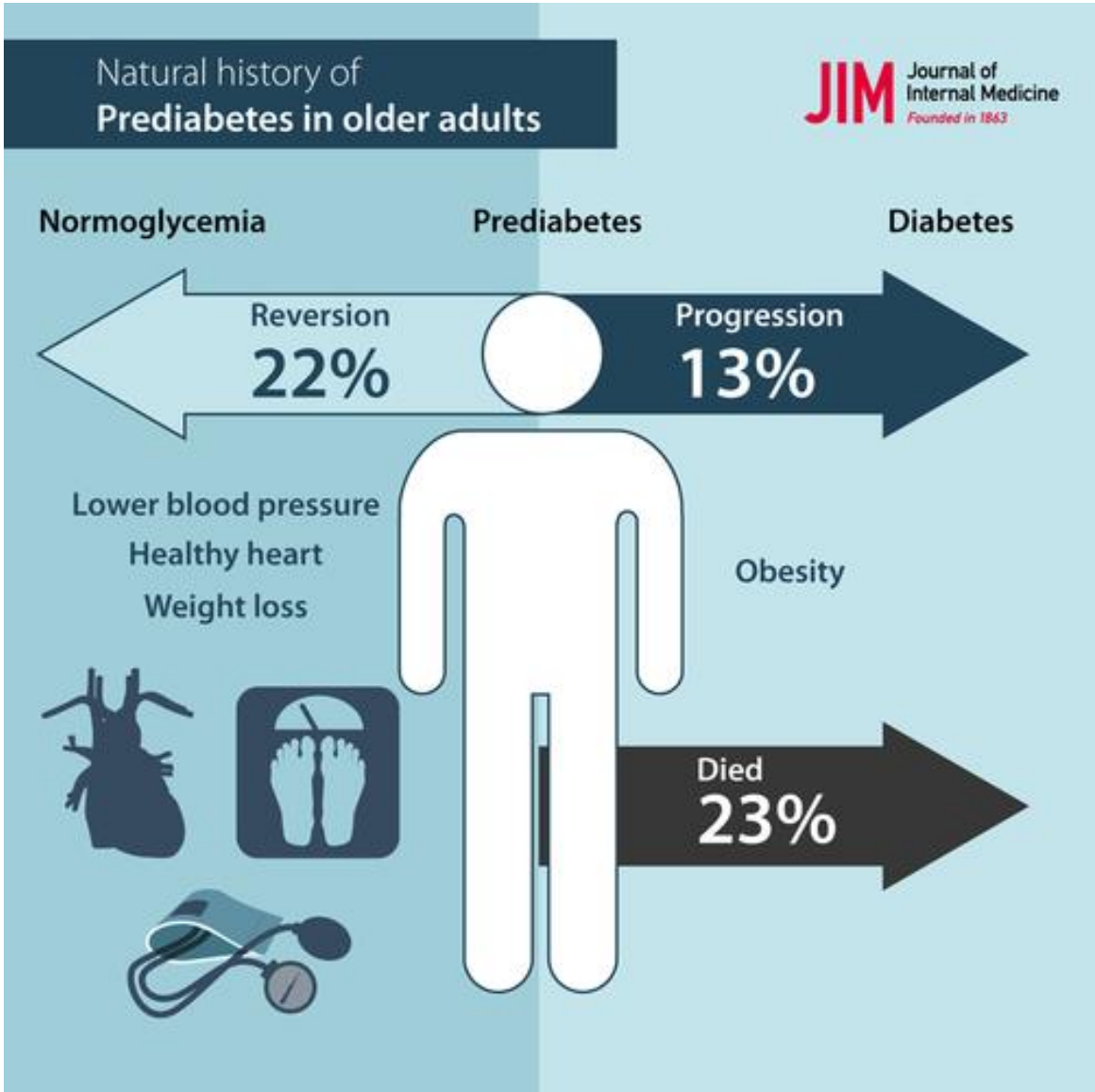
Diabetes mellitus (DM) is perhaps one of the oldest diseases in mankind. It was first mentioned around 300 decades ago in an Egyptian text.

Definition: A diverse collection of metabolic illnesses marked by chronic hyperglycaemia caused by insufficient or impaired insulin production, insulin action or both is known as Diabetes Mellitus.

Diabetes mellitus has reached pandemic proportions.

Except for gestational diabetes, early detection of diabetes and prediabetes is critical using established haemoglobin A1c (HbA1c) criteria.





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 secretory 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.

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.

PRE-DIABETES:

Prediabetes, also known as impaired fasting glucose(IFG), is a state in which the fasting blood sugar level is higher than normal but not high enough to be considered diabetes.

Classification of Diabetes Mellitus

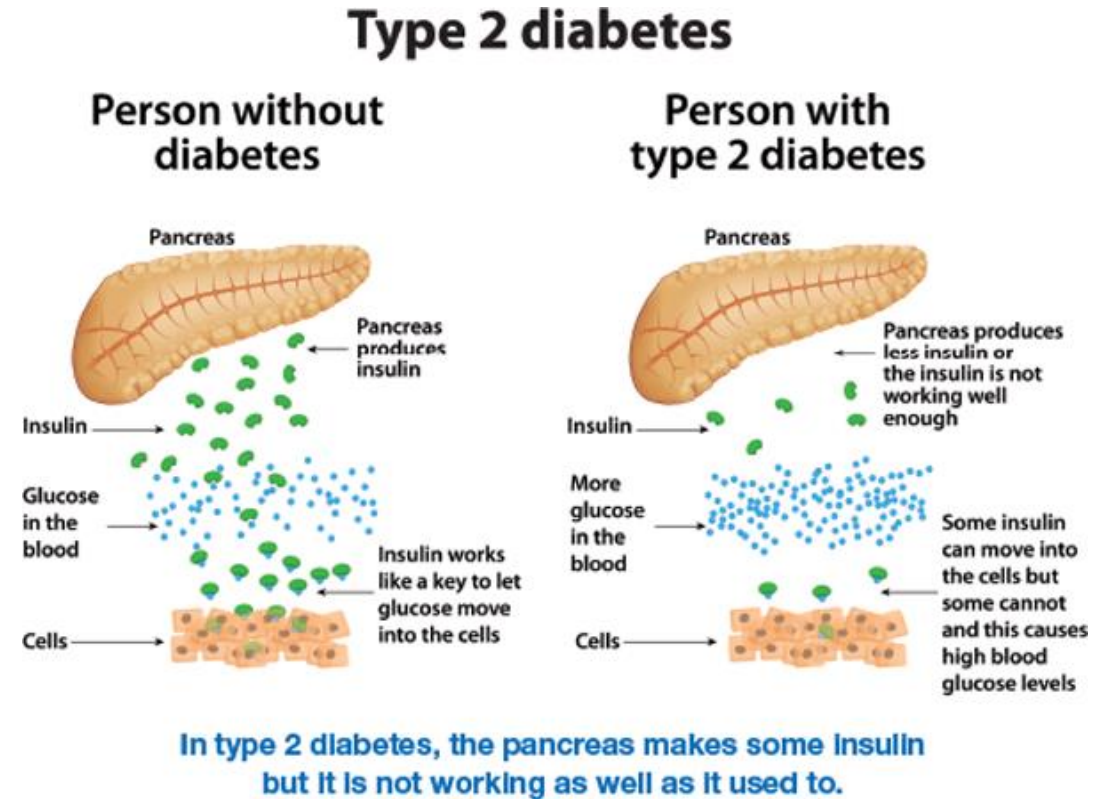
Type 1 Diabetes:

