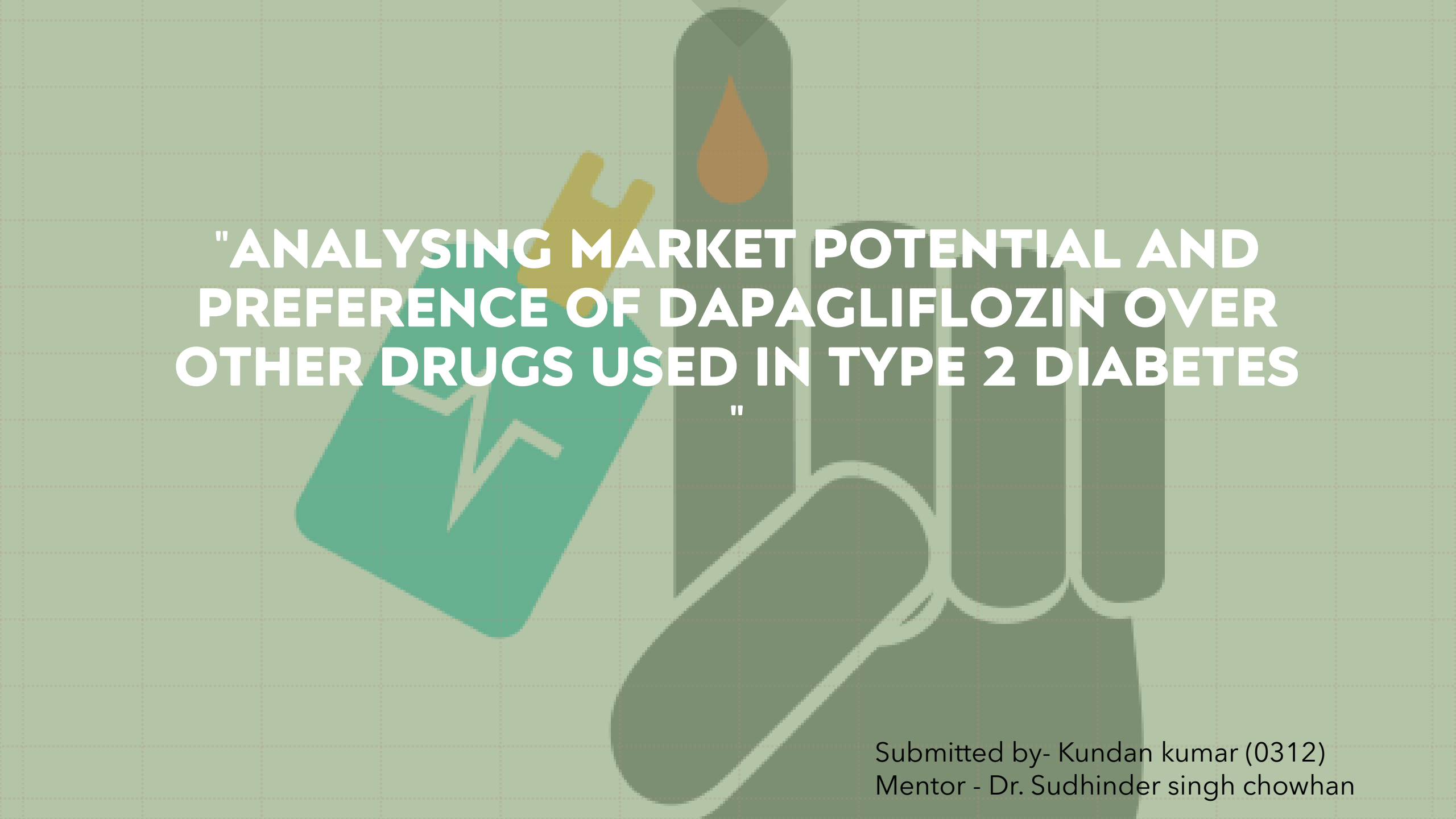




"ANALYSING MARKET POTENTIAL AND PREFERENCE OF DAPAGLIFLOZIN OVER OTHER DRUGS USED IN TYPE 2 DIABETES "

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INTRODUCTION

- Diabetes, medically referred to as diabetes mellitus, comprises a set of prevalent hormonal disorders marked by persistently elevated blood sugar levels.
- Types of Diabetes.
 - Type 1 Diabetes.
 - Type 2 Diabetes.
 - Gestational Diabetes
- Some other types of diabetes are prediabetics, neonatal diabetes, and maturity-onset of diabetes in the young (MODY).



