WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 7.523
Volume 6, Issue 12, 532-540. Research Article ISSN 2277–7105

# AWARENESS OF ANTI-DIABETIC TREATMENT IN TYPE 2 DIABETES MELLITUS PATIENT ATTENDING TERTIARY CARE HOSPITAL

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Article Received on
14 August. 2017,
Revised on 03 Sept. 2017,
Accepted on 24 Sept. 2017
DOI: 10.20959/wjpr201712-8833

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## ABSTRACT

**Objectives:** To evaluate the level of awareness in type 2 diabetes mellitus patients regarding the disease, medications, management and its complications. **Methods:** This cross-sectional study was conducted on type 2 diabetes mellitus patients attending medical and surgical outpatient department of a tertiary care hospital for a period of three months. A questionnaire was provided to them and their response was recorded. **Results:** Sixty-three patients participated in this study out of which 28 are men and 35 are women. More than half (52%) of the participants were uneducated and had primary education only, among educated few were graduates 3% and the rest were educated up to the secondary school level. Most of them (98.4%) were on oral hypoglycaemic (OHAs) and 1.6% were on insulin. Forty four percent of the participants had diabetes for 1 to 5 years, 32% had diabetes for 6 to 10 years and 24% had the disease for more than 10 years. The uneducated (52%) participants had very poor knowledge about the medications prescribed to them, their adverse effects and the disease complications, which was significantly different when compared with the awareness level in educated participants. There was also a significant difference of awareness noted between the patients having disease newly and up to six years in comparison with patients having disease above seven years. **Conclusion:** The uneducated patients with type 2 diabetes mellitus are not aware of the disease, medications prescribed and its complications.

## INTRODUCTION

Diabetes is a group of metabolic disorders that share the phenotype of hyperglycaemia caused by genetic and environmental factors. The factors contributing to hyperglycaemia are decreased insulin secretion, glucose utilization and increased glucose production. This metabolic dysregulation causes secondary pathophysiologic changes in multiple organ system imposing tremendous burden to patient, family members and health care system.[1]

India is rapidly emerging as the diabetes capital of the world. Currently, there are approximately 63 million diabetics in India[2], second only to China, and this figure is likely to increase substantially by 2025.

### Need for study

Increasing urbanization, rural to urban migration, adoption of sedentary lifestyle, and unhealthy food habits, and genetic predisposition are the causative factors for diabetes and also leading cause of diabetes at a younger age.[3] Increased complications like chronic renal failure, myocardial infarction, diabetic foot, retinopathy etc are due to lack of awareness about the disease, treatment & poor glycemic control needful lifestyle modification, poor education and decreased per capita income among these patients when compared to western patients. The management of this complex metabolic disease done with initiation of insulin or other anti-diabetic drugs and it should also be with continuous education and counselling towards modification in lifestyle, diet and about complication associated will reduce the morbidity and mortality in these patients.

### Two objectives

1. To assess the knowledge of drugs used in the treatment of Type 2 Diabetes.
2. To assess the Knowledge of ADR/Complication of drugs and the disease.

### Review of literature

India is rapidly emerging as the diabetes capital of the world. Currently there are approximately 63 million diabetics in India[2], second only to China and this figure is likely to increase substantially by 2025.[4] Insulin is mandatory for type 1 diabetes and is frequently required in type 2 diabetes as the disease progresses. Statistics from developed countries show that more than 30% of all diabetics use insulin either singly or in combination with oral anti-diabetic drugs(OADs)[5], though this figure may be lower for India.[6]

According to a recent study both higher educational and higher economic standards were associated with better understanding of hypoglycaemic drug use. The duration of disease (chronic) and its treatment (oral anti-diabetic drugs and insulin) should be associated with better knowledge of some parameters. Female subjects were less aware of HbA1c as a monitoring tool, among insulin users 70% had never used a glucometer, only 27.33% carried simple carbohydrates for use during hypoglycaemic attacks, and 32% failed to rotate sites for insulin injection.

There are several Indian studies with emphasis on diabetes epidemiology[7,8,9,10] but ones related to knowledge-attitude-practice (KAP) survey in diabetics are limited.[11,12,13] A large proportion of type 2 diabetics also eventually require insulin for blood sugar control and the assessment of their knowledge and attitude towards insulin, even if not using this drug, was considered important to evaluate the gaps that need to be addressed.