Insulin dependent Diabetes Mellitus. It appears when more than 90% of Beta cells of pancreas are destroyed by an autoimmune process. The onset is acute, and the peak incidence is around 15 years.

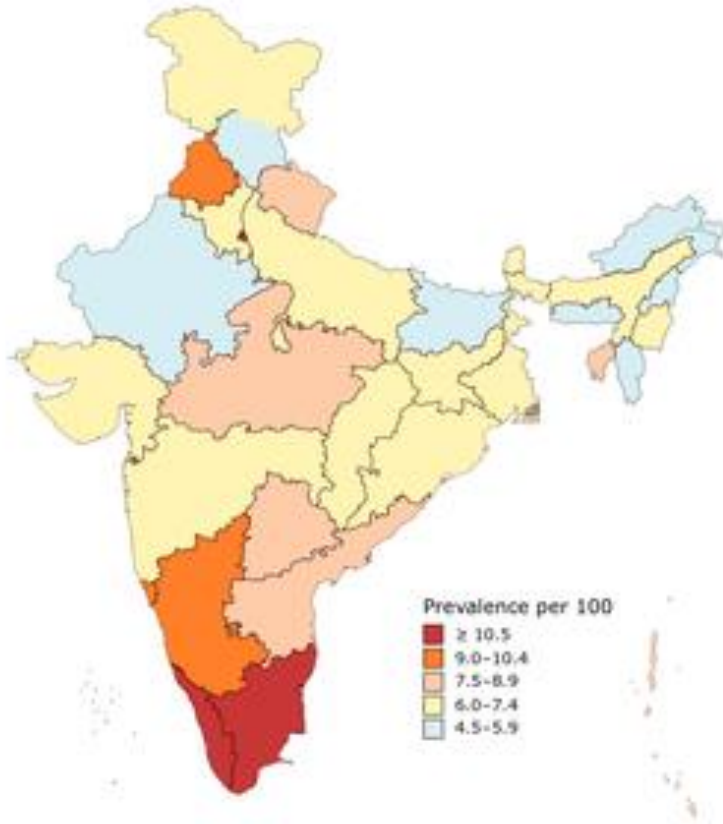
- Immune mediated - This kind of diabetes is a consequence of the cell-mediated autoimmune destruction of β -cells of the pancreas, which accounts for just 5–10 per cent of diabetes previously referred to as insulin-dependent diabetes, type 1 diabetes, and juvenile-onset diabetes.
- Idiopathic diabetes: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

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.



Diabetes in India

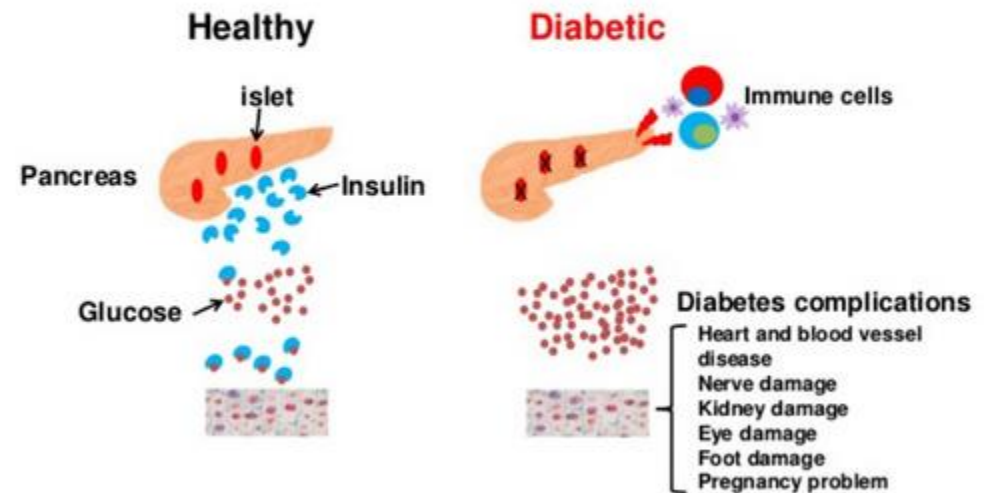


Prevalence of diabetes in
India

- India has an estimated 77 million people (1 in 11 Indians) formally diagnosed with diabetes, which makes it the second most affected in the world, after China. Furthermore, 700,000 Indians died of diabetes, hyperglycemia, kidney disease or other complications of diabetes in 2020. One in six people (17%) in the world with diabetes is from India. (India's population as calculated in October 2018 was about 17.5% of the global total. The number is projected to grow by 2045 to become 134 million per the International Diabetes Federation.

In India, type 1 diabetes is rarer than in western countries, and about 90 to 95% of Indians who were diagnosed had type 2 diabetes. Only about one-third of type 2 diabetics in India have a Body Mass Index above 25. A 2004 study suggests that the prevalence of type 2 diabetes in Indians may be due to environmental and lifestyle changes resulting from industrialization and migration to urban environment from rural. These changes also occur earlier in life, which means chronic long-term complications are more common.

Type 1 diabetes (T1D)



BACKGROUND AND RATIONALE

Background And Rationale

- The oral antidiabetic medicine industry segment is extremely competitive and fragmented, causing several problems for consumers, thus researches are necessary to have a deeper knowledge and assessment of the oral 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 medicine 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 favour of newer, more effective treatments with fewer adverse effects.
- As a result, this research focuses on the market estimation and growth on antidiabetics, as well as the assessment of new competitors in the same segment.



RESEARCH OBJECTIVE

Research Objective

The objective of this study is to identify the current and future market potential of anti-diabetic drugs in India. And, 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



RESEARCH METHODOLOGY

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)

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.

