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Research Article

Prescribing Pattern and Pharmacoeconomic Evaluation of Diabetes Mellitus Patients in Tertiary Care Hospital of Telangana Region

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Abstract

Diabetes Mellitus is a chronic disorder defined as metabolic cum vascular syndrome of multiple aetiology.The primary objective of study is to identify prescription pattern using WHO core investigator and to evaluate pharmacoeconomic evaluation to check the adherence it is a prospective observation study conduct in Mahavir tertiary care hospital for a period of three months. Demographic details of the patient, Past medical history, Duration of diabetes mellitus, Medication list, Dose, Dosage form, Frequency, Total number of injectable and oral drugs and Pharmacoeconomic evaluation. A Prescription based study is considered as one of the most effective methods to assess and to evaluate the prescribing pattern of medications. This study analyzed the prescription patterns in Type 2 Diabetes mellitus. A Drug Utilization Study was considered to be one of the most effective methods to assess and to evaluate the prescribing attitude of the physician and helps to promote the rational use of the drugs. Individuals with Type 2 Diabetes is considered on high priority as they are potential candidates for rapid evaluation to prevent and halt the progression of many complications. The study included 150 patients within an age range of 30 to >65 years. A total of 134 drugs were prescribed in the study population. The Demographic data of the study subjects, The number of subjects diagnosed with diabetes mellitus alone are discussed and The gender distribution of the subjects are studied in pie diagram. The Drug Utilization pattern for the prescribed antidiabetics (monotherapy, dual drug therapy and triple drug therapy) were studied. The study involved 150 prescriptions and we found a higher incidence of diabetes in elderly patients with a high incidence in age group of 50-65 years (40%). In general patients developing diabetes mellitus are in age group of more than 50 years. In our study 52% males and 48% females had diabetes mellitus. The study of prescribing pattern and evaluation of the prescribing practice may recommend necessary modifications to achieve rational and cost-effective medical care by practitioners for making medical care rational. The study involved 137 prescriptions (100%) of patients with Type 2 diabetes. The drug utilization pattern for prescribed antidiabetics was also evaluated which included the number of drugs given under monotherapy were 132 (31.80%) and drugs under dual therapy were 226 (54.45%) and drugs under triple therapy were 57 (13.73%), and we found that more number of antidiabetic drugs were dual therapy which is 54.45%.The drug utilization pattern of antidiabetic drugs under monotherapy were evaluated and found metformin (5.78%) is the most commonly prescribed. This study also evaluated the drug utilization patterns of antidiabetic drugs under dual therapy and found that glimepiride + metformin is the most commonly prescribed dual therapy drug which is about 96 (23.1%), followed by teneligliptin + metformin (16.1%), sitagliptin + metformin (5.5%), voglibose + metformin (3.1%). In the drug utilization pattern of antidiabetic drug under triple therapy, glimepiride + voglibose + metformin is most commonly

given which is 9.39% followed by glimepiride + pioglitazone + metformin which is 4.33%.The prescriptions of injectables used during the course of the study were evaluated from which Human mixtard, Huminsulin, Human Actrapid which are the short acting insulins were most commonly prescribed which is about 80.85% and followed by long acting insulin which is 19.15%.The study was done using the WHO core indicatorsThe total no. of prescriptions analyzed were 150, Total no. of drugs used in the study were 135 drugs, Percentage of drugs prescribed with generic name were 0.43%, Percentage of drugs with an anti-diabetics prescribed were 59.9%, Percentage of drugs with an injectables were 6.8%.

Keywords: Diabetes Mellitus; Pharmacoeconomic Evaluation; Drug Utlisation; Overall Hypogycemic Drugs; WHO Core Indicators; Prevalence.

