Application effect of nursing intervention based on positivity theory on elderly hospitalized patients with coronary heart disease

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Introduction. Purpose:The application effect of nursing interventions based on the theory of positivity on elderly hospitalized patients with coronary heart disease has been explored.
Methods. A random sampling method was used to select 120 elderly hospitalized patients with coronary heart disease in our hospital from January to December 2021. They were randomly divided into a study group and a control group, with 60 patients in each group. The control group received routine nursing care for hospitalized coronary heart disease patients in the internal medicine department, while the research group implemented nursing interventions based on the theory of positivity on the basis of the control group.Positive evaluation, self-management scale, and self-efficacy scale were used to measure patients. After the intervention, the extreme score of the study group was significantly higher than that of the control group, and the difference was statistically significant ($P<0.05$). After intervention, the daily life management and emotional management scores of the study group patients were higher than those of the control group, with statistically significant differences ($P<0.05$). The health behavior, medication taking behavior, compliance behavior, and total score of the study group patients were higher than those of the control group, with statistically significant differences (all $P<0.05$).
Conclusion. Nursing interventions based on the theory of positivity can effectively improve the self-management level and self-management efficiency of elderly hospitalized patients with coronary heart disease.
Keywords. elderly; Coronary heart disease; The theory of positivity; Nursing intervention; Self management; Self-efficacy

INTRODUCTION

Coronary heart disease (CHD) is a heart disease caused by coronary atherosclerosis, which leads to narrowing or hardening of the vessel wall, insufficient blood supply of the coronary artery, myocardial ischemia, hypoxia and even necrosis [1]. In recent years, with the improvement of living standards, the incidence of incidence rate of coronary heart disease has increased year by year, and its mortality rate has ranked in the forefront of major causes of death [2]. According to a study by the CDC in the United States, health education can effectively prevent approximately 11% of deaths from coronary heart disease by changing patients' behavior and lifestyle. In the "Medium and Long Term Plan for the Prevention and Treatment of Chronic Diseases in China", it is pointed out that everyone is the first person responsible for their own

health, and improving their self-management level plays an important role in promoting healthy behavior and lifestyle. The positivity theory was proposed by Hibbard in the United States, which refers to patients' awareness, knowledge, skills, and confidence in managing their own health, reflecting their subjective initiative in disease self-management [4]. Research has shown that increasing patients' motivation not only increases their self-management ability, but also enhances the effectiveness of self-management. In this study, nursing interventions based on the theory of positivity were used to investigate the impact of self-management and self-efficacy in elderly hospitalized patients with coronary heart disease, and good results were achieved. The following is a report.

1. Objects and Methods

1.1 Research subjects

The method of random sampling was used to select elderly hospitalized coronary heart disease patients in our hospital from January to December 2021 as the research subjects. Case inclusion criteria: (1) All patients meet the World Health Organization (WHO) diagnostic criteria for coronary heart disease. (2) Age 60 or above; (3) The patient has no cognitive impairment and can engage in normal communication and exchange; (4) Willing to accept this study and sign an informed consent form. Case exclusion criteria: (1) Patients have conscious disorders and are unable to communicate and communicate; (2) Patients with severe chronic diseases; (3) The patient has no tumors or other serious organic diseases. According to the random numbers generated by the SAS plan, the children were randomly divided into a study group and a control group, with 60 cases in each group. There was no statistically significant difference in general information such as age, gender, coronary heart disease grade, course of disease, and income between the two groups of patients (all P>0.05), as shown in Table 1.

Table 1 Comparison of General Information between Two Groups of Patients

Group	Case	Gender		Age	course of disease
		Male	Female	（Month, $\bar{x}$±s）	（Month, $\bar{x}$±s）
Control group	60	30	30	66.04±5.78	11.85±2.12
Research Group	60	31	29	67.16±7.34	12.12±3.05
X^2/t		0.033		0.929	0.563
P		0.855		0.355	0.575

Group	Number of people	Education level			Monthly household income (per capita, yuan)		
		Junior high school and below	High school and technical secondary school	College degree or above	<3000	3001-5000	>5000
Control group	60	40	12	8	13	38	9
Research Group	60	37	16	7	14	30	6
X^2/t			0.755			0.675	
P			0.686			0.714	

1.2 Methods

1.2.1 The control group was treated with routine nursing for inpatients with coronary heart disease in internal medicine. The patients' rooms were kept clean, warm and rested in bed. Keep the patient's personal food hygiene and personal hygiene, and instruct the patient to take reasonable exercise every day, such as walking or tai chi for 15-20 minutes every day; On the diet, pay attention to drinking light diet, high protein and low salt food, control the intake of fat and cholesterol, limit the intake of sugars and alcohol. Improve the patient's self immunity and self resistance through exercise and strengthening nutrition. Patients can take folic acid appropriately to prevent the recurrence of coronary heart disease. If the patient is more nervous, sedatives can be given appropriately.

