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Article

The Value of Introducing Health Education Measures in Community Nursing Activities for Elderly Hypertension

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Abstract: Objective: This study aims to evaluate the effectiveness of implementing health education strategies within the local community for elderly patients with hypertension. Methods: A total of 60 elderly patients with hypertension were selected from community health records between January 2023 and July 2024. Participants were randomly assigned to either a control group or an observation group using a random number table. The control group received standard care, while the observation group received additional health education interventions. The effectiveness of these interventions was assessed and compared. Results: The results indicated that the quality of life scores in the observation group were significantly higher than those in the control group. Additionally, blood pressure control in the control group was less effective compared to the observation group. Furthermore, the compliance rate was significantly higher in the observation group than in the control group ($p < 0.05$), demonstrating a statistically significant difference. Conclusion: Implementing health education strategies in community nursing can significantly enhance the quality of life for elderly patients with hypertension. These strategies should be actively promoted in clinical practice.

Keywords: elderly hypertension; community nursing activities; health education measures; value

1. Introduction

Hypertension in the elderly is a prevalent risk factor for cardiovascular diseases in modern clinical practice. The increasing aging population, along with age-related physiological decline, has contributed to the widespread occurrence of high blood pressure [1]. This condition not only threatens the health of older adults but also significantly impacts their overall quality of life.

A key challenge is that elderly patients often lack accessible knowledge about their condition and may struggle with self-management [2]. As a result, they face a higher risk of developing complications, which negatively affects their prognosis. Moreover, adherence to prescribed treatments is often inadequate due to factors such as memory decline and insufficient supervision within the community. Many elderly patients fail to take their medication as directed and may not fully recognize the serious consequences of neglecting prescribed treatments. This can lead to severe blood pressure fluctuations, further exacerbating vascular damage.

Given these challenges, integrating health education into community-based hypertension management is essential. Providing patients with clear and accessible information can empower them to monitor their condition more effectively and improve their blood pressure control [3]. Against this backdrop, this study selected 60 elderly patients with hypertension from community health records (January 2023 – July 2024) as research participants [4]. The study systematically analyzed the impact of health education as a tool in community nursing, and the findings are presented in the following sections.

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2. Data and Methods

2.1. Clinical Data

This study involved 60 elderly patients with hypertension who were selected from the community registry. The patients were enrolled between January 2023 and July 2024. They were randomly assigned to either a control group or an observation group using a random number table. Each group consisted of 30 patients.

The control group comprised 18 males and 12 females, aged between 61 and 82 years, with a mean age of (71.48 ± 2.36) years. The duration of hypertension ranged from 1 to 10 years, with a mean duration of (5.47 ± 0.39) years. The observation group included 16 males and 14 females, aged between 61 and 84 years, with a mean age of (72.43 ± 2.38) years. The duration of hypertension varied from 1 to 12 years, with an average duration of (6.42 ± 0.43) years.

All patients and their families were informed about the study's purpose, and written informed consent was obtained. There were no statistically significant differences in baseline characteristics between the two groups ($p > 0.05$), indicating comparability [5].

Inclusion Criteria

Participants were included in the study if they met the following criteria:

1) Diagnosed with hypertension according to the "Chinese Hypertension Prevention and Treatment Guidelines (2010 Revised Edition)";
2) Aged 65 years or older;
3) Diagnosed with hypertension for at least three years;
4) Demonstrated a medication adherence score of at least 8 on a standardized compliance scale;
5) Had comorbid cardiac, hepatic, or renal conditions, with patients exhibiting more severe conditions assigned to the case group and those with less severe conditions assigned to the control group.

Exclusion Criteria

Patients were excluded from the study if they met any of the following conditions:

1) Diagnosed with secondary hypertension;
2) Had a history of malignancies or cognitive impairments;
3) Were receiving concurrent antihypertensive treatments not included in the study protocol;
4) Had significant cognitive deficits or an inability to communicate effectively regarding medical and health-related concerns.

2.2. Methods

The control group received standard community care, which included verbal instructions on essential precautions for hypertension management. Patients were advised to return to the community healthcare facility for follow-up examinations and were strongly encouraged to adhere to their prescribed medication regimen without making any unauthorized modifications.

