Analysis of the Current Status and Influencing Factors of Self-Management Capabilities Among Hypertensive Patients

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Abstract: Objective: Objective: To explore hypertensive inpatients' self-management in general hospitals, analyze influencing factors, and provide evidence for targeted interventions. Methods: A cross-sectional survey used a demographic questionnaire and HSMBQ. Data were analyzed with SPSS 27.0 (descriptive, univariate, MLRA). Results: Patients' total self-management score was (62.16 ± 9.58) (standardized: 67.57%), moderately low. MLRA identified 10 key factors ($P<0.05$): marital status, monthly income, smoking, alcohol consumption, regular medication, comorbidities, disease duration, recent blood pressure, self-perceived health, psychological state. Conclusion: Hypertensive inpatients in general hospitals require better self-management, particularly psychosocial management.

Keywords: hypertension; self-management ability; influencing factors

1. Introduction

Hypertension is a global public health issue and the most significant risk factor for cardiovascular and cerebrovascular diseases. According to the World Health Organization, approximately 1.28 billion adults worldwide have hypertension, with nearly half of these patients not effectively controlled[1]. Long-term poor control of hypertension can lead to damage to target organs such as the heart, brain, and kidneys, imposing a heavy disease burden on patients, families, and society.

Self-management refers to the process where patients actively participate in and adjust their behaviors to control disease progression and prevent complications by acquiring disease-related knowledge and skills[2]. Effective self-management can significantly improve blood pressure control rates, reduce the incidence of complications, and enhance patients' quality of life. Therefore, this study aims to comprehensively assess the current status of self-management capabilities among hypertensive patients in Haikou's general hospitals through a cross-sectional survey. It further analyzes influencing factors to provide scientific evidence for developing locally tailored hypertension management strategies, which holds significant implications for enhancing hypertension prevention and control in Hainan.

2. Subjects and Methods

2.1 Study Population

Using convenience sampling, hypertensive patients receiving outpatient or inpatient care at five general hospitals (including Grade III Class A and Grade II Class A hospitals) in Hainan City and Guizhou Province were selected from December 2024 to February 2025.

2.2 Research Tools

2.2.1 General Information Questionnaire

Self-designed based on literature review, comprising demographic and sociological data and disease-related data

2.2.2 Hypertension Self-Management Behavior Questionnaire

Adopted from Jin Duo's[3] scale, comprising 24 items across four dimensions: Daily Activity Management (6 items), dietary management (6 items), psychosocial management (6 items), and treatment adherence management (6 items). A 5-point Likert scale was used, yielding a total score range of 0–96 points, where higher scores indicate stronger self-management capabilities. The overall Cronbach's α coefficient for the scale was 0.899, demonstrating good reliability and validity.

2.3 Statistical Methods

Descriptive analysis, univariate analysis, and multiple linear regression analysis were performed using SPSS 27.0 software. The significance level was set at α=0.05.

3. Results

3.1 General Characteristics of Study Subjects

Among 500 hypertensive patients, 247 (49.4%) were male and 253 (50.6%) were female. Ages ranged from 27 to 84 years, with a mean of (62.14 ± 6.58) years; BMI was (24.13 ± 3.26) kg/m².

3.2 Univariate Analysis of Self-Management Capabilities in Hypertensive Patients

Univariate analysis revealed statistically significant differences (all $P<0.05$) in total self-management scores among hypertensive patients based on marital status, educational attainment, monthly income, smoking history, drinking history, medication adherence, coexisting chronic diseases, hypertension severity, self-rated health status, and psychological state. However, no statistically significant differences were observed in total self-management scores based on gender, age, or occupational status ($P>0.05$).

3.3 Multivariate Analysis of Self-Management Ability in Hypertensive Patients

Using total self-management ability score as the dependent variable, multivariate linear regression analysis was conducted with statistically significant variables from univariate analysis as independent variables. Results indicate that marital status, smoking, alcohol consumption, regular medication adherence, coexisting chronic diseases, hypertension severity, perceived health status, and psychological state entered the regression equation.

4. Discussion

4.1 Self-management ability among hypertensive patients is at a moderately low level.

The standardized self-management capability score of 67.57% among hypertensive patients in Haikou's general hospitals indicates a moderately low level, consistent with multiple studies[4-5]. This finding suggests significant room for improvement in self-management capabilities among local hypertensive patients, necessitating effective intervention measures.

4.2 Analysis of Factors Influencing Self-Management Capacity in Hypertensive Patients

4.2.1 Behavioral and Lifestyle Factors

The study findings indicate that smoking and alcohol consumption are independent risk factors for self-management capacity. Nicotine in tobacco stimulates the sympathetic nervous system, leading to elevated blood pressure[6]; excessive alcohol consumption similarly raises blood pressure. In this study, 31.2% and 26.8% of patients reported smoking and drinking histories, respectively—relatively high proportions suggesting that smoking cessation and alcohol reduction should be prioritized as key entry points for hypertension management in Haikou. Regular medication adherence is a strong predictor of self-management ability. This aligns with the Health Belief Model, where patients who recognize the necessity and benefits of medication are more likely to adhere to treatment[7]. Clinical practice should emphasize medication education to address patient misconceptions and concerns about drugs.

4.2.2 Psychosocial Factors

The study findings indicate that psychological state and self-perceived health status are significant influencing factors. A positive psychological state enables patients to face their illness with optimism and proactively adopt healthy behaviors. Patients with good self-perceived health status demonstrate greater confidence in disease control and are more willing to adhere to self-management. This suggests that healthcare providers should address patients' psychological needs through methods such as cognitive behavioral therapy and mindfulness-based stress reduction to improve their psychological state.

4.2.3 Disease-Related Factors

This study found that individuals with lower blood pressure levels and well-controlled blood pressure demonstrated stronger self-management capabilities, indicating that effective management enhances patient confidence, creating a positive feedback loop. For those with poorly controlled blood pressure, assistance in analyzing causes and developing personalized management plans is essential. Patients with comorbid chronic diseases exhibited weaker self-management abilities, likely due to the increased complexity and burden of managing multiple conditions[8]. An integrated chronic disease management model should be adopted for such patients, simplifying management plans to improve feasibility.

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