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ORIGINAL

APPLICATION PROGRESS OF NURSING MANAGEMENT IN HEALTH MANAGEMENT OF RETIRED PLAYERS WITH DIABETES

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ABSTRACT

Diabetes disease is characterized by multiple organ involvement and multiple system damage. With the significant increase in the number of diabetes patients, diabetes has become a public problem. Because of the long duration of diabetes and easy to produce all kinds of complications, Thus affecting the quality of life of patients. Therefore, it is very important to use a scientific way to provide nursing management for patients in the rehabilitation period.In addition, diabetes itself is a chronic disease, to evaluate the state of patients and take effective measures is the focus of nursing intervention. The advantage of health management for patients with diabetes lies in the determination of the goal of care for patients with diabetes. According to the daily behavior of patients during recovery, the health management of blood glucose, diet and other aspects can delay the further development of the disease. Due to poor glycemic control in diabetic patients, leads to a series of complications, seriously reduce the patient's quality of life, so with the emergence of social medical model and the direction of development of diabetes care, not only limited to maintain normal blood glucose levels and prolong life, pay more attention to the prevention and control the occurrence of complications and development, to ensure a good life, This is also the meaning and function of health management. The purpose of this study is to analyze the effect of nursing management on health management during diabetes recovery, so as to make up for the lack of application progress. Methods A total of 48 patients with type ii diabetes admitted to our hospital from January 2019 to June 2022 were randomly divided into observation group and control group according to the numerical random method, with 24 cases in each group. The control group was given routine nursing measures, while the observation group was given targeted health management intervention by a special diabetes care team on the premise of routine nursing measures. After nursing, the blood glucose standard and the improvement of quality of life were compared between the two groups. Results Fasting blood glucose and 2h postprandial blood glucose in the observation group were all lower than those in the control group, and the differences were statistically significant ($P < 0.05$). In terms of quality of life, the scores of physiological

function, psychological function and social function in the observation group were also significantly higher than those in the control group, and the differences were statistically significant (P < 0.05). In terms of nursing satisfaction, the observation group was significantly higher than the control group, and the difference was statistically significant (P < 0.05). It can be seen that health management can help patients stabilize blood glucose, improve self-management ability, promote patients' satisfaction, so as to achieve the final application value. It can also play a stabilizing role in similar chronic care processes.

KEY WORDS：Diabetes; Health management; Clinical nursing; Application value

1 INTRODUCE

Diabetes mellitus is the most common chronic and metabolic disease in endocrinology department. The occurrence of this disease is related to insulin secretion, metabolism abnormality or insulin resistance. It is a metabolic disease characterized by continuous increase of blood glucose and abnormal glucose tolerance. No deadly and disabling the disease itself, but with the increase of the deterioration of the condition and course of the disease, persistent hyperglycemia condition affects the whole body, induce a variety of complications, such as diabetic kidney disease, diabetes, eye diseases, diabetic foot, diabetes involving the whole body at the same time also become incentives to make the ketoacidosis, and ketoacidosis is the important cause of death in patients with diabetes (Terreros, Valdés, Gonzáles, Mercader, & Romero, 2020).

With the improvement of the quality of life, people's awareness of health gradually decreases, which leads to the increase of diabetes patients year by year. Any type of diabetes requires timely diagnosis, good health management and continuous care management in order to prevent acute complications and reduce the risk of long-term complications. Previous studies have shown that the control of stable blood glucose, blood pressure and blood lipid can significantly reduce the occurrence and development of acute and chronic diabetes complications (ÇIÇEK & SUNGUR, 2016). However, diabetes is a chronic disease with a very long course and extremely difficult to cure. Out-of-hospital treatment is the normal condition of this disease. During out-of-hospital treatment, self-blood glucose management ability and effective nursing means of patients are the key to control blood glucose level and reduce the occurrence of complications. In order to further clarify the application progress of nursing management in the health management of patients with diabetes during the rehabilitation period, this study was carried out to clarify the necessity and importance of nursing management in the clinical practice of diabetes.

2.Research status of nursing management in health management of patients with diabetes during rehabilitation period

After searching for keywords such as nursing management, diabetes, patients' rehabilitation period and health management, it was found that there

were 69947 articles about nursing management, 515571 articles about diabetes, 4213 articles about patients' rehabilitation period and 35530 articles about health management (as shown in Figure 1).