## MATERIALS AND METHODS

A cross-sectional, questionnaire based survey was carried out for 3 months among patients attending the medicine and surgery out-patient departments & given consent to this study. Every day of the survey, patients (type 2 DM) attending to the relevant OPD will be interviewed, explained about the survey and if willing, they will be interviewed in a separate room.

### Inclusion

- Type 2 diabetes patients of both genders.
- Willing to participate in the study.

### Exclusion

- Those who were critically ill, unable to answer.
- Gestational diabetes.
- Type1diabetes.

### Statistical analysis

The data obtained will be analysed statistically using descriptive statistics, & the result will be depicted in graphs & percentages.

## RESULTS

Study involved 63(n=63) patients of which 28 (44.44%) & 35 (55.55%) female patients and 50 (79.36%) were from medical opd, 13 (20.63%) surgical opd. shown in table 1.

Education status of the study patient's, Uneducated 21 (33.33%), Primary education 12 (19.04%), Secondary & Puc 28 (44.44%), Graduate 2 (3.17%) in fig 1.\

About 36 (57.14%) unaware of the treatments and complication, which was more in uneducated patients, fig 2.

Duration of the disease 1-5 Yrs 28 (44.44%), 6 -10Yrs 20 (31.7%), more than 10Yrs 15 (23.8%) in fig 3.

Around 35(55.55%) unaware of the treatments and complication which was more seen in patients having < 5 yrs Fig 4.

OHA 57 (90.47%), OHA & Insulin 5 (7.93%), Insulin1(1.58%) in fig 5.

**Table 1: - Demographic characteristics of the study.**

| CHARECTERESTIC | NO OF PATIENTS |
|---|---|
| MALE | 28 (44.44%) |
| FEMALE | 35 (55.55%) |
| MEDICAL OPD | 50 (79.36%) |
| SURGICAL OPD | 13 (20.63%) |