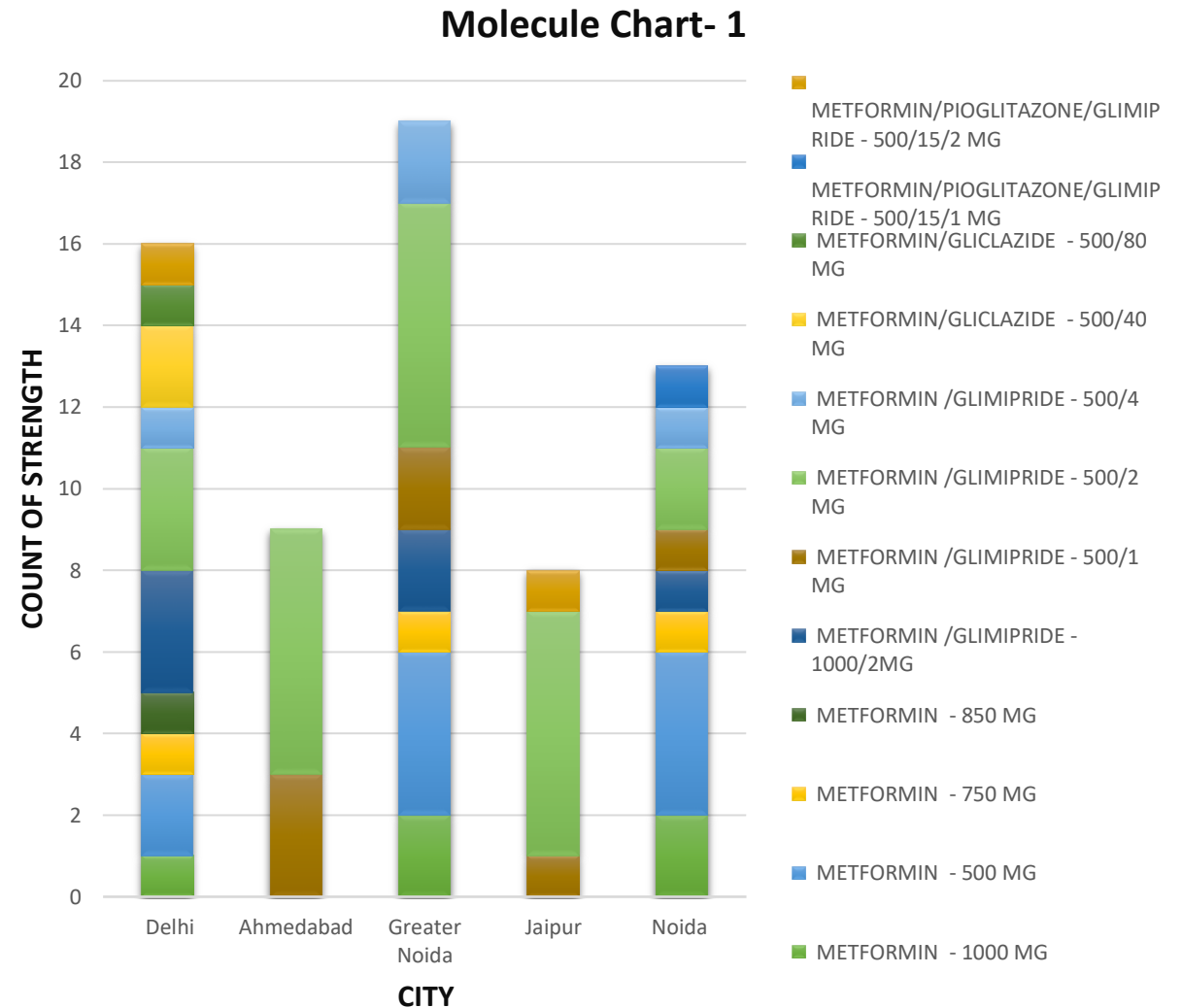
Ethical Consideration



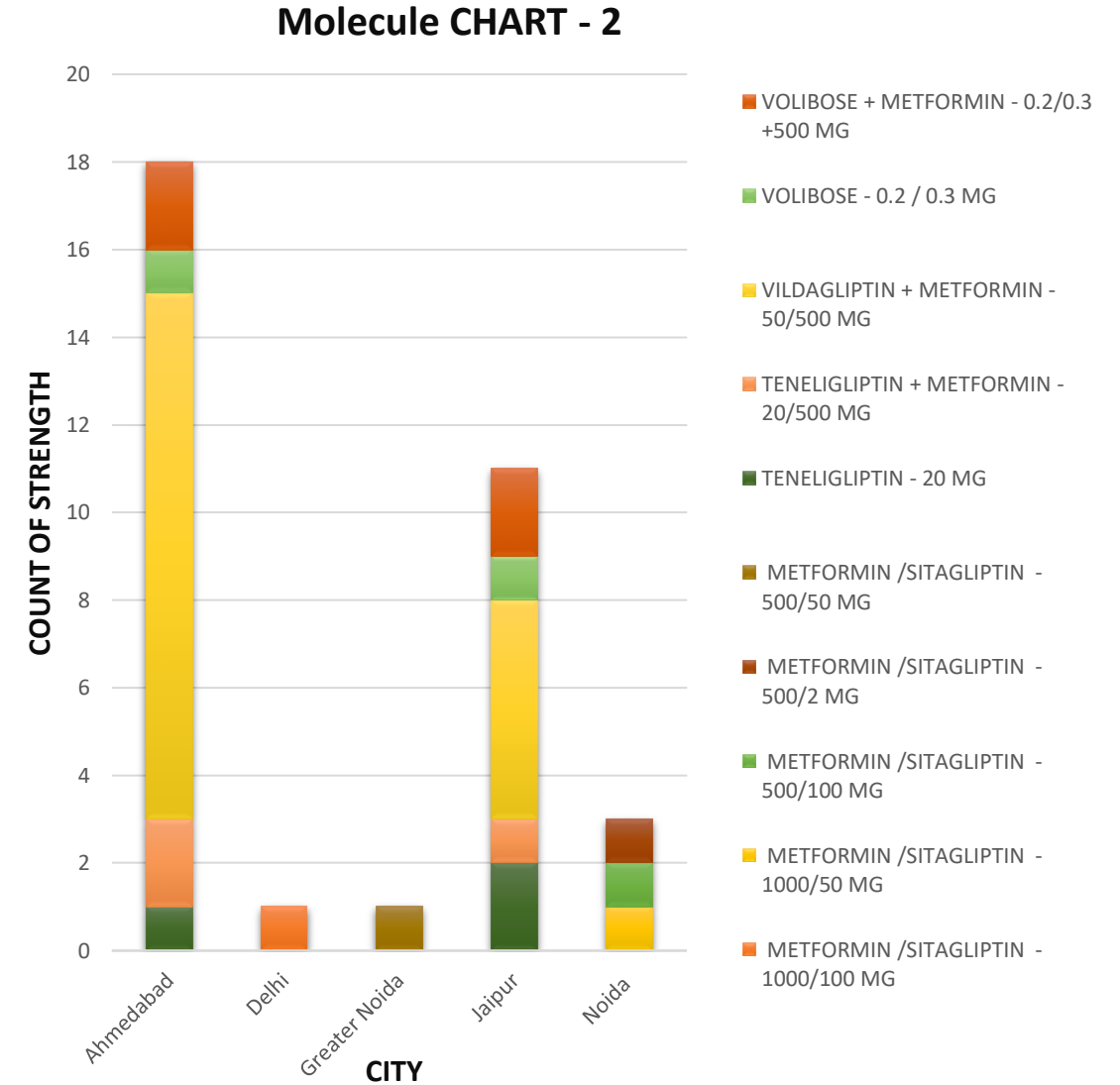
Ethical Consideration

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.

- 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.



- 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.



Data analysis of Anti-Diabetic Market In 2021

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

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.

ORAL ANTI-DIABETIC MARKET						
Row Labels	MAT MAR'21	MS% 21	GR% 21	UNIT MAT MAR'21	MS%	GR%
Grand Total	11663.66	100.00	9.99	1398855	100.00	5.62
A10B0Q GLIMEPIRIDE+METFORM.	2763.93	23.70	11.78	356216	25.46	5.57
A10B0B GLIMEPIRIDE+METFOR+VOGLIB	935.75	8.02	14.75	86307	6.17	5.14
A10B0D METFORMIN + VILDAGLIPTIN	739.34	6.34	20.99	57056	4.08	90.81
A10B07 METFORMIN + SITAGLIPTIN	712.16	6.11	-2.95	26191	1.87	-3.12
A10B0O METFORMIN + TENELIGLIPTIN	653.75	5.61	6.90	59172	4.23	-1.32
A10B0W PIOGLITAZ. +METFORM. +GLIM.	636.72	5.46	13.45	77612	5.55	5.54
A10B04 METFORMIN	452.59	3.88	5.94	212478	15.19	3.36
A10B0M GLICLAZIDE + METFORMIN	443.29	3.80	9.73	55856	3.99	3.47
A10B0F TENELIGLIPTIN	422.27	3.62	-3.39	49662	3.55	-11.63
A10B13 EMPAGLIFLOZIN	385.31	3.30	12.71	8869	0.63	4.91
A10B05 GLIMEPIRIDE	296.24	2.54	5.77	58872	4.21	1.59
A10B0P LINAGLIPTIN	277.09	2.38	2.87	7460	0.53	1.77
A10B12 DAPAGLIFLOZIN	271.32	2.33	27.49	9473	0.68	140.04
