Journal of Clinical and Nursing Research, 2025, Volume 9, Issue 8
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Exploring the Application Effect of Comprehensive Geriatric Assessment Tool-Oriented Chronic Disease Trajectory Nursing in Community Elderly Hypertension

Xiaocui Wang, Qiuchen Wang, Wenwen Zhao, Lu Chen, Xiaosu Ni*

Department of Cardiovascular Medicine, The Affiliated Taizhou People's Hospital of Nanjing Medical University, Taizhou 225300, Jiangsu, China

**Author to whom correspondence should be addressed.*

Abstract: *Objective*: To study the application effect of comprehensive geriatric assessment tool-oriented chronic disease trajectory nursing in community elderly hypertension. *Methods*: Sixty nine elderly hypertensive patients admitted to the hospital from April 2022 to April 2024 were randomly assigned to the intervention group (n=35) and the control group (n=34). The control group received routine community hypertension health management, while the intervention group underwent comprehensive geriatric assessment for comprehensive screening of elderly health issues based on routine management, and implemented targeted nursing interventions based on the characteristics of the chronic disease trajectory. After three months of intervention, the blood pressure, medication compliance, self-efficacy, and quality of life of the two groups were evaluated and analyzed. *Results*: After the intervention, the intervention group showed significant improvement in blood pressure control, medication compliance, self-management efficacy scores, and quality of life scores compared to the control group ($P < 0.05$). *Conclusion*: Combining comprehensive geriatric assessment with the concept of chronic disease trajectory nursing in the management of community elderly hypertension can effectively optimize the effect of chronic disease management, which has important practical value.

Keywords: Hypertension; Elderly patients; Comprehensive geriatric assessment tools; Chronic disease trajectory nursing; Application effects

Online publication: September 4, 2025

1. Introduction

Research shows that the prevalence of hypertension among people aged 60 and over in China is 40.6%, and the risk increases with age [1]. Blood pressure control is difficult for elderly patients with hypertension, and they often

suffer from multiple comorbidities, affecting their quality of life and imposing a burden on families and society [2]. The course of hypertension is long and complex, with varying characteristics and needs at different stages. Traditional nursing lacks systematicness and targeted approaches, making it difficult to meet personalized needs throughout the entire process. However, the chronic illness trajectory theory provides new ideas for nursing. It suggests that chronic diseases develop dynamically, allowing for the development of adapted nursing plans at different stages to effectively manage the disease trajectory, control the condition, and improve quality of life [3]. Comprehensive Geriatric Assessment (CGA) is a multidimensional, interdisciplinary assessment method that accurately identifies health problems and potential risks in older adults through comprehensive and systematic evaluation, providing a scientific basis for developing personalized nursing plans [4]. Combining it with chronic illness trajectory nursing is expected to provide precise and effective services for elderly hypertensive patients in the community. However, there is currently limited research on the application effects of this approach. Therefore, this study explores the application effects of this model, aiming to provide references for optimizing nursing strategies for elderly hypertensive patients in the community.

2. Materials and methods

2.1. General information

A total of 69 elderly hypertensive patients who visited our hospital from April 2022 to April 2024 were included in the study. They were randomly assigned to an intervention group (n=35) and a control group (n=34). The general information of the two groups is shown in **Table 1**.

Table 1. Comparison of general information [(`x±s), n (%)]

Item		Intervention group (n=35)	Control group (n=34)	t/χ^2	*P*
Age (years)		75.86 ± 3.45	75.66 ± 4.35	0.212	0.833
Gender	Male	24	26	0.539	0.463
	Female	11	8	-	-
Mean disease course (years)		7.36 ± 1.26	7.51 ± 1.20	0.506	0.614

2.2. Inclusion and exclusion criteria

2.2.1. Inclusion criteria

(1) Meet the diagnostic criteria for hypertension [5].

(2) Age over 60 years old.

(3) Signed informed consent.

2.2.2. Exclusion criteria

(1) History of mental illness or dementia.

(2) Unable to cooperate with this study.

(3) Long-term bedridden and unable to move.

2.3. Methods

The control group received routine community hypertension health management. Regular blood pressure

measurements were arranged, and patients were reminded to seek medical attention and record results once abnormalities were detected during the measurement process. Patients were guided to maintain regular sleep schedules, receive psychological counseling, and adhere to a controlled diet that promotes low salt, low fat, and low sugar intake. Patients were encouraged to exercise regularly, and nursing plans were adjusted through regular visits while closely monitoring drug allergies and side effects.