Introduction

Diabetes mellitus is one of the oldest diseases known to man ,which was the first reported in Egyptian literature about 3000 years ago [1]. Diabetes Mellitus is a chronic disorder defined as metabolic cum vascular syndrome of multiple aetiology characterised by chronic hyperglycaemia with disturbances of carbohydrate fat and protein metabolism resulting from defects in insulin secretion , insulin action or both leading to changes in both small blood vessels (microangiopathy) and large blood vessels macroangiopathy) [2].

Diabetes results from the failure of the pancreas to produce a sufficient amount of insulin. Pancreas produce a sufficient amount of insulin, but if the insulin is blocked from the body cells and cannot be used (insulin resistance). This causes the patients to have abnormally high amounts of sugar in their urine and blood [3]. The two types of DM observed are Type 1(insulin dependent) and Type 2 (noninsulin dependent). Insulin is vital to patients with type 1 DM. Type 2 DM is first treated with weight reduction, plans a diabetic diet and exercise. When these measures fail, oral medications are used [4].

DM is associated with a higher prevalence of risk factors such a hypertension and dyslipidemia which in turn leads to major vascular complications. These complications are debilitating to the patient, and also associated with significant economic burden to the patient, family members and the nation's health care budget [5]. There has been a gradual and continuous increase in rural-urban migration. With this migration comes an apparent shift in life style from a relatively healthy traditional pattern, to the urban scenario of increased quantity and reduced quality of food, physical inactivity, smoking and increased alcohol indulgence. These are all risk factors for development of DM [6].

The statistical report in the year 2000 precisely reported that India topped the world with the highest number of people with DM, followed by China [7]. According to international diabetes federation 537million people in the world live with diabetes as of 2021. According to WHO around 77 million Indians are affected by Diabetes by and it is estimated that it may increase to 134million by 2045 [8]. This could place considerable burden on the health budgets of this country [9]. Various classes of ANTIDIABETIC DRUGS including insulin and oral hypoglycaemic agents are currently used in the treatment of diabetes, which acts by different mechanisms to reduce blood glucose levels to maintain optimal glycaemic control [10].

ANTIDIABETICS: INSULIN

RAPID ACTING	– insulin lispro, insulin aspartinsulin glulisine
SHORT ACTING	– regular (soluble) insulin
INTERMEDIATE ACTING	– insulin zinc suspension or lente,
	- Neutral Protamine Hagedorn (NPH)

ORAL HYPOGLYCAEMIC DRUGS:

A) DRUGS THAT ENHANCE INSULIN SECRETION	
1. SULFONYLUREAS	First generation – tolbutamide
	Second generation – glipalamide, glipizide gliclazide, glimepiride
2. MEGLITINIDE / PHENYL ALANINE ANALOGIUES	Repaglinide, Nate glinide
3. GLP-1 RECEPTOR AGONISTS	exenatide, liraglutide

DRUGS THAT OVER COME INSULIN RESISTANCE:	
1.BIGUANIDES:	Metformin
2.THIAZOLIDINEDIONES	Pioglitazone
3.MISCELLENIOUS ANTI DIABETIC DRUGS:	
1.ALPHA GLUCOSIDASE INHIBITORS	acarbose, miglitol, voglibose
2.AMYLIN ANALOGUES	Pramlintide
3.DOPAMIN -D2 RECEPTOR AGONISTS	Bromocriptine
4.SODIUM – GLUCOSE COTRANSPORT 2 INHIBITOR	Dapagliflozine

Objectives:

1. Identifying prescription pattern using WHO core indicators.
2. Pharmacoeconomic evaluation to check adherence.
3. To check for rationality in the prescribed therapy.
4. To study the most utilized anti-hypertensive and anti-diabetic drug.

(STUDY DESIGN)

Prospective observational study

STUDY SITE

Mahaveer tertiary care hospital

STUDY DURATION

3months (August – November)

INCLUSION CRITERIA

1. All the inpatients and out patients diagnosed with diabetes alone and also with co-morbidities were included.
2. Patients who are willing to participate in the study.
3. Type 2 DM patients irrespective of age and sex who were prescribed with at least one Oral Hypoglycemic Agents.

