emerged as a critical concern; 53% of male patients are current smokers, a rate significantly higher than the 30% reported in Arab groups and 25% in African American populations. Furthermore, while African populations are 25–30% less likely to be referred for angiography due to systemic disparities, such inequality was not observed in this Belarusian sample, reflecting the equalizing effect of universal healthcare access [1, 5].

Conclusions

The clinical analysis of this Belarusian sample highlights that universal healthcare accessibility does not inherently equate to therapeutic success. Despite nearly total medication adherence, the persistent failure to meet blood pressure and glycemic targets in over 70% of cases underscores a profound "lifestyle-treatment gap."

The study identifies two critical barriers to recovery: a "muted symptom culture" that leads to dangerous diagnostic delays, and a severe 83% inactivity rate that fosters social isolation. To improve outcomes, the clinical approach must shift from a purely pharmacological focus to structured cardiac rehabilitation. This transition must address sedentary behaviors and train healthcare providers to recognize "discomfort" as an urgent ischemic warning [4, 5].

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S. Ahmed, M. Ketia

Scientific supervisor: PhD, Associate Professor E. G. Malaeva

Educational Establishment
"Gomel State Medical University"
Gomel, Republic of Belarus

ASSOCIATION BETWEEN MEDICATION ADHERENCE AND GLYCEMIC CONTROL IN TYPE 2 DIABETES MELLITUS

Introduction

Type 2 diabetes mellitus is a major public health concern, with increasing prevalence globally (World Health Organization). Persistent hyperglycemia leads to microvascular and macrovascular complications such as neuropathy, nephropathy, and retinopathy. Medication adherence is a critical determinant of glycemic control, yet poor adherence remains a common barrier [1–4]. The American Diabetes Association recommends maintaining HbA1c below 7% to prevent long-term complications.

Goal

Goal of this to evaluate adherence, glycemic control, and complication prevalence among patients with type 2 diabetes at Gomel City Clinical Hospital No. 3.

Material and methods of research

A cross-sectional study was conducted among 34 patients diagnosed with type 2 diabetes. Inclusion criteria included adults diagnosed with type 2 diabetes attending at Gomel City Clinical Hospital No. 3. Patients provided information on demographics, sleep duration, treatment type, and adherence using a structured questionnaire. HbA1c, fasting blood sugar (FBS), and presence of complications (neuropathy, nephropathy, retinopathy) were extracted from medical records.

Medication adherence was assessed using a structured scoring system (0=good, 1=poor). Data were entered in Google Sheets and analyzed descriptively. Mean values for age, HbA1c, and FBS were calculated, and categorical variables were expressed as numbers and percentages. Charts were prepared for treatment type, adherence, and complications.

The results of the research and their discussion

Table 1 – Demographic and Clinical Characteristics (n=34)

Variable	Number	Percentage (%)
Male	19	55.9
Female	15	44.1
Mean age	57 years	–
Mean diabetes duration	10 years	–
Mean HbA1c	8.6%	–
HbA1c range	6.5–12%	–

Table 2 – Treatment Modalities

Treatment	Patients	Percentage (%)
Oral medication	14	41.2
Insulin	7	20.6
Combination	13	38.2

Table 3 – Medication Adherence

Adherence	Patients	Percentage (%)
Good	21	60.6
Poor	13	39.4

Table 4 – Prevalence of Complications

Complication	Patients	Percentage (%)
Neuropathy	20	58.8
Nephropathy	18	52.9
Retinopathy	12	35.3

Additional Observations: Older patients and those with longer duration of diabetes had higher complication rates. Sleep duration varied among participants but showed a trend toward shorter sleep in patients with higher HbA1c (*Figure 1, 2, 3*).

