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## Study on Assessment of Drug Compliance in Diabetic Patients in Rural Area of Dharmapuri District Tamilnadu



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### ABSTRACT

The study was undertaken to explore drug compliance of diabetic patients living in the rural area of Dharmapuri district. A cross-section involving 300 diabetic patients was conducted from August 2021- to January 2022. Drug compliance will be assessed by a structured questionnaire. The quality of life was assessed using mainly four domains- social healthy, physical health, physiological health, and environmental health. The quality of life among diabetic mellitus patients in these rural areas could be better with cost-effective and easy access to health care facilities. Patient counseling and routine check-ups about drug use and effects food habits also help to improve their knowledge about their diabetic disease condition.



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## INTRODUCTION

Diabetes mellitus is a group of metabolic illnesses characterized by hyperglycemia resulting from a fault in insulin production, insulin action, or both. Chronic diabetes is associated with dysfunctions, long-term damage, and organ failure, especially in the kidneys, nerves, eyes, hearts, and blood vessels. Type II diabetes mellitus is becoming increasingly common among children as childhood obesity has become an epidemic.

The ICMR reported that the prevalence was 2.1 % in urban and 1.5% in rural zones and later studies showed that the prevalence was three-time higher among the urban 8.2% compared to rural people 2.4%. World health organization approximates that there were 135 million diabetic individuals in the years 1995 and it's been projected that this count will rise to 300 million by the year 2025 who has that maximum increase in the number of diabetes mellitus would occur in India.

Drug compliance has been defined as 'the extent to which a person's behaviors coincides with medical advice. Drug noncompliance essentially means that patients disobey the guide of their health care instructors. Patient's noncompliance is attributed to personal qualities of the patients such as lack of discipline, forgetfulness, or lack of education. The concept of noncompliance not only assumes a negative attitude toward patients but also places patients in a passive, unequal role to their healthcare instructors.

## MATERIALS AND METHODS

It was a cross-sectional study carried out from August 2021 to January 2022. The study participants were identified from two rural areas in Dharmapuri district Tamilnadu. The sample size of 300 diabetic patients is selected from the field practicing area of a tertiary teaching hospital in Dharmapuri based on quota sampling. The patient's aged above 18 was diagnosed with type II diabetic mellitus and patients or regular treatment were included in the study. Exclusion criteria were identified as diagnosed with type I diabetic patients, pregnant and lactating women, and participants who are willing to give informed consent. An informed written and signed consent for a patient on the study was taken from all the participants in Tamil languages. All the data were double-checked with physical formats to correct any possible errors. The association of drug compliance with demographic analysis.

## RESULTS AND DISCUSSION

**Table no: 1 Gender wise distribution of diabetic patients in the rural areas**

Gender	Number of patients	Percentage (%)
Male	132	44 (%)
Female	168	56 (%)

Out of the selected 300 diabetic patients, 132 (44%) were male and 168 (56%) were female, which shows that females are more affected with diabetics than males. The data were presented in table no.1.

**Table no: 2 Age-wise distribution of diabetic patients in the rural areas**

S .no	Age	Number of male cases	Number of female cases
1	20-45	24 (18.18%)	27 (16.07%)
2	46-70	96 (72.73%)	129 (76.79%)
3	Above 70	12 (9.09%)	12 (7.14%)

The age-wise distribution was made for the patients with different age groups such as 20-45, 46-70, and above 70. The numbers of male patients present in each age group were 24, 96, 12, and female patients were 27, 129, and 12 respectively. The data shows that most of the patients were in the age group 46-70 followed by 20-45. The number of patients in each age group and their percentage was shown in table no: 2.

**Table no: 3 Duration of diabetic patients in the rural areas**

S .no	Duration in months	Male	Percentage of male cases	Female	Percentage of Female cases
1	0-50	60	45.45%	78	46.42%
2	51-100	39	29.54%	45	26.78%
3	101-150	18	13.63%	27	16.07%
4	151-200	12	9.09%	9	5.35%
5	201-250	0	0%	3	1.78%
6	251-300	3	2.27%	6	3.57%

The duration of diabetes among the patients were classified as 0-50, 51-100, 101-150, 151-200,201-250,251-300 in months. The data shows that the highest percentage of patients in the duration of diabetes mellitus was in the category of 0-50 months i.e females 46.42% and males 45.45%. The percentage of diabetic patients in each category was shown in table no: 3.

#### **DRUG COMPLIANCE**

**Table no: 4 Percentage of cases who stop taking the medication without the advice of the doctor**

S .no	Gender	Number of patients	Percentage of cases
1	Male	32	24.24%
2	Female	48	28.57%

The number of diabetic patients who stop taking the medication without the advice of the doctor was distributed. Out of the 300 patients, only 28.57% of female patients, and 24.24% of males. The data were presented in table no. 4.

**NON-COMPLIANCE**

**Table no: 5 Reasons for non-compliance**

<b>Gender</b>	<b>No. of patients</b>	<b>Control No. of patients / (%)</b>	<b>Forget No. of patients / (%)</b>	<b>Worse No. of patients / (%)</b>	<b>Distance No. of patients / (%)</b>	<b>Expense No. of patients / (%)</b>
Male	32	4(12.5 %)	8(25 %)	4(12.5 %)	8(25 %)	8(25 %)
Female	48	4(8.3 %)	12(25 %)	8(16.6 %)	8(16.6 %)	16(33.3 %)

The various reasons for non-compliance were that the patients felt the BGL was under control, forgetfulness, feeling worse due to medication, the problem of distance for a routine check-up, and high expense for treatment. The data were presented in table no. 5.

**Table no: 6 Type of Hospital visit**

<b>S.no</b>	<b>Gender</b>	<b>Government</b>	<b>Private</b>
1	Male	48 (36.3 %)	84 (63.7 %)
2	Female	78 (46.4) %	90 (53.6 %)

In the present study out of the 300 diabetic patients, the percentage of patients who go to the government or private hospital was determined.36.3% and 63.7% of male patients, and 46.4% and 53.6% of female patients visit the government and private hospitals. The data were presented in table no. 6.

**Table no: 7 Intervals of Lab Investigation and Consultation**

<b>S.No</b>	<b>Time interval in months</b>	<b>No of patients</b>	
		<b>Lab investigation</b>	<b>Doctor consultation</b>
1	1 Month	165	180
2	2 months	30	21
3	3 months	69	54
4	4 months	9	12
5	6 months	27	33

In the present study out of 300 patients, 165 patients were checking their blood glucose level by lab investigation and 180 patients were regularly consulting physicians (i.e., monthly once). The data were presented in table no. 7.

## CONCLUSION

The diabetes team (Physician, nurse, pharmacist, dieticians, and Psychologist) must provide education to the patients to completely understand how to control the disease and how to prevent short-term and long-term problems. The introduction of free blood glucose-lowering medicine, education, and intervention was designed to facilitate improved glycaemic control, better drug compliance in people with diabetes.

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