EPIDEMIOLOGY

As of 2019, an estimated 463 million people had diabetes worldwide accounting for 8.8% of the adult population.

India has an estimated 77 million people (1 in 11 Indians)

According to the DHS survey, 6.5% of individuals under 50 had diabetes, and 5.7% had prediabetes

Tamil Nadu and Kerala, have reported a high incidence of diabetes

In India, the incidence of diabetes is 8.9% (according to IDF).

OBJECTIVE

One of the main objectives of this study is to discuss the perceived value of Dapagliflozin in terms of Increasing DALY in the context of type2 Diabetes, and to investigate to what extent it influences customer satisfaction.

The objective of the study is further divided into-

- firstly, aims to analyze the Clinical and Non-Clinical attributes of Diabetologists and their preferred treatment on the basis of Duration of Diabetes and BMI Index.
- Secondly, it aims to analyze the market related factors like pricing, insurance and Influence of KOLs in determining the market potential of the drug.



STUDY DESIGN AND METHODOLOGY

Research type:

Primary and
Secondary
research

Study design:

Descriptive and
Analytical

**Sampling
method:** Random
Sampling

Study Area:

New Delhi

Sample size:100

Sample selection:

The Sample is
Collected from
new delhi

Data Collection:

Quantitative data
collection.

Study Duration: 3
Months

METHODS AND MATERIALS

To achieve the research objectives, a structured closed-ended questionnaire was prepared.

The questionnaire statements were modified to adapt with treatments in type 2 Diabetes domain, divided under three dimensions, namely (1) Clinical Factors (2) Non-Clinical Factors (3) Market related factors.

The questionnaire included 25 statements in all to be marked on a 1–5 point Likert scale and 16 multiple choice questions.

The demographic criteria of the respondents included in the study were geographic region, name of hospital and type of hospital.

Data was collected using online survey (Google forms) and target respondents were Practicing diabetologists and general medicine prescribers. Sample size was 100.

The information gathered for the survey was analysed using SPSS version 24 and excel.

PARAMETER OF THE STUDY

01

This study firstly aims to find the market potential and preference of Dapagliflozin over other drugs used in Type 2 Diabetes.

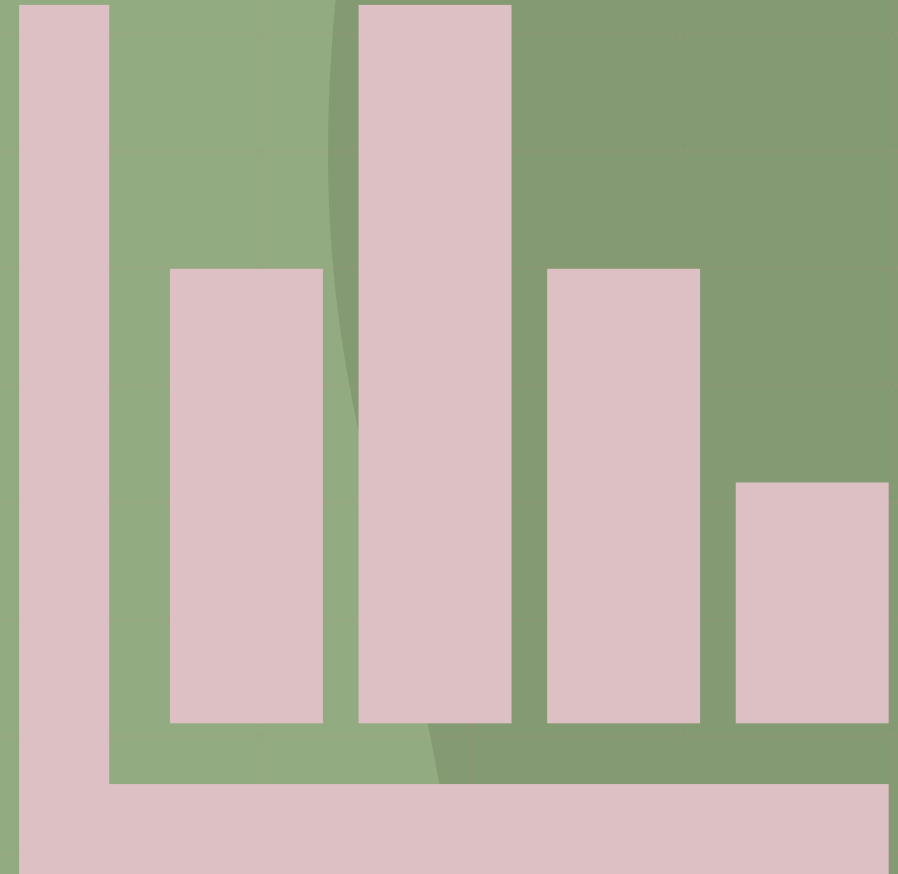
02

it is aimed to investigate to what extent this new drug is getting its place in the prescription of the Diabetologists and how it is serving the customer needs by giving delivering value.