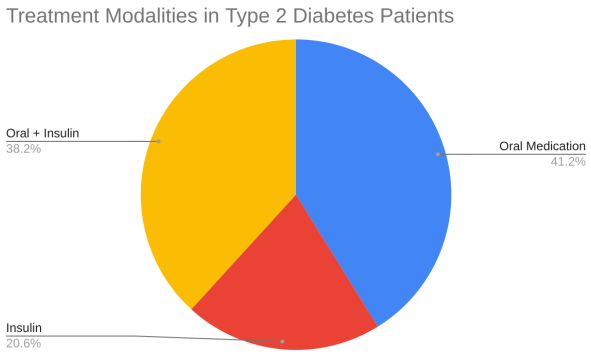


Figure 1 – Pie chart showing treatment type distribution

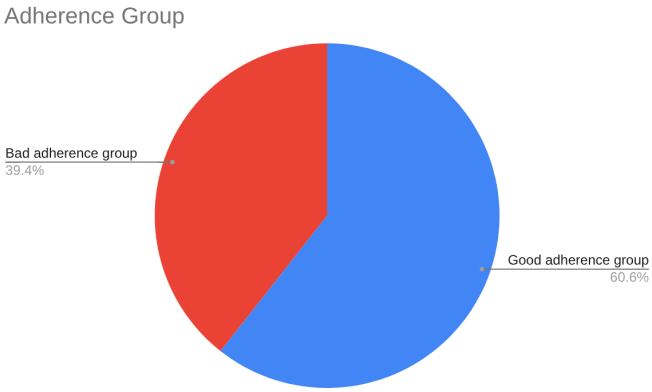


Figure 2 – Pie chart of medication adherence

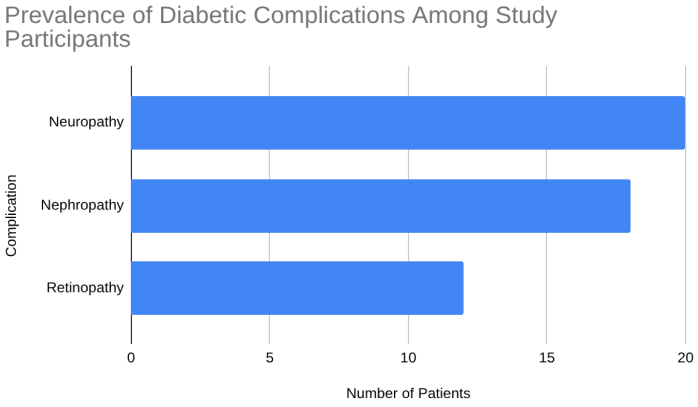


Figure 3 – Bar chart of complication prevalence

The study found a mean HbA1c of 8.6%, reflecting suboptimal glycemic control in this population. Although 60.6% of patients had good medication adherence, high HbA1c levels persisted, suggesting additional factors such as lifestyle, diet, or disease progression influence glycemic outcomes (American Diabetes Association).

Complications were prevalent, with neuropathy affecting 58.8% of patients, nephropathy 52.9%, and retinopathy 35.3%. Longer disease duration and older age were associated with higher complication rates, consistent with findings from the UK Prospective Diabetes Study (UKPDS,

1998). Treatment patterns reflected disease progression, with a substantial proportion requiring combination therapy.

Sleep duration also appeared relevant, as poor sleep has been linked to impaired glucose regulation. These findings emphasize the importance of comprehensive diabetes management, including medication adherence, lifestyle modification, and regular monitoring.

Conclusions

Patients with type 2 diabetes at Gomel City Clinical Hospital № 3 demonstrated suboptimal glycemic control despite a majority showing good medication adherence. Diabetic complications were highly prevalent, particularly neuropathy, nephropathy, and retinopathy. Older age and longer disease duration increased complication risk.

These results highlight the need for improved patient education, lifestyle modification, and careful monitoring to prevent complications and improve outcomes. Further studies with larger samples are recommended.

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G. M. Alali, A. M. Alali

Scientific supervisor: Senior Lecturer S. G. Seyfidinova

Educational Establishment
"Gomel State Medical University"
Gomel, Republic of Belarus

INCIDENCE AND RISK FACTORS OF POSTOPERATIVE ARRHYTHMIAS AFTER MAJOR CARDIAC SURGERY: THE ROLE OF HEMODYNAMICS AND ELECTROLYTES

Introduction

Cardiac surgery, encompassing coronary artery bypass grafting (CABG) and valve procedures, remains a cornerstone in treating advanced coronary and structural heart diseases. Despite advancements in perioperative management, postoperative arrhythmias are the most frequent complication.

Data from the American Heart Association (AHA) and European Society of Cardiology (ESC) indicate that atrial arrhythmias occur in 20–40% of isolated CABG cases and 40–60% of valve or combined procedures. Notably, postoperative atrial fibrillation (POAF) affects 80–90% of patients, typically peaking between the 2nd and 4th postoperative days. Other rhythm disturbances include paroxysmal supraventricular tachycardia (up to 13%), ventricular arrhythmias (1–5% within the first 24 hours), and bradyarrhythmias (1–4%).