Clinical Effect of Individualized Comprehensive Diet Nursing Intervention on Patients with Type 2 Diabetes Mellitus

Yang Dan[1], Huang Fan[2,*]

[1]Department of Endocrinology, Shaanxi Provincial People's Hospital, China.
[2]Gastrology Department, Shaanxi Provincial People's, Hospital, China.

Abstract

Objective: To explore the effect of individualized comprehensive diet nursing intervention on patients with type 2 diabetes mellitus. **Methods:** 60 patients with type 2 diabetes mellitus in Endocrinology Department of our hospital from May 2019 to may 2020 were selected and divided into control group and observation group, 30 cases in each group. The control group was given routine nursing measures, while the observation group was given personalized comprehensive diet nursing intervention on this basis. The nursing compliance, fasting blood glucose before and after nursing and two hours postprandial blood glucose were observed. **Results:** In terms of nursing compliance, the total compliance probability of patients in the observation group (93.33%) was higher than that in the control group (70.00%), $P < 0.05$; the blood glucose control of patients with type 2 diabetes in the observation group—fasting blood glucose value (5.21 ± 1.69) mmol/L, 2 h postprandial blood glucose value (6.81 ± 1.87) mmol/L, significantly better than the control group, $P < 0.05$. **Conclusion:** Personalized comprehensive diet nursing intervention applied in the nursing of patients with type 2 diabetes, the effect is significant, can effectively improve the nursing compliance of patients, reduce the blood glucose value of patients, control the condition, alleviate the pain of patients, which is worthy of further promotion.

Keywords

Individualization, Comprehensive, Diet nursing, Type 2 diabetes mellitus

1. Introduction

With the continuous improvement of living standards, the probability of people suffering from diabetes is gradually increasing. According to the survey and statistics of relevant departments, as of 2018, there are 114 million people with diabetes in China, with the prevalence rate reaching 11.6%, which seriously threatens the health of modern people [1]. Type 2 diabetes is the most common type of diabetes, the proportion of patients is about 90% [2]. If patients with this disease, there will be increased drinking water, increased frequency of urination, rapid weight loss, fatigue and obesity, which not only affects the normal life of patients, but also induces complications such as diabetic foot, which poses a certain threat to the health of patients [3]. Therefore, patients with type 2 diabetes should be treated in time, and in order to further improve the treatment effect, we should also carry out scientific nursing work. This study observed and analyzed the clinical effect of personalized comprehensive diet

nursing intervention on patients with type 2 diabetes.

2. Materials and methods

2.1. General information

Methods: 60 patients with type 2 diabetes from May 2019 to may 2020 in the Department of endocrinology of our hospital were selected for this study. All patients had relatively stable condition, no serious complications, education level above junior high school and normal thinking. According to the principle of random grouping, they were divided into control group and observation group. All patients and their families were given the right to know and voluntarily included in the study Research. Control group: a total of 30 patients, of which the oldest was 74 years old, the youngest was 42 years old, with an average of (61.37 ± 5.81) years. The ratio of male patients to female patients was 19:11, and the average course of disease was (8.19 ± 6.75) years. Observation group: a total of 30 patients, the oldest was 75 years old, the youngest was 41 years old, with an average of (62.09 ± 5.53) years old. The ratio of male patients to female patients was 17:13, and the average course of disease was (8.34 ± 6.28) years. There was no significant difference in the baseline data between the two groups, $P > 0.05$. The test indexes of the two groups can be compared scientifically.

2.2. Methods

2.2.1. Control group

Give routine nursing means, instruct patients to use drugs according to the doctor's advice, popularize knowledge for patients, pay attention to diet taboo, and maintain appropriate activities.

2.2.2. Observation group

On the basis of the above nursing, patients were given personalized comprehensive diet nursing intervention, including health knowledge popularization, energy intake control, diversified diet formulation. The specific operations are as follows: (1) health knowledge popularization, nursing staff should understand the general information (age, education level, occupation, etc.), psychological status, disease condition, personality, etc. of the patients, and carry out targeted health knowledge popularization for patients. In addition to popularizing basic knowledge related to type 2 diabetes, emphasis should be placed on common methods of disease control, especially diet, to help patients And their family members to understand the necessity and importance of diet management, inform patients and their families how to carry out the correct diet treatment, so as to improve the nursing compliance of patients. (2) Energy intake control: nursing staff should guide patients to correctly calculate the daily necessary energy intake value according to the patient's constitution and condition, and instruct the patients to strictly control the caloric intake. The calculation of energy is based on the patient's standard body weight. The standard body weight is the patient's height minus 105, less than 10%-20% of the standard body weight is insufficient body weight, higher than the standard body weight 10%-20% of the weight is overweight, and the specific energy intake value is calculated according to the labor intensity. Nursing staff should teach patients how to allocate the proportion of three nutrients, namely, the proportion of carbohydrate, protein and fat, with the proportion of 55%-65%, 15%, 20%-30% as the standard. Carbohydrate intake, should reduce the intake of plant protein, increase the low protein wheat starch, increase the intake of amino acids; for protein intake, patients with normal renal function, their intake should be controlled at 0.8 g/kg per day according to body weight, patients with glomerular filtration function decline, should appropriately reduce intake, maintain at 0.6 per day Fat intake, should try to eat vegetable oil, eat less or do not eat fried food, do not eat food rich in cholesterol, avoid intake of high saturated fatty acids. (3) In the formulation of diversified recipes, nursing staff should help patients list foods that meet the taste and indicate the caloric value according to the patients' daily energy intake and on the basis of patients' eating habits and preferences, so as to facilitate patients to directly select food from the list and prepare recipes, guide patients to correctly use food replacement method, prepare diversified recipes, and reasonably match three meals a day.

