Effect of Health Education Combined with Wuqinxi on Community-Dwelling Patients with Hypertension

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Abstract: Objective: To explore the clinical efficacy of health education combined with Wuqinxi exercise in managing essential hypertension. Methods: Eighty patients were randomly assigned to either an experimental group (health education + Wuqinxi) or a control group (health education alone). The effects of the 10-week intervention were evaluated using the following indicators: blood pressure (SBP/DBP), blood lipids (TG/TC). Results: The experimental group showed significantly greater improvements compared to the control group (*p*<0.05): TC decreased by 1.73 mmol/L, TG decreased by 0.83 mmol/L; SBP decreased by 17.95 mmHg, DBP decreased by 13.53 mmHg. Conclusion: Wuqinxi combined with health education effectively controls blood pressure and blood lipids.

***Keywords*:** essential hypertension; Wuqinxi; health management

1. Introduction

Hypertension is currently one of the most prevalent cardiovascular diseases. It often leads to cardiovascular complications, damaging the structure and function of vital organs such as the heart, brain, kidneys, and blood vessels, ultimately resulting in organ failure. The prevalence of hypertension in China's adult population is 25.2% (approximately 245 million), yet diagnosis rates (<50%), treatment rates (38.1%), and control rates (11.1%) remain suboptimal [1-2]. Traditional pharmacological treatments face challenges such as poor adherence and side effects, highlighting the urgent need to explore non-pharmacological interventions. Traditional exercises like Tai Chi and Wuqinxi have been proven to positively impact hypertension rehabilitation; however, research on the mechanisms underlying their combination with health education requires further investigation.

Exercise therapy is recommended as a first-line non-pharmacological treatment in international guidelines (e.g., ACSM recommends moderate-intensity exercise 4-7 days per week) [3-5]. Health education enhances patients' self-management capabilities through lifestyle interventions Nevertheless, further research is warranted to investigate the effects of combining specific traditional exercises like Wuqinxi with health education on the physical function of elderly hypertensive patients.

2. Methods

2.1 Study Participants

Eighty patients with essential hypertension (aged 34-60 years, SBP ≥140 mmHg and/or DBP ≥90 mmHg) were randomly assigned to either an experimental group (n=40) or a control group (n=40). Baseline characteristics showed no statistically significant differences between the two groups ($p > 0.05$).

2.2 Intervention Protocol

Control Group: Received health education (including guidance on a low-salt, low-fat diet, smoking cessation, alcohol restriction, aerobic exercise 3 times per week, and blood pressure self-monitoring).

Experimental Group: Received the same health education plus Wuqinxi exercise (40 minutes per session, 5 sessions per week, for 10 weeks). (Figure 1 for the study flowchart).

2.3 Outcome Measures

Patients randomly assigned to the experimental or control group. Changes in the outcome measures (TG, TC, SBP, DBP) were recorded and compared between the groups post-intervention to evaluate treatment efficacy.

2.4 Statistical Analysis

Data for the outcome measures across the groups were collected and analyzed. Descriptive statistics were performed using Excel and SPSS. Data analysis was conducted using SPSS version 25.0. Statistical significance was set at $p < 0.05$.