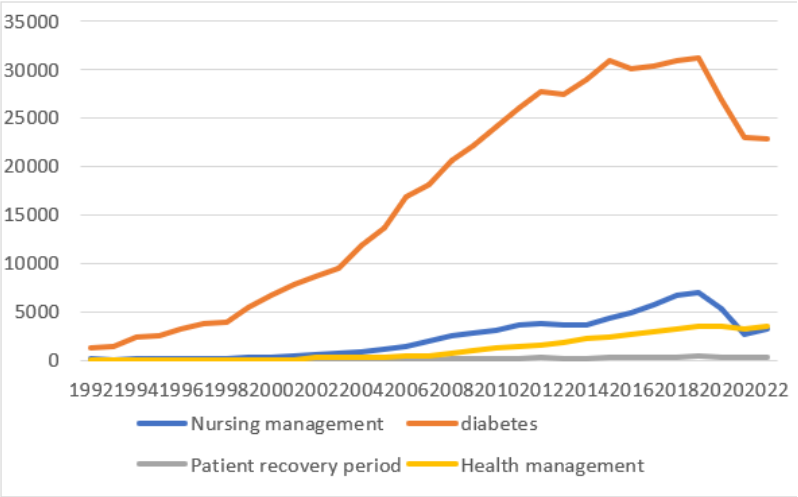

Figure 1. Retrieval analysis chart

As can be seen from Table1, the research on diabetes has always been the focus of academic research, especially the control index, delay and prevention of diabetes patients have become one of the emphases of future clinical medical research. Generally speaking, it is difficult for hospitals to carry out nursing management for patients with diabetes in the rehabilitation period. Although health education is carried out during hospitalization, for chronic diseases such as diabetes, the recovery period is long, and patients can only rely on independent nursing in the later period. Some patients with poor autonomy can easily revert to bad living habits. In recent years, health management has gradually become the focus of research and the current trend of chronic disease management (Riddle et al., 2022). It can be seen from the figure that the research literature on health management and nursing management is gradually increasing. It can also be seen that in the future management of chronic diseases, nursing management and health management will be the focus of future research in controlling chronic diseases such as diabetes and reducing complications while improving the treatment effect.

2.1 Diabetes

Diabetes mellitus (DM) is a chronic disease characterized by elevated blood glucose, which is related to abnormal insulin production and action (Han et al., 2018). The common clinical manifestations are polydipsia, polyuria, polyeating, weight loss, increased blood glucose and urine containing glucose. The treatment cycle and course of diabetes are long, which can indirectly lead to a variety of systemic diseases, such as chronic progressive lesions of the kidney, blood vessels, nerves and eyes. Diabetes is classified into four etiological categories, including type 1 diabetes, type 2 diabetes, gestational diabetes and specific types of diabetes, with type 2 diabetes being the most common (Siddiqui, Zainal, Harun, Ghadzi, & Ghafoor, 2020). Type 2 diabetes mellitus is characterized by islet β-cell dysfunction or target organ

insulin resistance resulting in relative insulin deficiency. It is common in adults with a slow onset, and is treated with oral hypoglycemic drugs. With the development of the disease, some patients also need insulin treatment.

Diabetes is one of the leading causes of death globally and is associated with increased mortality from infections, chronic kidney disease, chronic liver disease and cancer. Diabetes causes complications, including heart disease, kidney disease, peripheral neuropathy, retinopathy, stroke and peripheral arterial disease, which can be fatal or disabling in severe cases (Safari, Amini, Aminorroaya, & Feizi, 2020). In 2019, about 4.2 million adults died from diabetes globally, accounting for 11.30% of all deaths. Worldwide health expenditures related to diabetes were approximately $966 billion in 2021 and are projected to reach $1,054 billion in 2045. Therefore, the prevention and control of diabetes is very important. At present, it is mainly through maintaining a healthy lifestyle and drug treatment, and regular blood glucose monitoring to achieve early detection, timely treatment and early prevention (Vistisen et al., 2019).

2.2 Health management

Health management is a concept first proposed in the United States in the 1950s. Its core content is mainly refers to the medical insurance institutions through medical insurance to its customers (including disease patients or high-risk groups) to carry out the system of health management, including disease prevention, clinical diagnosis and treatment, rehabilitation care, is the healthy people, sub-health population, disease crowd health risk factors to conduct a comprehensive monitoring, analysis, evaluation, prediction, prevention and maintenance of the whole process, Strive to achieve effective control of the occurrence or development of diseases, significantly reduce the risk probability and actual medical expenses, so as to reduce the medical insurance compensation loss (Draznin et al., 2022). The concept is broad. From the narrow sense of health management, we apply the concept of management in disease management, in order to prevent the occurrence and development of diseases, improve the quality of life of patients, reduce medical expenses, for patients to carry out individualized and targeted intervention. It is a process aimed at the overall management of risk factors associated with an individual's health.

2.3 The need for health management

As we all know, the "Healthy China 2020 Strategy" mentions the establishment of a relatively complete basic medical and health care system by 2020. This is consistent with the goal of health management, which is to achieve the goal of "everyone having access to basic medical and health services, promote equal access to health services, and greatly improve the health of the whole people", and establish a basic medical and health system for urban and rural residents.

With the continuous improvement of social economy and living standard, the incidence of chronic diseases has been increasing year by year, and the burden of chronic diseases in China accounts for 70% of the medical

proportion. If not addressed (Davidson et al., 2021), the harm and economic burden of chronic diseases will overwhelm us. Drawing on the management experience of chronic diseases in Western and other developed countries, intensive treatment has no obvious effect on the incidence of chronic diseases in addition to the rapid rise in medical costs. However, through effective health management, good benefits and eff00 percent are unhealthy. Incorrect life style, bad living habits and bad medical compliance behaects can be achieved. China is a big country with aging population, and the incidence of chronic diseases has become a major problem in China's current medical and health care. If we do not pay attention to it, the problem will only become more serious. According to the World Health Organization (WHO), only 5 percent of people are in a truly healthy state, while nearly 1vior are the reasons that we can not ignore. Health management is to find and solve problems from the source, and it is a powerful backing and guarantee for the health of the whole people.