03

Investigate the most commonly prescribed medications for diabetes

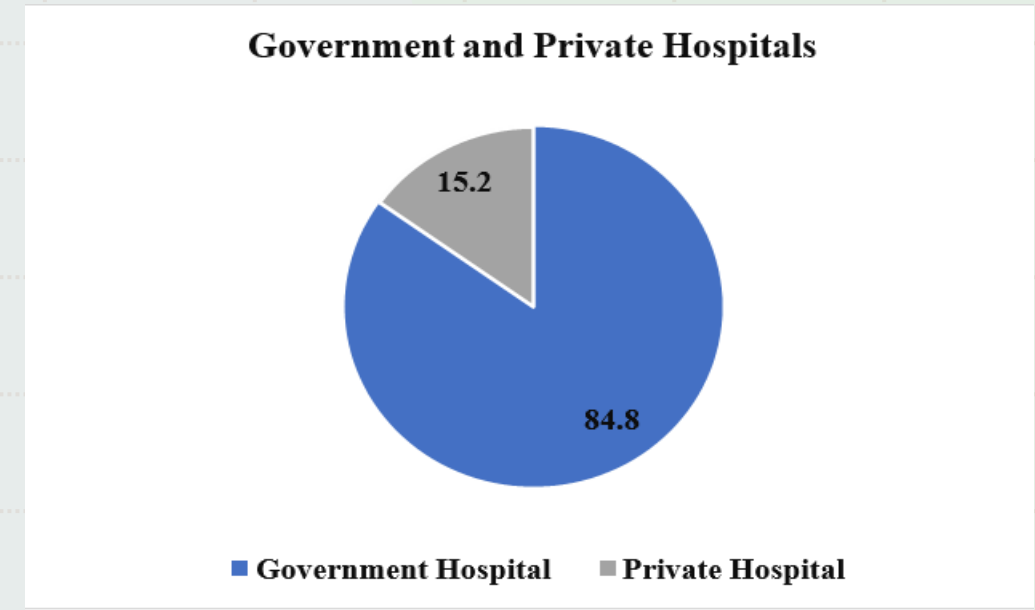
RESULT AND DISCUSSION



DEMOGRAPHIC ANALYSIS

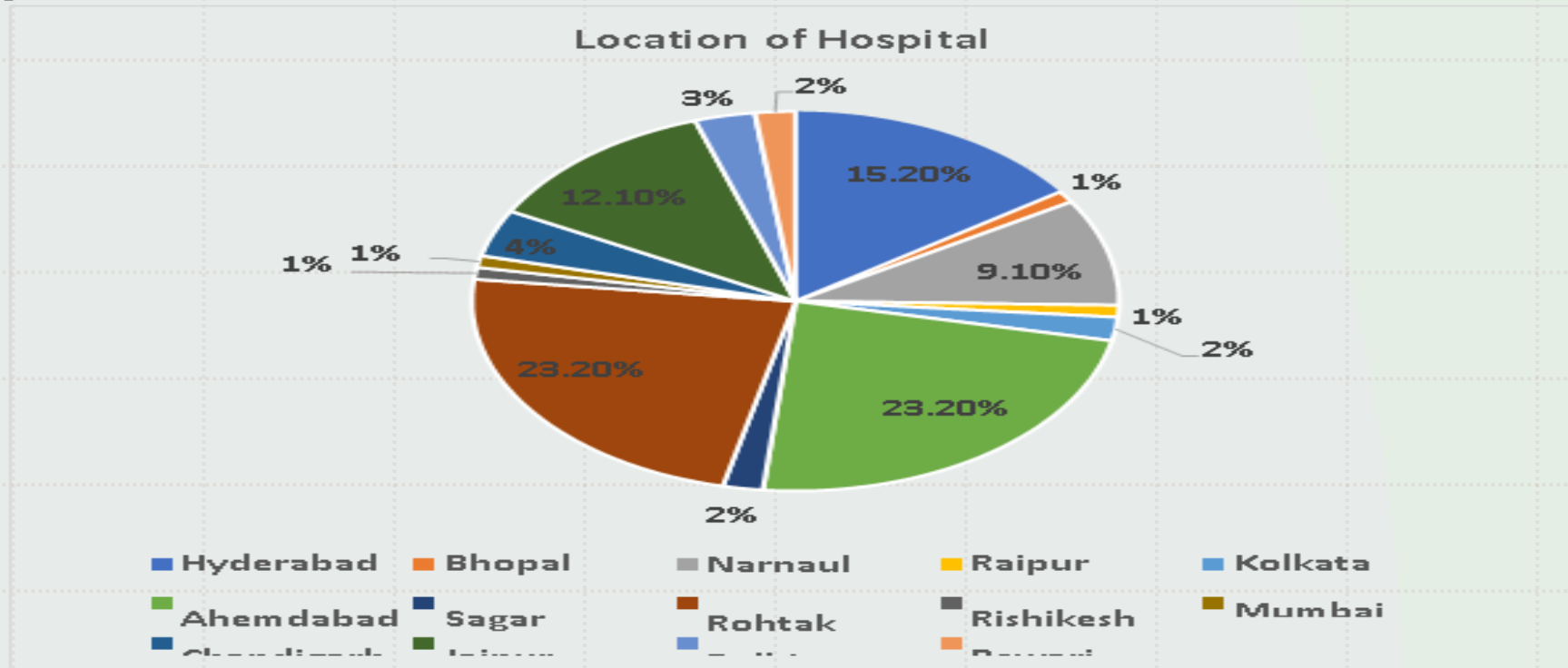
Demographic analysis involves segregating the respondents into specific groups on the basis of age, gender, qualification, and annual income. The frequencies and percentages of the 100 survey respondents are divided within the individual parameters of type of Hospital and Location of Hospital are presented in the following tables.

Type of Hospital					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government Hospital	84	84.0	84.8	84.8
	Private Hospital	15	15.0	15.2	100.0
	Total	99	99.0	100.0	
Missing	System	1	1.0		
Total		100	100.0		



Location of Hospital

- 84.8% of respondents worked in a Government Hospital and 15.2% worked in private hospital
- 15% of Respondents were from Hyderabad, 9% were from Narnaul, 23% were from Ahmedabad, 23% were from Rohtak and 12% were from Jaipur