In addition to standard care, the observation group received comprehensive health education interventions [6], which included the following components:

(1) Comprehensive Health Education

Educational sessions on hypertension management were conducted at community healthcare facilities. Informational pamphlets were distributed, and patients were encouraged to engage with healthcare professionals through WeChat public accounts and social media groups, facilitating continuous communication and support. Awareness campaigns were organized to educate patients on common causes of hypertension, treatment options, and key considerations when taking antihypertensive medications. Furthermore, monthly community meetings were established to foster peer support and encourage experience-sharing among patients.

(2) Personalized Health Counseling

Health education was tailored to individual patient characteristics, including personality traits, disease severity, and awareness levels. Personalized health records were created to track disease progression and health status. Community health workers provided one-on-one counseling through home visits, phone calls, and other communication channels, addressing misconceptions and ensuring patients had a clear understanding of their condition and treatment.

(3) Psychological Counseling

Patients were encouraged to openly express their concerns and emotional distress [7]. Psychological interventions were customized to alleviate anxiety and enhance patient confidence, thereby improving treatment adherence and cooperation.

(4) Dietary Counseling

A balanced diet plays a crucial role in blood pressure control. Healthcare workers developed individualized dietary plans based on patients' health conditions, emphasizing reducing sodium and fat intake, maintaining adequate protein consumption, and increasing the intake of fresh fruits and vegetables. Patients were also advised to quit smoking and reduce alcohol consumption. Additionally, success stories from hospital case studies were shared to enhance patient motivation and awareness of hypertension prevention and management [8].

(5) Exercise Guidance for Hypertension Management

Many hypertensive patients either engage in excessive physical activity or fail to exercise adequately, both of which can negatively impact blood pressure control. Patients received personalized exercise recommendations based on their blood pressure status. Regular monitoring by healthcare professionals ensured that adjustments could be made to their exercise routine as needed. Periodic medical check-ups were encouraged to assess treatment efficacy and modify interventions accordingly. Patients were also advised to engage in group physical activities to enhance social support, and family members were encouraged to provide emotional support to improve patient well-being [9].

Significant lifestyle changes may lead to fluctuations in blood pressure, potentially increasing the risk of cerebral arteriosclerosis and stroke. Patients were advised to avoid late-night activities, take short 15-minute rest periods during the day, and establish healthy sleep routines. Additionally, elderly patients were encouraged to use wearable blood pressure monitors during physical activity to track real-time fluctuations. If a sudden drop in blood pressure occurred, patients were advised to immediately stop exercising to prevent potential vascular complications.

(6) Blood Pressure Monitoring Education

To ensure real-time blood pressure tracking, patients were instructed to measure their blood pressure twice daily — once in the morning and once in the evening at the community health center. They were also encouraged to self-monitor at home and maintain accurate records. Portable 24-hour blood pressure monitoring devices were recommended to track fluctuations over time, providing valuable data for adjusting hypertension management strategies [10].

2.3. Observational Indicators

1) With time, both groups of patients were assessed before and after treatment for their systolic and diastolic blood pressure.
2) Through the Morisky Medication Adherence Scale (MMAS-8), medication adherence was examined by giving a maximum of 8 points. To sum it up, the higher the score, the better the adherence to the prescribed medication regimen.
3) The 36-Item Short Form Health Survey (SF-36) was employed to test the quality of life of patients. The maximum score is 100 points and the higher score indicates a better quality of life.

2.4. Statistical Methods

SPSS 21.0 software was used to process and analyze the data. The measurement data were presented as (x ± s) and analyzed using t-tests. The categorical data were presented as percentages (%) and analyzed using chi-square (χ^2) tests. A p value of <0.05 stood for statistical significance [11].

3. Results

3.1. Comparison of Diastolic and Systolic Blood Pressure Levels Between the Two Groups

The comparison between the two groups with regards to diastolic and systolic blood pressures shows that the observation group had superior participation than the control group with statistically significant differences ($p < 0.05$). The exact results are outlined in Table 1 [12].

Table 1. Comparison of Diastolic and Systolic Blood Pressure Levels Between the Two Groups (x ± s).

Group	Number of Cases	Systolic Blood Pressure		Diastolic Blood Pressure	
		Before Care	After Care	Before Care	After Care
Observation Group	30	164.13 ± 2.31	134.41 ± 2.43	98.12 ± 2.14	84.35 ± 1.32
Control Group	30	164.23 ± 2.42	145.32 ± 2.35	98.32 ± 2.19	92.23 ± 1.23
t		0.1637	17.6771	0.3578	23.9217
p		0.8705	0.0000	0.7218	0.0000

3.2. Comparison of Quality of Life Scores Between the Two Groups

According to quality of life scores, the observation group was better than the control group ($p < 0.05$), with statistically significant differences. The details are presented in Table 2 [13].

