

Self Management of Diet in Diabetic Population

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ABSTRACT. *By strengthening the health education on how to control the diet of diabetic patients, we can make them know and understand the requirements of diabetic diet control and carry out strict self-management, so as to better control the blood sugar, reduce the occurrence of various acute or chronic complications of diabetes and improve the prognosis;*

KEYWORDS: *Diabetes, Diet control, Self management*

1. Introduction

As one of the most common endocrine and metabolic diseases, diabetes has become another killer of human health. With the improvement of living standards, the innovation of eating habits and the change of life style, the number of diabetic patients in the world is increasing rapidly. At present, the number of diabetic patients in China has exceeded nearly 130 million, which is still increasing year by year. With the popularization of diabetes knowledge, people's awareness and attention to this disease are rising. Most patients can control blood sugar at a stable level and reduce complications under the guidance of professional doctors through reasonable diet intake, appropriate exercise and standardized application of hypoglycemic drugs. However, many patients still have poor compliance and weak self-control ability of diet, leading to high blood sugar. This paper discusses the dietary structure, dietary characteristics and the importance of long-term adherence of diabetic patients, in order to improve their self-management awareness and master the right methods.

2. Typical Medical Records.

The patient, female, 62 years old, has a history of type 2 diabetes for nearly one year, who came to our hospital for treatment due to failed control of blood sugar. She was overweight, BMI index was 31.6 [1], with hypertension, hypertriglyceridemia and coronary atherosclerotic heart disease. She denied smoking or drinking, liked sweet food, had little exercise and had family history of diabetes (both her mother and uncle were diabetic). The patients were initially hospitalized in the basic hospital due to dry mouth and polydipsia, where the general practitioner found that her blood glucose value increased after the detection of relevant indicators, FPG 8.3 mmol/l, 2hPG 13.2 mmol/l, urine glucose (+), and given glimepiride 2mg orally once a day with acarbose 50mg orally three times a day. After several times of follow-up, it was suggested that her blood glucose was not well controlled, so she was referred to our hospital. Physical examination on admission: clear mind, good spirit, steady breathing, clear breath sound of both lungs, no obvious dry and wet rale, hr82bpm, regular rhythm, negative abdominal signs, no ulcer and gangrene in both lower limbs [2], pulsation of dorsal foot artery, no pathological reflex. Therefore, relevant auxiliary inspection shall be improved. After three days, the laboratory examination report was: FPG8.1 mmol/l, 2hPG14.7 mmol/l, HbA1c7.0%, urine glucose (++) , urine protein (+), blood gas analysis, renal function and electrolyte were normal, no obvious retinopathy was found in ophthalmic consultation. Based on the characteristics of the patient's medical history and the results of various auxiliary examinations, we considered the treatment plan of basic hospital was reasonable and there was no need to change the drug treatment scheme. After repeatedly asking the medical history, the patient said that she did not follow the doctor's advice to strictly control the diet and still liked sweet food and night snack. Therefore, it is suggested that she should strengthen self-management of diet, eat regularly and eat small amount by many meals as well. We also made a detailed daily meal schedule for her and instruct her families to supervise the implementation, then come to our hospital for reexamination every two weeks on average. After six weeks, the blood glucose index of the patients showed a downward trend. The reexamination of relevant indexes at the eighth week showed that her FPG6.6 mmol/l, 2hPG10.9 mmol/l, HbA1c6.2%, urine routine showed urine glucose (+), urine protein (-), meanwhile the patient herself had no special complaints. She was instructed to keep the diet control and the above drug treatment plan, followed up regularly in our hospital.

3. Discussion

Diabetes mellitus is a group of endocrine and metabolic diseases characterized by the increase of plasma glucose level and the basic pathophysiological characteristics are the metabolic disorder caused by the absolute or relative insufficiencies of insulin secretion and the increase of glucagon activity. The disease is mostly seen in the middle-aged and the elderly when the prevalence increases with age. After 45 years of age, it rises significantly and reaches its peak at 60 years of age. There are often genetic factors and autoimmune functions involved. Diabetes includes type 1 diabetes and type 2 diabetes, as well as some rare special types of diabetes. As a group of chronic diseases, the course of diabetes is long. Patients often have typical "more than three a little" symptom (more drinking, more eating, more urine and weight loss), some of which can be accompanied by skin itching, abnormal feeling, functional diarrhea, etc. In addition to the symptoms of diabetes itself, various acute or chronic complications of diabetes are often the main factors leading to the death and poor prognosis of patients, such as diabetic ketoacidosis, hyperosmotic coma, diabetic retinopathy, peripheral neuropathy, diabetic nephropathy, diabetic foot, etc. Therefore, the key to the treatment of diabetes is to control blood sugar, reduce complications and improve prognosis.

