



Service Priorities and Programmes
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An innovative Approach in Optimizing Glycemic Control to Diabetes Patients with Newly Initiating Insulin Therapy Through Engagement, Empowerment and Partnership

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Introduction

Type 2 diabetes mellitus is characterized as insulin resistance and progressive beta cell failure. Most patients will eventually require insulin therapy; which will need adjustment over time to maintain good glycemic control. However, with limited resources, physicians can only follow up these patients every 4-6 months, resulting in delay in insulin titration to achieve glycemic targets. Diabetes and Endocrine Centre, Prince of Wales Hospital ran a pilot program on “Insulin Titration Program For Patient With Type 2 Diabetes” to empower patients in achieving and maintaining good glycemic control within a shorter period

Objectives

To develop a structured insulin self-titration program to engage patients to involve and understand more of their diabetes care. To educate and encourage patients to self-titrate insulin dose in a safe manner, according to a designed insulin algorithm

Methodology

Patients (aged 18 to 75 with mentally sound) who were newly put on supplementary bedtime insulin were invited to join the program. In the program, patients learned the technique of self-injection, blood glucose monitoring, hypoglycemic management and healthy lifestyle modifications. Each patient was given a titration guide with his/her target fasting glucose (FBG). They were encouraged to engage in self-titration of insulin dose based on 3 consecutive home FBG readings with a weekly of 1 to 2 units fine titration. All patients were being educated and assessed by a standardised checklist for the capability of insulin titration before they are allowed to implement the self-titration approach. Phone calls were made between nurse clinics to ensure the

safety of any titration. If they failed to answer the "self-titration questionnaires", diabetes nurses would lead insulin adjustment according to the designed insulin algorithm.

Result

33 patients (male=22; female=11; mean age 60.5 ± 10.8 years) completed the program. The mean baseline HbA1c was $9.5 \pm 1.2\%$. In 5 months, HbA1c was lowered to $8.0 \pm 0.7\%$. 19 patients (57.5%) had adjusted insulin dose according to the prescribed insulin algorithm. There were a total of 119 insulin titration episodes with few episodes of mild hypoglycemic event during the study period: titration by nurse=56.3% (n=67); by patients = 33.6% (n=40); by doctor = 10.1%(n=12). Meanwhile, there were 6 patients not requiring insulin titration as home fasting BG showed optimized with the first insulin initiation dose prescribed by doctors. The result indicates that empowering patients to take greater control of their diabetes through education and patient-oriented insulin titration algorithm can achieve targeted FBG in a safe and effective manner.