Table 2. Comparison of Quality of Life Scores Between the Two Groups (x ± s).

Group	Number of Cases	Physical Health		Mental Health		Material Life		Social Function	
		Before Care	After Care	Before Care	After Care	Before Care	After Care	Before Care	After Care
Control Group	30	74.32 ± 7.21	80.75 ± 7.91	73.24 ± 7.81	70.38 ± 6.91	73.35 ± 8.21	79.43 ± 8.34	69.35 ± 7.13	75.34 ± 7.43
Observation Group	30	74.65 ± 7.54	89.43 ± 8.02	73.41 ± 8.12	84.53 ± 7.32	72.95 ± 7.98	88.14 ± 9.37	69.45 ± 7.61	85.43 ± 8.04
t		0.1733	4.2206	0.0826	7.6992	0.1914	3.8031	0.0525	5.0482
p		0.8631	0.0001	0.9344	0.0000	0.8489	0.0003	0.9583	0.0000

3.3. Comparison of Medication Adherence Before and After Intervention Between the Two Groups

The comparison of medication adherence before and after intervention between the two groups showed that the observation group had better adherence than the control group ($p < 0.05$), with statistically significant differences. The specific results are shown in Table 3 [14].

Table 3. Comparison of Medication Adherence Before and After Intervention Between the Two Groups (x ± s).

Group.	Number of Cases	Pre-Intervention	Post-Intervention
Observation Group	30	5.43 ± 1.43	7.12 ± 0.43
Control Group	30	5.54 ± 1.52	6.53 ± 0.32
t		0.2887	6.0290
p		0.7738	0.0000

4. Discussion

Hypertension is a chronic health issue usually seen in the elderly. It is characterized by significant fluctuations in blood pressure that can easily cause harm to various essential organs, thus posing a severe threat to the health and quality of life of the patients. It is proven from the study that treatment adherence, in addition to other measures, is the key to the prevention of hypertension in elderly hypertensive patients. Furthermore, services provided to the elderly including them in health management were seen to have satisfactory results among patients [15].

Enhancing elderly health education is necessary, as it would make them more informed about hypertension prevention and treatment. Moreover, the elderly patients have the option of getting personalized health consultations which can make them happy to alter their lifestyles and habits. Additionally, improving patient-provider communication plays an important role in the medication adherence of elderly hypertensive patients [16].

Even though old age and hypertension are two conditions that are closely connected to one another, the elderly who suffer from them might have a certain degree of cognitive impairment or no impairment at all. A common problem which old hypertensive patients face is insufficient knowledge about their illness. For this reason, health counseling should be interesting and use simple, but clear language. Educational cartoons and teaching tools, such as charts, videos, and charts with intuitive teaching methods, are the best way for the patients to comprehend and accept the treatment. The most important thing for health professionals is monitoring the emotions of the patient and offering counseling [17].

A comprehensive follow-up is one of the most important ways to evaluate the recovery of patients post discharge. The regular visits during follow-up can enable the medical practitioners to follow-up the blood pressure of the patients and also diagnosis of their self-care and home condition management. In the last line of the input text, a deeper and deeper understanding the authors get about assisting the old patients were the monitorship of the suggested treatment. By laying the foundation of this synergistic partnership, we will be able to extend the scope of our service delivery beyond the traditional care delivery model and consequently implement the value-added and architectured service to the citizens of China health and wellness. Additionally, we will establish their capability to manage themselves along with our approach being flawless will give rise to more productive medical treatment for the elderly hypertensive patients in China as well as will develop their self-management skills and lead them to some gratifying living quality [18].

Among the elderly whose comprehension level regarding hypertension is above 80%, it will reveal their understanding of health and thus help them control their health and avoid unnecessary anxiety. This also exhibits the success of community actions in promoting the health consciousness among the people. The overall health condition of a person is dependent on the regular habits, therefore it is very important to check the influence of these regular habits on everyday life. By the data comparison between their daily life practices, it is possible to detect changes in the eating, exercise, and rest behaviors of both the groups of senior citizens. If a majority of the seniors are now more concerned with eating a balanced diet, including the uptake of light exercise in their daily routine, and regulizing

physical activity, while at the same time ensuring fixable daily schedules which are completed by enough hours of sleep, that will show that community interventions have a big hand in the improvement of the lives of residents [19].

