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Improvement in Diabetic Patient's Compliance: A Clinical Audit in Accordance with NICE Guidelines

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Abstract

Management of diabetes mainly depends on adherence to the prescribed medicine; however, majority of patients fails to cope with their diabetes management plans due to reasons such as high cost of medication, their side effects, and limited knowledge or understanding of the disease. Medication adherence was accessed in this audit among diabetic patients at the Outpatient department (OPD), Divisional Headquarters (DHQ) Teaching Hospital Mirpur, Azad Jammu and Kashmir (AJK), Pakistan, which focuses on alignment with National Institute for Health and Care Excellence (NICE) guidelines. Adherence was evaluated using a collection of the combination of prospective and retrospective data, through investigation from the patients and review of the records. On 2nd cycle of follow-up, a marked improvement in patients' adherence to medication, HBA1c levels, smoking cessation and complication rate. Upon 2nd cycle of audit, study also showed a better control on reason of non-compliance to treatment. The cause for non-compliance due to cost issue and lack of understanding was 45% initially, that later shortened to 1% while due to forgetfulness, it also lessened to 1%. We also had a sufficient improvement in follow up visits and sugar monitoring of patients and overall adherence rate was improved. Significant gaps were revealed in the findings by comparing with NICE guidelines, which give emphasis on regular monitoring and focused care of patients. This audit recommends interventions such as education sessions for patients, consultations through tele consults, and regular medical reviews to improve adherence and optimize diabetic care outcomes.

Keywords

Clinical Audit, Compliance, Diabetes.

INTRODUCTION

Diabetes is a health condition that affects millions of people in the world, and the number of cases increase steadily [1], [2]. Proper management of this disease is necessary to get rid of complications such as cardiovascular diseases and diabetic foot ulcers. A major aspect for management of diabetes is to ensure adherence to antidiabetic medications by patients, that are very important to keep blood sugar levels in a range that is healthy for humans [3]. However, unfortunately, bad adherence to the prescribed medication is a vital issue, primarily is outpatient settings where patients themselves are primarily responsible to manage their own health. Many factors, such as side effects of medicines, a lack of understanding of seriousness of the disease, forgetfulness by patients, and high cost of medicines, often cause non-compliance [4] [5]. As the adherence plays vital role in effective management of the disease, healthcare providers must review and update the strategies on regular basis to help the patients to follow their management plans [6] [7]. The NICE offers the patients and healthcare providers for comprehensive guidelines about management of both type 1 and type 2 diabetes, which emphasize centered care for patients, continuous monitoring, and treatment approaches that are personalized. This clinical audit was conducted out to evaluate how the well the patients in the OPD at DHQ Teaching Hospital, Mirpur, AJK, adhere to their medication and how they follow NICE standards. The aim was to pinpoint the areas which require improvement and to propose the interventions aiming to increase adherence to the medications and elevating quality of diabetes care.

MATERIALS AND METHODS

The audit was done using a mixed method of prospective and retrospective data which was collected from November 2022 to February 2023, to evaluate adherence of the diabetic patients to the prescribed medication in OPS of study settings. A questionnaire-based study proforma was used to collect the data through records of the patients and by conducting the interview directly from the patients to get the adherence rates and identify the factors which contribute to non-compliance. Structured interviews or surveys with diabetic patients were also conducted to gather information on medication adherence, barriers to compliance, and understanding of their treatment regimen. Clinical data was collected to assess blood glucose control and correlate it with adherence levels. Adherence rates or compliance was determined by patient's self-report [5]. Adherence data was compared with NICE guidelines on diabetes management to identify discrepancies and areas for improvement. Barriers to adherence, such as medication side effects, cost, or lack of understanding were noted down and such cases were excluded [7].

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Population size

A total of 100 diabetic patients based on following criteria were selected

Selection Criteria

Inclusion Criteria

Diagnosed cases of type 1 or type 2 diabetes.

Exclusion Criteria

Patients who did not attend their scheduled appointments during the audit period.

Patients with incomplete medical records or missing data related to medication adherence.

Audit Cycles

1st cycle November 2022 (n=100)

2nd cycle February 2023 (n=100)

Data Analysis

Data was analyzed with SPSS 23.0. Adherence rate was assessed in terms of percentages and frequencies. Trends and patterns related to non-compliance were compared with NICE guidelines by independent sample t test.

