

**DIABETES MELLITUS AND ITS COMPLICATIONS – A HOSPITAL-BASED STUDY IN
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ABSTRACT

This hospital-based cross-sectional study examined 140 inpatients with Type 2 diabetes in rural Telangana. The mean age was 58.09 years (SD 12.48); 90 (64.3%) were male. Overall, 87 (62.1%) patients had diabetes-related complications. The most frequent complications were cardiovascular disease (28/140, 20.0%), stroke (28/140, 20.0%), diabetic foot ulcer (22/140, 15.7%), nephropathy (14/140, 10.0%), and retinopathy (12/140, 8.6%). Mean BMI was 24.46 and mean HbA1c was 8.15%. Hospitalization history and impaired daily activities were associated with complications. Findings underscore the need for early detection, improved glycemic control, and targeted interventions to reduce complications in rural diabetic populations.^[4,5,6]

INTRODUCTION

Diabetes Mellitus (DM) is a chronic metabolic disorder with rising prevalence in India, particularly affecting rural and semi-urban populations. Diabetes-related complications increase morbidity, mortality, and healthcare costs, yet data from rural hospital settings are limited. This study aimed to describe the demographic and clinical profile, management practices, and complication patterns among hospitalized diabetic patients in rural Telangana.^[1,2,16,17] ^[4,5,6]

MATERIALS AND METHODS

Study Design and Setting: Hospital-based cross-sectional study conducted in the Departments of General Medicine and Surgery at a rural tertiary care hospital in Siddipet district, Telangana. Study period: March–June 2025.

Participants: Adult inpatients (≥ 18 years) with a diagnosis of diabetes were included. The final sample comprised 140 patients after combining hospital records.

Data Collection: A structured questionnaire captured demographics, clinical history, diabetes management,

complications, hospitalization history, and psychosocial impact. Ethical clearance was obtained and informed consent secured.

Statistical Analysis: Data were analyzed with SPSS v26. Descriptive statistics summarized characteristics; chi-square and t-tests assessed associations, with $p < 0.05$ considered significant.^[4,5,6] ^[7]

RESULTS

Participants ($n=140$) had a mean age of 58.09 years (SD 12.48); 90 (64.3%) were male. Mean BMI was 24.46 and mean HbA1c was 8.15%. A total of 87 (62.1%) reported diabetes-related complications, while 53 (37.9%) had none.

Table 1: Prevalence of major diabetes-related complications (n = 140).

Complication	Number	Percent (%)
Cardiovascular disease	28	20.0
Stroke	28	20.0
Diabetic foot ulcer	22	15.7
Diabetic nephropathy	14	10.0
Diabetic retinopathy	12	8.6
Diabetic neuropathy	5	3.6
Diabetic ketoacidosis	3	2.1
Hyperosmolar hyperglycemic state (HHS)	1	0.7
None/No complications	53	37.9

Medication use: majority on oral hypoglycemic agents; adherence and monitoring varied. Psychological impact was common, with many patients reporting mild-to-moderate stress or depression. Hospitalization history correlated strongly with the presence of complications.

DISCUSSION

In this rural hospital-based cohort (n=140), diabetes-related complications were common, affecting over 60% of patients. Cardiovascular events and stroke were prominent, consistent with the known macrovascular burden of diabetes. Foot ulcers and nephropathy were also frequent, highlighting the need for screening and foot care programs. Mean HbA1c >8% indicates suboptimal glycemic control in many patients. The study underscores the clinical and psychosocial burden of diabetes in rural populations.

Limitations include single-center design and cross-sectional nature; however, the sizable sample provides important local insights. Future multicentric longitudinal studies are recommended. [1,2,16,17] [13,18,19] [10,11,12] [14,15]

CONCLUSION

Diabetes complications are prevalent among hospitalized rural patients, with cardiovascular disease and stroke being most common. Strengthening early detection, glycemic control, patient education, and rural-specific interventions is essential to reduce morbidity and improve outcomes.

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