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Research Article

A PROSPECTIVE OBSERVATIONAL STUDY ON DRUG UTILIZATION OF ANTI-DIABETICS IN GOVERNMENT GENERAL HOSPITAL, VIJAYAWADA

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Article Received: July 2021**Accepted:** August 2021**Published:** September 2021**Abstract:**

Diabetes Mellitus refers to group of diseases that affect how body uses blood sugar (glucose). Glucose is vital for health because it's an important source of energy for the cells that make up muscles and tissues. Anti-Diabetic Therapy is to return blood sugar to a safe threshold and reduce the risk of complications such as Heart attacks and stroke, Neuropathy, Nephropathy, Retinopathy and Vision loss, Hearing loss, Foot damage, Depression etc. The classification include: For TYPE-1 Diabetes Insulin is given and for TYPE-2 Diabetes drugs are classified into different types Sulfonylureas, Biguanides, Meglitinides, Thiazolidine diones, Alpha glucosidase inhibitors, Dipeptidyl peptidase (DPP4), Glucagon like peptide (GLP-I). The World Health Organisation (WHO) has shown that about 79.4 million people in the world are likely to suffer from diabetes mellitus by 2030. This is the prospective observational study and was conducted in the government general hospital, Vijayawada. The study period is about 4 months ie, September to December 2019. All the prescriptions of OP, IP departments and Diabetic camp were included. The use of Antidiabetics in the tertiary care hospital was found to be more and in department of Outpatient was found to be 195788, Inpatient department found to be 26,636 and in diabetic camp found to be 338222. diabetic camp consumption of antidiabetic drugs was found to be more than the Inpatient and Outpatient Departments.

Keywords: Diabetes mellitus, Antidiabetic drugs, Drug Utilization, In-patient, Out-patient, Diabetic camp.

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INTRODUCTION:

Antidiabetic drugs are the drugs that are used to stabilize and control blood glucose levels^{7,11}. As per World Health Organization, around 31.7 million individuals in India were affected by diabetes during the year 2000 which may further rise to 79.4 million by the year 2030.^{1,8} Diabetes mellitus (DM) is the chronic disorder emerging as major health problem which increases the rate of morbidity and mortality.^{2,3} Poor management of these two disorders leads to several complications.^{3,4} Management of DM requires both pharmacological and non-pharmacological interventions^{6,11}. Hypoglycemia is the common adverse drug reaction (ADR) of antidiabetic drugs and it is associated with substantial morbidity and mortality.^{2,5} The aim in this study regarding drug utilization study was conducted to determine the drug utilization pattern of antidiabetic medicines during diabetic camp, hospital stay (In-patient) and outpatient.

MATERIALS AND METHODS:

Data Collection: This is a prospective observational study was conducted in the government general hospital, Vijayawada. It contains information about the distribution of the Antidiabetic drugs to different departments of the hospital. The data collected was about 4 months period. All kinds of diseased patients were included in these criteria.

Study Design: Prospective Observational Study.

Study Period: September 2019 to December 2019 (4 months)

Study Site: Government general hospital, Vijayawada.

Inclusion Criteria: All the prescriptions of OP, IP and Diabetic Camp departments were included.

Exclusion Criteria: ART and ATT data was excluded.

Data Analysis: Antidiabetic drugs were taken according to route of administration i.e., oral. The data was collected from the government general hospital, Vijayawada. The data was collected from the out - patient (OP), In - patient (IP) departments of medicine, surgery, orthopedics, cardiovascular, Dermatology, Neurosurgery, Gastroenterology, acute medical care (AMC), Trauma, Neurology post operative, Plastic surgery, Prisoners and Diabetic camp. It was collected in the period of September, October, November, December that is 4 months. In OP departments the patients attended in September were 1334, October were 1590, November were 1948 and December were 1656. The total number of patients attended OP departments in the above mentioned 4 months was 6,528. In IP departments the patients attended in September were 119, October were 461, November were 159 and December were 172. The total number of patients attended IP departments in the 4 months was 911. In Diabetic Camp the patients attended in September were 2206, October were 3053, November were 3058 and December were 2961. The total number of patients attended for Diabetic Camp in the 4 months was 11,278.

