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Original Article

### Prescription pattern study in type 2 diabetes mellitus in an Indian referral hospital

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#### Abstract

Diabetes is a disease of the millions and it is projected that a quarter billion people across the globe would be suffering from diabetes mellitus by the year

2025. A major burden of this disease would be shared by developing countries like India and will be having approximately 57 million people suffering from the disease in the near future. Medications for diabetes mellitus need to be taken for the entire life and factors like efficacy, side effects, drug interactions and cost of therapy need to be taken into consideration [1].

## Introduction

The study was undertaken to assess the prescription pattern of antidiabetic drugs in type 2 diabetes mellitus patients presenting to GSL medical college and hospital located in state of Andhra Pradesh in southern part of India. The study was carried out at the hospital pharmacy. Permission to conduct the study was taken from the superintendent of the hospital and the pharmacy head. Before collecting the prescriptions, an informed verbal consent was taken from the patients. Data was analyzed using SPSS version 10. The brand names of drugs in prescriptions were decoded to generic names of drugs using standard CIMS India drug Manual.

## Method

A total of 1027 antidiabetic prescriptions (new and old cases) were collected & analyzed from 1st November 2007 to 31st December 2007. A total of 4226 drugs were prescribed over the period of one month (mean is 4.11 drugs in each antidiabetic prescription). 665 prescriptions (64.75 %) were for type 2 diabetes mellitus alone. 362 (35.25%) antidiabetic prescriptions had antihypertensive / antianginal or both drugs listed in it.

## Results

The majority of patients were prescribed sulphonylurea class of drugs (483, 47%) followed by biguanides (246, 24%), insulins (185, 18%), thiazolidinediones (81, 7.9%) and meglitinides (32, 3.1%). Amongst the sulphonylurea class of drugs, glimeperide (179, 37.1%) and glibenclamide (167, 34.6%) were the most commonly used drugs followed by glipizide (69, 14.3%) and gliclazide (68, 14%). Metformin (246, 100%) was the only biguanide used in antidiabetic prescriptions. Rosiglitazone topped the list in prescriptions for thiazolidinediones.

A total of 411 antidiabetic prescriptions (40%) were from the people in age between 27 to 40 years. In this age group, 367(89%) suffered from type 2 diabetes mellitus alone ,out of which 280(76.2%) were treated with single drug (either a sulphonylurea or biguanide).A total of 616(60%) antidiabetic prescriptions were from the people above the age of 40 years, of which 508(82.4%) had one or more co morbid diseases along with type 2 diabetes mellitus (hypertension and ischemic heart disease being the commonest).In the prescriptions of patients aged more than 40 years,524(85 %) were treated with two or more drugs for diabetes mellitus. The drugs used in combinations were sulphonylurea and biguanides (292, 55.7%), insulin with sulphonylurea and biguanides (159, 30.3%) and other classes of antidiabetic drugs in combination with these drugs (73, 14%).

## Conclusion

This study concluded that the choice of anti-diabetic drugs remained more or less unchanged compared to previous studies except for greater use of newer sulphonylureas, improved insulin preparations and use of newer class of drugs like thiazolidinediones and meglitinides for combination therapy in uncontrolled type 2 diabetes mellitus [2, 3, 4]. The study provides baseline data for carrying out further therapeutic audit with more parameters of analysis which in turn will provide regular feedback to researchers and prescribers. This may encourage rational prescribing in type 2 diabetes mellitus.

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