

EP_A040

EFFECTIVENESS OF INSULIN DEINTENSIFICATION AND PREDICTORS OF GLYCEMIC CONTROL IN POORLY CONTROLLED TYPE 2 DIABETES MELLITUS: A RETROSPECTIVE COHORT STUDY IN MALAYSIAN PRIMARY CARE

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INTRODUCTION

Insulin deintensification is an emerging strategy to reduce hypoglycemia and treatment burden in patients on multiple daily injection (MDI ≥3), with potential to improve adherence and glycemic control. However, evidence in poorly controlled type 2 diabetes mellitus (T2DM) remains limited. This study evaluated its effectiveness and identified factors associated with achieving adequate glycemic control following deintensification among patients with poorly controlled T2DM attending Malaysian primary care.

METHODOLOGY

A retrospective cohort study was conducted among 107 T2DM patients with hemoglobin A1c (HbA1c) >9%, attending Enhanced Diabetic Clinic at Cheras Health Clinic between 2021 and 2025. All patients on basal-bolus insulin (BBI) underwent deintensification. Multivariate logistic regression was performed to identify factors associated with achieving adequate glycemic control (HbA1c <7.5%). Changes in HbA1c following deintensification were assessed using paired t-tests.

RESULTS

Overall, 50.5% of patients achieved adequate glycemic control. Hypoglycemia events (AOR 9.5, 95% confidence interval [CI] 1.6–58.3; $p = 0.015$), MDI (AOR 9.6, 95% CI 1.4–67.1; $p = 0.023$) and Diabetes Medication Therapy Adherence Clinic (DMTAC) visits (AOR 1.1, 95% CI 1.0–1.2; $p = 0.039$) were significantly associated with achieving HbA1c <7.5%. Conversely, patients transitioned from BBI to premixed regimens were less likely to achieve HbA1c <7.5% (AOR 0.22, 95% CI 0.05–0.93, $p = 0.039$). All insulin deintensification strategies were associated with significant HbA1c improvements with transitioned from BBI to

premixed human insulin (mean difference -2.54%, 95% CI 1.77–3.31, $p < 0.001$, Cohen's $d = 1.09$), BBI to premixed analogue insulin (mean difference -3.38%, 95% CI 2.26–4.49, $p < 0.001$, Cohen's $d = 1.62$), BBI to basal insulin (mean difference -3.67%, 95% CI 1.79–5.54, $p = 0.004$, Cohen's $d = 2.05$).

CONCLUSION

Insulin deintensification is an effective strategy for improving glycemic control in poorly controlled T2DM. These findings highlight the importance of deintensification with careful consideration of hypoglycemia, MDI-related treatment burden, and patient engagement through regular DMTAC visits, which are integral to achieving optimal outcomes and support a personalized approach to diabetes management in primary care.

EP_A041

IMPACT OF A RAPID OPTIMIZATION CLINIC ON GLYCEMIC CONTROL AND INSULIN DEINTENSIFICATION IN PATIENTS WITH DIABETES: AN EARLY RETROSPECTIVE AUDIT

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INTRODUCTION

Improving glycemic control while minimizing unnecessary insulin exposure is an important goal in diabetes management. The Rapid Optimization Clinic (ROC) was established as a structured multidisciplinary service to support therapy individualization, close follow-up, and timely insulin deintensification. This audit evaluated early changes in glycated hemoglobin A1c (HbA1c) and insulin treatment burden following ROC care over 3 months.

METHODOLOGY

We conducted a retrospective audit of routine clinical data from patients with diabetes managed in the ROC at a district hospital. Baseline and 3-month HbA1c and insulin data were extracted from non-electronic clinic records. Insulin dose was standardized as total daily dose (TDD) in units/kg/day. Insulin deintensification was evaluated primarily by change in TDD from baseline to 3 months and by the proportion of patients who discontinued insulin during follow-up. Paired analyses were performed for

patients with complete baseline and follow-up data for each outcome. Continuous variables are presented as mean $\pm$ standard deviation or median with interquartile range, as appropriate. Exploratory analyses were undertaken to assess whether available patient factors were associated with HbA1c improvement.

RESULTS

Twenty-three patients were included. Paired HbA1c data were available for 12 patients, whereas paired TDD data were available for 21 patients. Mean HbA1c decreased from $10.78 \pm 2.59\%$ at baseline to $8.42 \pm 2.29\%$ at 3 months, representing a mean reduction of 2.36 percentage points (95% confidence interval [CI] 0.09–4.62; $p=0.043$). Mean TDD decreased from 0.434 ± 0.248 to 0.286 ± 0.313 units/kg/day, corresponding to a mean reduction of 0.148 units/kg/day (95% CI 0.077–0.219; $p<0.001$). Insulin was discontinued in 9 of 21 patients (42.9%). No clear association was observed between HbA1c improvement and age, sex, or number of visits. Interpretation is limited by the small sample size, reflecting the early phase of a newly established clinic.

CONCLUSION

In this early audit, ROC care was associated with clinically meaningful improvement in glycemic control and significant insulin deintensification over 3 months. These findings support the potential role of a structured multi-disciplinary optimization clinic in delivering individualized diabetes care and facilitating safe reduction of insulin burden.

EP_A042

RISK ASSESSMENT FOR RAMADAN FASTING IN PEOPLE WITH DIABETES IN HOSPITAL-BASED DIABETES CLINICS USING THE UPDATED 2026 IDF-DAR RISK CALCULATOR

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INTRODUCTION

The 2021 IDF-DAR risk calculator had been previously evaluated in multiple studies and subsequently widely accepted and applied in clinical practice as a practical standardized tool for patient risk stratification. Recently updated, the 2026 IDF-DAR Risk calculator enables a more