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The Impact of Health Education Supported by Chronic Disease Health Management on Health Knowledge and Lifestyle among Elderly Patients with Chronic Diseases in the Community

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ABSTRACT

[Objective] *To analyze the impact of health education supported by chronic disease health management on the health knowledge and lifestyle of elderly patients with chronic diseases in the community.*

[Methods] A comparative analysis was conducted on 300 elderly patients with chronic diseases in the community from January 2022 to January 2023. Based on different intervention methods, patients were randomly numbered and divided into a control group and an observation group, with 150 cases in each. The control group received routine health education, while the observation group received health education supported by chronic disease health management. The mastery of health knowledge, execution of healthy lifestyle, and quality of life of both groups were evaluated before and after the intervention.

[Results] *Compared with pre-intervention, the mastery level of health knowledge in both groups significantly improved after the intervention ($P<0.05$); after the intervention, the observation group had a higher mastery level of health knowledge compared with the control group ($P<0.05$). Both groups showed significant improvements in spontaneous behavior, intra-community behavior, and extra-community behavior after the intervention ($P<0.05$); these improvements were greater in the observation group ($P<0.05$). Similarly, after intervention, both groups demonstrated enhanced psychological, physical, social, and material life functions ($P<0.05$), with the observation group showing more significant improvements than the control group ($P<0.05$).*

[Conclusion] *Health education supported by chronic disease health management can effectively improve the lifestyle, health knowledge mastery, and quality of life among elderly community patients with chronic diseases, and is worthy of broad implementation.*

KEY WORDS: Chronic disease health management; Health education; Community elderly chronic diseases; Health knowledge; Lifestyle

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Introduction

Chronic diseases refer to non-infectious and long-term illnesses characterized by slow progression and difficulty in complete cure. In addition to drug therapy, the management of these diseases requires modification of unhealthy lifestyle habits and diet, as well as regular exercise, to maintain effective control [1]. In recent years, the number of patients with chronic diseases in China has been increasing continuously, making chronic disease management a key focus of medical research. This management model considers the physiological, psychological, and social changes of patients, as well as lifestyle adjustments.

With the continuous advancement of modern medicine in China, chronic disease management strategies have undergone significant transformation. Although hospitals serve as the main venues for the treatment of chronic diseases, most patients live within community settings, where they inevitably interact with environmental and behavioral factors [2]. Therefore, it is essential for individuals with chronic diseases to develop a sense of personal responsibility for their health and cultivate good behavioral norms, as prevention yields better results than treatment.

Health education is a fundamental aspect of chronic disease management, encompassing all areas of daily life, learning, and the social environment. Chronic disease health education focuses on "promoting health" as its primary goal and strategy. Through standardized health education, rehabilitation guidance, and follow-up management, it is possible to stabilize conditions, reduce complications, and delay disease progression [3]. Traditional chronic disease management relies primarily on verbal education and pamphlets, lacking specificity, individualization, and continuity, leading to poor intervention outcomes.

To further enrich the chronic disease management model, this study included elderly patients with chronic diseases in the community and implemented health education supported by chronic disease health management. The outcomes proved to be significant, as detailed below.

1. Materials and Methods

1.1 Clinical Data

This study employed a comparative analysis involving 300 elderly patients with chronic diseases in the community from January 2022 to January 2023.

Inclusion criteria:

1) Diagnosed with "chronic disease" through systematic examination, with complete treatment and follow-up records; age over 60; residents who have lived in the community for more than six months.
2) Stable vital signs, clear consciousness, no acute complications, and willingness to participate in the study.
3) All patients signed informed consent forms after being informed of the study details.
4) The research protocol was reviewed and approved by the hospital ethics committee.

Exclusion criteria:

1) Presence of acute complications, organic lesions, or malignant tumors, with an estimated survival time of less than one year.
2) Underwent major surgery or trauma within the past six months, complete loss of self-care ability, or in a coma or shock state.
3) Mental instability, congenital deafness/muteness, neurological disorders, or inability to communicate normally.
4) History of drug dependence or alcoholism.

Based on different intervention methods, the patients were randomly numbered and divided into a control group and an observation group, with 150 cases in each.

- **Control group (routine health education):** 89 males and 61 females; age range 62–83 years, mean (71.65±6.24) years; weight range 42–69 kg, mean (55.07±5.89) kg.
- **Observation group (health education supported by chronic disease management):** 85 males and 65 females; age range 61–85 years, mean (72.42±6.81) years; weight range 41–70 kg, mean (54.37±5.54) kg.

Baseline data between the two groups showed no statistical difference ($P > 0.05$), indicating comparability.

