

Innovative Research on the Management Path of Grassroots Chronic Disease Health Services

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Abstract:

Purpose: To explore the effectiveness of chronic disease management based on the concept of drug and food homologous treatment and full cycle health management in the community. **Methods:** From May 2023 to March 2024, the project team, through cooperation with the community health service center, divided 50 patients with diabetes into two groups by double-blind method. The control group only used the original western medicine treatment and other original diagnosis and treatment services, while the observation group carried out a patient-centered full cycle health management service model on the basis of the control group, and applied the concept of homologous medicine and food, provide patients with appropriate Tonic Diet therapy, and analyze patient satisfaction and diabetes treatment effect. **Result:** The total effective rate and satisfaction of treatment in the observation group were significantly higher than those in the control group, with significant differences and $P < 0.05$, indicating statistical significance. **Conclusion:** It is worth popularizing that diabetes patients are treated with full cycle health management and the concept of homologous medicine and food.

Keywords:

Diabetes, Chronic Disease Management, Medical and Food Homology

1. Introduction

As a global public health challenge, diabetes and hypertension are attracting more and more attention [1]. With the aging population and changes in lifestyle, the number of patients continues to increase, posing enormous pressure on grassroots medical services. In China, it is required to improve the integration of grassroots medical and preventive services, break through the gap between traditional treatment and prevention, and implement full cycle and personalized health management. This article analyzes the development process of chronic disease management and proposes innovative ideas that closely integrate medical care and prevention, in order to build a more effective and continuous collaborative hierarchical diagnosis and

treatment system, thereby improving the quality of life of patients, reducing the burden of family and socio-economic medical care, and promoting the overall improvement of grassroots medical services. This study implemented systematic chronic disease nursing management for 50 diabetes patients who were hospitalized in community health service centers from November 2023 to March 2024, and achieved satisfactory results. The specific methods are as follows.

2. Object and Method

2.1. Sample selection

A random sampling method was used to select 50 diabetes patients who were hospitalized in the community health service center from November 2023 to March 2024 as the study subjects. The sample includes 30 males and 20 females, with an average age of (58.16 ± 1.48) years; The longest duration of illness shall not exceed 5 years; Blood glucose concentration $>20\text{mg/d}$; Glycated hemoglobin level not less than 7%; The body mass index is within the range of 23~36kg/m.

2.2. Management methods for chronic diseases

The patients were divided into two groups by double blind method. The control group only used the original diagnosis and treatment services such as the original western medicine treatment, while the observation group carried out the patient centered full cycle health management service model on the basis of the control group. At the same time, the concept of homologous medicine and food was applied to provide patients with appropriate Tonic Diet therapy.

2.2.1. Chronic Disease Management Team

(1) This team is composed of physicians, nurses, health consultants, and nutrition experts.

(2) Provide training on workflow and content to relevant personnel before implementing management, clarifying division of labor and job responsibilities.

2.2.2. Nursing evaluation

(1) Measure fasting blood glucose, glycated hemoglobin, etc. for enrolled patients.

(2) To assess the depth of understanding of patients' diet and exercise patterns for coronary artery disease and diabetes, and comprehensively assess their nutritional status, basic health status, daily exercise status and exercise ability.

2.2.3. Intervention measures

2.2.3.1. Develop and implement a dietary control plan

(1) In this study, diabetes food model and Chinese diet pagoda were used to educate the observation group patients. At the same time, the concept of the same origin of medicine and food is publicized to patients, and patients are encouraged to use Tonic Diet therapy in their daily diet to improve their condition.

(2) Develop personalized dietary guidelines for patients in the observation group, providing personalized combinations of radish seeds, hawthorn, chrysanthemum,

kudzu root, cassia seed, oysters, and other foods [2]. The guidelines also include content such as sugar content, nutritional components, and nutritional benefits.

(3) Provide guidance to the observation group patients, teach them to eat on time and reasonably, choose light food as much as possible, and avoid bad habits such as drinking alcohol and smoking.

2.2.3.2. Regular follow-up and feedback on monitoring effectiveness

Establish a doctor-patient communication platform through WeChat, phone, and other means. Every two weeks, group members communicate with observation group patients in a timely manner to understand the changes in the patient's condition and indicator data, as well as whether there are any discomfort symptoms. Based on the patient's own condition, adjust the patient's diet plan in a timely manner and provide targeted suggestions on diet, exercise, and other aspects.