Adjusting the daily life patterns is important for the elderly to improve their quality of life. In the future, heathy lifestyle habits in patients will be in the first place and together with that the prevention of other diseases and complications will be the main aims. The emotional status can be a great contributor to the blood pressure control and thus its recognition seems to be very important relative to the issue. In addition, the psychological health education intervention has been proved to be beneficial in controlling elderly patients' mood swings, anxiety, and depression levels. Most of the elderly patients showed better psychological status with the more stable emotions and lower anxiety and depression during the evaluation. Elderly patients will be able to better control their blood pressure and therefore, not only can they increase satisfaction and happiness in life, but they will also experience life much more satisfied and happy with improved mental health. A personalized health education-oriented approach developed for the elderly has successfully delivered favorable results by properly controlling blood pressure, improving medication adherence, and enhancing patients' overall quality of life [20].

Hypertension is a serious chronic disease in the elderly that threatens health, and the exact pathogenesis has not yet been fully determined. These patients often face complications from other systems and the decline in multi-organ functions makes the condition really complex and leads to the urgency of health management optimization. Nevertheless, in the present elderly community, there is insufficient knowledge among the residents about hypertension prevention and control, and low treatment adherence, which significantly reduces the actual effectiveness of prevention and control measures. In this framework, adoption of lifestyle adjustments tailored to the stage of the disease and medical guidance directs patients to build new habits and gain confidence in treatment. Our preliminary research results show that the systolic and diastolic blood pressure of the observation group were significantly lower than those of the control group, and the degree of reduction was also notably greater. This implies that personalized interventions based on the standard treatment can effectively control blood pressure. Medication adherence is a major factor that affects the success of prevention and treatment. Due to the lack of quality information on how to care for oral health, the majority of elderly people fail to take proper care of their teeth leading to gum diseases and tooth decay. Greater focus on health education and supervision in medication can help patients be more observant in their treatment course. Besides, it has been stated in other studies that providing better health education and guidance on medications will be effective in complying with the treatment. It is important to note that the study has also highlighted that enhancing patients' understanding of hypertension prevention and control knowledge not only reduces their adherence to the treatment but also improves their overall health, which is the same as in this study.

Some studies have proven that people with high blood pressure generally have a worse quality of life than their healthy counterparts, originally due to the damage that the symptoms of disease and complications may cause. The SF-36 scale, in its turn, was a method in this project to check the elderly citizens' living conditions, and it was observed that aged individuals gained improvement in various factors after the exercise. This finding implies that individual health training has a positive influence on the physical, mental, emotional, and general state of being among elderly people. No doubt, lifestyle improvement is one of the essential prerequisites to regulating blood pressure. Another aspect is to lessen the mental pressure on patients and form an atmosphere that promots their life quality and the sociability they have.

The implementation of thorough health education to the patients yields a lot of benefits for the prevention and management of hypertension can improve health and life-threatening complications. Cardiovascular diseases are the most common disease that the life and health of patients can be seriously threatened by. Studies have shown that within

the framework of tertiary prevention of hypertension, the incidence of complications in patients treated with the prevention method was significantly lower (only 4.35%) as compared to the control group. Moreover, it has been discovered through other research that several aspects of health education activities in populations can be effectively involved in the mitigation of the risk of cardiovascular events in patients with coronary heart disease, which is in line with the outcomes of this study.

Older patients suffering from high blood pressure often fail to get to know their health status, and this is why multiple methods of intervention are required. For example, visual aids like images and videos can be of great help to the patients, allowing them to see the illness and how it can be cured.

In short, the adoption of knowledge about health among elderly people contributes to managing blood pressure effectively and boosting treatment adherence, thus furthering the level of living. Nonetheless, it is worth noting that this research lacks sufficient sample size and a short follow-up period. Thus, the long-term efficacy of the treatment still needs to be deeply investigated through additional research. Therefore, the forthcoming trials should be wide-ranging to be able to verify the long-term benefits of isolated and various health education programs. Hence, they will provide an underpinning theory for effective elder hypertension patient interventions in community settings.

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