A10B0H VOGLIBOSE	262.73	2.25	-1.21	32425	2.32	-9.19
A10B0I VILDAGLIPTIN	260.75	2.24	12.69	23837	1.70	112.14

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.

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.

TOP COMPANY ANALYSIS			
COMPANY	MAT MAR'21	MS%	GR%
ABBOTT*	2491.45	15.89	2.31
U S V	1535.94	9.80	6.21
LUPIN LIMITED	1366.30	8.71	13.33
SUN*	1116.35	7.12	4.03
SANOFI*	1047.91	6.68	10.91
MANKIND	466.93	2.98	29.96
TORRENT PHARMA*	447.92	2.86	14.33
ERIS LIFESCIENCES*	433.06	2.76	9.78
MICRO LABS*	373.18	2.38	15.22
FRANCO INDIAN	249.29	1.59	12.01

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

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.

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.

BRAND WISE ANALYSIS								
	VALUE				UNIT			
COMPANY	MAT MAR'21	RANK	MS%	GR%	UNIT MAT MAR'21	RANK	MS%	
	1000.09		100	18.71	80892.85		100	
NOVARTIS INTL.*	294.27	1	29.42	-3.52	13479.16	1	16.66	
U S V	179.89	2	17.99	-14.13	7228.56	2	8.94	
NOVARTIS INTL.*	81.41	3	8.14	-5.94	3811.80	3	4.71	
U S V	71.80	4	7.18	-25.70	3350.38	5	4.14	
RIS LIFESCIENCES*	31.94	5	3.19	-16.65	3239.29	6	4.00	
MACLEODS PHARMA	19.13	6	1.91	507.84	2270.25	7	2.81	
TORRENT PHARMA*	17.83	7	1.78	554.44	3599.71	4	4.45	
RIS LIFESCIENCES*	16.21	8	1.62	-33.92	1299.01	17	1.61	
MICRO LABS*	14.87	9	1.49	410.68	2082.79	10	2.57	
CIPLA	14.33	10	1.43	-29.73	1391.77	15	1.72	