EXCLUSION CRITERIA

1. Patients who are critically ill and admitted in ICU.
2. Prescriptions containing incomplete information.
3. Gestational Diabetes Mellitus

Methodology

A suitable data collection form was designed to collect and document the data. Data collection form included the provision for the collection of information related to

- Demographic details of the patient
- Past medical history
- Duration of diabetes mellitus
- Medication list
- Dose.
- Dosage form
- Frequency
- Total number of injectable and oral drugs
- Pharmacoeconomic evaluation

The number of anti-diabetic drugs prescribed was evaluated. The prescribing patterns of anti–diabetic drugs were assessed.

All the data collected as per proforma were analysed by WHO prescribing indicators. which include the following parameters;

a. Percentage of drugs prescribed by generic name.
b. Percentage of prescriptions with an anti-biotic.
c. Percentage of drugs with an injectable prescribed.
d. Percentage of drugs prescribed from Essential Medical List.
e. Average drug cost.

f. Cost minimization analysis was done to predict that amount of money that can be saved if prescriber have prescribed the cheaper brand in market, which in turn improves adherence to prescribed drug use as well as rationality. Results were depicted in tabular columns.

Results

A Prescription based study is considered as one of the most effective methods to assess and to evaluate the prescribing pattern of medications. This study analyzed the prescription patterns in Type 2 Diabetes mellitus. A Drug Utilization Study was considered to be one of the most effective methods to assess and to evaluate the prescribing attitude of the physician and helps to promote the rational use of the drugs. Individuals with Type 2 Diabetes is considered on high priority as they are potential candidates for rapid evaluation to prevent and halt the progression of many complications.

The study included 150 patients within an age range of 30 to >65 years. A total of 134 drugs were prescribed in the study population. The Demographic data of the study subjects are presented in table 1. The number of subjects diagnosed with diabetes mellitus alone are discussed in table 2. The gender distribution of the subjects are studied in pie diagram. The Drug Utilization pattern for the prescribed antidiabetics (monotherapy, dual drug therapy and triple drug therapy) were included in table 3.

S.NO	AGE GROUP (YEARS)	NO.OF PATIENTS	PERCENTAGE (%)
1.	30-40	25	16.66%
2.	40-50	40	26.66%
3.	50-65	60	40%
4	>65	24	16 %

Table 1: Demographic Details.

GENDER	PECENTAGE
MALE	56%
FEMALE	44%

Table 2: Gender Distribution.

Sl no:	ANTIDIABETICS PRESCRIBED	NUMBER	PERCENTAGE%
1	Monotherapy	142	29.95%
2	Dual therapy	250	52.74%
3	Triple therapy	80	16.87%
4	Total	474	

Table 3: Antidiabetics Prescribed.

The utilization pattern of antidiabetic drug therapy (monotherapy) were included in table 4. The utilization pattern of antidiabetic drug therapy (dual therapy) were included in table 5. Table 6 shows the utilization pattern of antidiabetic drug therapy (triple therapy). Number of Antidiabetic injectables encountered are 47 and are briefly described in table 7. Classes of drugs prescribed by generics were included in table.

Sl no:	MONOTHERAPY	NUMBER	PERCENTAGE%
1	Metformin	24	5.78%
2	Voglibose	17	4.09%
3	Canagliflozin	5	1.20%
4	Glimepiride	4	0.96%
5	Sitagliptin	4	0.96%
6	Vidagliptin	4	0.96%
7	Acarbose	3	0.72%
8	Dapaglifozin	3	0.72%
9	Pioglitazone	3	0.72%
10	Gliclazide	1	0.24%
11	Linagliptine	1	0.24%

Table 4: Drug Utilisation Pattern of Antidiabetic Therapy (Monotherapy).