2.3. Observation indicators

Distribute questionnaires to participants to investigate their satisfaction with the full cycle health management service model, their evaluation of physical condition, psychological state, social adaptation, family, exercise, and dietary conditions. Secondly, review and collect data on various related medical indices. Specific tracking indicators include fasting blood glucose and glycated hemoglobin.

2.4. Statistical methods

The data was processed and calculated using SPSS 11.0 statistical program, t-test was used for quantitative data, and X2 test was used for count data. To test the level $\alpha=0.05$, $P<0.05$ indicates a statistically significant difference. The satisfaction follow-up survey was analyzed using Questionnaire Star.

3. Results

After 100 days of adopting the new mode, data collection and questionnaire survey were conducted on the fasting blood glucose and satisfaction with medical treatment of 50 enrolled patients. The data collection results showed that both the control group and the observation group had a decrease in fasting blood glucose after treatment, but the treatment group using the new path of chronic disease health service management had a more significant decrease in blood glucose (Table 1). At the same time, questionnaires were distributed to patients and accompanying family members. A total of 62 questionnaires were collected, with 58 valid questionnaires. The satisfaction rate of the experimental group with hospital services was 81.25%, while the satisfaction rate of the control group was 68.42%.

Table 1. Comparison of blood glucose levels between two groups of patients after treatment.

group	n	Fasting blood glucose
control group	25	6.50±0.87
experimental group	25	6.30±0.62
t		4.21
P		<0.05

4. Discussion

4.1. Model of chronic disease management of diabetes and hypertension

4.1.1. Foreign chronic disease management models

In foreign countries, as early as the 1990s, scholars proposed chronic disease management. Wagner proposed the Chronic Disease Management Model (CCM), which aims to improve the health of patients in the community, with the focus on self-management of patients and comprehensive support from medical institutions, and individualized management of patients. The Chronic Disease Self Management Program (CDSMP) was developed by Stanford University, with the core concept of helping patients achieve self-management and reduce medical dependence. The Chronic Disease Innovation Care Framework (ICC) proposed by the World Health Organization emphasizes the adoption of more innovative and comprehensive nursing models in chronic disease management, making communication between patients, healthcare workers, and communities closer. In 2015, the World Health Organization released the “Global Strategy for Integrated Health Services with People at the Core”, which transformed medical services into a focus on disease prevention and community management [3].

4.1.2. Domestic chronic disease management model

The research on chronic disease management in China started relatively late and is still in an exploratory state. In 2018, the National Health and Family Planning Commission proposed the concept of “integrated medical and prevention” for chronic disease management, which triggered a response from grassroots medical institutions to explore chronic disease service models and incorporate chronic disease management into the integration of medical and prevention [4].

Ma Chengcheng’s research team adopts a model that integrates chronic disease integrated outpatient services with digitalization. Through data collection and construction, they establish data management applications for doctors and patients respectively, achieving accurate and efficient data management. Sun Ruolin et al. used general medical management to form patient patient mutual assistance, doctor-patient interaction, and doctor-patient shared decision-making. Multivariate logistic regression analysis showed that increasing community awareness of chronic diseases can reduce the risk of chronic diseases in the population ($P<0.05$).

Yan Qiong’s team studied the home-based medication methods for chronic disease patients in grassroots communities. Based on contracted family doctors, they provided comprehensive services such as evaluating medication needs and providing medication consultations to community chronic disease patients, thereby improving their ability to use medication rationally. Yang Zongye’s research pointed out that health education for community residents can improve the self-management ability of patients with hypertension and chronic diseases, and effectively control their condition.

Chen Haiqin [5] reduced the incidence of adverse events in chronic disease patients and significantly improved patient satisfaction by implementing the balance theory of traditional Chinese medicine combined with appropriate techniques in the management of chronic disease patients in hospitals. Hu Feiyu et al. [6] used traditional Chinese medicine ginseng therapy to intervene in the treatment of chronic disease patients, improving their quality of life.

Pan Lingyi and others [7] conducted SPSS analysis on the impact of medical and prevention policies on the blood sugar level of local type 2 diabetes patients, and

concluded that with the implementation of the policy, the blood sugar of patients decreased and had statistical significance.

