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Analysis of the Health Management Effects of Family Doctor Contract Services on Elderly Patients with Chronic Diseases

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Abstract: *Purpose:* To analyze the actual role of family doctor contract services in the health management of elderly patients with chronic diseases. *Methods:* 46 elderly patients with chronic diseases admitted to our hospital from July 2024 to June 2025 were selected and divided into two groups of 23 patients each using the random number table method. The conventional group adopted conventional health management, while the contracted group added family doctor contracting services on the basis of conventional management. The management effects of the two groups were compared. *Results:* After the intervention, the blood pressure and blood sugar indicators of the contract group were better than those of the conventional group, the quality of life score was higher, and the incidence of complications was lower ($P<0.05$). *Conclusion:* Family doctor contract service can effectively improve the physiological indicators and quality of life of elderly patients with chronic diseases, reduce the risk of complications, and is suitable for promotion and application.

Keywords: Family doctor contract service; chronic diseases of the elderly; health management; physiological indicators; quality of life

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1. Introduction

Chronic diseases in the elderly, such as hypertension and diabetes, usually have a long course and are prone to recurrence. Elderly patients' physical functions gradually decline and their self-health management capabilities are relatively weak, which makes it more difficult to control their conditions. Complications may occur frequently, endangering health and affecting life. At present, the aging process of my country's population is accelerating, and the number of elderly patients with chronic diseases is increasing every year, which has put considerable pressure on the medical and health system. Conventional health management mostly requires patients to go to the hospital for regular review and receive guidance, but this method cannot solve the health problems that patients encounter in a timely manner. For example, when patients suddenly experience elevated blood pressure, blood sugar fluctuations, etc. at home, they often cannot get professional medical advice at the first time and can only deal with it on their own or wait for the next review, which can easily delay the condition [1-2]. Moreover, most elderly patients have limited mobility and need to be accompanied by their family

members when traveling to and from the hospital. This not only consumes time and energy, but may also increase the patient's physical burden, causing some patients to be reluctant to review on time, thus affecting the effectiveness of disease control. The family doctor contract service can provide patients with long-term and continuous health management support. It breaks the time and space limitations of traditional medical services, allowing elderly patients with chronic diseases to enjoy professional medical services at home without frequent trips to the hospital. In recent years, family doctor contract services have been promoted in many places in my country, but there are differences in service content and implementation effects in different regions and different medical institutions. Services in some areas still remain at the basic health consultation level, lacking personalized and all-round management measures, resulting in low patient recognition and participation in the services. Based on this, this study aims to compare the management effects of conventional health management and combined family doctor contract services to clarify the actual value of this service model in the health management of elderly chronic diseases, find out the directions that can be optimized in the current service implementation process, and provide some reference for clinical related work, so that family doctor contract services can better meet the health needs of elderly patients with chronic diseases.

2. Materials and methods

2.1. General information

46 elderly patients with chronic diseases admitted to our hospital from July 2024 to June 2025 were selected as cases and divided into two groups using the random number table method. There were 23 patients enrolled in the contract group, including 13 men and 10 men, aged 37 to 68 (45.38±4.06) years old. There were 23 patients enrolled in the regular group, including 12 men and 11 men, aged 38 to 69 (45.80±3.96) years old. The two groups were comparable ($P>0.05$). Inclusion criteria: (1) Age ≥ 60 years old; (2) Diagnosed chronic disease with duration ≥ 1 year; (3) Clear consciousness and able to cooperate with management. Exclusion criteria: (1) Combined with severe heart, liver and kidney diseases; (2) Patients with mental illness; (3) Unable to cooperate for a long time to complete the study.

2.2. Method

The conventional group adopts routine health management, including reminding patients to go to the hospital for review every three months, recording physiological indicators and giving simple guidance on medication and diet. At the same time, a chronic disease health management manual is issued for patients to read by themselves.

The contracting team adds family doctor contracting services on the basis of routine health management. The specific contents are as follows: (1) Establish an exclusive health file to record in detail the patient's disease history, medication usage, allergy history, and physiological indicators and physical conditions for each review, and update the file content monthly; (2) Regular door-to-door follow-up, with family doctors visiting once a month to measure blood pressure, blood sugar and other indicators for patients, check whether medication is standardized, and answer health questions raised by patients and their families; (3) Remote health guidance, providing daily health consultation services to patients through WeChat or phone Patients can contact their family doctor at any time if they have medication questions, physical discomfort, etc. The doctor will reply within 2 hours. In addition, chronic disease management knowledge will be pushed through WeChat once a week, including diet matching, exercise skills, etc.; (4) Personalized intervention plan, according to the patient's specific illness and physical condition, develop an exclusive diet, exercise and medication plan, such as a low-salt and low-fat diet plan for patients with hypertension, plan appropriate exercise time and intensity for diabetic patients, and adjust the plan every 3 months according to changes in the patient's condition.