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*

Showing Plain market of VILDAGLIPTIN

Showing Combination market of VILDAGLIPTIN

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

INTERNAL SALES ANALYSIS

Brand : Vilda & Vilda M

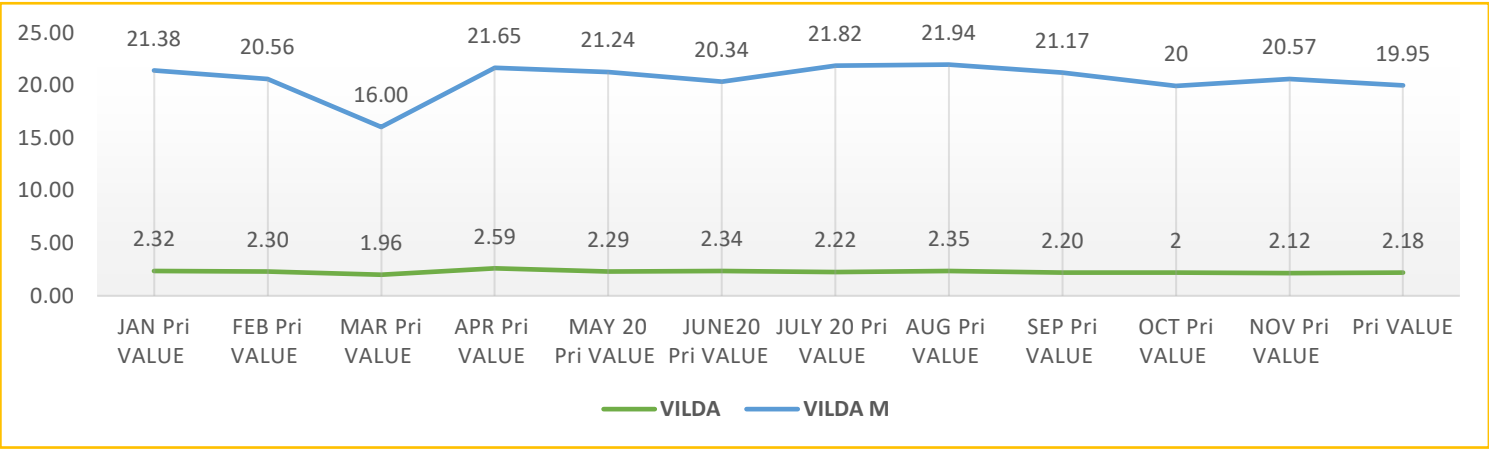


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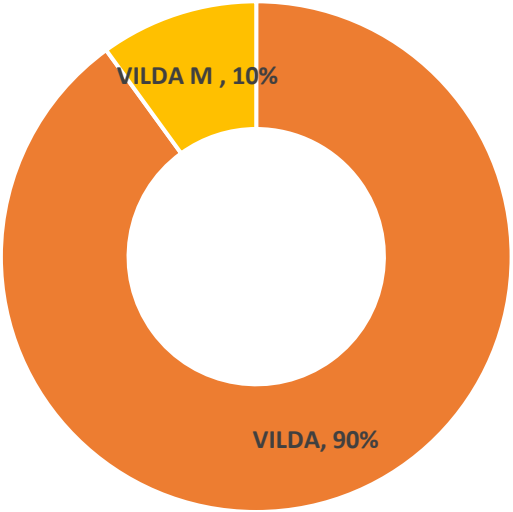
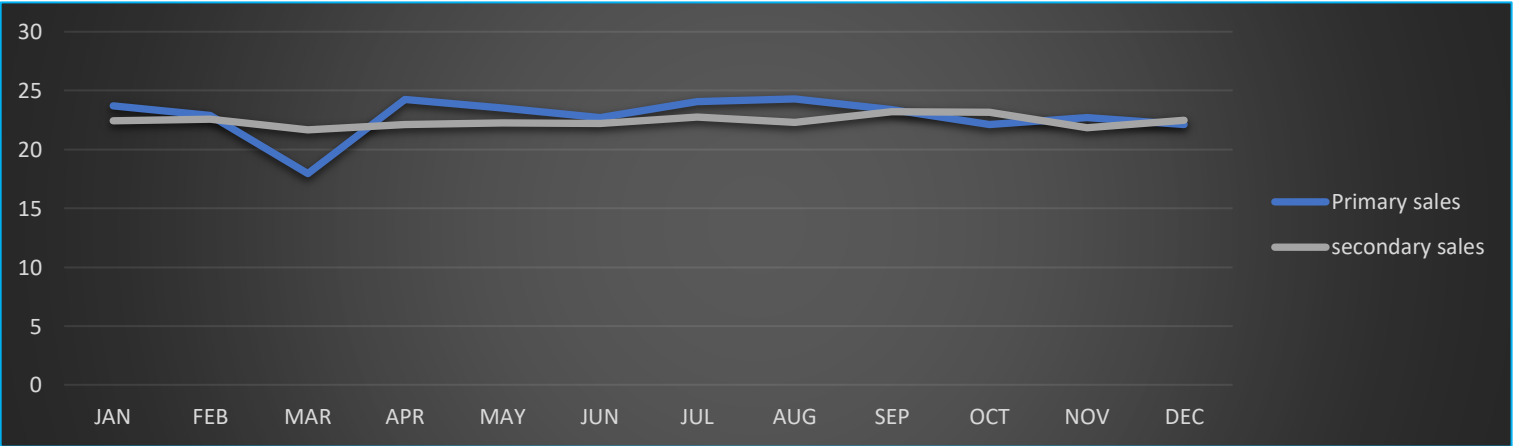
1. Brand Wise Sales Overview
2. Zone Wise Sales Performance
3. QTR Wise Performance of Zones
4. Top 5 Regions Monthly Progression Unit Wise
5. Lowest 5 Regions Monthly Progression Unit Wise