- 15% were from south India, 32% were from North India and 35% of respondents were from western part of India



		<u>Frequency</u>	<u>Percent</u>	<u>Valid Percent</u>	<u>CumulativePercent</u>
<u>Valid</u>	<u>1</u>	<u>15</u>	<u>15.0</u>	<u>15.2</u>	<u>15.2</u>
	<u>2</u>	<u>1</u>	<u>1.0</u>	<u>1.0</u>	<u>16.2</u>
	<u>3</u>	<u>9</u>	<u>9.0</u>	<u>9.1</u>	<u>25.3</u>
	<u>4</u>	<u>1</u>	<u>1.0</u>	<u>1.0</u>	<u>26.3</u>
	<u>5</u>	<u>2</u>	<u>2.0</u>	<u>2.0</u>	<u>28.3</u>
	<u>6</u>	<u>23</u>	<u>23.0</u>	<u>23.2</u>	<u>51.5</u>
	<u>7</u>	<u>2</u>	<u>2.0</u>	<u>2.0</u>	<u>53.5</u>
	<u>8</u>	<u>23</u>	<u>23.0</u>	<u>23.2</u>	<u>76.8</u>
	<u>9</u>	<u>1</u>	<u>1.0</u>	<u>1.0</u>	<u>77.8</u>
	<u>10</u>	<u>1</u>	<u>1.0</u>	<u>1.0</u>	<u>78.8</u>
	<u>11</u>	<u>4</u>	<u>4.0</u>	<u>4.0</u>	<u>82.8</u>
	<u>12</u>	<u>12</u>	<u>12.0</u>	<u>12.1</u>	<u>94.9</u>
	<u>13</u>	<u>3</u>	<u>3.0</u>	<u>3.0</u>	<u>98.0</u>
	<u>14</u>	<u>2</u>	<u>2.0</u>	<u>2.0</u>	<u>100.0</u>
	<u>Total</u>	<u>99</u>	<u>99.0</u>	<u>100.0</u>	-
<u>Missing</u>	<u>System</u>	<u>1</u>	<u>1.0</u>	-	-
<u>Total</u>		<u>100</u>	<u>100.0</u>	-	-