4.2. Innovative service path for the integration of chronic disease prevention and treatment

4.2.1. Integration of the concept of homology between medicine and food

Integrating the work of family doctor assistants, including collecting sign measurement data, health education, file improvement, and health questionnaires, into the pre diagnosis, mid diagnosis, and post diagnosis stages of outpatient services, to provide face-to-face services closer to patients. The original “patient-centered” diagnosis and treatment model has been transformed into a “patient-centered” full cycle health management service model; Relying on the upgrading of hospital software and hardware infrastructure and digital transformation, we will expand the original concept of integrated outpatient services for chronic diseases, and move forward from tertiary prevention to secondary and primary prevention; Implement a team of general practitioners to oversee the diagnosis, treatment, and health management services for chronic diseases. Through the “pre diagnosis, during diagnosis, and post diagnosis” service process, integrate the full cycle health management services into the chronic disease outpatient process, and integrate the concept of medicine and food sharing the same origin throughout the entire service path.

4.2.2. “Pre diagnosis, mid diagnosis, and post diagnosis” service process

- Before diagnosis: two steps are taken. One is to distribute the community chronic disease health questionnaire by cooperating with the community and using the family physician assistant software (physical sign measurement data collection, health education, file improvement and health questionnaire) provided by the community, so that the community residents can fill in the hypertension diabetes risk assessment form, integrate and upload the data to the cloud, and provide accurate prevention plans and public health assessment for high-risk patients to make early diagnosis while protecting personal privacy through medical big data analysis; The second is to jointly establish a “Medicine and Food Homology Chronic Disease Management Group” with our school's Homologous Medicine and Food Society, to carry out health education and customized dietary treatment plans for chronic diseases in the community, improve the prevention awareness of high-risk populations. For example, for those at risk of hypertension, personalized combination food plans such as cassia seeds, oysters, noodles, bergamot, walnut kernels, seaweed, etc. will be provided; For those with high risk of diabetes, we will provide balsam pear, tea, corn whiskers, black fungus, lychee seeds and other diet options. The propaganda theme and matching plan will be strictly approved by the guiding teachers and experts to achieve truly effective prevention.

- In diagnosis: there are two steps to take. The first is to classify and manage patients, treat them early, and assign family doctors according to the actual situation. On the basis of integrated outpatient services for chronic diseases, monitoring and analyzing the complications and risk factors of chronic diseases can be provided to help patients better understand their illness situation. If necessary, family members can also be informed about the patient’s condition to avoid accidents. Second, the “medicine and food are of the same origin - chronic disease management team”

evaluates the personalized programs for patients' health life, Chinese medicine diet and exercise guidance suitable for their condition, reducing the burden of medical staff and improving patients' satisfaction with treatment;

- After diagnosis: There are three steps to take. Firstly, generate intelligent medical records for chronic disease patients and recruit a group of long-term volunteers in schools. Under the premise of protecting patient privacy, community family doctors will send patient files to members of the "Medicine and Food Same Source - Chronic Disease Management Group", so that group members can better understand the patient's condition. They will regularly call or visit every two weeks and provide psychological counseling services, pay attention to the patient's psychological changes, and promptly eliminate negative emotions once detected. The second is to ask patients every other week whether they are taking medication on time according to the health management plan, exercising and eating reasonably, and to inquire about the physical condition of patients with chronic diseases to determine the possibility of complications. For older individuals or those with communication difficulties, family members will be contacted for inquiries, with a focus on on-site follow-up. Thirdly, community medical personnel communicate with volunteers and patients every month to understand changes in their condition and develop medication plans. Medical staff, members of the Chronic Disease Management Group, and patients are interconnected, forming a virtuous cycle. On this basis, during the follow-up process, the concept of the same origin of medicine and food can be promoted and free moxibustion services can be provided to help prevent and treat complications of cardiovascular and cerebrovascular diseases. Community healthcare workers and volunteers work together to closely integrate the three stages of pre diagnosis, mid diagnosis, and post diagnosis for patients, achieving effective control of chronic diseases.

5. Conclusions

This pathway integrates the concept of homologous medicine and food into the "pre diagnosis, during diagnosis, and post diagnosis" of the new integrated outpatient department. By using medicine and food treatment, not only does it reduce the patient's medical expenses and alleviate the burden on their family, but it also helps to develop healthy eating habits while achieving a certain degree of psychological recovery. In addition, after implementing this pathway, patients have improved their understanding of their physical condition compared to before, and most patients have generally increased their awareness of chronic diseases and self-management.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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