2.4 Application of nursing management in health management of diabetic patients in rehabilitation period

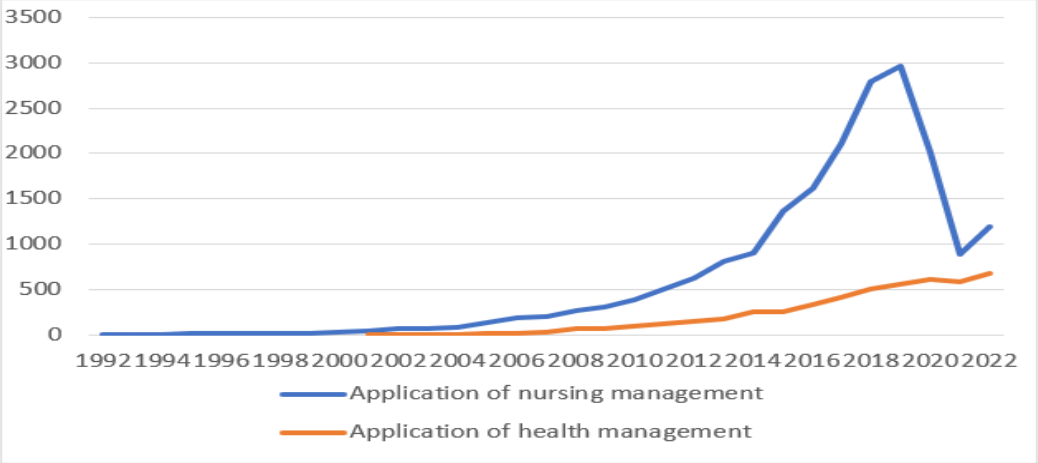

Figure 2. Search for nursing management and Health Management applications in diabetes

Through searching the application of nursing management and health management, it can be seen that nursing management has always been the focus of clinical medicine. As can be seen from Figure 2, with the in-depth research of nursing management, the application research of health management is gradually enriched. Especially in recent years, health management has gradually become an important nursing method for chronic diseases, diabetes and treatment services.

2.4.1 Lifestyle Management

Pointed out that at present, most of the diabetes expert consensus, diabetic patients in rehabilitation period of health management, should be preferred to adjust the diet and increase the movement lifestyle management way to reduce the body quality and nursing management methods should be at the same time as a person with diabetes is the cornerstone of long-term health and rehabilitation period always throughout the diabetes patients (Group, 2009).

（1）Diet

The analysis of the relationship between single nutrients and food components and disease has certain limitations (Salas-Salvadó et al., 2014). The types and quantity of food consumed by individuals may better reflect the relationship between diet and disease. At present, more and more scholars have shifted their research focus to the relationship between dietary patterns and the rehabilitation period of diabetic patients. Mediterranean diet, low-fat or low-carbohydrate diet are currently the most relevant dietary patterns for the rehabilitation period of diabetic patients.

The Mediterranean DIET EMPHASIZES the intake of plant foods, fish, and olive oil as the main sources of dietary fat, while the low-fat and low-carbohydrate diets emphasize the proportion of total calories consumed (low-fat diet: fat intake ≤30% of total calories, low-carbohydrate diet: carbohydrates <45% of total calories). A large randomized controlled trial comparing the effects of a Mediterranean diet with a low-fat diet showed that the Mediterranean diet reduced the risk of high sugar by 30%. (Wheeler et al., 2012). suggested that a low-fat diet that reduces total fat intake does not consistently improve glycemic control and CVD risk in patients with diabetes during rehabilitation, and the benefits seem to be mainly related to weight loss.

Meta-analyses have shown that low-carbohydrate dietary patterns show great advantages in reducing glycated hemoglobin. In a cross-sectional study based on KORAFF4, analyzes the two kinds of the relationship between dietary patterns and convalescence patients with diabetes, including with a lot of vegetables, fruits, whole grains and dairy products "frugal meal" mode and drink with red meat, processed meat, ethanol, refined grains and sugary drinks "western diet" mode, the results show that the Following the "Western diet" pattern may increase the risk of recovery, and such people have higher body mass index (BMI) and waist circumference (Lindstrom et al., 2003). In 2020, the Institute of Nutrition and Health of Chinese Center for Disease Control and Prevention conducted a study on the effects of different dietary structures on patients' rehabilitation period. It was found that animal food patterns dominated by pork, poultry and aquatic products intake and alcoholic and fried pasta patterns dominated by alcoholic and fried pasta increased the risk of patients' rehabilitation period. The dietary pattern of egg and bean, which is mainly consumed by rice and flour products, eggs and beans, may reduce the risk of diabetic patients during the rehabilitation period to some extent .

