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Weight Stabilisation after Insulin Deintensification in Primary Care Patients with Type II Diabetes Mellitus

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Introduction:
Insulin therapy in Type II Diabetes Mellitus (T2DM) is commonly associated with weight gain, which may worsen insulin resistance and increase obesity-related risks. Insulin deintensification is increasingly practised to reduce treatment burden and potential adverse effects; however, evidence on its impact on body weight remains limited. This study evaluated weight outcomes following insulin deintensification among patients with T2DM managed in primary care clinics.

Methods:
A retrospective observational study was conducted across seven government primary care clinics in the Petaling District. Adult patients with T2DM who underwent insulin deintensification were included. Body weight measurements before and after insulin deintensification were extracted from medical records. As weight change data were non-normally distributed, pre- and post-deintensification differences were analysed using the Wilcoxon signed-rank test. Effect size was calculated using the Wilcoxon r statistic. Statistical significance was defined as $p < 0.05$.

Results:
A total of 261 patients underwent insulin deintensification. Baseline body weight data were available for 251 patients, with a mean weight of 72.93 ± 16.84 kg and a median of 70.0 kg. Weight change data were available for 241 patients. Following insulin deintensification, a modest but statistically significant reduction in body weight was observed, with a mean change of −0.41 ± 2.82 kg and a median change of 0.0 kg (95% confidence interval −0.77 to −0.06). The Wilcoxon signed-rank test demonstrated a significant difference between pre- and post-deintensification weight ($Z = -2.522$, $p = 0.012$), with a small effect size (r=0.16).

Conclusion:
Insulin deintensification in primary care was associated with modest but statistically significant weight reduction and overall weight stabilisation among patients with T2DM. Although the magnitude of change was small, this finding is clinically relevant in the context of insulin-associated weight gain. Insulin deintensification may represent a patient-centred strategy to support weight management and reduce obesity-related risks in routine diabetes care.

Keywords: Insulin deintensification, weight change, Type II Diabetes Mellitus, primary care, obesity-related risk