Sl no:	DUAL THERAPY	NUMBER	PERCENTAGE %
1	Glimepiride + Metformin	96	23.13%
2	Teneligliptin+ Metformin	67	16.14%
3	Sitagliptine + Metformin	23	5.54%
4	Voglibose + Metformin	13	3.13%
5	Metformin + Pioglitazone	07	1.68%
6	Gliclazide + Metformin	05	1.20%
7	Glipizide + Metformin	03	0.72%
8	Vidagliptine + Metformin	03	0.72%
9	Metformin + Saxagliptine	03	0.72%
10	Linagliptine + Metformin	02	0.48%
11	Acarbose + Metformin	02	0.48%
12	Metrformin + Glyburide	01	0.24%
13	Glimepiride + Pioglitazone	01	0.24%

Table 5: Drug Utilisation Pattern of Antidiabetic Therapy (Dual Therapy).

Sl no:	TRIPLE THERAPY	NUMBER	PERCENTAGE%
1	Glimepiride + Voglibose + Metformin	39	9.39%
2	Glimepiride + Pioglitazone + Metformin	18	4.33%

Table 6: Drug Utilisation Pattern of Antidiabetic Therapy (Triple Therapy).

Sl no:	TYPE OF INSULIN	NUMBER	PERCENTAGE%
1	Short acting	**38**	**80.85%**
	(a) Human mixtard	20	42.55%
	(b) Huminsulin	17	36.17%
	(c) Actrapid	01	2.12%
2	Long acting	09	19.15%
	(a) Insulin degludec	04	8.51%
	(b) Toujeo insulin	05	10.68%

Table 7: Number of Antidiabetic Injectables.

Table 8-10 depicts the number of prescribed classes of drugs as per EML. Table discusses the summary of prescription evaluation as per WHO prescribing core indicators.

Sl no:	CLASSES OF DRUGS	NUMBER
1.	Antidiabetic	382
2.	Anti hypertensives	93
3.	Lipid lowering agents	25
4.	Antibiotics	18
5.	GI medications	13
6.	Antipsycotics	07
7.	Anti-histamines	05
8.	Anti-emetics	03
9.	Anti-fungal	01
10.	NSAID	01

Table 8: Prescribed Classes of Drugs Not As Per Eml.

Sl no:	PRESCRIBING INDICATOR	FREQUENCY
1.	Total number of prescriptions analysed	150
2.	Total number of drugs used in this study	135
3.	Percentage of drugs prescribed with generic name	0.43%
4.	Percentage of drugs with an oral anti-diabetic prescribed	59.9%
5.	Percentage of drug with an injection prescribed (antidiabetics).	6.8%
6.	Percentage of drug prescribed from the essential drug list (EDL) or formulary.	20.9%

Table 9: Who Prescribing Core Indicators.

Sl no:	DRUG PRESCRIBED	COST /tab(Rs)	ALTERNATE DRUG	COST	AMOUNT SAVED
1	Apriglim 0.5	5.2	Gemer 0.5	2.5	1.7
2	Zoryl m1 forte	7.4	Carbophage	5.14	2.26
3	Gluconorm g2	11.3	Adride-2m	7.25	4.05
4	Tenumet	11.7	Dynaglipt-m	8.99	2.8
5	T.zoryl mv2	16.6	Blistotrio 2	9.62	6.98
6	Istavel 50	41.2	Zita 50mg	13.98	27.3
7	Januvia	45	Zita 100mg	28.4	16.6
8	Glycomet gp	5.9	Glycerite gp1	4.4	1.5
9	Inj.Novomix	672.44	Novomix	530	142.4
10	Pioglit-mf	8.5	K pio m	2.8	5.7
11	Tenlimac	6.6	Dynaglipt 20 mg	5.99	0.7
12	Eriglip	10	Dynaglipt 20	5.99	4.1
13	Gemer ds D3	10.7	Endoformin g3 mg	7.28	3.4
14	Istavel 100	45	Zita 100	28.42	16.58
15	Pioz mf	8.79	K pio m	2.83	5.9
16	Preclazide m	7.5	Glycerite gz	4	3.5
17	Trivolib	16.2	Endoglim trio 2.2	9.62	6.58
18	Inj . lantus	2711.84	Basalog	467.5	2243
19	Volix trio 2	16.2	Endoglim trio 2.2	9.62	6.58
20	Gluconorm g1	7.72	Glycerite gp1	4.4	3.32
21	Glimisave mv2	15.4	Endoglim trio 2.2	9.62	5.78
22	Glyciphage	1.52	Bigomet 500	0.98	0.54
23	Teneliglinase	10.7	Galega gv1	7.5	3.2
24	Tenali m 500	11.69	Dynaglypt m	8.99	2.7
25	Inogla	11.4	Dynaglipt 20	5.99	5.41
26	Duvanta	10.6	Ambidext 30	9.85	0.75
27	Gemer ds	7.4	Duopil 1mg forte	5.14	2.26

