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GLYCAEMIC CONTROL AND HYPOGLYCAEMIA AMONG PATIENTS WITH DIABETES IN A PHARMACIST-MANAGED INSULIN TITRATION PROGRAMME

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ABSTRACT

The impact of a pharmacist-managed insulin titration has never been systematically assessed among patients with diabetes. This study aimed to evaluate the impact of pharmacist-managed insulin titration on glycaemic control, total daily insulin dose, hypoglycaemia, hunger and body weight. Data was collected retrospectively from patients treated with insulin under the care of a pharmacist-managed insulin titration programme at the Diabetes and Endocrine Clinic, Hospital Pulau Pinang, Pulau Pinang, Malaysia. Patients who followed-up with pharmacists at one month to two months intervals and completed at least eight visits were included. Ninety-one patients (59.3% male) aged 50.82 ± 17.63 years old with 13.38 ± 8.88 years of diabetes were evaluated. Glycaemic control improved significantly from baseline to 4th month (–1.19%, $p < 0.001$) and 8th month (–1.37%, $p < 0.001$). Majority of patients were on twice daily premixed insulin (44.0%) followed by basal insulin (28.5%), basal bolus (18.7%) and thrice daily premixed insulin (8.8%). Total daily insulin dose increased significantly from baseline to 8th month among patients on basal insulin (0.24 ± 0.15 versus 0.29 ± 0.18 units/kg/day, $p = 0.008$) whereas the opposite was seen in patients treated fully on insulin (1.06 ± 0.48 units/kg/day versus 0.96 ± 0.37 units/kg/day, $p = 0.005$). Total hypoglycaemia and hunger episodes reduced significantly from 160 episodes/month to 30 episodes/month, $p = 0.001$ and 39 cases/month to 5 cases/month, $p < 0.001$, respectively, across all groups. Mean weight increased by 0.66 kg from baseline to 8th month, $p = 0.045$. Insulin dose had a positive correlation to hypoglycaemia, $r = 0.338$, $p = 0.001$. Pharmacist-managed insulin titration programme significantly improved glycaemic control and reduced hypoglycaemia occurrences.

***Keywords*:** Pharmacist, Insulin, Titration, Glycaemic control, Hypoglycaemia

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