2.3. Observation indicators

The physiological indicators (systolic blood pressure, diastolic blood pressure, fasting blood glucose), quality of life scores (total score assessed on the SF-36 scale, with a full score of 100 points, the higher the score, the better the quality of life)

and the incidence of complications (including stroke, diabetic nephropathy, coronary heart disease, etc.) of the two groups of patients before and after intervention were compared.

2.4. Statistical methods

SPSS24.0 was used to analyze the data, and the t test was used for measurement data; the χ^2 test was used for count data, and P<0.05 represented a significant difference.

3. Results

3.1. Comparison of physiological indicators between the two groups before and after intervention

There was no significant difference in physiological indicators between the two groups before the intervention ($P > 0.05$). After the intervention, the systolic blood pressure, diastolic blood pressure, and fasting blood glucose of the contracted group were lower than those of the conventional group ($P < 0.05$), see Table 1.

Table 1. Comparison of physiological indicators before and after intervention between the two groups ($\overline{x} \pm s$)

Group	Systolic blood pressure (mmHg) - before intervention	Systolic blood pressure (mmHg) - post-intervention	Diastolic blood pressure (mmHg) - before intervention	Diastolic blood pressure (mmHg) - after intervention	Fasting blood glucose (mmol/L) - before intervention	Fasting blood glucose (mmol/L) - after intervention
Regular group (23)	156.32±8.45	142.56±7.32	95.43±5.21	88.67±4.56	8.76±1.23	7.89±1.05
Signing Group (23)	155.89±8.21	130.23±6.89	94.98±5.12	80.34±4.12	8.65±1.18	6.54±0.98
t	0.175	5.882	0.295	6.501	0.310	4.508
P	0.862	0.000	0.769	0.000	0.758	0.000

3.2. Comparison of quality of life scores and complication rates between the two groups

The life quality score of the contract group was higher than that of the conventional group, and the incidence of complications was lower than that of the conventional group (P<0.05), see Table 2.

Table 2. Comparison of quality of life scores and complication rates between the two groups ($\overline{x} \pm s$ [n (%)])

Group	Quality of life score (points) - before intervention	Quality of life score (points) - after intervention	Complications
Regular group (23)	58.67±7.89	65.34±8.21	8(34.78)
Signing Group (23)	59.12±7.65	78.96±8.56	1(4.35)
Statistical value	0.196	5.507	4.973
P	0.845	0.000	0.026

4. Discussions

Elderly patients with chronic diseases have declining physical functions and insufficient self-management capabilities,

which makes them have a strong demand for long-term and continuous health management support. However, conventional health management is difficult to meet the needs of patients because it lacks timeliness and pertinence, so it is not ideal in controlling the disease and improving the quality of life. The results of this study show that the systolic blood pressure, diastolic blood pressure and fasting blood glucose indicators of the contracted group after the intervention are much better than those of the conventional group, which shows that the family doctor contracted service plays a better role in regulating the physiological indicators of elderly patients with chronic diseases. The reason for this effect is that family doctors have established exclusive health files for patients and can fully understand the changes in the patient's condition. Regular in-home follow-up visits and remote health guidance allow doctors to promptly discover and correct problems such as patients' irregular medication and unreasonable diet, so as to avoid fluctuations in the condition caused by these factors. At the same time, the personalized intervention plan fully considers the individual differences of patients, such as formulating appropriate diet and exercise plans based on the patient's age, severity of illness, etc., making it easier for patients to adhere to it, thereby effectively controlling physiological indicators such as blood pressure and blood sugar. For example, there was a 72-year-old patient with hypertension and diabetes in the signing group who had poor initial medication compliance and often missed taking antihypertensive medication. After the family doctor found out through door-to-door follow-up visits, he not only patiently explained the dangers of missing medication, but also adjusted the medication time to after breakfast based on the patient's living habits. At the same time, he set a daily medication reminder on WeChat. After three months of intervention, the patient's blood pressure and blood sugar were controlled within the ideal range.

In terms of quality of life, the SF-36 score of the contracted group after the intervention was significantly higher than that of the conventional group. This is because the family doctor contracted service provides patients with a full range of health support, allowing patients to receive timely professional help when they encounter health problems in daily life, and reducing the anxiety and worry caused by uncertainty about their condition. Moreover, doctors push health knowledge through WeChat, which improves patients' health management awareness and abilities. Patients can take better care of themselves, reduce physical discomfort, and naturally improve their quality of life. In addition, family doctors will also pay attention to the patient's mental state during home follow-up visits, provide appropriate psychological counseling, and help patients maintain a positive and optimistic attitude, which will also play a certain role in improving the quality of life. For example, some elderly patients are prone to loneliness, depression and other emotions due to long-term chronic diseases. During the follow-up process, family doctors will take the initiative to chat with patients to understand their psychological needs, encourage patients to participate in community elderly activities, and enrich their spiritual life. These measures make patients' mentality more positive and their happiness in life also increases.