Table 1.1 Expenditure on Diabetes by Government

Year	Expenditure (in million USD)
2021	8485.8
2030	10305.5
2045	12834.3

1.Table 1.2 Expenditure on Diabetes by the Patient

Year	Expenditure (USD)
2011	68
2021	114.4
2030	138.9
2045	173

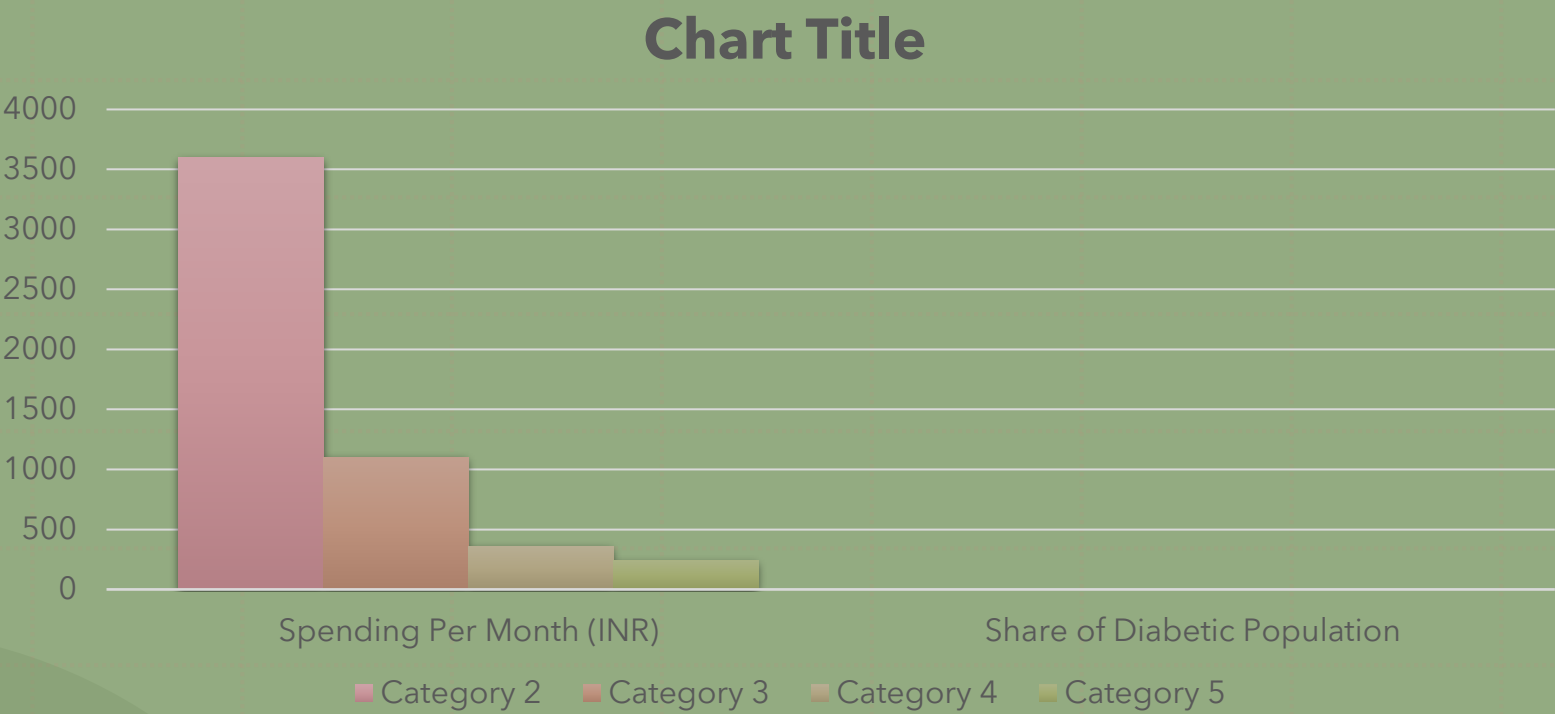
On Average a diabetic person spends 11K annually on diabetes care of which 55% of this is towards drugs.

