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PREVALENCE AND TYPES OF COMPLICATIONS IN DIABETES MELLITUS

Introduction

Diabetes mellitus is a chronic metabolic disorder characterized by persistent hyperglycemia, which arises from defects in insulin secretion, insulin action, or both. It represents a significant and growing public health challenge globally, with the International Diabetes Federation (IDF) reporting that approximately 537 million adults were living with diabetes in 2021. This number is projected to rise to 643 million by 2030, reflecting an alarming increase in prevalence. The heterogeneity of diabetes can lead to varied clinical presentations based on demographic factors such as age, gender, ethnicity, and socioeconomic status. [1].

Goal

Investigate the prevalence and type of comorbidities and complications in Diabetes Mellitus.

Material and methods of research

This study was conducted at Gomel State Clinical Hospital No 3 in December 2024, specifically within the endocrinology department, targeting diabetic patients aged 18 and older. The survey included a total of 23 diabetic patients, with a demographic breakdown revealing that 12 (60%) of participants were male and 11 (40%) were female. The average age of participants was 55 years, with a range from 18 to 80 years. The duration of diabetes among participants varied significantly: 30% were diagnosed within the past 5 years, 25% between 6 to 10 years, and 45% had lived with diabetes for over 10 years.

The results of the research and their discussion

The prevalence of comorbidities and complications in Diabetes Mellitus is 100%.

The type and rate of comorbidities and complications in Diabetes Mellitus is in figure 1, where predominantly is neuropathy – 30,8%.

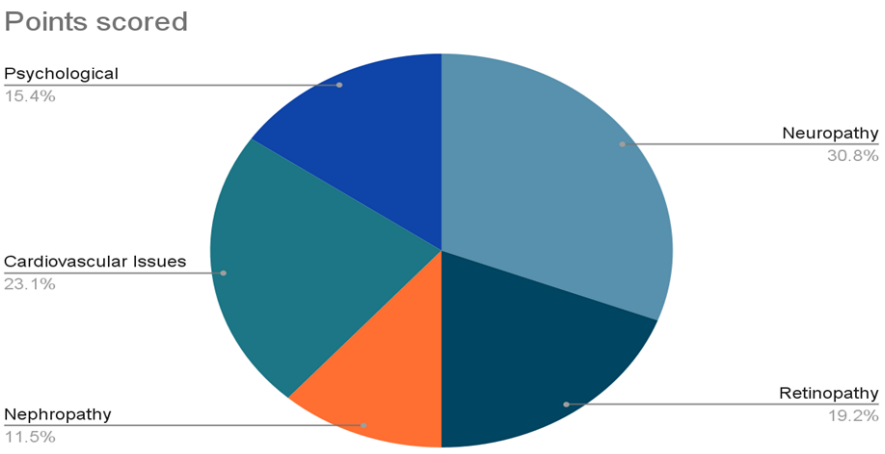

Figure 1 – Prevalence and types of comorbidities and complications in Diabetes Mellitus

Symptoms of diabetic neuropathy include tingling and numbness in the hands and feet. Among 7 patients with neuropathy, 75% rated their symptoms as moderate to severe, significantly affecting their daily activities and quality of life. A notable correlation was observed between the duration of diabetes and the severity of neuropathic symptoms, indicating that prolonged hyperglycemia may exacerbate nerve damage [1].

Retinopathy prevalence is 4 (19,2%), predominantly in patients with diabetes for over 10 years. A notable correlation was observed that old patients with diabetes >20 years were having retinopathy. So, it means that rethinopathy occurs after long term poor diabetes control [1]

Nephropathy prevalence is 3 (11,5%) patients, including proteinuria and increased urination frequency. Among these patients, 40% had a concurrent history of hypertension. Patients with poor glycemic control were more likely to report nephropathy symptoms, highlighting the impact of long-term hyperglycemia on renal health [1].

Enhanced patient education on the importance of routine check ups and the consequences of neglecting complications could potentially mitigate the risk of severe health outcomes.

Prevalence of cardiovascular symptoms, including arterial hypertension and palpitations, is 5 (23,1 %). Among patients with cardiovascular issues, 60% also reported dyslipidemia, underscoring the interconnectedness of diabetes with cardiovascular health [1].

