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Cost-driven nutrition education is effective in improving diabetes control

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It is known that the best way to improve diabetes control is a combination of treatment with medication and nutrition education. Although nutrition education is necessary, the answer to how to best implement nutrition education remains unknown. The aim of this study was to investigate whether free periodic nutrition education intervention or cost-driven nutrition education intervention is the better way to improve diabetes control. A total of 346 participants with diabetes were enrolled by medical doctors in the Endocrinology and Metabolism Outpatient Department of Taipei Tzu Chi Hospital between January 2015 and December 2015. All of the enrolled participants were asked to have regular medical treatment every three months. Medical doctors also asked the participants about having nutrition education as part of the complete treatment. Based on the participant's willingness, they were split into three groups. The non-education intervention group consisted of participants who were not willing to have nutrition education. The free periodic nutrition education intervention group consists of participants who attend nutrition education every three months, with the fees paid by the government. The cost-driven nutrition education intervention group consisted of participants who attended nutrition education at least once, paying the fees themselves. All groups received anthropometric measurements and clinical laboratory measurements including blood pressure, HbA1c, LDL (Low Density Lipoprotein), AC (Appetite Correction), PC (Postprandial Glucose Test), TG (triglyceride) after an 8–12 hour fasting. Of the 346 diabetes participants enrolled, there were no significant group differences in age, gender, height, weight, resting SBP (Systolic Blood Pressure), resting DBP (Diastolic Blood Pressure), LDL, AC, PC and TG (Table 1). We found significant difference in HbA1c ($P=0.03$) between the non-education intervention group (7.74 ± 1.45), the free periodic nutrition education intervention group (7.33 ± 1.52), and the cost-driven nutrition education intervention group (7.12 ± 1.13). Using multivariate logistic regression analysis on HbA1C in free periodic or cost-driven groups, compared with the non-education group, shows that cost-driven group has better OR (Odds Ratio) in Model 1, non-adjusted, 0.76 (0.62, 0.94), $P=0.012$; Model 2, adjusted for age and sex, 0.76 (0.62, 0.94), $P=0.012$ and Model 3: adjusted for factors in model 2 plus LDL, AC, PC, TG, 0.71 (0.53, 0.96), $P=0.027$ (Table 2). The probability of HbA1C increasing 1 unit for patients who belong to the free periodic group is 1.087 times higher than patients who belong to the cost-driven group. The cost-driven nutrition education intervention is more effective in improving diabetes control compared to the free periodic nutrition education intervention. Analysis of categorical variables was performed using Pearson's chi-squared test and analysis of continuous variables using independent sample t test. bSBP, systolic blood pressure; DBP, diastolic blood pressure. $p<0.05$ is considered significantly different.

Biography

Yi-Cheng Hou beening detention since June 2007 in Taipei Tzu Chi Hospital. So far, in the clinical business in the deep understanding of pre-diabetes and diabetes patients have an increasing trend for the active intervention of this group of patients become urgent of the subject. Diabetes and pre-diabetes in addition to blood sugar than the average person, the nutritional intake and diet behavior correction, intestinal function has begun to occur lesions, and even whether the brain structure has begun to change, need to be strictly monitored. Therefore, her dietitian research is mainly for pre-diabetes and diabetes patients with the above objectives of the intervention. She has published two papers in the domestic society, ten international papers, one from SCI original papers and international journals SCI papers.

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