（2）Movement

The 2010 ADA and American Diabetes Exercise Guidelines recommend at least 2.5 days of moderate-to-vigorous physical activity per week with a combination of aerobic and resistance exercise. The variety of exercise forms avoid the single movement, which is beneficial to enhance the compliance of patients. At present, there is no conclusion on which way is the most effective for the health management of diabetic patients in the rehabilitation period.

High-intensity interval training is a hot research topic in exercise prescription in recent years. It is a rapid, repetitive, explosive form of exercise in a short period of time with interspersed rest or recovery. Some studies have shown that because of the high intensity and less exercise time of high-intensity interval training, the compliance of diabetic patients in the rehabilitation period may be higher. In terms of improving cardiovascular risk factors of type 2 diabetes mellitus, high-intensity interval training has the same effect as moderate and low intensity continuous aerobic training, and is sometimes better than moderate and low intensity continuous aerobic training. High-intensity interval training has also been shown to reduce cardiometabolic risk in prediabetes by better controlling blood sugar and has been used as an alternative to moderate-intensity exercise training.

（3）Diet combined with exercise management

Diet combined with exercise management has a more significant effect on the rehabilitation nursing of diabetic patients. AMER et al (Association, 2020).conducted lifestyle management for Saudi Arabian people for 18 months. The management measures included at least 5% decrease in body weight, 50%-60% carbohydrate intake in total calories, less than 30% fat intake, and moderate intensity exercise for 30 minutes a day or more than 150 minutes a week. The results showed that the cumulative incidence of reduced blood glucose in the management group was higher than that in the control group .

In the study of the PREDIMED - Plus, management group to take based on the limited energy of the Mediterranean diet and sports activities to promote and support, management after six months, patients body quality significantly reduced, effectively control blood sugar, improve insulin sensitivity, reduce cardiovascular risk factors, the beneficial effect in the management of 12 months after further strengthen. In addition, a meta-analysis showed that in the rehabilitation period of diabetic patients, diet and exercise combined management can significantly reduce fasting blood glucose and body weight compared with exercise management alone (Da Qing, 1997)9.

2.4.2 Drug

Although lifestyle management, including diet and physical exercise, can effectively delay the development of type 2 diabetes and significantly reduce the incidence of diabetes in the short term, the improvement will be weakened over time due to the problem of compliance. Studies have shown that the super-fast acting insulin lyprol, exenatide sustained release agent, dozagliptin and other drugs have certain effects in the treatment of diabetes (Association, 2021). In terms of ultra-rapid-acting insulin lyprol, the FDA has approved ultra-rapid-acting insulin lyprol for the treatment of T1DM and T2DM. Some studies have shown that its absorption rate is fast, the peak time is short, and it can significantly improve the postprandial blood glucose (PPG) fluctuation within 5 hours, and the PPG curve is closer to that of healthy subjects. Bydureon BCise, a once-weekly injectable suspension as an adjunct to diet and

exercise, has been approved by the FDA for the treatment of pediatric patients with T2DM (10 to 17 years of age) and is the first approved weekly GLP-1 RA preparation for pediatric patients. Dozagliptin is the world's first glucokinase agonist (GKA) developed in China to enter clinical phase III study. Some studies have shown that in untreated T2DM patients, dozagliptin can rapidly act, continuously and effectively reduce HbA 1C, improve β-cell function, reduce insulin resistance, and has good tolerance and safety, with low incidence of hypoglycemia. The results showed that glucagon-like peptide-1 receptor agonist (HBA1C) was decreased by 1.02% compared with baseline, fasting and 2 h postprandial blood glucose were significantly decreased, and islet function was significantly improved after dozagliptin treatment.

2.5 Application mode of nursing management in health management of diabetic patients in rehabilitation period

2.5.1 Self management style

Self-management mode is an important health management mode of nursing management in the rehabilitation period of diabetic patients, which mainly refers to a series of plans such as patients' independent and active participation in the formulation of healthy diet, regular exercise, regular blood glucose monitoring, insulin dosage adjustment and disease attack control. At present, the health management of diabetic patients in rehabilitation period in China focuses on the education of diabetes-related complications in an enlightening way, which makes it difficult to implement and maintain the self-management education of diabetic patients. Therefore, some foreign scholars adopted more innovative, effective and sustainable self-management methods to improve the awareness of blood glucose control in diabetic patients, so as to control the occurrence and development of complications [18].

Motivational interviewing is a patient-centered approach that promotes behavior change by helping patients explore and resolve their ambivalence about changing behavior. The goal of motivational interviewing is to explore the ambivalence of the patient about behavior change, and the patient is more likely to change behavior in the desired direction. Motivational interviewing is based on the principle that motivation to change is a state rather than a personal characteristic, that it may fluctuate over time and situations and may be altered by influence in a particular direction, and that it is the patient's task to resolve this paradoxical change. Geneti et al. can effectively improve the self-health management ability of diabetic patients by using motivational interviewing, so as to effectively make diet plans, reduce body weight, reduce glycosylated hemoglobin level and improve the quality of life. It can be seen that the use of motivational interviewing can provide targeted health interviews according to the self-health management needs of patients with diabetes, so as to improve patients' self-management awareness and promote correct health behaviors related to diabetes management [21].