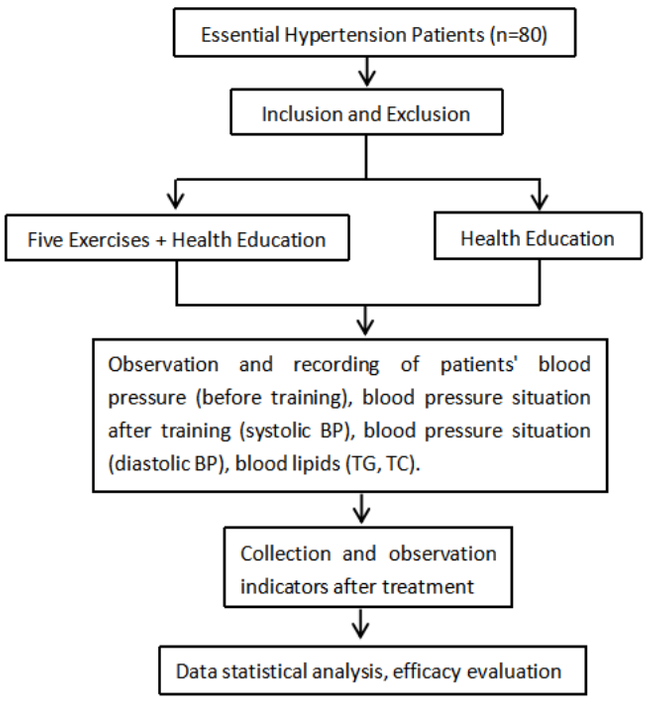

Figure 1: Study Flowchart

3. Results

3.1 Blood Pressure Changes

Table 1. Comparison of Blood Pressure Changes Before and After Treatment in Both Groups

Group	Measure	Before Treatment	After Treatment (Week 10)	t-value	p-value
Exp	SBP (mmHg)	134.52± 8.37	116.57± 10.25	3.529	0.01
Ctrl	SBP (mmHg)	135.47± 8.14	123.37± 10.87	1.523	0.02
t-value		-1.05	-4.25		
p-value		0.35	<0.01		
Exp	DBP (mmHg)	91.35±8.54	77.82±10.04	5.37	<0.01
Ctrl	DBP (mmHg)	92.61±7.50	83.36± 9.27	2.18	0.04
t-value		-0.24	-4.06		
p-value		0.74	<0.01		

3.2 Blood Lipid Improvement

Table 2. Comparison of Blood Lipid Changes Before and After Treatment in Both Groups

Group	Measure	Before Treatment	After Treatment (Week 10)	t-value	p-value
Exp	TG(mmol/L)	1.92±0.48	1.09±0.26	3.62	0.01
Ctrl	TG(mmol/L)	1.93±0.39	1.42±0.33	2.37	0.02
t-value		0.19	-3.29		
p-value		0.92	<0.01		
Exp	TC(mmol/L)	5.24±0.86	3.51±0.56	4.86	0.00
Ctrl	TC(mmol/L)	5.21±0.80	4.35±0.63	2.42	0.02
t-value		0.25	-4.06		
p-value		0.89	<0.01		

4. Discussion

Wuqinxi, as one of China's traditional exercise rehabilitation modalities, offers greater spatial and temporal adaptability for patients compared to activities like marathon running or swimming. When combined with health education, Wuqinxi enhances treatment adherence among hypertensive patients, while health education provides a supportive environment, collectively advancing the treatment process. According to the American College of Cardiology (ACC) guidelines, exercise therapy can reduce systolic blood pressure (SBP) by 2–5 mmHg and diastolic blood pressure (DBP) by 1–4 mmHg. Among elderly patients with stage 1 hypertension, 8 weeks of step exercise reduced SBP/DBP by 13.1/14.8 mmHg. In this study, after 10 weeks of combined Wuqinxi and health education intervention, the experimental group showed reductions in total cholesterol (TC) by 1.73 mmol/L, triglycerides (TG) by 0.83 mmol/L, SBP by 17.95 mmHg, and DBP by 13.53 mmHg. This study provides a low-cost, easily implementable non-pharmacological strategy suitable for community settings, particularly for patients with poor medication adherence. However, limitations include a small sample size from a single region and lack of long-term follow-up data to assess sustainability. Further multi-faceted validation is needed to clarify the therapeutic effects of combined Wuqinxi and health education.

5. Conclusion

This study evaluated the clinical efficacy of health education combined with Wuqinxi in treating hypertension using indicators including blood pressure (SBP, DBP), blood lipids (TG, TC). After 10 weeks of intervention, significant differences (*p*<0.05) were observed between the experimental and control groups across all measured indicators. This confirms that the combination of health education and Wuqinxi significantly reduces blood pressure and blood lipid levels. It represents an effective non-pharmacological intervention strategy for community-based hypertension management.

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