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Effectiveness of Diabetes Nurse-led Clinic in Treating People with Type 2 Diabetes Mellitus

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Introduction

It is estimated that the number of people with diabetes mellitus (DM) in China will increase from 98.4 million in 2013 to 142.7 million by 2035. This rapidly growing prevalence will inevitably put heavy burden to the health care system. Nurse-led DM management programs have been proven effective in Western countries. However, inadequate studies were conducted to evaluate its effectiveness on Chinese.

Objectives

To evaluate the effectiveness of Diabetes Nurse Clinic (DMNC) in improving glycaemic control of Chinese patients with type 2 DM.

Methodology

It is a 24-week, randomized controlled study. One hundred and fifty Chinese type 2 DM patients with sub-optimal glycaemic control, i.e. at HbA1c level between 7.5% and 9.5%, were recruited. Patients in the intervention group received Diabetes Self-Management Education (DSME) and protocol driven medication intensification in DMNC. Patients in the control group received usual group DM education and medical care. The primary outcome was HbA1c, while the secondary outcomes were lipid profile, body mass index, waist hip ratio, body fat analysis, blood pressure and the Chinese version of the Diabetes Empowerment Scale-20 items (C-DES-20). All these measurements were taken before and at 24 weeks after randomization.

Result

Results: The 150 patients had mean age 63.6 years (SD = 9.7, range = 37 to 79), with duration of DM at a mean of 13.7 + 8.5 years and 88 (59 %) of them were male. Five patients (7%) in the intervention group, 4 patients (5%) in the control group withdrew before 24 weeks. At baseline, the 75 patients in the intervention group and 75 patients in the control group had no significant differences in all clinical characteristics. At 24 weeks, patients under the management in the DMNC had significantly greater reduction in HbA1c by 0.7% (95% CI = 0.4% to 1.0%, $p < 0.001$)

more than those under usual care. The corresponding reduction of HbA1c in the intervention and control groups were 1.0% (95% CI = 0.8 to 1.2, $p < 0.001$) and 0.3% (95% CI = 0.1 to 0.6, $p=0.002$), respectively. For other outcomes, there were no significant differences between the intervention and the control groups.

Conclusion: In conclusion, this study has provided evidence to support that DMNC can improve glycaemic control of Chinese type 2 DM patients with sub-optimal glycaemic control. The effectiveness of DMNC is deemed to be due to better treatment adherence and protocol driven medication intensification. Including DMNC as a routine medical care for Chinese with type 2 DM is therefore recommended.