28	Gluconorm g2	11.36	Carbophage g2	7.25	4.11
29	Endoformin g2	9.65	Carbophage g2	7.25	2.4
30	Teniva m	11.96	Dynaglipt m	8.99	2.97
31	Glycomet sr	3.2	Bigomet 850	1.47	1.73
32	Teneza m	13.44	Dynaglipt m forte	9.99	3.45
33	T Volga m	5.05	Dbose m	4.84	0.21
34	Januvia 100	45	Zita 100	28.4	16.6
35	Zoryl 1	3.65	Adride 1	2.37	1.28
36	T glip m	11.96	Dynaglipt m	8.99	2.97
37	Ziten m	12.2	Dynaglipt m	9.9	2.3
38	Glypride	5.78	Adride 2	3.08	2.7
39	Tenepure	10.88	Dynaglipt 20	5.99	4.89
40	Basugine	2465	Glaritus	1580	885
41	H.mixtard	143	Humistard	142	1
42	Loyzide xr	9.5	Diabend mr	6.2	3.3
43	Glucobay	7.3	AC	4.6	2.7
44	H. actrapid	143	Insucare r	140	3
45	Voglimac	9	D bose m	4.8	4.2
46	Tenafit	7.9	Dynaglipt m	6.5	1.4
47	T glip	10.8	Dynaglipt	5.9	4.9
48	Glipijub m	12.4	Dynaglipt m	8.9	3.12
49	Galvus mf	26.5	Jalra 50	25.71	0.79
50	Apriglim m3	9.9	Azulix mf3	5.87	4.08
51	Inogla m	13.4	Dynaglipt m forte	9.99	3.41
52	Tenglyn m	13.9	Dynaglipt m	8.9	5
53	Zoryl	5.79	Adride	3.08	2.71
54	Glycomet gp2	8.66	Carbophage g2	7.25	1.41
55	Glimisave m3	8.59	Azulix mf3	5.87	1.46