Table 1.3 Split of expenditure on Diabetes per person

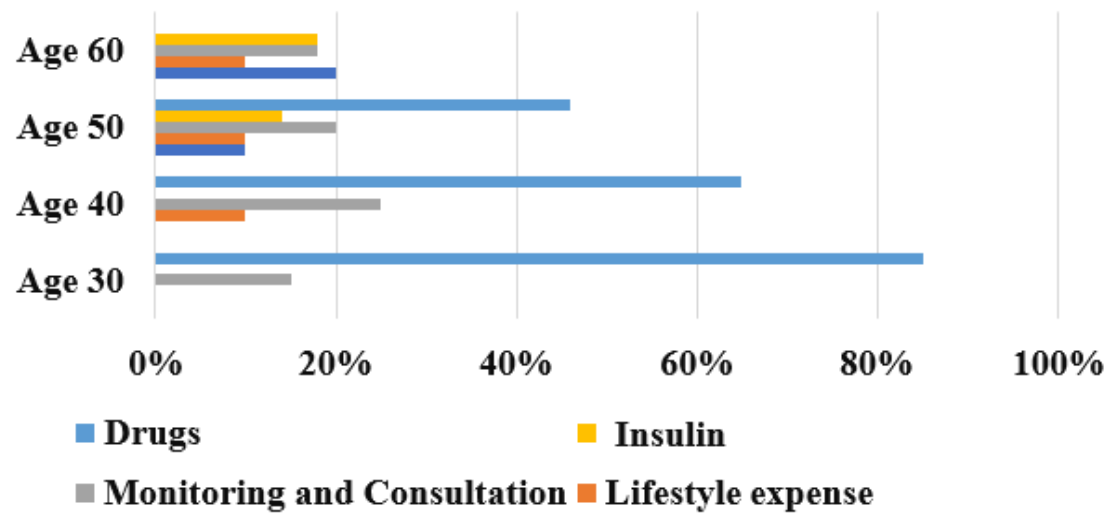
Overall spending of 11K is as follows

Expenses	% Of 11k	Amount in rupees
Expense on complication	6%	660

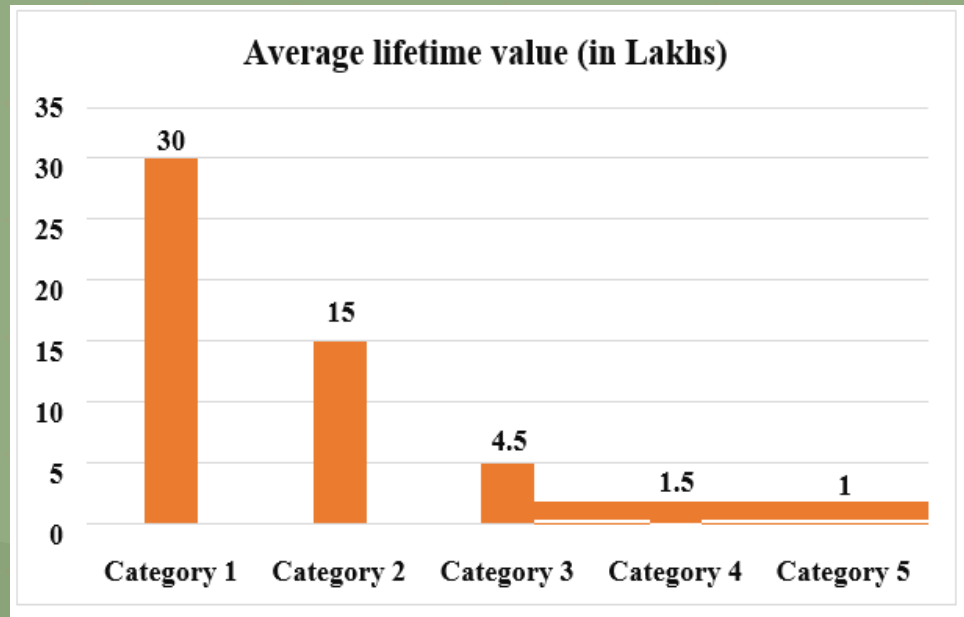
Fig1.1: Spending on Diabetes vs Share in Diabetic Population