Brand Wise Sales Overview

Brand Wise Monthly Progression

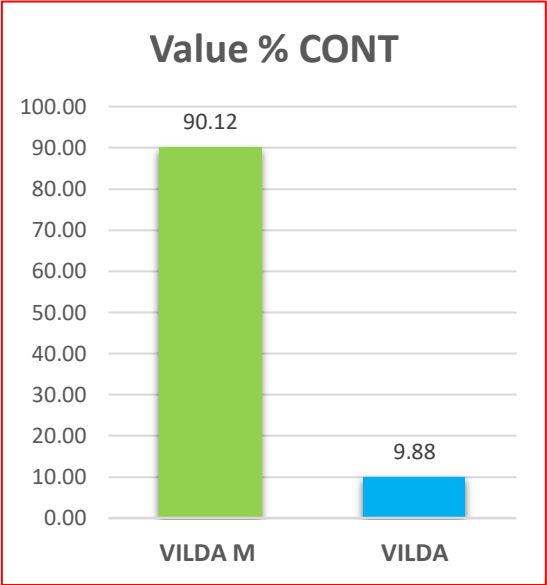


Primary & Secondary Sales Monthly Progression

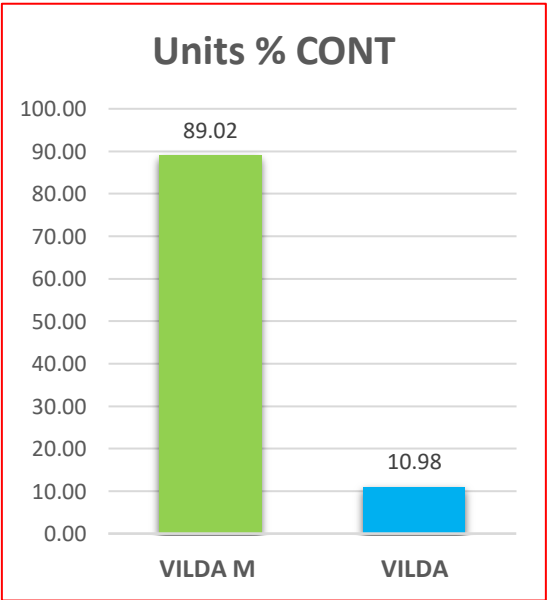


Brand Wise Sales Overview

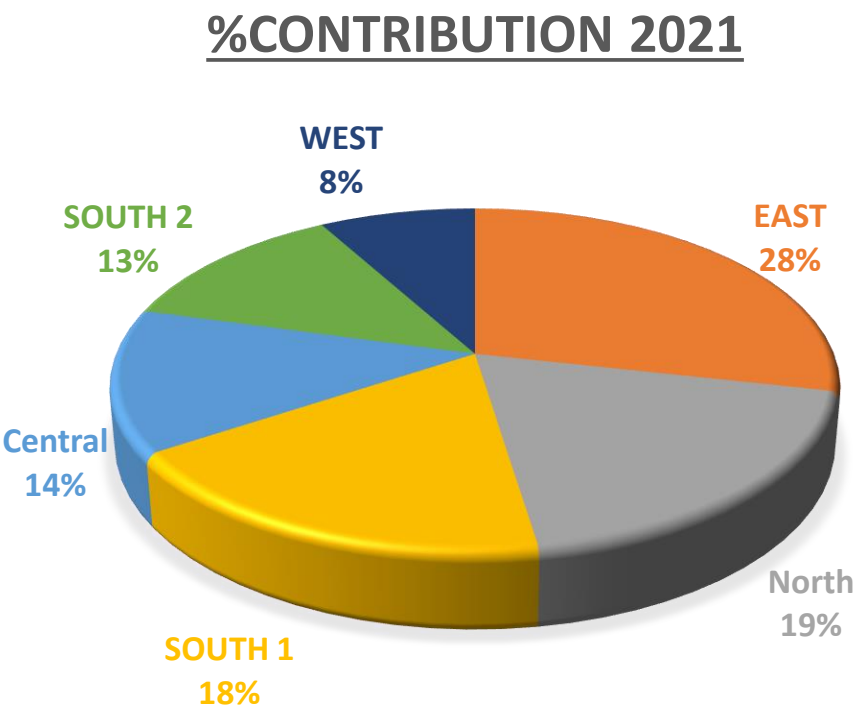
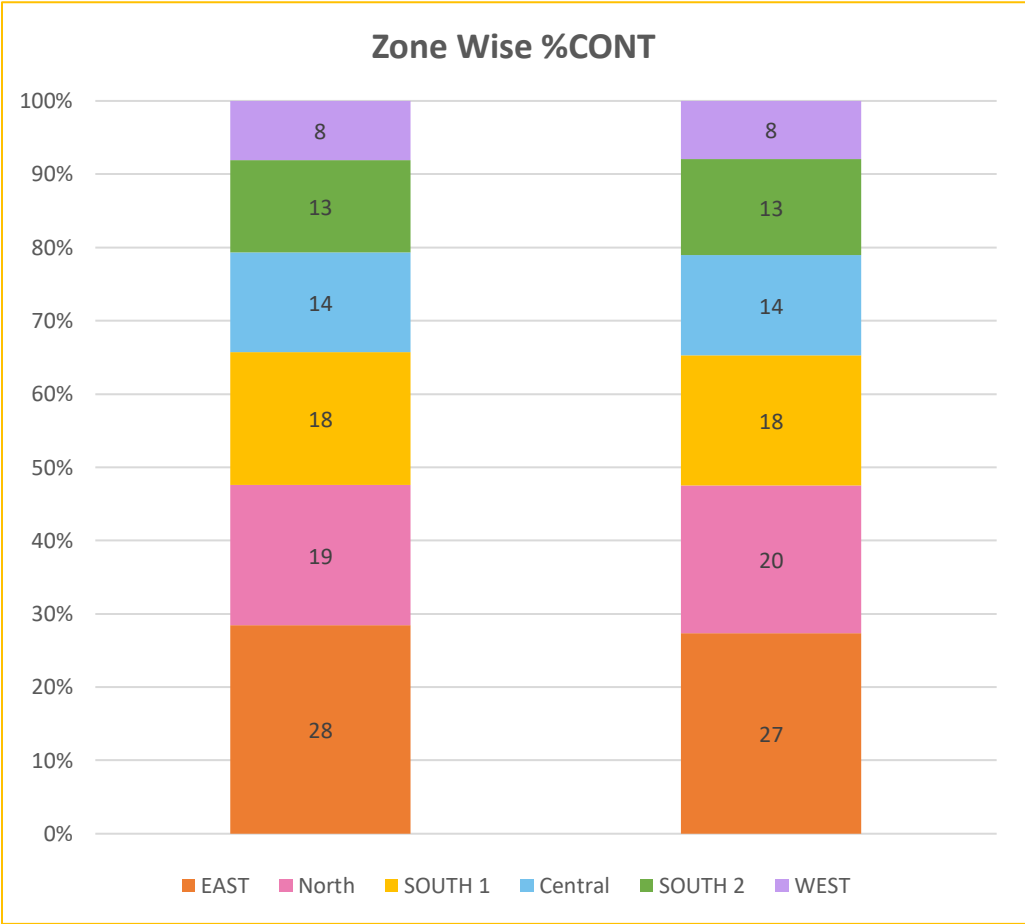
Product	Sum of YTD Tgt VALUE	Sum of YTD Pri VALUE	Sum of YTD Last Yr Pri VALUE	% ACH	%GR	CONT
Grand Total	292.80	273.58	239.43	93.43%	14.26	100.00
VILDA M	264.73	246.54	215.70	93.13%	14.29	90.12
VILDA	28.08	27.04	23.73	96.32%	13.94	9.88



