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Cognitive status of different food categories in patients with type 2 diabetes mellitus and its effect on glycosylated hemoglobin

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Objectives: To explore cognitive status of different food categories in patients with type 2 diabetes mellitus (T2DM) and its effect on glycosylated hemoglobin (HbA1c) with T2DM patients.

Methods: Convenient sampling method was adopted. According to the inclusion and exclusion criteria, two hundred forty-nine patients were recruited from 5 hospitals in Jiangsu, Shanghai, Zhejiang and the diabetes clubs in Suzhou from October 2014 to October 2015. General Situation Questionnaire was utilized to obtain demographic data including age, sex, degree of education, et al. and clinical data including smoking, diabetes duration, family history of diabetes, et al. The Diabetes Mellitus Dietary Knowledge Scale (DDKS) was used to acquire cognitive status of different types of foods in T2DM patients. The patients with HbA1c values<6.5% and those with HbA1c values≥6.5% were considered as the good glycemic control group and the poor glycemic control group, respectively. The factors related to glycemic control were analyzed.

Results: The patients got the highest score in the foods item that have little effect on glycemia (3.55±1.38) and 25% of them completely answered correct. However, the patients obtained the lowest score in the item "Foods rich in healthy fat" (1.60±1.57). Only 1.6% patients completely answered correct. The average DDKS score of the good glycemic control group was 36.02, which was significantly higher than that of the poor glycemic control group (30.12) (P<0.001). Education level, body mass index (BMI) and clinical treatment were related to HbA1c control (P<0.05). The items of DDKS related to glycemic control included the items Preferentially chosen meat [B=-0.618;<0.01;95%CI (0.374-0.777)], preferentially chosen beans or milk [B=-0.404;P<0.05;95%CI(0.488-0.914)], Preferentially chosen dietary fiber [B=-0.409;P,<0.05;95% CI(0.485-0.910)], preferentially chosen nuts [B=-0.690;P< 0.001;95%CI(0.357-0.704)] and foods when hungry, not hypoglycemia [B=-0.518;P<0.001;95%CI(0.450-0.789)]. Adjusting demographic data (age, gender and education level) and clinical data (BMI, smoking, DM duration, DM family history, complications, concomitant disease, and clinical treatment), the item preferentially chosen nuts (B=-0.56;P<0.01;95CI = 0.37-0.87) still influenced HgbA1c level. Other factors included education level, BMI and clinical treatment (P<0.05).

Conclusions: T2DM patients had lower cognitive level of fat foods. Cognitive level of nuts of T2DM patients could predict glycemic control. The nursing staff should strengthen healthy education about fat foods, especially, foods rich in healthy fat.

Biography

Ting Liu is currently a PhD student in Nursing School of Soochow University, China.

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