The intervention group, on the other hand, integrated comprehensive geriatric assessment tools to conduct a comprehensive screening of elderly health issues based on routine management and implemented targeted nursing interventions according to the characteristics of chronic disease trajectories.

2.3.1. Comprehensive Geriatric Assessment (CGA)

(1) Establish a professional healthcare team consisting of internists, charge nurses, nutritionists, responsible nurses, and department nursing directors. The nursing director serves as the team leader, and the department physician serves as the assistant team leader. Team members undergo training and assessment before taking up their positions.

(2) Comprehensive assessment: Within 1–2 days of patient admission, team members establish a personal CGA file for the patient according to the CCA manual. Besides conducting medical examinations such as blood pressure, they need to record medications and disease progression. Additionally, they comprehensively evaluate the patient for multiple diseases, polypharmacy, fall risk, depressive symptoms, cognitive function, nutritional status, and audiovisual impairments.

2.3.2. Implement targeted nursing care based on the characteristics of chronic disease trajectories

(1) Initial stage of the disease: Comprehensively evaluate the patient's medication use, correct irrational drug use, and develop a scientific medication schedule based on the patient's medication status to improve compliance. Arrange multidisciplinary consultations for patients with cognitive impairments and develop targeted treatment plans. Actively communicate with patients who have negative emotions, provide psychological counseling, and share cases for inspiration. Strengthen daily care for patients with physical activity impairments, provide health education to their families, and offer assistive tools. Provide scientific dietary guidance to elderly patients with malnutrition, advising them to reduce intake of high-fat and high-sugar foods and appropriately increase intake of high-quality protein foods to improve their nutritional status.

(2) Stable phase of disease

(a) Cognitive intervention: First, confirm the patient's cognition, feelings, and willingness to accept hypertension. Then use charts, questions, videos, and other forms to help them remember knowledge, pay attention to their understanding, and flexibly adjust the content and duration of education based on the patient's cultural background and psychological state to ensure effectiveness.

(b) Diet and exercise intervention: In the initial stage, develop a scientific diet plan based on the CGA scale assessment and the patient's dietary preferences; understand the patient's exercise contraindications and underlying diseases, plan exercise programs, duration, and frequency, and recommend low-intensity exercises such as Tai Chi and jogging, 30–60 minutes per day, weekly, with regular guidance and supervision to help them develop exercise habits.

(3) Recovery phase of disease

(a) Regularly organize health education in the community, invite hypertension prevention and treatment experts to give lectures, and mobilize elderly patients to participate. After the lecture, set up a Q&A session and arrange medical staff to answer patients' questions.

(b) Blood pressure monitoring management: Teach elderly patients to correctly self-measure blood pressure, urge them to measure and record it regularly every day, and seek medical attention immediately if blood pressure continues to rise. Adjust medication or care according to doctor's advice.

(c) Medication management guidance: Emphasize the importance of taking medication according to doctor's advice to elderly hypertensive patients, illustrate the dangers of not taking medication on time or changing the dosage without authorization with case studies, urge them to take medication on time and in the correct amount, and suggest setting an alarm clock or posting reminder cards to help them remember medication time.

2.4. Observation indicators

(1) Blood pressure: Systolic and diastolic blood pressure were measured three times before and after treatment, with intervals of > 5 minutes between each measurement. The average value was calculated.

(2) Medication adherence: Medication adherence was assessed using the Morisky Medication Adherence Scale (MMAS-8) [6]. The total score ranges from 0 to 8, with scores < 6 indicating non-adherence, 6–7 indicating partial adherence, and 8 indicating full adherence. The adherence rate was calculated as the sum of partial and full adherence rates.

(3) Self-efficacy: Patients' self-efficacy was quantitatively evaluated before and after the intervention using the General Self-Efficacy Scale (GSES) [7]. This scale has a maximum score of 40, with higher scores indicating stronger self-efficacy.

(4) Quality of life: The 36-Item Short Form Health Survey (SF-36) was used to assess patients' quality of life after nursing care. Scores range from 0 to 100, with higher scores indicating improved quality of life [8].

2.5. Statistical analysis

Statistical analysis was performed using SPSS 24.0 software. Measurement data are presented as mean ± standard deviation (x±s), while enumeration data are expressed as n (%). Intergroup comparisons were conducted using the t-test and χ^2 test, with a significance level set at $P < 0.05$.