RESULTS AND DISCUSSION:

TABLE 1: Number of patients attended diabetic camp, out-patient and in-patient departments

Departments	September	October	November	December	Total
OP department	1334	1590	1948	1656	6,528
IP department	119	461	159	172	911
Diabetic Camp	2206	3053	3058	2961	11,278
Total	3659	5104	5165	4789	18,717

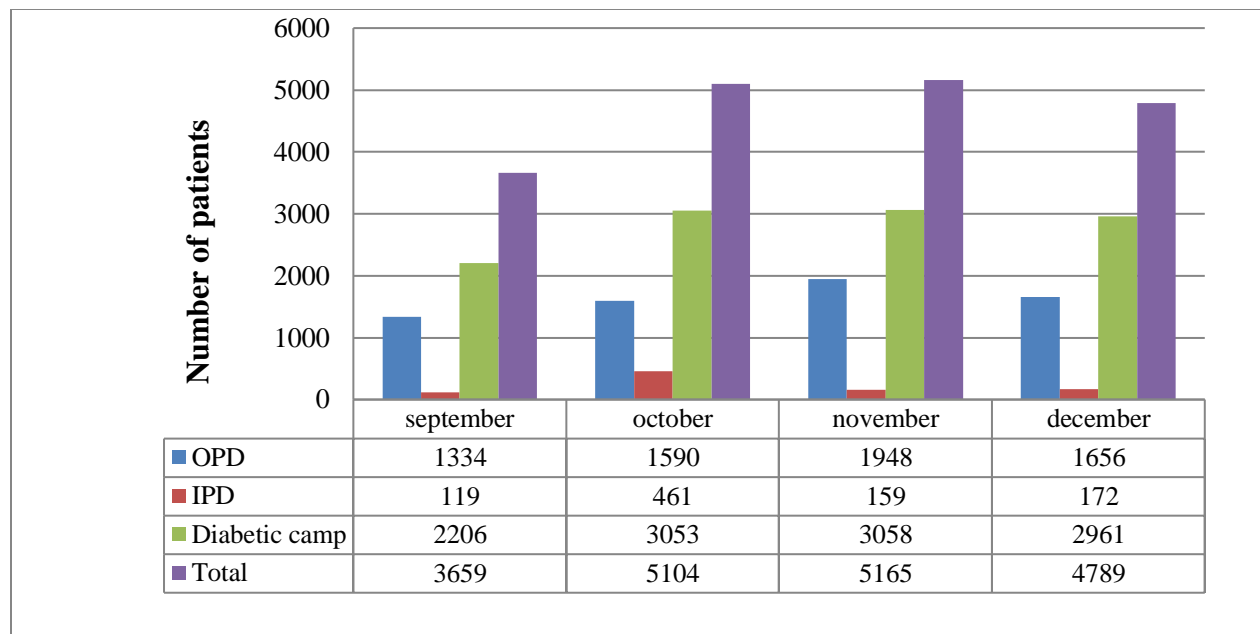


Figure 1: Total number of patients Attended and Admitted in 4months.

