

USING INFORMATION TECHNOLOGY TO BUILD A TELEMEDICAL HEALTHCARE SYSTEM FOR DIABETIC PATIENTS

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BACKGROUND/AIMS: To evaluate the effectiveness of using information technology (IT) to establish a telemedical healthcare model to biomonitor type 2 diabetic patients attending the OPD of the Taipei Medical University Hospital and Mackay Memorial Hospital.

METHODS: A total of 134 type 2 diabetic patients were included in a 6-month prospective study. They were divided into an experimental group and a control group. The experimental group was monitored using the internet-based blood glucose monitoring system for 6 months, while the control group did not receive similar monitoring. Endpoints included the comparison of differences in HbA1c and fasting glucose levels before and at the end of the study both within groups and between groups.

RESULTS: At the end of the study, both the experimental and control groups showed significant decreases in fasting glucose when compared with the initial levels. However, compared with the control group, the experimental group had a significantly greater improvement in fasting blood glucose. In the experimental group, there was significant decrease in HbA1c at the end of the study as compared to the initial value; while in the control group, there was no significant change. At the end of the study, there was a significant reduction in HbA1c in the experimental group when compared with the control group.

DISCUSSION/CONCLUSIONS: Our study demonstrated that using IT to establish a telemedical healthcare system seems to be feasible and highly effective. It not only integrates the monitoring of blood glucose control but also allows the development of a quick response model, assisting in the delivery of diabetes self-management education, an evolving process which helps to meet the needs and expectations of individuals with diabetes.

Key words: Information technology, Diabetes, Telemedical healthcare