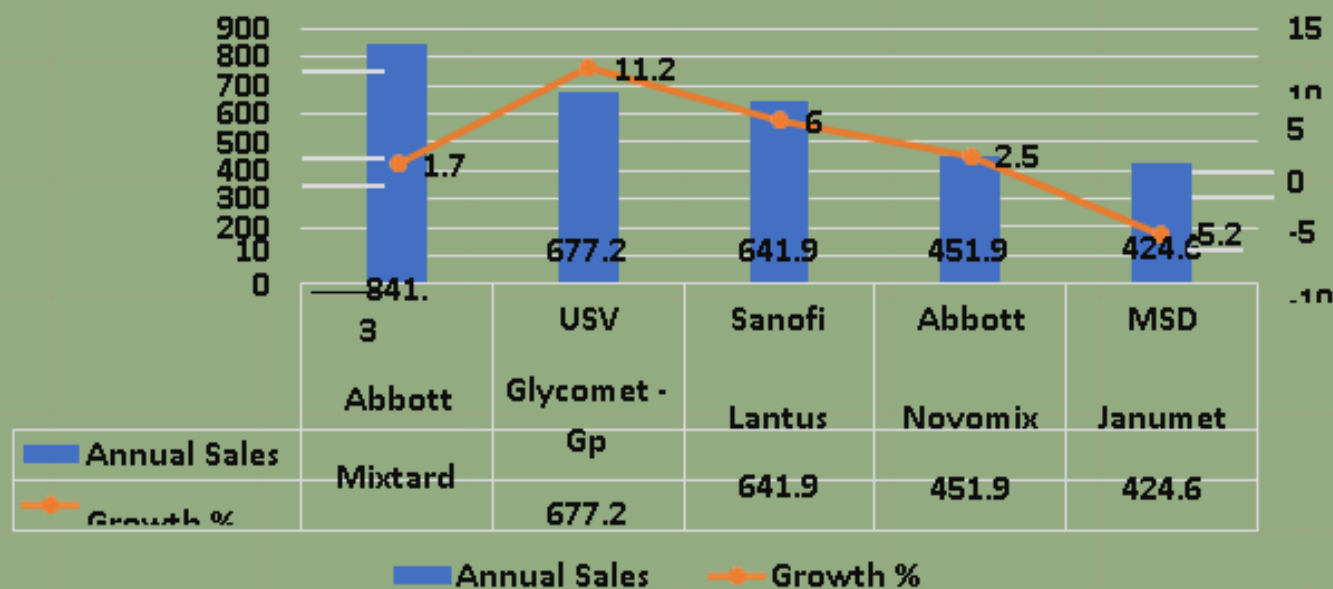
Expense on Diabetes according to age



Lifetime value of different Income group Diabetes patients



Top 5 Brands in the Anti-Diabetic Segment



1. Table 1.10 Top 5 Brands in the Anti-Diabetic Segment

Brand	Company	Annual Sales (Cr)	Growth %
Mixtard	Abbott	841.3	1.7
Glycomet -Gp	USV	677.2	11.2
Lantus	Sanofi	641.9	6.0
Novomix	Abbott	451.9	2.5
Janumet	MSD	424.6	-5.2

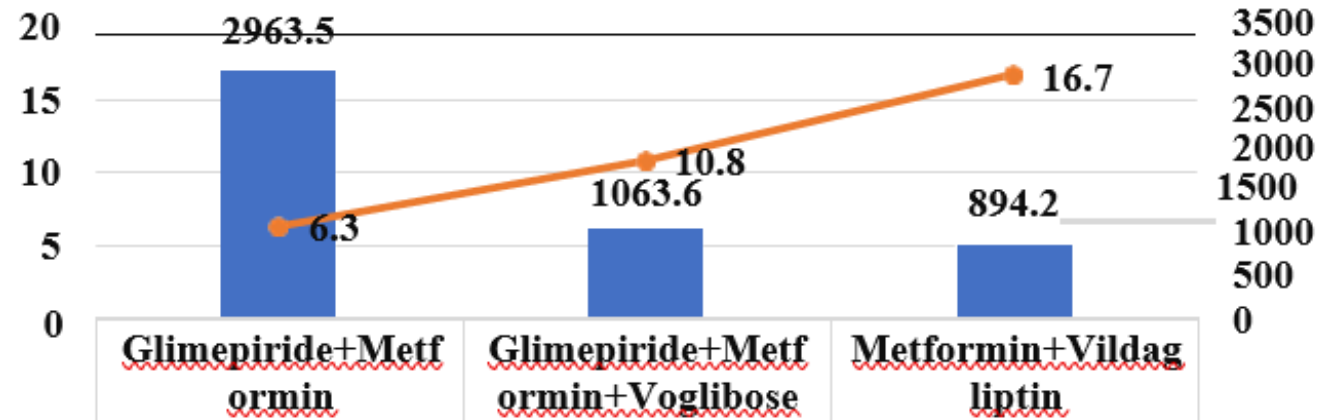
Table 1.11 Top 3 molecules in the Anti Diabetes Segment