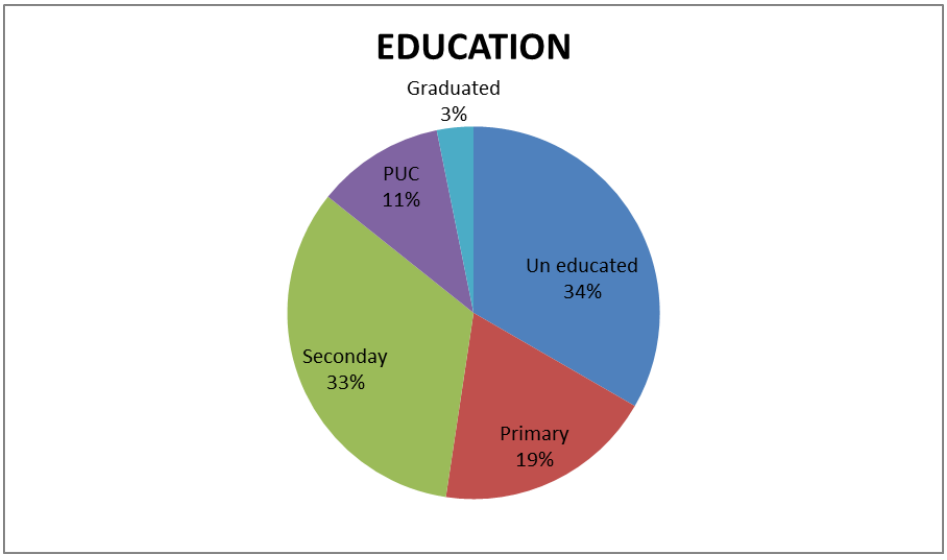


**Fig 1: Percentage of education level among the study patients.**

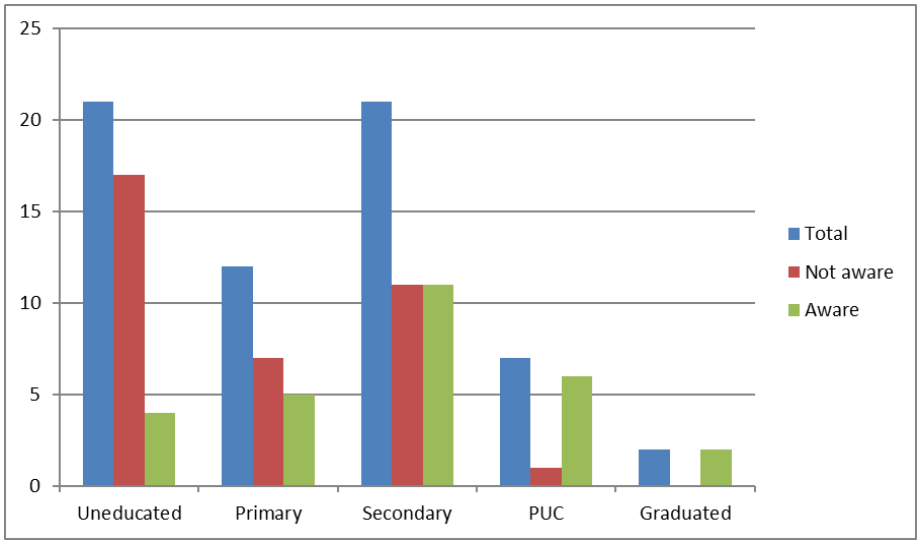


**Fig 2: Assessed awareness according to education.**

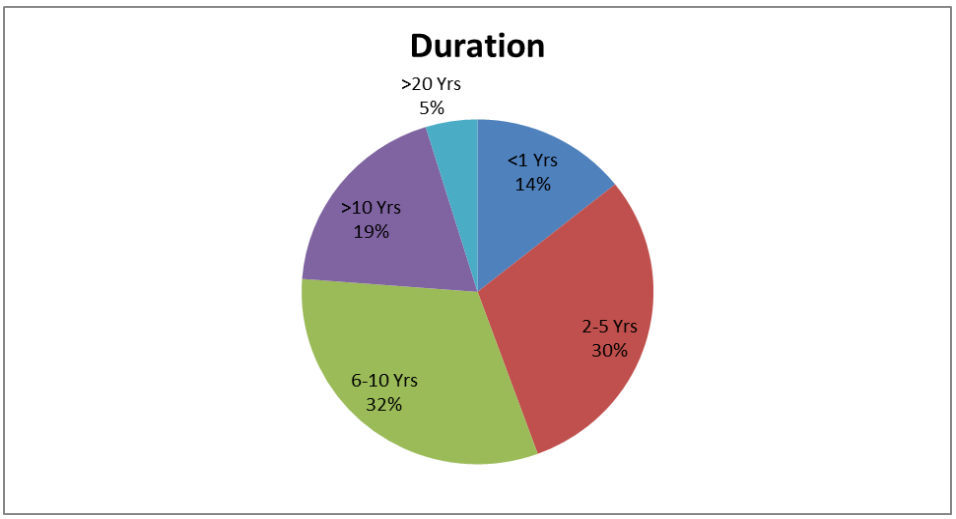


**Fig 3: - Duration of disease among the study patients.**

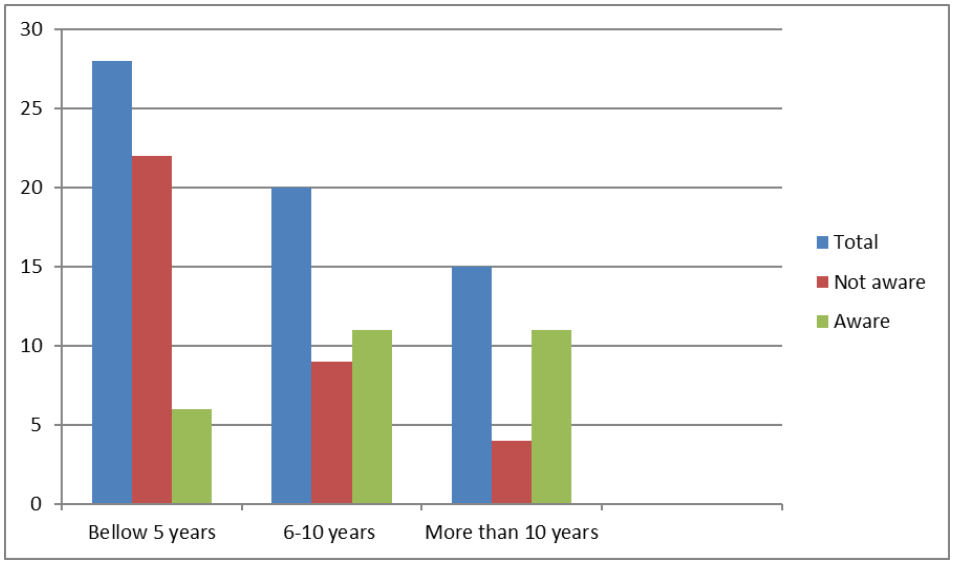


**Fig 4: - assessed awareness according to duration of disease.**

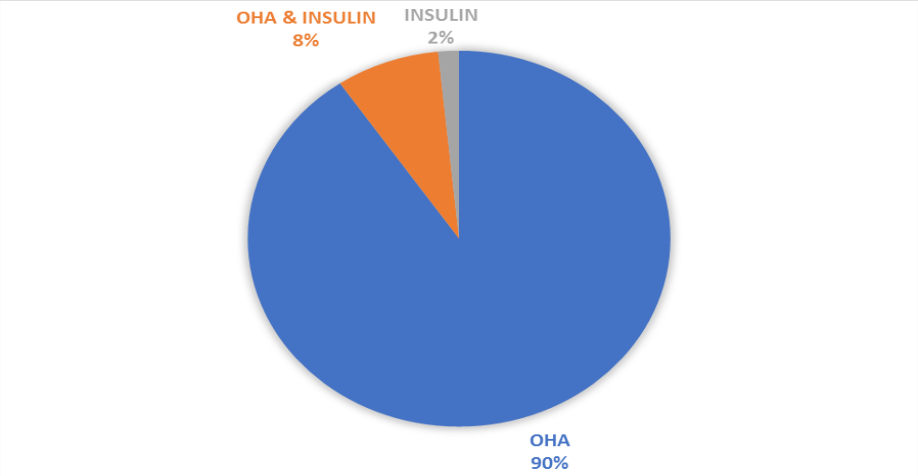


**Fig 5: - Percentage of anti-diabetic drugs used.**

## DISCUSSION

Urbanisation, consuming more of carbohydrate and fat based diets, junk foods, lack of exercise and genetical predisposition are the noted culprits found in increasing incidences of non-communicable diseases like diabetes mellitus, hyperlipidaemia & hypertension, and also the complications like atherosclerosis, myocardial infarction, stroke, and renal failure due to these diseases.

Our study involved 63 patients In our study, we involved 63 patients who were suffering from diabetes type 2 and attending the medical and surgical outpatient department (opd) during the study period, among them 44.44%(28), 55.55%(35) were males and females respectively.

Most of the patients in our study were from medical opd 79.36%(50), surgical opd 20.63%(13), and among these about 23.8% (15) were suffering from diabetes for more than 10 yrs and 31.7%(20), 44.44%(28) were suffering for 6-10 yrs and bellow 5 yrs respectively. Diabetes is a metabolic disorder which can't be cured by medicines alone, drugs used in these patients for controlling the hyperglycaemia will help to prevent the development of complications like macro/micro angiopathies, nephropathy, neuropathy and retinopathies which are due to increased blood glucose level and the development of these complications more seen in patients suffering from many years when compared to the new patients.[14-19]