RESULTS AND DICUSSION

On 2nd cycle of follow-up, a marked improvement in patients' adherence to medication, HBA1c levels, smoking cessation and complication rate. Upon 2nd cycle of audit, study also showed a better control on reason of non-compliance to treatment. The cause for non-compliance due to cost issue and lack of understanding was 45% initially, that later shortened to 1% while due to forgetfulness, it also lessened to 1%. We also had a sufficient improvement in follow up visits and sugar monitoring of patients and overall adherence rate was improved. Figure 1 and 2

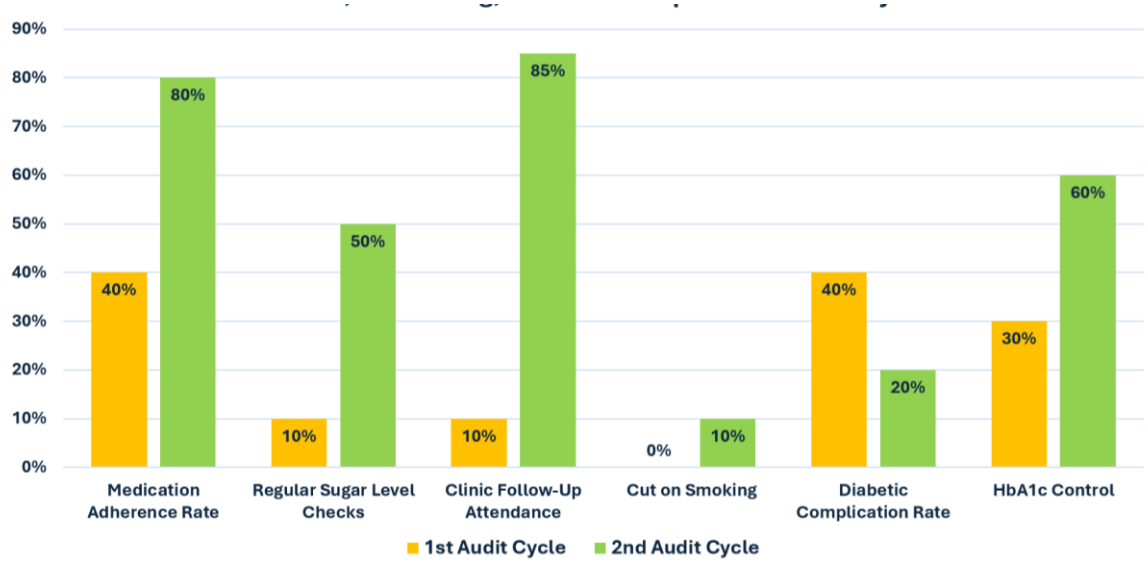

Figure 1. Treatment, monitoring and follow-up across audit cycles

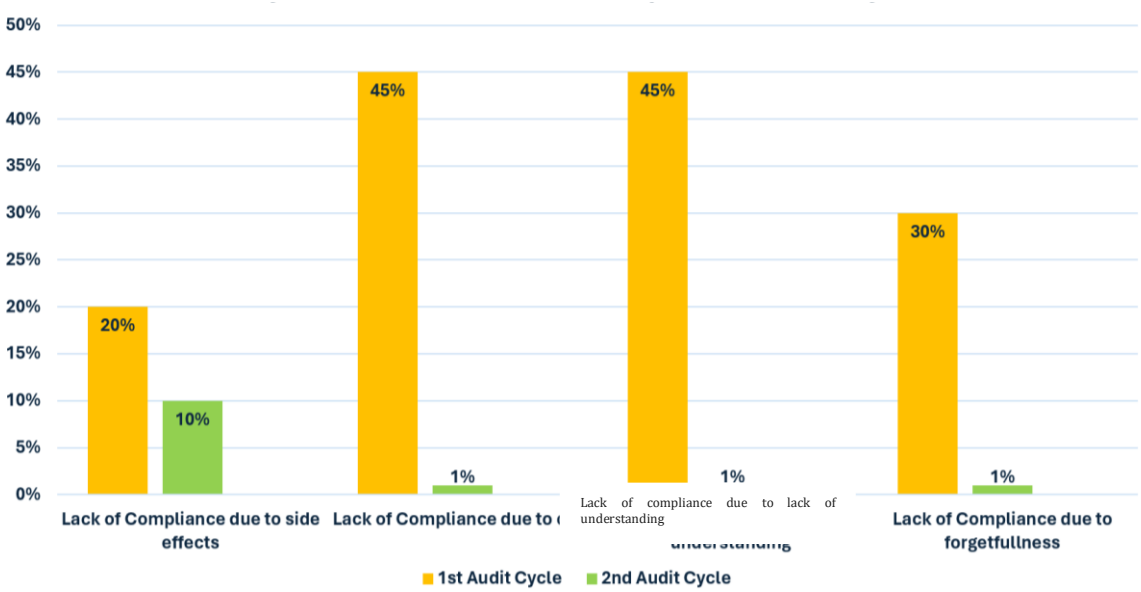

Figure 2. Analysis of reasons for lack of compliance across audit cycles

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This clinical audit assessed medication adherence among diabetic patients at the OPD, DHQ Teaching Hospital Mirpur AJK, focusing on alignment with NICE guidelines. Diabetes management heavily depends on adherence to prescribed medications, yet many patients fail to follow their treatment plans due to issues such as medication costs, side effects, and limited understanding of the disease. A combination of retrospective and prospective data collection was used to evaluate adherence, through patient interviews and record reviews. The findings reveal significant gaps in adherence when compared to NICE standards, which emphasize patient-focused care and regular monitoring. The audit proposes interventions like patient education sessions, teleconsultations, and regular medication reviews as strategies to improve adherence and optimize diabetic care outcomes.

This audit highlights major issues among diabetic patients with respect to medication adherence at outpatient department at DHQ Teaching Hospital, Mirpur, AJK. It is observed that a considerable number of patients fail to comply with the prescribed medication, even though its well-known fact that adherence to antidiabetic medication is of prime importance to achieve optimum glycemic control [5] [8]. This non-compliance results in poor blood glucose control and high levels of HbA1c in the patients which shows the direct relationship between adherence and diabetic outcomes. Identification of multiple barriers was one of the major findings that contribute to non-adherence [9]. Patients reported that the primary reasons for these barriers were the high cost of medicine, lack of understanding the disease and treatment. There barriers are very common in low- and middle-income settings as found in other studies on diabetes management. Addressing these barriers require a multidimensional approach involving changes in systems to make medicine more accessible and economic and educating the patients about the challenges. Results from this audit revealed that there were gaps in compliance with recommended standards when compared to NICE guidelines. These guidelines