Problem-solving therapy is an approach to nursing behavior change that requires a series of cognitive manipulations used to figure out what to do

when the means to reach the goal are not obvious. The goal of problem-solving therapy is to promote behavioral change that aims to promote positive emotional responses and reduce negative ones. Problem-solving therapy teaches patients to use nursing management to solve life problems step by step. It is usually divided into two main parts: applying a problem-solving approach to life, and using problem-solving skills. (Geneti et al., 2022). developed a comprehensive and interactive self-management behavior program that includes theoretical and practical links to manage patients with diabetes. Among them, theoretical self-management describes the basic knowledge of diabetes and specific details of self-management strategies, such as diet guidance, exercise guidance, hypoglycemia treatment knowledge, foot care, medication and blood glucose monitoring.

Practice self management mainly according to the American diabetes association of the diabetes management technology, including the definition and application in diabetes diet plan, supplemented by food simulation model shows one-to-one nutritional guidance and according to the result of cardiopulmonary exercise test and of the Borg scale of exercise intensity for each patient personalized exercise prescription, etc. SDSCA (five items including dietary behavior, exercise, medication compliance, blood glucose monitoring and foot care), fasting blood glucose, 2h postprandial blood glucose, and glycated hemoglobin were used to evaluate self-management efficacy after treatment. The results showed that the self-management behaviors related to theory and practice could effectively improve the self-management ability, reduce psychological distress and optimize blood glucose control of patients with type 2 diabetes mellitus (Al Rifai & Shapiro, 2020).

2.5.2 Family participatory health management

As a common chronic disease, diabetes requires long-term diet control, proper exercise and standardized drug use, which leads to difficulty in targeted prevention, relapse of the disease, and difficulty in controlling blood glucose and other indicators. Therefore, it is necessary to manage patients with diabetes correctly for a long time. At present, although self-management has been widely used in diabetes management, traditional diabetes management focuses on individual behavior change. Due to the large individual differences in patients, the effect of traditional self-management is often not the same for different patients. Thus, participatory family management is often a continuation and complement of self-management and can provide effective management (Shi et al., 2016).

(Pullyblank et al., 2022) believe that family participation is an important and effective measure to control blood glucose in the health management of patients with diabetes during the rehabilitation of nursing management. For people with diabetes, social support (including peer and family involvement) focuses on increasing knowledge of diabetes, overcoming barriers to self-management, and promoting behavior change through family support and self-efficacy development, which can effectively improve self-efficacy and better self-management. Therefore, the home-based health management of diabetes can improve the control of low-density lipoprotein (LDL), total

cholesterol, glycosylated hemoglobin and blood glucose, and improve the health management level of patients with diabetes during rehabilitation. Therefore, established two family training sessions and eight weeks of group training. At 2 family meetings, family members were trained on basic knowledge, forms of intervention and daily requirements of patients. In eight group sessions, training was given on introduction to diabetes, exercise and food, healthy eating, blood glucose levels and glucose meters, diabetes medications, coping strategies, problem solving and action planning. At the same time, seminar discussions, educational wall charts, games, videos, visual AIDS (picture log sheet, picture diet book), demonstrations and self-monitoring demonstrations are used in the training process. After intervention, the self-efficacy, self-management ability, outcome expectation and diabetes knowledge of diabetic patients were significantly improved. Therefore, through the participation of family members in health management, continuous supervision and education of patients can be carried out to promote patients to further understand the knowledge related to diabetes, which is conducive to improving cooperative behavior and finally making patients' living habits change in the right direction

2.5.3 Hospital health management

Since 2009, diabetes case management has been included in basic public health services in China, and corresponding management service standards have been formulated, requiring all patients with diabetes to enjoy diabetes management in their community health service centers. Therefore, community health service centers provide free diabetes screening, follow-up, health education, health examination and disease classification intervention for urban and rural residents. The Guidelines for Prevention and Treatment of T2D in China (2018 edition) (reference source) suggests that members of community diabetes management teams should be composed of general practitioners, nurses, dietitians, rehabilitation personnel and patients [16]. However, the increasing incidence of chronic diseases in China has led to a severe shortage and uneven distribution of general practitioners. In addition, the Chinese diabetes health management mode is mainly managed by a physician-led team, which focuses on the diagnosis and treatment of the disease, but lacks a series of management methods such as family visit, telephone follow-up and health education, which often leads to poor diabetes management effect.