The treatment of diabetes includes diet control, exercise therapy and the use of hypoglycemic drugs (including oral hypoglycemic drugs and insulin), which complement each other. In addition, regular monitoring of blood glucose and health education is also needed. This paper mainly discusses how to control the diet of diabetic patients and strengthen self-management when the education is in place [3]. Diet control is an important and even the first step in the comprehensive treatment of diabetic patients, which has the immediate and long-term effect of improving metabolism. The focus of diet treatment is to make a rigorous and detailed diet plan and determine the ideal proportion of the three nutrients for this kind of population, and to better control blood sugar and improve prognosis by combining sports treatment and drug treatment. First of all, we should limit the total calories that diabetics take in every day. On this premise, we should appropriately increase the content of carbohydrate and protein, reduce the intake of fat, increase dietary fiber, trace elements and vitamins and limit the intake of salt. Due to the lack of relevant professional knowledge of most patients, the formulation of recipes can be recommended by clinicians or nutritionists and strictly observed by themselves. For example, we can adjust the number of meals a day for a diabetic patient to four times, including taking one egg and 50g steamed bread for breakfast, 100g rice, 50g bean curd, 250g vegetables and 100g freshwater fish for lunch, 100g rice, 250g cabbage and 50g beef for dinner, and a bottle of milk before going to bed. Secondly, patients need to reduce or even eliminate the intake of high sugar food, such as honey, sugar, brown sugar, bread, dessert, porridge, beet and some fruits. About fruit people often have two misunderstandings, one of which is that once suffering from diabetes, all fruits are not suitable for eating, in fact, this is not always the case. Many fruits have relatively low sugar content or relatively slow sugar raising speed, such as strawberries, cherries, lemons, etc. and even have the effect of stabilizing blood sugar after eating, while durian, banana, grape, litchi, sugarcane and other high-sugar content fruits really need less. Another misconception is that the sweeter the taste, the higher the sugar content of the fruit, actually the sweetness is not directly proportional to the sugar content. For example, hawthorn and banana both have high sugar content while the tastes are not sweet. Comparatively, watermelon has a very sweet taste, whose sugar content is not high, so patients with stable blood sugar control can take it at ease. The recommended time for eating fruit can be between meals or before and after exercise, which helps to keep the blood sugar stable more reasonably. The last but not the least, In the process of diet self-management, diabetic patients need to monitor their blood glucose value closely. In addition to going to the hospital regularly to improve the blood glucose index inspection through venous blood sampling, a better way is to have their own electronic blood glucose meter at home to detect capillary blood glucose, which is convenient and fast, not limited by time and place. It is suggested that the blood glucose of capillaries should be detected at least once a day for diabetics, compared with the standard value of fasting or postprandial blood glucose. If the blood glucose is not stable, the frequency of detection should be increased to three or four times a day and the corresponding value should be recorded so as to provide reference for clinicians when seeking medical treatment and obtain more reasonable professional advice and adjustment of medication scheme. In the process of blood glucose monitoring, patients should not only pay attention to the situation of high blood glucose, but also be alert to the situation of low blood glucose. In a sense, hypoglycemia is more harmful than hyperglycemia. Once the blood glucose value is less than 4.0mmol/l, we should attach importance to it immediately. If the blood glucose value is less than 2.8mmol/l, it may have fatal consequences. Patients with hypoglycemia often show palpitation, hyperhidrosis, hunger, dizziness and abnormal sensation, while the worst of them may have convulsion, coma or even death. At this time, the most important treatment measure is to supplement sugar. They can eat sweets such as chocolate, cake, juice, etc. at home. If the symptoms do not alleviate, they must be sent to the hospital immediately. After the correction of hypoglycemia, the first task of doctors and patients is to find the cause of hypoglycemia [4], then jointly evaluate the diet intake and drug dosage to find a new balance between them and develop a new diet. The diet self-management of diabetic patients will also begin from a new starting point.

It can be seen from the case listed in this paper that the main reason for the failed control of blood sugar in this female patient lies in her poor diet habits and weak self-management ability, which makes the general practitioner's treatment plan not achieve satisfactory results. After strengthening the propaganda and strict control of diet, without any adjustment of the variety and dosage of hypoglycemic drugs, the blood sugar value of the patients decreased to the normal level and remained stable, which shows the importance of diet self-management in diabetic population. The so-called “keep your mouth in check and open your legs” is the best way to treat diabetes.

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