2.3. Observation indexes

The two groups of patients with type 2 diabetes were followed up and instructed to go back to the hospital for re examination. The total compliance probability of patients with type 2 diabetes and the changes of fasting blood glucose before and after nursing and 2 h postprandial blood glucose were observed. The nursing compliance of the two groups was evaluated by complete compliance, basic compliance and non-compliance. The total nursing compliance probability was the difference between the total probability and the non-compliance probability.

2.4. Statistical treatment

Data processing and analysis were conducted on the total nursing compliance probability, fasting blood glucose value before and after nursing, and 2-hour postprandial blood glucose value of two groups of patients with type 2 diabetes mellitus. Spss20.0 software was used to calculate the total nursing compliance probability. Chi square test was used. Fasting blood glucose value before and after nursing and two hours postprandial blood glucose value were used as measurement data, and t test was used The difference between the two is significant if it is less than 0.05.

3. Results

3.1 Comparison of nursing compliance between the two groups

In the observation group, there were 16 cases of complete compliance, 12 cases of basic compliance and 2 cases of non-compliance in the observation group, and the total nursing compliance probability was 93.33%; in the control group, 11 cases were completely compliant, 10 cases were basic compliance, 9 cases were non-compliance, and the total nursing compliance rate of the control group was 70.00%. In terms of nursing compliance, the total compliance probability of observation group (93.33%) was higher than that of control group ($P < 0.05$).

3.2 Comparison of blood glucose before and after nursing in two groups

Before nursing, the fasting blood glucose and 2-hour postprandial blood glucose in the observation group were (8.79 ± 2.31) mmol/L and (11.51 ± 3.42) mmol/L, respectively, while the data of the control group were (8.82 ± 2.54) mmol/L and (11.47 ± 3.37) mmol/L, respectively. After nursing, the fasting blood glucose value of the observation group was (5.21 ± 1.69) mmol/L, and the 2-hour postprandial blood glucose value was (6.81 ± 1.87) mmol/L; the blood glucose value of the control group was (7.42 ± 1.85) mmol/L and (8.59 ± 2.07) mmol/L. The blood glucose control of the observation group was significantly better than that of the control group, $P < 0.05$.

4. Discussion

Type 2 diabetes mellitus (T2DM) has serious harm to the health of patients. Specifically, it is mainly reflected in the following aspects: (1) Damage of kidney. After suffering from T2DM, the blood glucose and blood pressure of the patients increase greatly, which will stimulate the kidney organs greatly, affect the normal function of the glomerulus, thus causing damage to the kidney. In mild cases, the symptoms of edema will appear, and in severe cases, renal failure and life-threatening will occur. (2) Acidosis. Kidney is the main detoxification organ of human body. If it is damaged, it cannot decompose the toxic substances in the body, resulting in acid poisoning, which is one of the main causes of death of patients. (3) Infection. Patients with high blood glucose for a long time, will affect the immune system, so that the immune system cannot resist the resistance of external pathogenic factors, improve the risk of infection, it is easy to appear all kinds of infectious diseases, such as respiratory tract infection. (4) Diabetic hyperosmolar syndrome, mainly occurs in elderly patients, with severe water, long-term coma and other symptoms, because of the similar symptoms with cerebrovascular disease, it is often misdiagnosed, delay the treatment time of patients, resulting in the death rate of nearly 50% [4]. It can be found that T2DM not only affects the normal life of patients, but also endangers life and health. It needs to be treated as soon as possible [5]. However, in the process of treatment, it is often affected by diet and other factors, which leads to the rise of blood glucose again after a period of treatment, which still has a certain impact on patients. Therefore, patients should be given scientific nursing after treatment [6].

At present, most hospitals have adopted the conventional nursing mode in the treatment of T2DM patients. Through the application of this nursing mode, the eating habits of patients have been improved to a certain extent, and the patient's condition has been controlled. However, after in-depth investigation, it can be found that many patients are not satisfied with nursing work, and patients often have adverse reactions such as edema and hypertension in the treatment cycle, which still affect the life of patients. However, the individualized comprehensive diet nursing intervention mode can effectively improve this situation [7]. Through the construction of patient admission records, we can strengthen the understanding of patients, thus providing information support for the formulation of personalized diet program. During nursing, regular detection of patients' weight and other indicators can accurately understand the patient's physical recovery status, and according to the patient's specific situation, optimize the diet plan, so that the diet program can meet the actual needs of different patients at different stages. Through the propaganda of relevant knowledge, improve the patients' understanding of T2DM, which is conducive to the cooperation

of treatment and nursing. Through the guidance when discharged from hospital, we can make the patients match the diet scientifically in their daily life, and reduce the intake of carbohydrate on the basis of ensuring adequate nutrition intake, so the recovery effect of patients is better [8]. In addition, in this study, it can be found that in terms of nursing compliance, the total nursing compliance probability of the observation group (93.33%) was higher than that of the control group (70.00%), P < 0.05; the blood glucose control of type 2 diabetic patients in the observation group—fasting blood glucose value (5.21 ± 1.69) mmol/L, 2 h postprandial blood glucose value (6.81 ± 1.87) mmol/L, significantly better than the control group, P < 0.05 05, which indicated that the personalized comprehensive diet nursing intervention mode had better nursing effect.

5. Conclusion

In conclusion, personalized comprehensive diet nursing intervention applied in the nursing of patients with type 2 diabetes can significantly improve the nursing compliance of patients, help patients face the disease, actively face the treatment, can effectively reduce the blood glucose value of patients, control the disease, alleviate the pain of patients, which is worthy of promotion.

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