Molecule	Annual Sales (Cr)	Growth%
Glimepiride+Metformin	2963.5	6.3
Glimepiride+Metformin+Voglibose	1063.6	10.8
Metformin+Vildagliptin	894.2	16.7

Table 1.13 MRP of top Dapagliflozin Brands in India

Brand Name	Manufacturer	MRP
Farxiga	Astrazeneca Pharma India Ltd	₹802.90
Gledepa	Abbot	₹802.90
Dapaglyn	Zydus Healthcare Ltd	₹255.00
Oxra	Sun Pharma	₹802.90
Ezydapa	Edoc Life Sciences	₹199.00

Growth% of top Anti Diabetic molecules



Annual Sales	2963.5	1063.6	894.2
Growth%	6.3	10.8	16.7

■ Annual Sales —●— Growth%

DISCUSSION

This study was carried out with the aim to explore the prescribing patterns of first- and second- line agents for the management of type 2 diabetes and the factors affecting them

The most commonly prescribed first-line antidiabetic was found to be metformin, followed by sulfonylurea. This finding may be explained by the fact that metformin and sulfonylureas are less expensive and readily available in most healthcare facilities in our country

Moreover, metformin is the recommended first-line choice, unless contraindicated, in the updated ADA and EASD guidelines. Furthermore, in our study, GLP-1 were found to be the most commonly prescribed second-line antidiabetic followed by DPP-4 inhibitors

Following metformin as first line antidiabetic therapy, sulfonylureas and DPP4 inhibitors were found to be the most considered choices as second-line antidiabetic therapy respectively when the first-line was contraindicated or not sufficient to control diabetes

Sulfonylureas and DPP-4 inhibitors were also found to be the most commonly prescribed second-line antidiabetics when the first-line is insufficient to control diabetes. I found some significant differences in the factors affecting the prescribing patterns between different demographic characteristics.

SGLT2 inhibitors and metformin were considered the preferred choices for patients with established cardiovascular disease.

Conclusion

This study was carried out with the aim to explore the prescribing patterns of first- and second- line agents for the management of type 2 diabetes and the factors affecting them. The most commonly prescribed first-line antidiabetic was found to be metformin, followed by sulfonylurea. This finding may be explained by the fact that metformin and sulfonylureas are less expensive and readily available in most healthcare facilities in our country.

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Following metformin as first line antidiabetic therapy, sulfonylureas and DPP4 inhibitors were found to be the most considered choices as second-line antidiabetic therapy respectively when the first-line was contraindicated or not sufficient to control diabetes. SGLT2 inhibitors and metformin were considered the preferred choices for patients with established cardiovascular disease.

There is a need to provide targeted education to the prescribers related to the newer diabetes guidelines in order to promote the use of more evidence-based and safer antidiabetics. I expect that my findings will help understand the rational use of antidiabetics for patients with type 2 diabetes. As to two independent samples t-test results, there is a no significant difference between Clinical, Non-Clinical, Market Factors and Type of Hospital.

RECOMMENDATIONS

Dapagliflozin was mainly marketed by AstraZeneca as “Farxiga”, Sun Pharma “Oxra” in India due to Sun Pharma and AstraZeneca Partnerships in India. I believe that AstraZeneca should increase its partnerships with other firms to penetrate Indian market with this new class of Anti diabetics.

The whole aim of this study was to identify the doctor's prescribing behaviour when it comes to anti diabetics and analyse the potential of dapagliflozin in future. It will help in analysing the market trends for anti-diabetics and other drugs in future. Pharma companies in India are heading towards making innovative steps to control diabetes in India due to its recent increase in Incidence and prevalence rate in last 10-15 years.

However, the anti-diabetics drugs currently prevailing in the market have been discovered in Late 1990s and new innovative molecules haven't entered the market with expected speed.

Diabetes is a chronic disease and in the last few stages it starts affecting the functionality of other organs also, so the cardioprotective nature of Dapagliflozin was widely accepted by physicians in abroad and now it is getting its place in India also.

THANK YOU