In recent years, the medical concept has gradually changed, and some community health service institutions have gradually changed from the management led by general practitioners to the team management led by nurses. The conceptual model of this method is based on the chronic disease nursing model introduced by Wagner in 1999. This model is considered to be an effective framework for improving the quality of diabetes care. Nurse-led team management interventions are designed and planned based on consultation with patients, specialists, community physicians, nurses, dietitians and family members on the content, frequency and schedule of interventions. (Wang, Zhao, & Xie, 2022). formed a related team consisting of community nurses, community doctors, one clinical nursing expert, three

diabetes experts, one nutritionist and nursing graduate students. Before the intervention, the team members were given relevant training, including diabetes professional knowledge, diet, exercise knowledge, follow-up skills, health education and communication skills. After the intervention, it was shown that the implementation of nurse-led team management can significantly improve the self-management ability of community diabetes patients, improve the diabetes-related knowledge level and disease nursing awareness of patients, overcome various obstacles in the process of self-management, so as to effectively reduce the level of glycosylated hemoglobin (Tyrberg, Melander, Lövestam-Adrian, & Lindblad, 2008).

With the continuous development of information communication, artificial intelligence and other technologies, advanced mobile application technology has been gradually used in medical and health management. Compared with traditional management strategies, modern management measures have many advantages such as remote communication, continuous monitoring, wide coverage and self-sufficiency. However, there is still a lack of authoritative guidance and application planning on the mechanism of the integration of diabetes health management and ICT. Since 2015, China has put forward the "Internet Plus" strategy, which has strongly promoted the development of mobile health technology. The establishment of hierarchical medical system is an important measure to rationally allocate medical resources and balance basic medical and health services at the present stage, and is the key to promote the long-term development of medical and health services. Provinces and cities in China have also promoted hierarchical medical treatment according to local conditions, established an ideal hierarchical medical treatment policy system, and constructed a hierarchical medical treatment system in line with China's national conditions. The pilot areas focus on chronic diseases, and carry out graded treatment for hypertension and diabetes. Liang, etc by building Internet + hierarchical diagnosis strategy of blood sugar and other physiological indexes in patients with diabetes, blood sugar monitoring compliance, diet adherence and compliance management indicators such as observation, results show that the new diabetes health management strategy can improve the way of life, improve the physiological indexes, reduce the incidence of complications, forming a virtuous cycle. This has a positive impact on the health management of diabetic patients throughout their life cycle, which is worthy of further promotion

3. COMPARATIVE ANALYSIS OF HEALTH MANAGEMENT INTERVENTION EFFECT OF NURSING MANAGEMENT IN PATIENTS WITH DIABETES DURING REHABILITATION PERIOD

3.1 Data and Methods

3.1.1 The general information

A total of 48 patients with type ii diabetes in our hospital were randomly divided into observation group and control group, 24 cases in each group. There were 15 males and 9 females in the observation group. The average age was (59.7±2.9) years (range, 40-71 years). The disease duration ranged

from 1 to 12 years, with an average of 6.0±0.8 years. There were 17 males and 7 females in the control group. The average age was (59.5±2.6) years (range, 40-73 years). The disease duration was 1-10 years, with an average of (6.1±0.8) years.

There was no significant difference in the general information of all the subjects (P > 0.05), which was comparable. The study was carried out after informed consent of the patients and their families. The study was submitted to the medical ethics committee of the hospital and approved before implementation.

3.1.2 Inclusion and exclusion criteria

Inclusion criteria: All patients met the clinical diagnostic criteria of type ii diabetes mellitus, had typical symptoms of "three more and one less", and fasting blood glucose and postprandial blood glucose values were all higher than the normal range.

Exclusion criteria: type I diabetes mellitus, stress hyperglycemia; Patients with severe acute and chronic complications, such as diabetic nephropathy or diabetic foot gangrene; Malignant tumor; Mental illness or other neurological disorder.

3.1.3 Methods

All patients in both groups received routine care. After admission, patients were evaluated according to their health status to understand their blood glucose stability, and dietary intervention, drug intervention and exercise intervention programs were determined according to their age and physical conditions. If the patient has unstable fluctuations in blood glucose control, it is necessary to contact the attending physician to take emergency measures. The observation group received nursing intervention of health management on this basis.

(1) Build a nursing team. Nurses with rich experience in endocrinology department and excellent nurses in surgery, neurology, geriatrics and nutrition department were selected. The director of nursing department served as the team leader, and the experienced nurse in endocrinology department served as the deputy team leader. Before the start of nursing management, senior experts from each department will give professional training to the team members, and give targeted guidance around the related knowledge and health management requirements of diabetes, such as analyzing the main factors of blood glucose fluctuation or other physical function reduction of patients. On the premise of basic nursing for patients, the corresponding health management and diet guidance should be carried out to improve the self-monitoring ability of patients. The team leader should regularly carry out work assignments and carry out specialist nursing supervision on patients. After the actual work of patients to determine the implementation of the situation, around the patients from admission to discharge between the work to develop planning requirements, so that the corresponding personnel to perform their respective responsibilities. For example, dietitians are

responsible for making diet plans for patients, and psychological counselors provide psychological intervention for patients.

(2) Group intervention. The operation mode of group intervention was adopted, and the endosecretory department arranged the diabetes specialist nurse to match with the doctor, who was in charge of the diagnosis, treatment and nursing work of the patients during the hospitalization. After understanding the basic state of the patient during the recovery period, the corresponding information of the patient was determined, and the patient file was established. In addition, all nursing staff should do a good job of psychological management and control according to the evaluation results of doctors on patients' recovery period, especially for some younger patients with diabetes.