3. Results

3.1. Blood pressure levels before and after intervention

Based on **Table 2**, after the intervention, compared with the control group, the intervention group had a significantly lower degree of blood pressure reduction ($P < 0.05$).

Table 2. Comparison of blood pressure levels before and after intervention between the two groups (`x±s)

Group	*n*	Systolic blood pressure (mmHg)		Diastolic blood pressure (mmHg)	
		Before intervention	After intervention	Before intervention	After intervention
Intervention group	35	149.06 ± 4.78	133.31 ± 3.06*	95.67 ± 5.38	83.26 ± 5.22*
Control group	34	149.56 ± 4.66	137.58 ± 4.29*	95.18 ± 5.91	91.35 ± 5.61*
t		0.440	4.771	0.360	6.204
P		0.662	< 0.001	0.720	< 0.001

Note: Compared with the same group before intervention, *$P < 0.05$.

3.2. Medication compliance

After intervention, the medication compliance rate of the intervention group was higher than that of the control group ($P < 0.05$), as shown in **Table 3**.

Table 3. Comparison of medication compliance before and after intervention between the two groups [n(%)]

Group	*n*	Full adherence n(%)	Partial adherence n(%)	Non-adherence n(%)	Adherence rate n(%)
Intervention	35	25 (73.53)	8 (23.53)	2 (5.88)	33 (94.29)
Control	34	18 (52.94)	8 (23.53)	8 (23.53)	26 (76.47)
χ^2					4.417
p-value					0.036

3.3. Comparison of self-efficacy and quality of life scores

As shown in **Table 3**, after the implementation of the intervention, compared with the control group, the self-efficacy scores and quality of life scores of the intervention group were higher ($P < 0.05$).

Table 3. Comparison of self-efficacy and quality of life scores before and after intervention between the two groups (x±s, points)

Group	*n*	Self-efficacy score		Quality of life score	
		Before intervention	After intervention	Before intervention	After intervention
Intervention	35	20.35 ± 2.26	33.19 ± 1.87*	80.69 ± 3.21	90.74 ± 3.15*
Control	34	20.75 ± 2.31	26.84 ± 1.62*	79.55 ± 3.21	87.65 ± 3.02*
t-value		0.727	15.058	1.475	4.157
p-value		0.470	< 0.001	0.145	< 0.001

Note: Compared with the self-efficacy score and quality of life score of the same group before intervention, *$P < 0.05$.

4. Discussion

Hypertension, as a very common chronic disease among the elderly, has a high prevalence rate in this population and is showing a trend of increasing year by year. This disease not only causes symptoms such as dizziness and headache but also may induce cardiovascular and cerebrovascular diseases, posing a significant threat to the health and lives of elderly patients. However, current routine community management focuses on single blood

pressure monitoring and simple education, lacking comprehensive evaluation and consideration of patients' actual situations. The nursing plan is not targeted, leading to poor blood pressure control for patients. Therefore, it is essential to carry out personalized nursing intervention for elderly hypertensive patients in the community. Currently, there are studies combining comprehensive geriatric assessment tools with chronic disease trajectory nursing for diabetic patients, but there are few studies on their use in hypertensive patients [9]. Therefore, this study explores its effectiveness.

This study shows that the intervention group had better blood pressure control and medication adherence after nursing implementation than the control group. This indicates that integrating the nursing intervention of this study has significant advantages in both areas for elderly hypertensive patients in the community. This is consistent with the research results of Liu and Li [10, 11]. Analysis of the reasons: Based on routine management, the intervention group uses a comprehensive geriatric assessment to comprehensively screen patients' health problems, covering multiple diseases, multidrug use, fall risk psychological status, cognitive function, nutritional status, and audio-visual impairments. This comprehensive assessment provides accurate information for personalized nursing plans. For example, promptly correcting the problem of multidrug use ensures safe and reasonable medication use. At the same time, according to the characteristics of the chronic disease trajectory, targeted nursing is implemented at different stages of the disease. For example, a medication schedule is developed during the initial stage to improve patient adherence to taking medications on time and in the correct amounts; during the stable phase of the disease, a scientific and reasonable diet plan and exercise program are tailored according to the patient's dietary preferences and exercise contraindications, allowing multi-angle intervention in blood pressure and more effective lowering of blood pressure levels.