1.2 Intervention Methods

1.2.1 Control Group — Routine Health Education

1) Oral education was provided to community patients about chronic disease precautions and prevention, including weight control, balanced diet, regular exercise, smoking cessation, and alcohol restriction.
2) Health education manuals were distributed for convenient reference.
3) Collaboration with community clinics was strengthened to provide free blood pressure and blood glucose testing, and patients were encouraged to undergo regular check-ups.

1.2.2 Observation Group — Health Education Supported by Chronic Disease Health Management

A chronic disease health management team was established to oversee all management activities:

1) Establishment of electronic health records: Each participant underwent a physical examination, and personal data were recorded, including age, gender, disease type, medication (type, dosage, and duration), etc. Patients were instructed to attend monthly follow-up visits to update their information. Health assessments and risk evaluations were performed to identify and correct high-risk factors.
2) Targeted health education: Customized chronic disease manuals were developed for different disease types using simple language and illustrations to explain disease definition, pathogenesis, social impact, treatment, and prognosis. For patients with low literacy, one-on-one instruction and scenario simulations were provided. High-risk individuals received personalized lifestyle guidance.Family members were trained monthly to learn key care points, daily precautions, medication usage, and potential adverse reactions to assist patients with daily self-care. Questionnaires were used to investigate dietary habits, health behaviors, disease perception, and medication adherence. Multidisciplinary consultations were conducted to develop "Daily Diet Plans," "Medication Schedules," and "Exercise Checklists," which patients were required to follow.

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3) Continuous communication and psychological support: Dedicated nursing staff maintained regular contact via WeChat, QQ, or phone to address medication issues, lifestyle adjustments, and mental health. Patient groups were established for mutual support and medication reminders. Educational short videos on self-management were disseminated through social media to enhance awareness.
4) Community–hospital linkage: Regular community health checkups and free clinics were organized monthly, along with small health seminars to answer patient queries. Primary medical institutions conducted weekly free blood pressure and glucose tests to strengthen continuity of care.

1.3 Observation Indicators

Evaluation before and after the intervention focused on three aspects: health knowledge mastery, implementation of healthy lifestyle behaviors, and quality of life.

1.3.1Health Knowledge Mastery

A self-designed "Health Knowledge Mastery Questionnaire" was administered by professionals, covering four dimensions: disease knowledge, medication knowledge, behavioral knowledge, and self-management knowledge, each scored out of 100 points. Higher scores indicated better mastery.

1.3.2Execution of Healthy Lifestyle

The Chinese version of the "Value Co-creation Behavior Scale for Community Chronic Disease Patients" by Sweeney and Liu Jing was used. It includes spontaneous behavior, intra-community behavior, and extra-community behavior (12 items total), rated on a 5-point Likert scale (1–4 points). Higher scores indicated better execution of healthy behaviors.

1.3.3Quality of Life

The General Quality of Life Inventory-74 (GQOL-74) was used to evaluate psychological, physical, social, and material life functions, converted to a 100-point scale. Higher scores indicated better quality of life.

1.4 Statistical Methods

SPSS 20.0 software was used for analysis. Measurement data were analyzed using the t-test; categorical data were analyzed using the chi-square test. $P<0.05$ indicated statistical significance.

2. Results

2.1 Health Knowledge Mastery

Before the intervention, there was no significant difference between the two groups ($P>0.05$). After intervention, both groups showed improvement ($P<0.05$), with the observation group scoring significantly higher than the control group ($P<0.05$).

(Table 1: Comparison of Health Knowledge Mastery between the Two Groups).

Group	n	Time Point	Disease-related Knowledge	Medication-related Knowledge	Behavior-related Knowledge	Self-management Knowledge
Control Group	150	Before intervention	78.25±5.23	80.05±6.21	81.24±4.89	83.11±5.25
		After intervention	89.52±6.92*	88.74±6.93*	87.63±5.54*	88.46±5.71*
Observation Group	150	Before intervention	78.50±5.79	80.42±6.14	82.05±5.06	82.64±5.67
		After intervention	94.80±5.38*#	94.02±5.61*#	92.27±5.81*#	93.30±6.03*#

Note: Compared with before intervention, P < 0.05; compared with the control group, #P < 0.05.

2.2 Execution of Healthy Lifestyle

Before intervention, there was no statistical difference between groups ($P>0.05$). After intervention, both groups demonstrated improvement in spontaneous behavior, intra-community behavior, and extra-community behavior ($P<0.05$), with higher scores in the observation group ($P<0.05$).