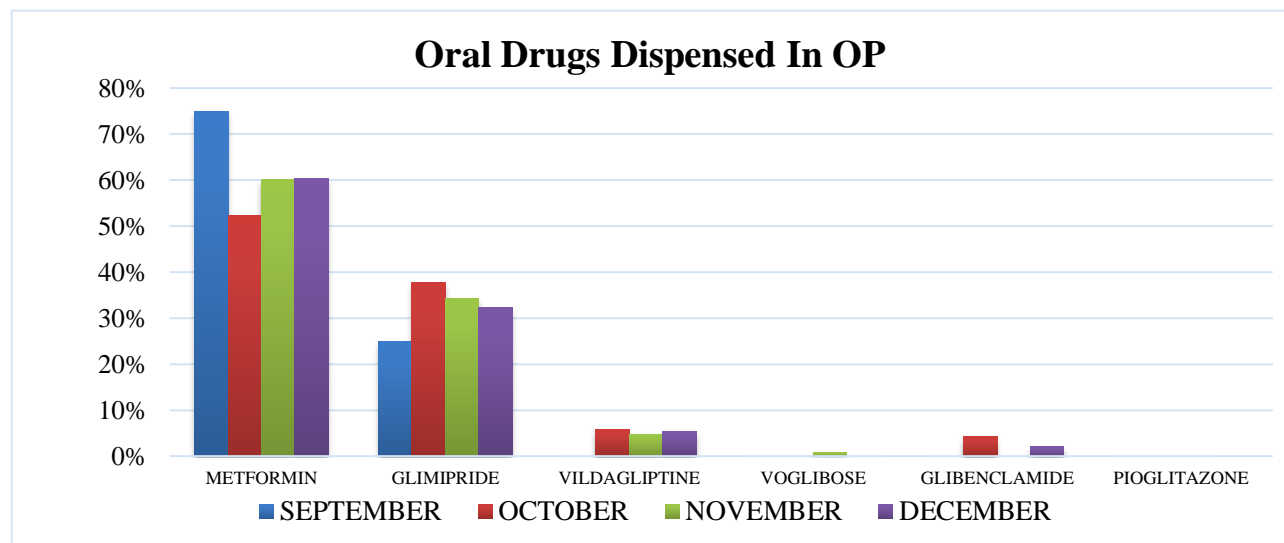


Figure 2:- Oral Drugs Dispensed In Out-Patient Department.

The Percentage of oral drugs dispensed to OP Department is mentioned in Figure-2.

The Percentage of Metformin dispensed in the month of September was 75%, October was 52%, November was 60% and December was 60%. The Percentage of Glimipride was 25% in September, 38% in October, 34% in November and 32% in December.

The Percentage of Vildagliptine was NIL in September, 6% in October, 5% in November and 5% in December. The Percentage of Voglibose was 0% in September and October, 1% in November and 0% in December. The Percentage of Glibenclamide was 0% in September, 4% in November, 0% in October and 2% in December. The Percentage of Pioglitazone was 0% in all the 4months.

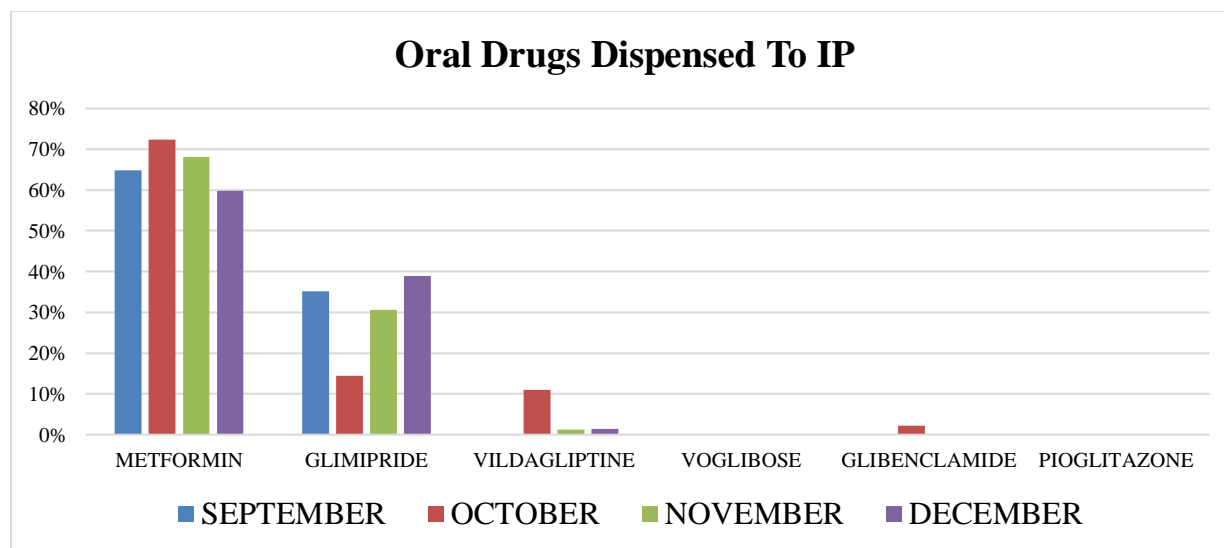


Figure 3: Oral drugs Dispensed in In-Patient Department.