put emphasis that patients to have regular reviews, education and care plans to ensure adherence. However, study highlighted that a considerable number of patients did not meet the required standards highlighting the potential deficiencies in the education and follow-up care of patients. For improving the rate of compliance, targeted interventions such as educational sessions focused on adherence to medication, running weekly clinics for diabetes, consultation with tele consults and regular reminders have shown promising results [10]. In the follow-up phase of audit, these interventions showed improvement in adherence rate and glycemic control.

Limitations and Recommendations

This audit has limitations, particularly its reliance on self-reported data, which may introduce recall or social desirability bias. Additionally, the sample size was restricted to one healthcare facility, limiting the generalizability of the findings. Future studies with larger, multi-center samples could offer a broader perspective. To improve medication adherence and align with NICE guidelines, several recommendations are suggested. Regular education sessions on diabetes management should be conducted in outpatient departments on importance of medicine adherence. Medication side effects can be managed with the help of reviews by pharmacists, and it can help simplify the medication regimes. Cost of the medicine may be reduced through government support by giving subsidies and digital reminder through email or SMS can increase adherence in patients. Future audits would be of prime importance to see the long-term effect of these recommendations.

CONCLUSION

The audit conducted at OPD of DHQ Teaching Hospital, Mirpur, AJK, has identified key challenges to ensure medication adherence in patients having diabetes. The prevalent issue was the non-compliance of antidiabetic medication which contributed to suboptimal control of blood sugar levels and increased the risk of complications at later stages of diabetes. With regards to medication adherence, key barriers found in existing literature include medication side effects, high cost of the medicine and lack of understanding by the patients. By comparing the guidelines of NICE, in current audit gaps were found in adherence rates and patient care. However, these can be managed with the help of reviews by pharmacists, educating the patients, which can result in better compliance and glycemic control. It is pertinent that health care providers continue to address barriers which are identified in this audit and make efforts to get more closely aligned with NICE guidelines and recommendations. When we consider long term improvements in medication adherence and improved patients' outcomes, then affordable medication and regular follow-up care are critical. Future audits would be of necessary to see the long-term effects of these recommendations and to continue improving diabetic care.

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