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Correlation between Self-management and Glycemic Control among patients with Type 2 Diabetes

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Introduction

Literatures (Shiu & Wong, 2002 ; Lee & Shiu, 2004) show that self-management has beneficial effects on glycemic control of Type 2 Diabetes who are on insulin therapy. In order to facilitate patients' appropriate self-care to achieve optimum glycemic control, a structured education programme on insulin-initiation, led by General Outpatient Clinic (GOPC) nurses and supported by a diabetes nurse consultant and physicians of GOPCs, has been conducted in four GOPCs of the New Territory East Cluster.

Objectives

To examine the relationship between self-management and glycemic control.

Methodology

This study adopted a paired T-test and Pearson Correlation Coefficients method to analysis the relationship between self-management and glycemic control. Adult Chinese patients with type 2 diabetes requiring insulin-initiation and attending the diabetes complication screening of the four GOPCs were recruited. The Summary of Diabetes Self Care Activities (DSCA) was used in the evaluation of patient's self-management in the past 7 days including diet, physical activities, self-monitoring of blood glucose, foot care, medication compliance, management of hypoglycemia and smoking. The pre-test score of DSCA was compared with the post-test score after a 14-week structured education program.

Result

There was a negative correlation between the total score of DSCA and HbA1c (Pearson $r = -0.333$, $p < 0.029$). The correlation indicated that self-management had a positive impact on glycemic control. More significant change in self-management was seen in patients with ≥ 10 years diabetes than that in patients < 10 years. The < 10 years diabetes had significant change only in self-monitoring of blood glucose ($t = -4.46$,

p=0.000) and medication compliance (t=-23.4, p=0.000) while > 10 years diabetes had significant change in all self-care activities (diet: t=-3.581 p= 0.001, physical activities: t=-2.922 p=0.007, self-monitoring of blood glucose: t= -3.703, p=0.001, foot care: t=-2.117 p=0.044, medication compliance: t=-188.00 p=0.000, management of hypoglycemia: t=-3.264 p=0.003 and smoking: t=-2.280 p=0.031) such that they had a more significant improvement in both fasting blood glucose (t=3.427, p<0.005) and HbA1c (t=3.098, p=0.005). This study, although limited by a small sample size, demonstrated that self-management had positive impact on glycemic control. Interestingly patients who had longer history of diabetes were more receptive to self-management education and more motivated to lifestyle modification. Further studies may be needed to explore these findings.