

ABSTRACT

In Malaysia, studies have shown that Diabetes Medication Therapy Adherence Clinic (DMTAC) in hospital settings significantly improved patients' glycaemic control and cardiovascular risk. In the review of previous studies, there were no randomised controlled trial of DMTAC done in a primary care setting – where the access to subspecialist services (endocrinologists, expensive medication, etc.) is limited. The objective of this research is to compare the glycaemic control among the uncontrolled diabetes mellitus patients between those received additional DMTAC service and those received normal clinic service in a primary care setting. The secondary objective is to investigate the common adverse outcomes of lowering HbA1c such as weight gain and severe hypoglycaemia. This was a randomized controlled study conducted in a health clinic of Sarawak. All eligible uncontrolled type 2 diabetes mellitus patients attending Kota Samarahan Health Clinic visit for at least six months before recruitment were randomly assigned to either intervention or control group (50 subjects per group). The control group received normal clinic visits with consultations by a medical officer. The intervention group, however, received four or more DMTAC visits in addition to normal clinic visits. The demographic data was collected during screening while health data including glycated haemoglobin (HbA1c) levels were collected at baseline, sixth month and one year. The main outcome for this study was HbA1c, the occurrence of severe hypoglycaemia, and weight gain. The result showed that the change in HbA1c in the intervention group (mean $\pm$ SD = $-1.66 \pm 2.21\%$) was significantly more than the control group (mean $\pm$ SD = $-0.50 \pm 2.21\%$) at 12th month ($p = 0.005$) with a weight mean difference of -1.16% [95% CI = $-2.12, -0.21$]. The regression analysis shows higher baseline HbA1c, simpler treatment plan and the intervention group yielded better HbA1c improvement. There was no difference in the BMI trend between

both groups. There was no episode of severe hypoglycaemia detected among the subjects. In conclusion, the addition of DMTAC service in primary care can improve patient's glycaemic control.

Keywords: Type 2 Diabetes Mellitus, Diabetes Medication Therapy Adherence Clinic, glycaemic control, randomized controlled study

Keberkesanan Perkhidmatan Klinik Pematuhan Terapi Ubat Kencing Manis kepada Kawalan Glisemik di Klinik Kesihatan

ABSTRAK

Di Malaysia, kajian-kajian telah menunjukkan bahawa Diabetes Therapy Adherence Clinic (DMTAC) di hospital dapat membantu kawalan glisemik pesakit dan mengurangkan risiko kardiovaskular. Kajian mengenai DMTAC yang dijalankan di klinik kesihatan - di mana akses kepada perkhidmatan subspesialis (endocrinologists, ubat mahal, dan sebagainya) adalah terhad. Objektif kajian ini adalah untuk membandingkan kawalan glisemik di kalangan pesakit diabetes mellitus yang menerima perkhidmatan DMTAC tambahan dan yang menerima perkhidmatan klinik biasa di klinik kesihatan. Objektif kedua adalah untuk menyiasat kesan buruk dengan penurunan HbA1c seperti kenaikan berat badan dan hipoglisemia teruk. Ini merupakan kajian terkawal secara rawak yang dijalankan di Klinik Kesihatan Kota Samarahan di Sarawak. Pesakit Klinik Kesihatan Kota Samarahan yang mempunyai kencing manis jenis 2 tidak terkawal dalam tempoh melebihi enam bulan akan dipilih secara rawak ke kumpulan intervensi atau kawalan (50 mata peserta setiap kumpulan). Kumpulan kawalan menerima rawatan klinik seperti biasa dengan perundingan oleh pegawai perubatan. Kumpulan intervensi menerima empat atau lebih lawatan DMTAC tambahan kepada rawatan klinik biasa. Data demografik dan data kesihatan termasuk tahap hemoglobin glikasi (HbA1c) dan paras gula dikumpulkan pada masa saringan, bulan keenam dan bulan kedua belas. Hasil utama kajian ini adalah perubahan HbA1c, kejadian hipoglisemia teruk, dan peningkatan berat badan. Keputusan: Perubahan dalam HbA1c dalam kumpulan intervensi ($\text{min} \pm \text{SD} = -1.66 \pm 2.21\%$) adalah lebih tinggi daripada kumpulan kawalan ($\text{min} \pm \text{SD} = -0.50 \pm 2.21\%$) pada bulan ke-12 ($p = 0.005$) dengan perbezaan -1.16% [$95\% \text{ CI} = -2.12, -0.21$]. Analisis regresi menunjukkan

pesakit yang mempunyai HbA1c asas yang lebih tinggi, pelan rawatan yang lebih mudah dan termasuk ke dalam kumpulan intervensi menghasilkan peningkatan kawalan HbA1c yang lebih baik. Tidak ada perbezaan dalam trend BMI antara kedua-dua kumpulan. Tiada episod hipoglisemia yang teruk di kalangan subjek. Kesimpulannya, penambahan perkhidmatan DMTAC dalam perkhidmatan klinik kesihatan dapat meningkatkan kawalan glisemik pesakit.

Kata kunci: *Kencing Manis Jenis 2, Klinik Pematuhan Terapi Ubat Kencing Manis, kawalan glisemik, kajian terkawal secara rawak*