1.2.2 The research group carried out nursing intervention based on the positive degree theory on the basis of the control group. (1) The research team is composed of multidisciplinary personnel, mainly composed of 1 deputy chief physician of the geriatric department, 2 deputy chief nursing nurses and 2 responsible nurses. The research group is responsible for the design of the intervention program, and all members participate in the discussion and topic design. Among them, one deputy chief physician of internal medicine and one deputy chief nurse are responsible for the guidance of project design, one deputy chief nurse is responsible for the guidance of nursing implementation based on the positive degree theory, and two responsible nurses are responsible for the specific implementation. Nursing based on the positive degree theory mainly includes 3 aspects. They were as follows: (1) Peer support education invited elderly inpatients with coronary heart disease who were positive and optimistic, with good therapeutic effect and good compliance to participate in peer support education organized by the research group, which mainly involved treatment

experience sharing, disease cognition and feelings, encouragement to fellow patients, positive degree theory and influence on treatment, self-management and other aspects. Peer support education is organized once a week, between 15:00-18:00 on Saturday or Sunday afternoon, about 30 minutes. (2) Digital health education intervention uses wechat, telephone, website and other means to spread the positive degree theory nursing intervention content among elderly hospitalized patients with coronary heart disease, mainly including the positive degree theory and its application in coronary heart disease, positive degree nursing intervention mode, prevention and treatment, diet nursing, psychological nursing, healthy lifestyle and behavior of elderly patients with coronary heart disease, etc. And make PPT or video, which can be watched and played repeatedly, and instruct patients to watch 20-30 minutes a day. After discharge, through telephone follow-up or return visit, to understand the implementation of positive nursing intervention given by patients, and provide corresponding social support. (3) Give theoretical matching intervention based on the 4 levels of positivity theory, and develop matching nursing intervention themes and goals based on the 4 levels of positivity theory. The first level of patients is mainly to help them establish a correct understanding of the disease, and encourage patients to take achievable self-management care measures, such as a reasonable nutritionally balanced diet, abstaining from tobacco and alcohol. For patients with the second level, health education methods suitable for their education level should be adopted to help patients build up confidence in active treatment; For patients with the third level, through the evaluation of nursing indicators and risk factors, help patients establish self-management plans and goals suitable for their individual characteristics, timely adjust nursing interventions according to the implementation situation, and promote patients to establish strong belief in active treatment; For patients with the fourth level, it is mainly to make patients with the fourth level actively face new health problems and crises, improve the function of coping with health problems and crises, actively seek social support and help, relieve the psychological pressure of patients in different states, and maintain positive healthy life behaviors. Assessment and guidance once a week, about 60 minutes each time.

1.2.3 Evaluation Method (1) Positivity Evaluation: This study used the revised Positivity Evaluation Scale by Hong Yang et al., developed by Hibbard et al. [6], which is mainly used to evaluate the self health management level of chronic disease patients. The scale includes four dimensions: belief, knowledge, ability, and confidence, with a total of 13 items. The scoring range is 0-100 points, using a Likert 5-level score where 0 indicates inapplicability and 1-4 points, ranging from strongly disagree to strongly agree. A score of $\leq$ 47 points indicates the first level, 47.1-55.1 points the second level, 55.2-67 points the third level, and $\geq$ 67.1 points the fourth level. A higher score indicates a higher level of patient motivation. The application of Cronbach's scale in patients with heart failure α The coefficient is 0.820. In this study, Cronbach's α The coefficient is 0.835. (2) The Self Management Scale is mainly used to measure the self-management level of life in elderly hospitalized coronary heart disease patients [7], including two dimensions of daily life management and

emotional management. The score range is 0-50 points, and the higher the score, the stronger the self-management ability of elderly hospitalized coronary heart disease patients. The content validity of this scale is 0.940, Cronbach's α The coefficient is 0.909. In this study, Cronbach's α The coefficient is 0.901. (3) The self-efficacy scale is mainly used to measure the self-efficacy level of elderly hospitalized coronary heart disease patients [8], including three dimensions of health behavior, medication behavior, and compliance behavior. There are a total of 11 items, with a score range of 0-50 points. The higher the score, the higher the self-efficacy level of elderly hospitalized coronary heart disease patients. The content validity of this scale is 0.950, Cronbach's α The coefficient is 0.921. In this study, Cronbach's α The coefficient is 0.910.