The Percentage of Drugs Dispensed to In-Patients is mentioned in Figure-3. The Percentage of Metformin was 65% in September, 72% in October, 68% in November and 60% in December. The Percentage of Glimipride was 35% in September, 14% in October, 31% in November and 39% in December. The Percentage of Vildagliptine was 0% in September, 11% in October, 1% in November and 1% in December. The Percentage of Voglibose is 0% in all the 4months. The Percentage of Glibenclamide was 0% in September, 2% in October and 0% in November and December. The Percentage of Pioglitazone was 0% in all the 4months.

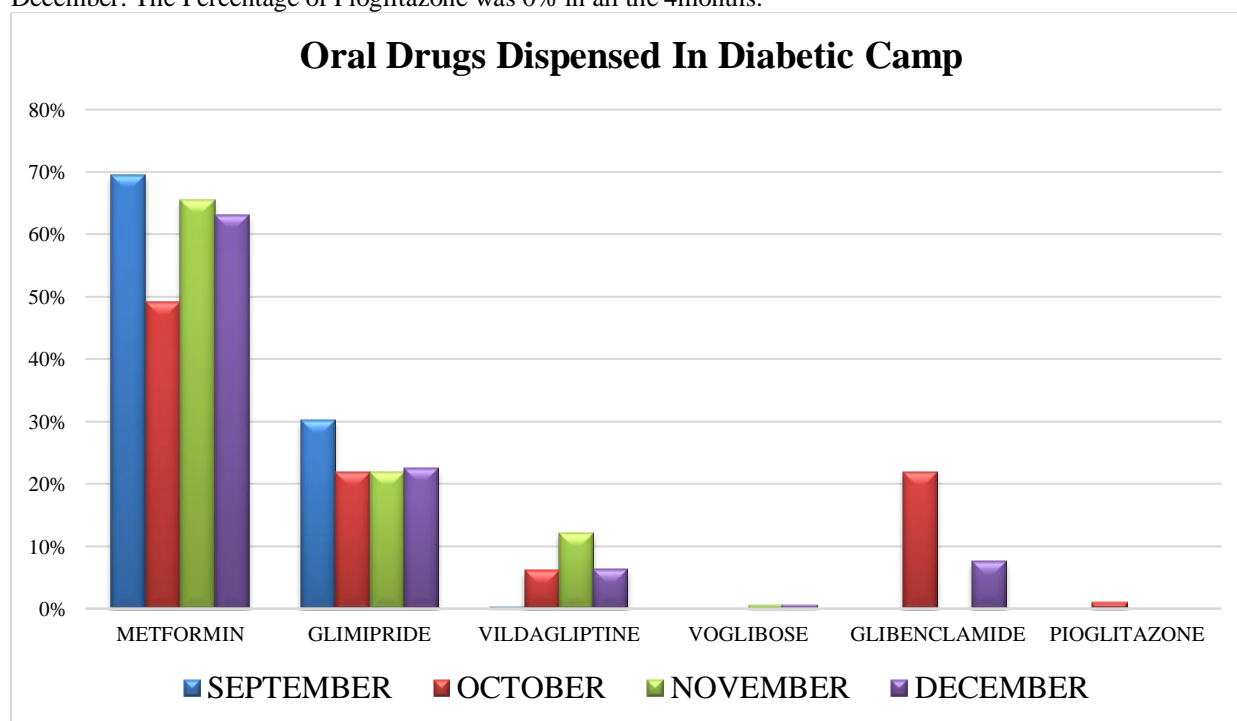


Figure 4: Oral Drugs Dispensed In Diabetic Camp

The Percentage of Drugs Dispensed in Diabetic Camp is mentioned in Figure-3. The Percentage Of Metformin was 69% in September, 49% in October, 65% in November and 63% in December. The Percentage of Glimipride was 30% in September, 22% in October, 22% in November and 23% in December. The Percentage of Vildagliptine was 0% in September, 6% in October, 12% in November and 6% in December. The Percentage of Voglibose is 0% in September and October, 1% in November and December. The Percentage Of Glibenclamide was 0% in September, 22% in October, 0% in November and 8% in December. The Percentage of Pioglitazone was 0% in September, 1% in October, 0% in November and December.