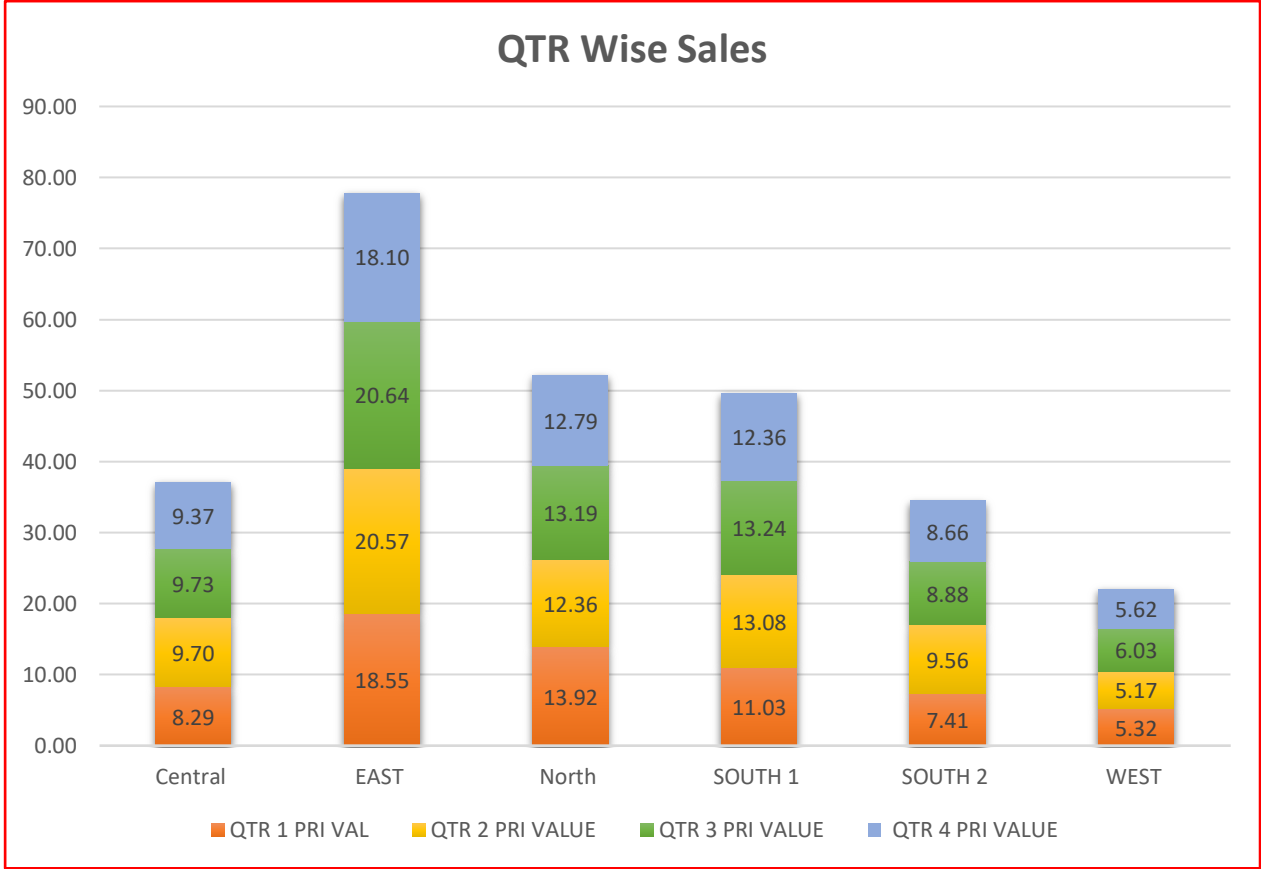
Product	Sum of YTD Tgt UNITS	Sum of YTD Pri UNITS	Sum of YTD Last Yr Pri UNITS	% ACH	%GR	CONT
Grand Total	10243381	9574376	9221496	93.47%	3.83	100.00
VILDA M	9151497	8522704	8204412	93.13%	3.88	89.02
VILDA	1091884	1051672	1017084	96.32%	3.40	10.98



Zone Wise Sales Performance



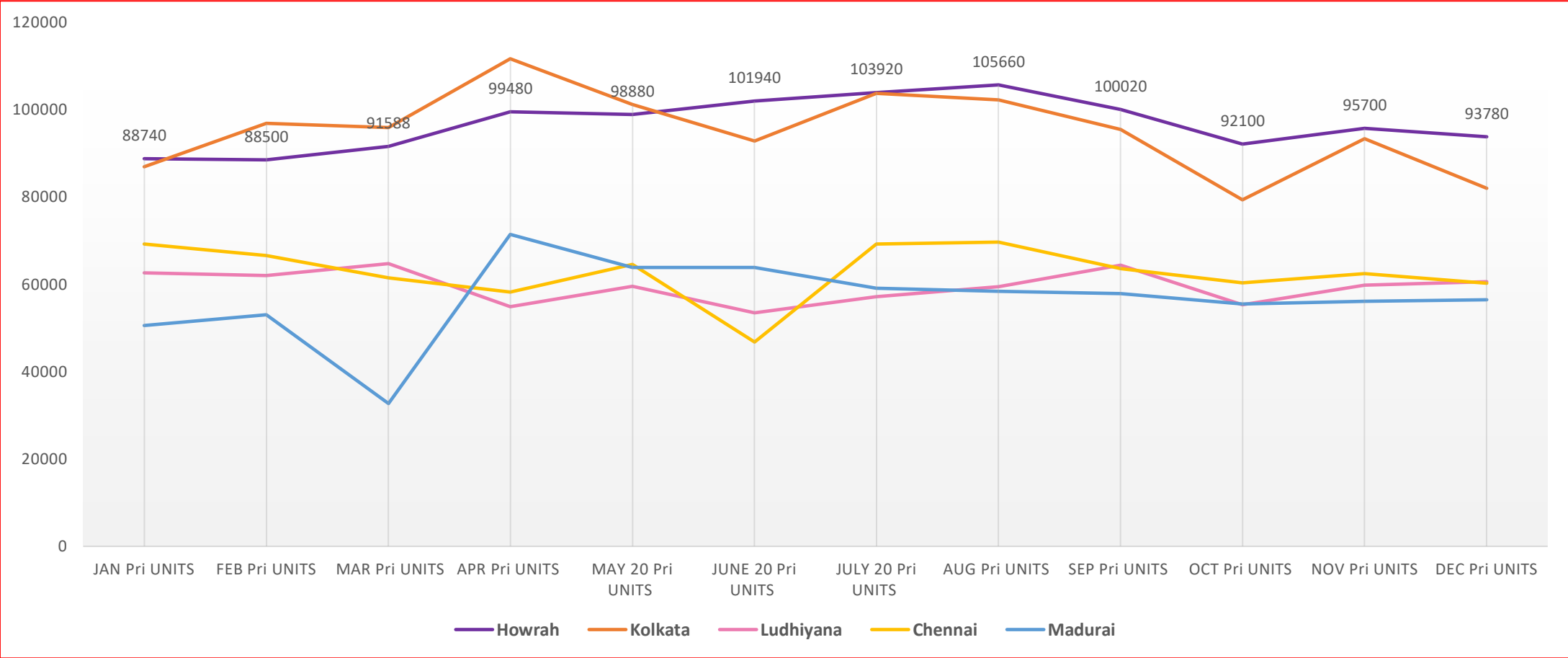
QTR Wise Performance – ZONAL LEVEL



ZONE	QTR 1 PRI VAL	QTR 2 PRI VALUE	QTR 3 PRI VALUE	QTR 4 PRI VALUE
Central	8.29	9.70	9.73	9.37
EAST	18.55	20.57	20.64	18.10
North	13.92	12.36	13.19	12.79
SOUTH 1	11.03	13.08	13.24	12.36
SOUTH 2	7.41	9.56	8.88	8.66
WEST	5.32	5.17	6.03	5.62