56	Voglibite gm	7.86	Galega gv1	7.5	0.36
57	Zetaglim mv2	9.7	Endoglim trio	9.62	0.08
58	Vosafe m	5.8	D bose m	4.84	0.96
59	Riomet od	3.7	Bigomet sr	3.21	0.49
60	Triposmeal 2	16.51	Endoglim trio	9.62	6.89
61	Zoryl forte m3	11.3	Endoformin g3 forte	7.28	4.02
62	Istamet xr cp	335	Janumet xr	334.6	0.4
63	Gluconorm vg2	16.93	Voglo gm2	12.2	4.73
64	Glynase mf	1.39	Glirum mf	1.01	0.38
65	Geminor m2	7.8	Carbophage g2	7.25	0.55
66	Glynamic m1	5	Glycerite gp1	4.4	0.6
67	Tenlimac	6.6	Dynaglipt 20	5.99	0.61
68	Tglip m	12.5	Dynaglipt m	9.9	2.6
69	Voglimac gm	14.6	Blisto trio	9.7	4.9
70	Glynamic m1	5	Glycerite gp1	4.4	0.6
71	Volga trio2	10.39	Blisto trio 2	9.7	0.69
72	Glypten	9.9	Dynaglipt 20	5.9	4
73	Glimipac m2	7.5	Carbophage g2	7.25	0.25
74	Glitaray m3	8.6	Azulix mf	5.87	2.73
75	Zetaglim mv1	8.7	Galega gv1	7.5	1.2
76	Teneliglip	9.9	Dynaglipt	5.9	4
77	Trivolib 2	16.2	Endoglim trio	9.62	6.58
78	Zoryl m2	10.2	Carbophage g2	7.25	2.95
79	Glipijub m forte	15.05	Dynaglipt m forte	9.9	5.15
80	Janumet	24.5	Zitamet	11.7	12.8
81	Vogloyd m	7.26	D bose m	4.84	2.42
82	Glucobay	7.37	AC	4.6	2.77
83	Tenlimac	6.6	Dynaglipt 20	5.9	0.7

84	Olymprix m	12.85	Dynaglipt m	8.99	3.86
85	Glynamic m1	5	Glycerite gp1	4.4	0.6
86	Glimirep	5.5	Glycerite gp1	4.4	1.1
87	Volix m	9.7	D bose m	4.84	4.86
88	Zoryl mv1	12.6	Galega gv1	7.5	5.1
89	Tenebite m	15.62	Dynaglipt m forte	9.9	5.7
90	Preclazide m	5.8	Semi glizid m	4.47	1.33
91	Istamet	23.2	Zitamet	11.7	11.5
92	Gluconorm g	7.72	Glycerite gp1	4.43	3.32
93	Pioz	4.77	K pioz	2.6	2.17
94	Gemer ds2	9.9	Carbophage g2	8.06	1.84
95	Volix trio 1	12.2	Galega gv1	7.5	4.7
96	Istamet	23.2	Zitamet	11.7	11.5
97	Trivolib 2	16.2	Endoglim trio	9.62	6.58
98	Zitamet	13.36	Dynaglipt m	9.9	3.46
99	Tenuvia	9.9	Dynaglipt 20	5.9	4
100	Gemer ds1	7.4	Duopil	5.14	2.26
101	Galvus met	27.89	Zomelis	19.8	8.09
102	Tendia m	10.77	Dynaglipt m	8.99	1.78
103	Walformin	7.67	Glycerite gz	4	3.67
104	Vobit	16.93	Endoglim trio2	9.62	7.31
105	Glyciphage	1.52	Glycerite	1.1	0.42
106	Gemer	6.5	Glycerite gp1	4.4	2.1
107	Inj Basugine	2465	Glaritus	1580	885
108	Glimisave m4	10.52	Glador	7.25	3.27
109	Tendia m	10.7	Dynaglipt m	8.9	1.8
110	Ziten	16.2	Dynaglipt	5.9	10.3
111	Galvus	26.5	Jalra 50	25.7	0.8

112	Zita met plus	13.3	Dynaglipt m	9.9	3.4
113	Sulisent	54.9	Invokana	54.5	0.4
114	Vofid m	5.7	D bose m	4.8	0.9
115	Agivog	9.5	Voglicare	7.7	1.8
116	HHGlim	6.1	Glycirite gp1	4.4	1.7
117	Teneza m	12.8	dynaglipt	8.9	3.9
118	Voglistar md	4.6	Prandial md	4.5	0.1
119	Volibo	8	D Bose	6.4	1.6
120	Pioglipt mf	8.5	K Pio m	2.83	5.67
121	Jubiglim	4.5	Adride	3	1.5
122	Glorimet vg2	9.7	Endoglim trio	9.6	0.1
123	PPG met	7.6	D Bose m	4.84	2.76
124	Volga m	6	K Met duo	5.5	0.5
125	Pioz mf	8.79	K Pio m	4.25	4.54
126	Metgem	3.54	Bigomet sr	3.21	0.33
127	Voglimac gm	14.6	Endoglim trio2	9.62	4.98
128	Afoglip m	11.7	Dynaglipt m	8.9	2.8
129	Endoformin g2	9.65	Adride 2m	8.4	1.25
130	Tvobit	16.9	Endoglim trio	9.62	7.3
131	Tenepride m	11.69	Dynaglipt m	8.99	2.7
132	Tendia m forte	12	Dynaglipt m forte	9.99	2.1
133	Voglic m	8.5	D Bose m	6.4	2.1
134	Azulix	5.78	Adride 2	3.08	2.7