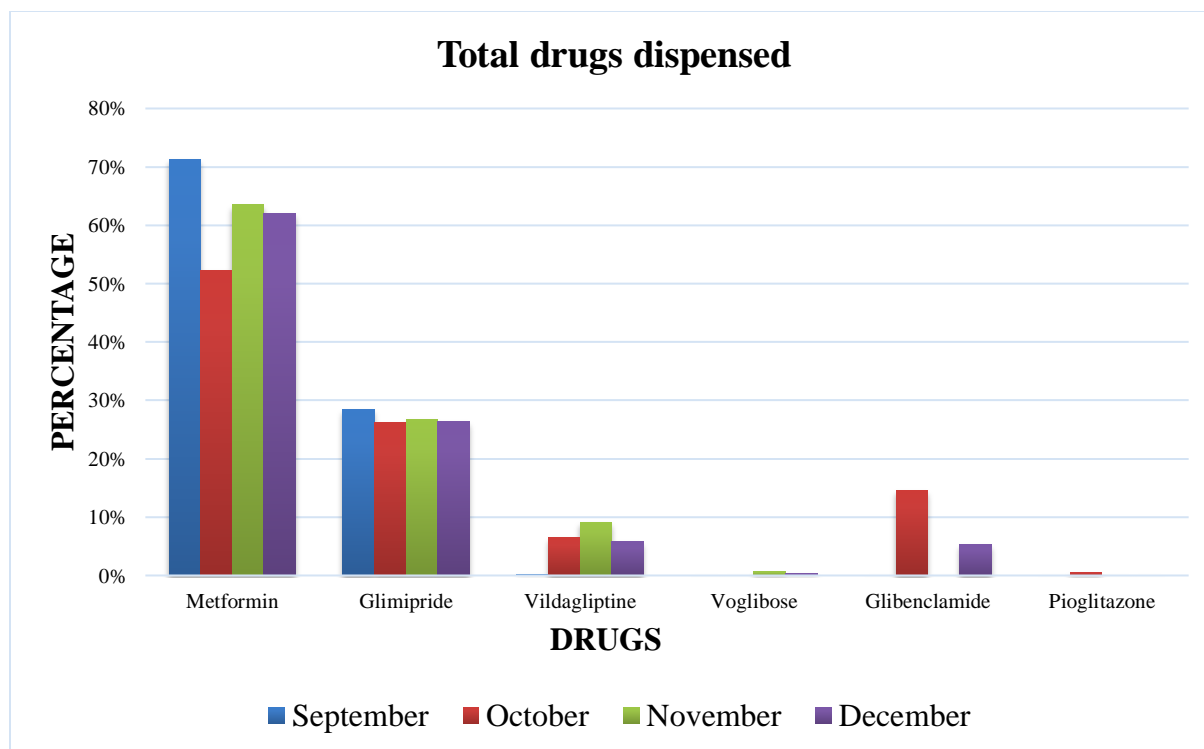


Figure 5: Total Sales Of Oral Drugs.

The total percentage of oral drugs dispensed in In-Patient Department, Out-Patient Department and Diabetic Camp as mentioned in **Figure-5**. The Percentage of Metformin was 71% in September, 52% in October, 63% in November and 62% in December. The Percentage of Glimipride was 28% in September, 26% in October, 27% in November and 26% in December. The Percentage of Vildagliptine was 0% in September, 6% in October, 9% in November and 6% in December. The Percentage of Voglibose was 0% in September and October, 1% in November and 0% in December. The Percentage of Glibenclamide was 0% in September, 15% in October, 0% in November and 5% in December. The Percentage of Pioglitazone was 0% in September, 1% in October, 0% in November and December.

CONCLUSION:

The use of Anti-Diabetics in the tertiary care hospital was found to be more. In all departments of out-patient was found to be 1,95,788, In all departments of In-patient was found to be 26,636 and Diabetic Camp was found to be 3,38,222. Diabetic Camp patients consuming of anti-Diabetic drugs were found to be more than the Out-Patients and In-patients. Evidence-based medicine should be the main component for continuing the education of medicines that helps to enable advances in clinical research and help in the patient care practices. Rational drug use must be prioritized in all hospitals and essentially used drug list should be publicized well.

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