Psychological symptoms, including depression or anxiety related to diabetes management, was in 4 (15,4%) of patients with diabetis mellitus. Those with psychological symptoms were less likely to adhere to treatment regimens, exacerbating their glycemic control and overall health [1].

Conclusion

This research highlights the serious complications that people with diabetes often face, and it underscores the need for greater awareness and better management. Many individuals with diabetes struggle with complications such as neuropathy, retinopathy, nephropathy, cardiovascular issues, and psychological symptoms, yet these challenges often go unnoticed or untreated due to gaps in care.

Cardiovascular problems, including high blood pressure and palpitations, affect 23,1% of people with diabetes. These issues are often worsened by additional conditions like high cholesterol, and they tend to develop between 50–70 years of age. This highlights the need for regular heart and cholesterol screenings.

Neuropathy, which affects 30,8% of people with diabetes, is particularly impactful, with symptoms like tingling and numbness in the hands and feet making everyday life difficult. These symptoms typically appear when blood sugar levels have been high for a prolonged period, often between the ages of 40–50. By managing glucose levels more effectively, we could help prevent or ease these symptoms.

Retinopathy, another common issue, affects 19,2% of individuals with diabetes. However, only half of those diagnosed get the regular eye screenings they need, putting them at risk of permanent vision loss. This usually begins between 40–60 years of age, highlighting the importance of routine eye exams.

Nephropathy affects 11,5% of patients and often goes undetected early on due to subtle symptoms. It's especially concerning for those with poor blood sugar control and those with high blood pressure. Nephropathy often starts between 50–60 years, which makes it essential to monitor kidney health more closely.

In summary, this research emphasizes that diabetes care must be comprehensive, addressing both physical and mental health. Regular screenings, better blood sugar control, and support for

mental health are key to preventing or reducing complications, improving the quality of life for people with diabetes. It's important to raise awareness about the need for routine checkups and to encourage people with diabetes to take an active role in managing their health.

LITERATURE

1. Harrison's Book Of Internal Medicine Edition 20th Chapter 176, Diabetes Mellitus.

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RISK FACTORS OF ARTERIAL HYPERTENSION IN STROKE PATIENTS

Introduction

Hypertension, often referred to as high blood pressure, is a significant public health concern globally, affecting millions of individuals. It is a primary risk factor for various cardiovascular diseases, including stroke. Stroke, a leading cause of morbidity and mortality worldwide, can be classified into two main types: ischemic and hemorrhagic. The relationship between hypertension and stroke is well-established, with elevated blood pressure contributing to the pathophysiological mechanisms that lead to both types of strokes. Patients with hypertension are at a substantially increased risk of experiencing a stroke compared to those with normal blood pressure levels. Epidemiological studies have demonstrated that for each increment of 20 mmHg in systolic blood pressure or 10 mmHg in diastolic blood pressure, the risk of stroke doubles. The prevalence of stroke among hypertensive patients varies significantly across different populations, influenced by factors such as age, gender, lifestyle, and the presence of comorbidities like diabetes and hyperlipidemia [1–5].

Goal

To assess the prevalence of arterial hypertension among patients with stroke, identifying risk factors and demographic variations to inform targeted prevention strategies and improve clinical outcomes.

Material and methods of research

An analytical survey targeting the Belarusian patients in Gomel state clinical hospital no 3 Gomel, Belarus, was conducted to asses dietary habits, health status and symptoms of hypertension. Participants consented to an online questionnaire, which gathered salt and diet intake frequency, family history of hypertension, smoking, age. The study also included Review on transition of patient from hypertension to stroke, summarizing and comparing the findings, methodologies and limitations of the most pertinent sources.

A survey was conducted on 30 Belarusian patients with arterial hypertension, of whom 70% were male and 30% were females. These 30 Belarusian patients have been classified into three groups namely: patients with ischemic stroke, hemorrhagic stroke and patients with no stroke (control group).

The results of the research and their discussion

Recent studies have shown consistent results about the relationship between stroke and hypertension. The prevalence of stroke in hypertensive patients was identified globally.