From the perspective of the incidence of complications, only one patient in the contract group developed complications, while there were 8 patients in the conventional group. This data difference is obvious, indicating that family doctor contract services can effectively reduce the risk of complications in elderly patients with chronic diseases. Elderly patients with chronic diseases can easily develop complications such as stroke and diabetic nephropathy if their conditions are not well controlled. Family doctors can promptly detect signs of disease changes by regularly monitoring patients' physiological indicators. For example, when a patient's blood pressure and blood sugar fluctuate abnormally, doctors will promptly adjust the treatment plan to prevent further progression of the disease. At the same time, family doctors will also guide patients to prevent complications, such as reminding patients with high blood pressure to check their blood lipids regularly and instructing patients with diabetes to pay attention to foot care. These measures reduce the possibility of complications. The 8 patients in the conventional group who developed complications were mostly because they failed to detect changes in their condition in time and did not seek medical treatment until obvious symptoms appeared. At this time, the condition had developed to a certain extent, which not only made the treatment more difficult, but also caused greater harm to the patient's body [3-4].

Routine health management only relies on patients to go to the hospital for regular check-ups. Doctors are unable to keep abreast of the patient's condition changes and health status in daily life, and patients cannot get help immediately

when they encounter problems. This results in many potential health risks that cannot be discovered and dealt with in a timely manner, which in turn affects the effect of disease control and even increases the probability of complications. The family doctor contract service breaks this time and space limitation. Through door-to-door follow-up and remote guidance, health management is extended to the patient's daily life, enabling continuous monitoring and management of the patient's condition. This continuous and comprehensive health management model can not only better control the patient's condition, but also improve the patient's health literacy and self-management ability, allowing patients to transform from passively accepting treatment to actively participating in health management, which is very important for the long-term management of chronic diseases in the elderly. Another point worth noting is that during the implementation process, family doctor contracting services have strengthened communication and trust between doctors and patients. Elderly patients often have higher emotional needs for medical services. Family doctors have established a good doctor-patient relationship with patients through frequent contact. Patients are more willing to follow doctors' suggestions and actively cooperate with treatment and management, which also improves the effect of health management to a certain extent [5-6]. In contrast, in conventional health management, the contact time between doctors and patients is short, communication is limited, and it is difficult to establish a deep trusting relationship. Patient compliance is relatively low, thus affecting the management effect. In this study, the treatment compliance of patients in the contract group was significantly higher than that in the conventional group, which is closely related to the good interactive relationship between family doctors and patients. In addition, family doctor contract services can also reduce the care pressure for families of elderly patients with chronic diseases. Many elderly patients with chronic diseases require long-term care from their family members. Family members not only need to pay attention to the patient's daily diet and medication, but also are constantly worried about changes in the patient's condition and are in a state of long-term mental stress. The intervention of family doctors allows family members to have professional guidance and support during the care process. When they encounter difficult-to-solve health problems, they can seek help from family doctors in a timely manner without groping blindly. At the same time, regular home visits by family doctors can also allow family members to have a more comprehensive understanding of the patient's condition and reduce their psychological burden. For example, a family member of a patient said that before signing a contract with a family doctor, they spent a lot of time checking chronic disease care information every day, and often suffered from insomnia because of worries about the patient's condition. After signing the contract, the family doctor will regularly inform the patient of changes in the patient's condition and precautions, and can quickly answer questions when encountering them, significantly reducing the caregiving pressure [7-8].

From the perspective of medical resource allocation, family doctor contract services can also achieve reasonable utilization of medical resources. Most elderly patients with chronic diseases require long-term medical services. If all patients frequently go to large hospitals for treatment, it will lead to a shortage of medical resources in large hospitals, while the resources of primary medical institutions will not be fully utilized. The family doctor contract service puts the health management of most elderly patients with chronic diseases at the grassroots level, allowing patients to enjoy high-quality medical services in the community or at home. Only when serious conditions occur, they are transferred to large hospitals. This not only relieves the pressure on large hospitals, but also improves the utilization of medical resources in grassroots medical institutions and achieves the optimal allocation of medical resources [9-10].

Taken together, the family doctor contract service provides more comprehensive, timely and personalized health management services for elderly patients with chronic diseases, and has significant advantages in improving patients' physiological indicators, improving quality of life and reducing the incidence of complications. This health management model meets the health needs of elderly patients with chronic diseases and can effectively solve the deficiencies in conventional health management. It is worthy of further promotion and application in the health management of elderly chronic diseases. In future practice, the content of family doctor contract services can be further enriched based on the actual needs of patients, such as adding rehabilitation training guidance, traditional Chinese medicine conditioning and other services to make this service model more complete and bring more health benefits to elderly patients with chronic diseases.

About the author

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Disclosure statement

The author declares no conflict of interest.

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