(3) Comprehensive health management. After admission, nurses need to maintain close communication and communication with patients, understand the actual status of patients, formulate corresponding glucose-lowering control programs and blood glucose monitoring requirements for patients, extract the main existing problems of patients, develop health education plans and carry out preliminary education. The content of education mainly includes three aspects: (1) to make patients aware of the importance of blood glucose control and blood glucose self-management; ② Blood glucose control goals throughout hospitalization and life; (3) Continuing education after discharge. After understanding the actual needs of the patients, the diabetes specialist nurse communicated with the team members according to the blood glucose records of the patients and the patients' complaints, and was responsible for synchronously recording the daily health education situation and results in the internal archives. For some patients with large blood glucose fluctuation or unstable physical condition, it is necessary to strengthen the inspection, and cooperate with the patient's family members to prevent the occurrence of hypoglycemic events, so as to promote the prognosis and recovery of patients.

(4) Discharge management. In the process of discharge management, it is necessary to rely on the records in the blood glucose management files for the specialist nurses and liaison nurses to check the other problems that have not been solved in the whole nursing stage and give targeted guidance to the patients again. Multidisciplinary members developed post-discharge attention forms for patients and sorted out relevant archival information.For example, in the later life, patients should understand the common symptoms and signs of diabetes, as well as fasting and postprandial blood glucose control goals; The general principles of dietary intervention were introduced to patients, and the common contraindications of diabetic patients were understood after the composition and ratio of common foods were explained by physical model, so as to facilitate their dietary adjustment in life. In terms of exercise management, a reasonable exercise pattern and frequency should be established according to the patients' previous habits. Some patients treated with oral drugs need to balance the balance between exercise and diet control ; In addition to blood glucose, patients should also perform all-round monitoring of blood pressure, blood lipids, kidneys and other aspects,

especially to prevent chronic complications such as peripheral neuropathy or diabetic foot.

3.1.4 The evaluation index

Patients were followed up for a maximum of 18 months after transfer to the out-of-hospital recovery period. During the follow-up survey, diabetes-related information was continuously obtained. Blood glucose was collected twice a week, at least once after meals and once during fasting. Hba1c was administered every 3 months. To evaluate the application value of medical care in diabetes outpatient nursing management, the specific evaluation indicators are as follows:

(1) The blood glucose levels of the two groups were evaluated, and the fasting and 2 h postprandial blood glucose values of the two groups were compared after nursing. Comparing quality of life scoring methods,

(2) To evaluate and compare the quality of life between the two groups. The quality of life (QOL) was divided into three indexes: physiological, psychological and social function.

(3) The nursing satisfaction of the two groups was compared and investigated by self-made questionnaire, which was divided into satisfied (≥90 points), relatively satisfied (75-89 points) and dissatisfied (≤74 points), and the sum of the first two items was the nursing satisfaction.

3.1.5 Method of statistics

The data were compared and analyzed by Access and SPSS25.0 statistical software. The measurement data were normally distributed and expressed as (X ±s), and the differences between groups were compared by t-test. Enumeration data were expressed as frequency and percentage (%), and differences between groups were compared by χ^2 test. P<0.05 was considered statistically significant.

3.2 Result

3.2.1 Comparison of blood glucose standard between the two groups

The fasting blood glucose value and 2h postprandial blood glucose value of the observation group were lower than those of the control group, and the differences were statistically significant (P < 0.05). As shown in table1.

Table 1. Comparison of blood glucose levels between the two groups[（$\bar{x}$±s）,mmol/L]

Group	Fasting blood glucose value	2h postprandial blood glucose value
The control group（n=24）	7.2±0.4mmol/L	10.8±0.6mmol/L
Observation group（n=24）	6.8±0.3mmol/L	9.9±0.7mmol/L
T	9.006	9.308
P	<0.05	<0.05

3.2.2 Comparison of quality of life scores between the two groups

In terms of quality of life, the scores of physiological function, psychological function and social function in the observation group were significantly higher than those in the control group, and the differences were statistically significant (P < 0.05). As shown in table 2.

Table 2. Comparison of quality of life scores between the two groups [（$\bar{x}\pm s$）, points]

Group	Physiological function	Psychological function	Social function
The control group（n=24）	16.8±0.6	18.8±1.4	17.7±1.0
Observation group（n=24）	11.4±0.9	14.0±1.2	12.9±1.4
T	24.457	12.753	13.668
P	<0.001	<0.05	<0.05

3.2.3 Comparison of nursing satisfaction between two groups

In terms of nursing satisfaction, the observation group was significantly higher than the control group, and the difference was statistically significant (P < 0.05). As shown in table3.