In terms of self-management efficacy, after the intervention was implemented, the intervention group had higher self-efficacy scores compared to the control group. The reason for this is that through cognitive intervention, patients in the intervention group gained a deeper understanding of hypertension prevention and treatment knowledge, mastered self-management skills such as self-monitoring of blood pressure, reasonable diet, and appropriate exercise, and enhanced their confidence and ability in self-management. Regular community health education activities and Q&A sessions provided a platform for patients to communicate and learn, where they could encourage and support each other, further improving self-management efficacy. Moreover, the quality of life scores in the intervention group were higher than those in the control group after the intervention in this study. This indicates that this nursing model can comprehensively improve the quality of life of elderly hypertensive patients in the community. This is the result of multiple factors such as blood pressure level control, improved medication compliance, and enhanced self-management efficacy. Good blood pressure control can reduce the occurrence of symptoms such as dizziness and headache, improving patients' daily living abilities; reasonable medication use and self-management can reduce the risk of complications and alleviate patients' physical and psychological burdens; and improved self-management efficacy allows patients to better cope with the disease and actively participate in social activities, thereby improving their quality of life.

5. Conclusion

In summary, combining comprehensive geriatric assessment with the concept of chronic illness trajectory nursing in the management of hypertension among elderly people in the community can effectively optimize the effectiveness of chronic disease management and has important practical value.

Funding

Nanjing Medical University 2023 Education Research Project (Project No.: 2023LX103): Design and Practice of a Primary Care Chronic Disease Management Course Based on the BOPPPS Model—A Case Study of Taizhou Region; Taizhou People's Hospital Nursing Research Special Project (Project No.: HLYB202411): The Impact of 5A Model-Based Exercise Rehabilitation Guidance on Exercise Adherence in Young and Middle-Aged Hypertensive Patients.

Disclosure statement

The authors declare no conflict of interest.

References

[1] Zhang M, Wu J, Zhang X, et al., 2021, Study on the Prevalence and Control of Hypertension Among Adult Residents in China in 2018. Chinese Journal of Epidemiology, 42(10): 1780–1789.

[2] Qiaolifanayi N, Luo Q, 2025, Research Progress on Comorbidities of Elderly Hypertensive Patients. International Journal of Geriatric Medicine, 46(3): 356–359.

[3] Shen C, Wei X, Ma S, et al., 2024, Application Status and Reflection on Comprehensive Geriatric Assessment in Foreign Long-Term Care Systems. Nursing Research, 38(1): 75–81.

[4] Yang X, He C, Yang H, et al., 2021, Research Progress on the Application of Chronic Disease Trajectory Framework in Chronic Disease Management. Practical Journal of Clinical Medicine, 18(3): 198–201.

[5] Chinese Medical Association, Chinese Journal of Medicine, Chinese Medical Association General Practice Branch, et al., 2019, Guidelines for Primary Diagnosis and Treatment of Hypertension (2019). Chinese Journal of General Practitioners, 18(4): 301–313.

[6] Xu W, Wang Q, Liang W, 2007, Evaluation of the Reliability and Validity of the Morisky Questionnaire for Measuring Medication Compliance Among Hypertensive Patients. Prevention and Control of Chronic Diseases in China, 15(5): 424–426.

[7] Hu X, Tian C, Sun F, 2014, Reliability and Validity Test of the Chinese Version of the General Self-Efficacy Scale. Psychological Exploration, 34(1): 53–56.

[8] Liu J, Ma C, Tu L, et al., 2012, "Chinese Cardiovascular Patient Quality of Life Assessment Questionnaire" and Its Norm Measurement. Chinese Journal of Cardiovascular Rehabilitation Medicine, 21(2): 105–112.

[9] Yang X, 2025, Analysis of the Application of Chronic Disease Trajectory Nursing Oriented by Comprehensive Geriatric Assessment Tools in Diabetes Care. Chinese Health Care, 43(6): 119–122.

[10] Liu M, Weng Y, Wu J, et al., 2024, The Impact of a Comprehensive Intervention Model Based on Comprehensive Geriatric Assessment on Blood Pressure Management and Physical Frailty in Elderly Hypertensive Patients. Cardiovascular Disease Prevention and Control Knowledge (Academic Edition), 14(20): 78–80, 84.

[11] Li Y, 2025, Application of Chronic Disease Trajectory-Oriented Nursing in Patients With Primary Hypertension. Primary Medical Forum, 29(2): 110–113.