(Table 2: Comparison of Healthy Lifestyle Execution between the Two Groups)

Group	n	Time Point	Spontaneous Behavior	In-community Behavior	Out-of-community Behavior
Control Group	150	Before intervention	4.10±0.76	9.12±2.12	13.67±3.16
		After intervention	5.67±1.05*	12.27±2.33*	18.76±3.34*
Observation Group	150	Before intervention	4.03±0.81	9.01±2.26	13.95±3.38
		After intervention	6.79±1.13*#	14.76±2.42*#	21.01±3.63*#

Note: Compared with before intervention, P < 0.05; compared with the control group, #P < 0.05.

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2.3 Quality of Life

Before intervention, there was no statistical difference between the two groups ($P>0.05$). After intervention, both groups showed improvements in psychological, physical, social, and material life functions ($P<0.05$), with the observation group performing significantly better ($P<0.05$).

(Table 3: Comparison of Quality of Life between the Two Groups)

Group	n	Time Point	Psychological Function	Physical Function	Social Function	Material Living Condition
Control Group	150	Before intervention	64.21±8.21	65.82±7.65	69.20±6.23	72.14±6.58
		After intervention	76.82±9.06*	78.15±8.21*	79.52±8.02*	80.06±8.25*
Observation Group	150	Before intervention	65.12±8.12	66.23±7.91	70.34±6.12	73.01±7.13
		After intervention	87.19±10.27*#	88.02±8.97*#	86.65±9.38*#	90.15±8.91*#

Note: Compared with before intervention, P < 0.05; compared with the control group, #P < 0.05.

3. Discussion

At present, the incidence of chronic diseases in China is extremely severe. Without effective control, chronic diseases may progress and lead to serious complications such as coronary heart disease and cerebrovascular disease, severely affecting health. Reports indicate that chronic diseases account for an increasing proportion of total mortality in China [4], with cardiovascular and cerebrovascular diseases being the most common. Hypertension and diabetes have been confirmed as major risk factors for these conditions, marking chronic diseases as a leading health threat in the 21st century.

Chronic diseases are characterized by long duration, high prevalence, frequent complications, and heavy socioeconomic burden. They often require long-term, stable control [5]. The ultimate goal of chronic disease management is not cure but maintaining physical and psychological health through various interventions, allowing patients to live independently. However, the current state of chronic disease control in China is not ideal; surveys show that the awareness rate of hypertension is below 50%, and the control rate is only about 70% [6]. Studies have shown that community-based health education for elderly patients with chronic diseases can significantly improve their quality of life [7].

Traditionally, health education has been limited to hospital-level interventions without extending deeply into communities or individualized management. In recent years, health authorities have prioritized chronic disease management in community healthcare. Establishing effective community protection mechanisms and promoting health awareness and healthy lifestyles among elderly patients have become the focus of management [8].

Medical research indicates that chronic diseases are closely related to genetic, occupational, environmental, and lifestyle factors. The World Health Organization (WHO) also emphasizes that unhealthy habits such as overeating, inactivity, smoking, drinking, and sleep deprivation are major causes of chronic disease [9]. External interventions are therefore needed to improve patient awareness and behavioral habits.

Most chronic disease patients are elderly and generally have lower cognitive levels than younger populations, with limited access to accurate health information, making them vulnerable to misinformation [10]. Research by Lu Fang et al. [11] found that among elderly community patients, awareness of chronic disease risk factors was only 16.04%, and knowledge awareness was 58.13%, indicating a serious deficiency in health education.

This study emphasizes self-management in chronic disease health education, providing personalized and refined interventions tailored to individual differences. By analyzing patients' physical, psychological, and behavioral characteristics, targeted health promotion strategies can be implemented to achieve effective prevention and control of chronic diseases [12]. The results of this study showed that after intervention, the observation group had significantly higher mastery of health knowledge than the control group, confirming the positive impact of health education supported by chronic disease management.

Health knowledge directly affects patients' ability to implement healthy behaviors. The higher the understanding of the disease, the stronger the self-management ability, which leads to better health behaviors [13]. Communities are the main living environments for elderly patients, but due to limited resources and workload, they often cannot undertake chronic disease management independently. The lack of cooperation between hospitals and communities hinders data sharing and coordinated care [14].

The health education model in this study extended beyond simple information dissemination to include multiple channels of communication and interaction, ensuring continuity and reinforcing educational impact [15]. The findings showed that spontaneous behavior, intra-community behavior, and extra-community behavior, as well as quality of life, were significantly higher in the observation group, confirming that chronic disease health management-supported education effectively improves lifestyle and quality of life.

In summary, health education supported by chronic disease health management can effectively improve the lifestyle, health knowledge mastery, and quality of life of elderly patients with chronic diseases in the community. It is a valuable and promotable intervention. However, due to the limited time and sample size of this study, further research is needed to confirm these conclusions.

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