Table 10: Pharmacoeconomic Evaluation of the Prescribed Drugs.

Discussion

The study involved 150 prescriptions and we found a higher incidence of diabetes in elderly patients with a high incidence in age group of 50-65 years (40%). In general patients developing diabetes mellitus are in age group of more than 50 years. In our study 52% males and 48% females had diabetes mellitus. The study of prescribing pattern and evaluation of the prescribing practice may recommend necessary modifications to achieve rational and cost-effective medical care by practitioners for making medical care rational.

The percentage of drugs prescribed by generic name in the present study showed 0.4%. The classes of drugs prescribed by the generic names are very few which include anti-diabetics. The prescribers of our hospital need to improve in prescribing pattern by using more of generic name. Our study showed much lower percentage of prescriptions with generic name. The reason for which could be many; namely lucrative advertisements by the pharmaceutical companies, limited awareness about the prescribing guidelines of WHO by the prescribers, insufficient availability of generic drugs in our pharmacy.

The study involved 137 prescriptions (100%) of patients with Type 2 diabetes. The drug utilization pattern for prescribed antidiabetics was also evaluated which included the number of drugs given under monotherapy were 132(31.80%) and drugs under dual therapy were 226(54.45%) and drugs under triple therapy were 57(13.73%), and we found that more number of antidiabetic drugs were dual therapy which is 54.45%.

The drug utilization pattern of antidiabetic drugs under monotherapy were evaluated and found metformin (5.78%) is the most commonly prescribed. This study also evaluated the drug utilization patterns of antidiabetic drugs under dual therapy and found that glimepiride + metformin is the most commonly prescribed dual therapy drug which is about 96(23.1%), followed by teneligliptin + metformin(16.1%), sitagliptin + metformin(5.5%), voglibose + metformin(3.1%).In the drug utilization pattern of antidiabetic drug under triple therapy, glimepiride + voglibose + metformin is most commonly given which is 9.39% followed by glimepiride + pioglitazone + metformin which is 4.33%.

The prescriptions of injectables used during the course of the study were evaluated from which Human mixtard, Huminsulin, Human Actrapid which are the short acting insulins were most commonly prescribed which is about 80.85% and followed by long acting insulin which is 19.15%.

The study was done using the WHO core indicators which includes:

The total no. of prescriptions analyzed were 150

Total no. of drugs used in the study were 135 drugs

Percentage of drugs prescribed with generic name were 0.43%

Percentage of drugs with an anti-diabetics prescribed were 59.9%

Percentage of drugs with an injectables were 6.8%

Conclusion

The current study aimed at studying current prescribing trend for antidiabetic agents. The study showed that metformin is the most commonly prescribed antidiabetic drug. The prescribing trend also appears to be moving towards combination therapy particularly dual drug therapies. Percentage of prescriptions by generic name was very low which is considered to be irrational the assement of existing prescribing patterns help to identify specific drug use problems which need to be understand before any meaningful intervention takes place. Therefore, it is recommended that to achieve therapeutic goal and adherence physician have to adhere to update guidelines and must avoid to prescribe cheap quality pharmaceutical products.

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