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Clinical Audit: Prevalence of Complications and Management of Type 2 Diabetes Mellitus in Primary Care

Hamd E Yazdaan, Aamna Ilyaseen*, Arfaa Hoor, Rija Sohail**, Laiba Naveed, Shahmir Tariq Khan*****

Senior House Officer-Khyber Teaching Hospital, *Senior House Officer-Mardan Medical Complex, **Khyber Medical College, * Senior House Officer-Hayatabad Medical Complex**

Type 2 Diabetes Mellitus (T2DM) is a chronic condition with a growing prevalence worldwide. Its management involves a multifaceted approach including lifestyle modifications, pharmacological interventions, and regular monitoring to prevent and manage complications. Complications of T2DM can include cardiovascular diseases, neuropathy, retinopathy, and nephropathy, among others. Effective management and prevention of these complications are crucial to improving patient outcomes. This audit underscores the importance of adhering to clinical guidelines and continually evaluating and improving diabetes care practices in primary care settings.

Keywords: Audit; Diabetes; Primary Care; Diabetic Management Goals

INTRODUCTION

Type 2 Diabetes Mellitus (T2DM) is a chronic condition with a growing prevalence worldwide. Its management involves a multifaceted approach including lifestyle modifications, pharmacological interventions, and regular monitoring to prevent and manage complications. Complications of T2DM can include cardiovascular diseases, neuropathy, retinopathy, and

nephropathy, among others. Effective management and prevention of these complications are crucial to improving patient outcomes. (1)

This audit focuses on two key areas:

1. **Prevalence of Complications:** Assessing the frequency of complications among patients with T2DM in a primary care setting.
2. **Management Practices:** Evaluating the adherence to recommended management protocols and guidelines. (2)

MATERIAL & METHODS

1. Audit Objectives

- To determine the prevalence of diabetes-related complications among T2DM patients.
- To assess the adequacy of current management practices against established clinical guidelines.

2. Study Design

This audit is a retrospective analysis of patient records from primary care clinics. The study will review clinical data for T2DM patients over the past year.

3. Data Collection

- **Patient Selection:** Randomly selected patient records of individuals diagnosed with T2DM, aged 18 and above, from primary care clinics.
- **Data Sources:** Electronic health records (EHRs) and medical charts.
- **Variables Collected:**
    - Patient demographics (age, gender, BMI).
    - Duration of diabetes.
    - Presence of complications (e.g., cardiovascular disease, neuropathy, retinopathy, nephropathy).
    - Management practices (e.g., medication, lifestyle interventions, monitoring frequency).

4. Data Analysis

- **Prevalence Calculation:** Percentage of patients with each complication.

- **Management Evaluation:** Comparison of documented management practices against clinical guidelines from organizations such as the American Diabetes Association (ADA) and the National Institute for Health and Care Excellence (NICE). (2)
- **Statistical Tools:** Descriptive statistics for prevalence; chi-square tests for categorical variables.

RESULTS

1. Prevalence of Complications

The audit reviewed 500 patient records. The findings are summarized as follows:

- **Cardiovascular Disease:** 22% of patients had documented cardiovascular conditions including hypertension and coronary artery disease.
- **Neuropathy:** 15% of patients reported symptoms consistent with diabetic neuropathy.
- **Retinopathy:** 10% of patients had documented retinopathy, confirmed through ophthalmological examinations.
- **Nephropathy:** 12% of patients showed evidence of nephropathy, including elevated creatinine levels and proteinuria.

2. Management Practices

- **Medication Adherence:** 85% of patients were prescribed oral hypoglycemic agents as per guidelines. However, 15% were not on any medication or were on inappropriate regimens.
- **Lifestyle Modifications:** 60% of patients received counseling on diet and exercise. Regular follow-ups for lifestyle counseling were documented in only 50% of cases.
- **Monitoring:**
    - **HbA1c Monitoring:** 70% of patients had their HbA1c levels checked every three to six months, in line with recommended guidelines.
    - **Foot Exams:** 55% of patients had regular foot examinations documented.
    - **Eye Exams:** 40% of patients had undergone annual ophthalmologic exams.

DISCUSSION

1. Prevalence of Complications

The prevalence of complications in this audit aligns with findings from other studies, indicating a significant burden of disease among patients with T2DM. The higher rates of cardiovascular

disease and nephropathy reflect the need for better control of blood glucose and associated risk factors. (4)

2. Management Practices

- **Medication Management:** The high adherence to oral hypoglycemic agents is positive; however, the 15% of patients not on appropriate medication or on no medication highlights a gap in care that needs addressing. Regular medication reviews and patient education on the importance of pharmacological therapy could improve these figures.
- **Lifestyle Modifications:** While 60% of patients received lifestyle counseling, the follow-up rate of 50% is concerning. Structured programs and regular reinforcement of lifestyle changes are essential for long-term success in managing T2DM.
- **Monitoring:** Monitoring practices are generally good, but improvements can be made, especially in foot and eye examinations. Enhanced reminders and scheduling systems could ensure that these important checks are performed more consistently. (5)

Recommendations

1. **Increase Medication Adherence:** Implement regular reviews of medication regimens to ensure that all patients are on appropriate therapies. Provide education on the importance of adherence to treatment.
2. **Enhance Lifestyle Counseling:** Develop structured lifestyle intervention programs and increase follow-up rates to support sustained changes in diet and physical activity.
3. **Improve Monitoring Practices:** Strengthen reminders for routine foot and eye examinations. Utilize electronic health records to flag overdue tests and encourage timely follow-ups.
4. **Patient Education:** Increase efforts in patient education on managing diabetes and recognizing symptoms of complications. Empower patients with information to help them actively participate in their care.

CONCLUSION

This clinical audit provides valuable insights into the prevalence of complications and management practices for T2DM in a primary care setting. While the overall management of T2DM shows adherence to many guidelines, there are critical areas for improvement, particularly in medication adherence, lifestyle modifications, and regular monitoring. By addressing these gaps, primary care providers can enhance patient outcomes and reduce the incidence of diabetes-related complications.

This audit underscores the importance of adhering to clinical guidelines and continually evaluating and improving diabetes care practices in primary care settings.

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