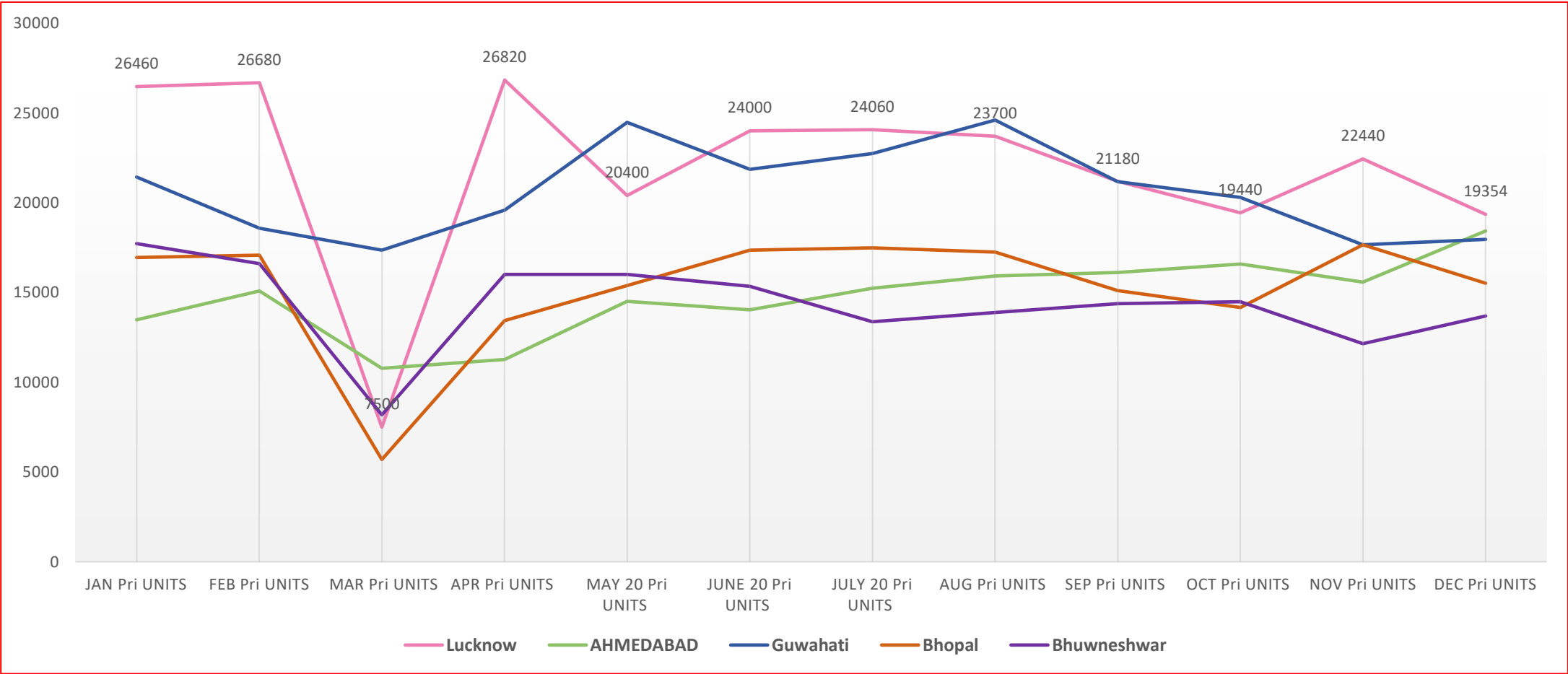
Region Wise Monthly Unit Progression – Top 5

Top 5 Regions Monthly Unit Progression



Region Wise Monthly Unit Progression – Lowest 5

Lowest Regions Monthly Unit Progression



Conclusion

Name _____

Signature _____

Date _____

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.

Recommendation



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.



Limitations of the Study

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.



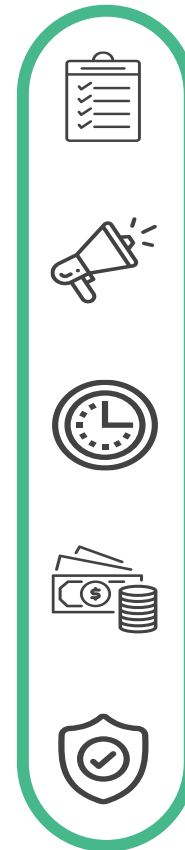
References



References

- Aguiree, F. (2013). IDF Diabetes Atlas: sixth edition. *International Diabetes Federation*.
- Anjana, R. M., Baskar, V., & Nair, A. T. (2020). Novel subgroups of type 2 diabetes and their association with microvascular outcomes in an Asian Indian population: a data-driven cluster analysis: the INSPIRED study. *BMJ Open Diabetes Research and Care*.
- Awad.M. Ahmed. (2002). History of Diabetes Mellitus. *Saudi Med J*, 373-378.\
- Chaudhury, A. (2017). Clinical Review of Antidiabetic Drugs: Implications for Type 2 Diabetes Mellitus Management. *Front Endocrinol (Lausanne)*., 6-8.
- Elyamani Rida, Abdelmajid Soulaymani, Antidiabetics and antihypertensive medications use in Morocco: A pharmacoepidemiological descriptive study, <https://phcfm.org/index.php/phcfm/article/view/2195/3916>, 2020, 1-3.
- Diagnosis and Classification of Diabetes Mellitus. (2010). *American Diabetes Association*, S62-S69.
- Hu, F. B., Manson, J. E., & Stampfer, M. J. (2001). Diet, lifestyle, and the risk of type 2 diabetes mellitus in women. *N Engl J*, 345(11):790-7.
- Kharroubi, A. T., & Darwish, H. M. (2015). Diabetes mellitus: The epidemic of the century. *World Journal of Diabetes*, 850-867.
- M, A.-G., & RA, D. (2008). Mitochondrial dysfunction, insulin resistance, and type 2 diabetes mellitus. *Current Diabetes Reports*, 173-178.
- IMARC, Indian Diabetes Market Report: Patients, Prevalence, Oral Antidiabetics, Insulin and Diagnostics, <https://www.imarcgroup.com/india-diabetes#:~:text=The%20Indian%20diabetes%20market%20reached,currentl%20being%20affected%20by%20it,> 2022, 1-5
- Solis-Herrera, C., Triplitt, C., & Reasner, C. (2000). Classification of Diabetes Mellitus. In *endotext*.
- Standards of medical care in diabetes. (2014). *American Diabetes Association*.
- Team, I. C. (2015). Type 2 diabetes in adults: management. *London: National Institute for Health and Care Excellence (UK)*.

Stay Home stay safe



THANKYOU

- HIMABINDU NAYAKANTI