In our study 33.33%(21) were uneducated, 19.04%(12), 44.44%(28), 3.17%(2) had primary, secondary to pre-university course (puc) and graduation respectively. About 57.14% (36)

were unaware about the treatment what they are receiving and also complications due to the disease and drugs, and this is more seen in uneducated patients.

The education of the patient plays a pivotal role in providing knowledge about the disease and its complications. It also plays a very important role in understanding the need full lifestyle modification to prevent these complications and also gives power of deciding about the treatment and its cost effectiveness.[14,21-26]

Treatment of type 2 diabetes include diet restriction, exercise, OHA and inj insulin, in our study most of the patients 90.47%(57) were using OHA's either single or combination of drugs, OHA & Insulin 7.93%(5), Insulin 1.58%(1).

## CONCLUSION

The study revealed that the awareness is very poor among the uneducated in comparison with the educated patients and also in new patients (1 – 5 yrs) in comparison to old patients (> 6 yrs) about the disease, its complications. And also about the drugs prescribed and the complications due to them. Most of the patients in our study also lacks in required lifestyle modifications to prevent the progression and complication of the disease.

### Suggestion

The awareness about the disease, its treatment and also complication involved in both, can be improved by conducting separate opd days, giving proper counselling by both physician, para medical staff and nutritionist who has been trained in this (in treatment, diet modification, care of foot). This is also done by arranging video shows, talks by renowned person and distribution of pamphlets about the disease and its complications during these opd days for both new and old patients.

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