Table 3. Comparison of nursing satisfaction between two groups

Group	Satisfied with the	The more satisfied	Not satisfied with	Satisfaction (%)
The control group	15	8	1	95.8
Observation group	15	6	5	79.2
X^2				5.923
P				<0.05

4. CONCLUSION

Diabetes is one of the nine major diseases threatening human health. It is the most common chronic metabolic disease, with an incidence of about 1/11. There are about 463 million adults aged 20-79 years with diabetes worldwide (2019 data), and it is predicted that this number will reach 578.4 million around 2030. In our country, also is one of the most common chronic disease, diabetes, especially after aging trend is becoming more and more significant, the number of diabetes patients in China is becoming more and more in our country about every 6 individual human diabetes patients, especially in recent years, diabetes showed obvious age development trend in our country, has become a threat to the health of one of the three diseases.

Diabetes mellitus is a metabolic disease with extremely slow progress. The occurrence of this disease is related to organic changes, genetic factors, eating habits, living environment, exercise habits and other factors. After the onset of the disease, the blood glucose of patients will continue to rise until other organs are involved, causing a variety of complications. According to current studies, diabetes accompanied by organic changes in islet function belongs to the category of "incurable", so most patients with diabetes have a long course of disease and take medication for life. However, blood glucose control is like sailing against the current. If it does not fall, it will rise. Sometimes, after taking medication, the blood glucose of patients will decrease rapidly in a short period of time, and it will rebound quickly once the medication is stopped or the patient does not pay attention to diet.

Blood glucose control depends on the effectiveness of drugs on the one hand, and on the self-management of patients on the other hand. Only by controlling diet, strengthening exercise, paying attention to protection and adhering to medication can stable, long-term and effective blood glucose control be achieved. Therefore, in clinical practice, we pay attention to the nursing management of patients with diabetes, through effective health management to help patients in the rehabilitation period, master the necessary knowledge of diabetes care and self-examination self-control skills. At the same time, understand their own condition, better comply with the guidance of medical staff, better control their blood glucose, so as to avoid the deterioration of the condition and reduce the adverse impact of diabetes on the life of patients.

At the beginning of nursing management, the education work was carried out on the basic knowledge of health management of patients with diabetes during the recovery period. The learning objectives of the members were clarified through channels such as the Internet wechat platform, so that the nursing link could be closer to the clinical work and actual requirements. To improve the nursing quality and health management skills of patients with specialized knowledge and nuclear information specification as the fundamental purpose. All the members of the diabetes care team are composed of nursing backbone selected by the clinical department. During the process of specialist training, they timely feedback the main problems existing in the nursing stage of patients. Under the guidance of the group leader, they negotiate with the team members to solve the problems and develop a detailed nursing quality evaluation system for patients.

For example, in terms of comprehensive health management, the hypoglycemic control program and blood glucose monitoring requirements are formulated for patients in the recovery period, so that they can realize the importance of self-blood glucose management and control, and through the continuous education in the hospitalization and discharge stages, patients can maintain good living habits for a long time in the recovery period. In particular, in the process of discharge management, comprehensive guidance is provided around the needs of patients in different aspects, including diet, exercise, living habits, self-monitoring, regular review and other aspects, so it can effectively improve the quality of life of patients. In this study, in terms of quality of life, the scores of physical function, psychological function and social function of patients in the observation group were significantly higher than those in the control group ($P < 0.05$), indicating that health management can improve the quality of life of patients. In the prevention and control process of diabetic patients in the recovery period, the self-management ability and self-management compliance of patients outside the hospital are very important. At this time, nursing staff can not pay attention to the specific state of patients, but can only understand the situation of patients in the field of drug application. Through health management, health education, psychological intervention and comprehensive intervention can be combined, and the mutual cooperation between disciplines can be strengthened in the way of follow-up, which can avoid the re-hospitalization of patients due to disease and ensure the quality of life of patients.

In the implementation of health management mode, patients receive comprehensive seamless nursing outside the hospital. From the perspective of nursing details, during the nursing process, health management focuses on the evaluation and analysis of patients' general information to improve the self-behavior education and guidance of patients, which can provide more comprehensive and professional medical intervention for patients with diabetes and improve the specific effect of blood glucose control. In this study, the fasting blood glucose value and 2h postprandial blood glucose value of patients in the observation group were lower than those in the control group ($P < 0.05$), which confirmed that health management can effectively control the blood glucose level of patients. In addition, the health management adopted an intervention program based on the specific needs of the patients. For example, some elderly patients have a long course of disease and their insulin secretion function is seriously impaired. At this time, it is necessary for professional nurses of endocrinology department to cooperate with nurses of nutrition department to provide patients with drug adjustment program and nutritional support program. The routine blood glucose management model for a large number of diabetic people can no longer effectively meet the actual needs of patients, so it is necessary to further promote the in-depth application of health management in the subsequent work. The results of this study showed that in terms of nursing satisfaction, the observation group was significantly higher than the control group ($P < 0.05$), indicating that health management can better meet the nursing needs of patients and patients' satisfaction is higher.

To sum up, the nursing management in patients who have diabetes health management has a higher clinical value, it can effectively improve patients cognition of diabetes health knowledge, to develop diabetes blood sugar management ability, plays a positive role to maintain blood glucose control in patients with, diabetic patients should be paid great attention to health management in clinical work.

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