1.3 Investigation methods

The questionnaire survey was conducted by investigators who participated in the training of the research group. Conduct the survey at the time of admission and one month after discharge. Upon admission, obtain the informed consent of the patient and distribute a survey questionnaire using unified guidance language. Fill it out separately in the hospital's publicity and education room, verify it on the spot, and collect it. One month after discharge, the patient will be arranged for follow-up visits to be completed at the hospital. The questionnaire filling requirements are the same as the questionnaire survey at admission. The recovery rates of both surveys before and after the intervention in this study were 100%.

1.4 Statistical processing

SPSS 25.0 was used for statistical analysis of the data. Quantitative data such as self-management scores and self-efficacy scores were expressed using mean ± standard deviation, and inter group comparisons were conducted using a t-test of two samples; In general data, gender, educational level, and other counting data are expressed in frequency and percentage, and inter group comparisons are conducted using chi square tests. Using a bilateral test, there was a statistically significant difference in $P<0.05$.

2. RESULTS

2.1 Comparison of two groups of patients' positivity scores before and after intervention

The positivity scores of two groups of elderly hospitalized coronary heart disease patients showed no statistically significant difference in the extreme scores before intervention. After intervention, the extreme scores of the study group were significantly higher than those of the control group, with a statistically significant difference (both $P<0.05$), as shown in Table 2.

Table 2: Comparison of two groups of patients' positivity scores before and after intervention

Time	Group	Level 1	Level 2	Level 3	Level 4	χ^2	*P*
Before intervention	Research Group	26	20	10	4	0.829	0.842
	Control group	25	22	11	2		
After intervention	Research Group	6	12	28	14	14.867	0.002
	Control group	13	26	15	6		

2.1 Comparison of self-management scores between two groups of patients before and after intervention

The self-management scores of two groups of elderly hospitalized coronary heart disease patients showed no statistically significant difference in daily life management and emotional management scores between the two groups before intervention. After intervention, the daily life management and emotional management scores of the study group were higher than those of the control group, and the difference was statistically significant (all P<0.05), as shown in Table 3.

Table 3 Comparison of self-management scores between two groups of patients before and after intervention

		Daily life management		Emotional management	
Group	Case	Before intervention	After intervention	Before intervention	After intervention
Research Group	60	27.32±1.98	41.09±2.97	14.09±2.10	24.79±2.61
Control group	60	27.09±2.02	31.08±2.25	14.06±2.01	16.08±2.57
t		0.630	20.810	0.080	18.419
P		0.530	<0.001	0.936	<0.001

2.2 Comparison of self-efficacy scores between two groups of patients after intervention

The self-efficacy scores of two groups of elderly hospitalized coronary heart disease patients showed that the health behavior, medication taking behavior, compliance behavior, and total score of the study group patients were higher than

those of the control group, with a statistically significant difference (all P<0.05), as shown in Table 4.

Table 4 Comparison of self-efficacy scores between two groups of patients after intervention

Group	Case	Health Behavior	Medication behavior	Compliance behavior	Total score
Research Group	60	6.84±1.63	9.09±1.97	7.53±1.43	17.52±4.06
Control group	60	4.31±1.81	5.08±1.25	4.46±1.53	14.32±4.32
t		8.046	13.313	11.355	4.181
P		<0.001	<0.001	<0.001	<0.001

3. DISCUSSION

3.1 Nursing intervention based on the positive degree theory effectively improves the self-management level of elderly hospitalized patients with coronary heart disease

With the improvement of living standards, the incidence of coronary heart disease is increasing year by year, and the treatment and control rates of coronary heart disease are lower than 40% and 10%. With the increase of the elderly population, the prevalence of elderly patients with coronary heart disease is at a relatively high level [9]. Elderly patients with coronary heart disease (CHD) have relatively poor self-care ability due to their old age, so improving their self-management level is an important part of nursing management for elderly patients with CHD [10]. The results of this study showed that the positive score of elderly hospitalized patients with coronary heart disease showed no statistical difference between the two groups before intervention, while the positive score of the study group was significantly higher than that of the control group after intervention, and the difference was statistically significant (all P<0.05). It is suggested that nursing intervention based on the positive degree theory can effectively improve the self-management level of elderly hospitalized patients with coronary heart disease. This may be due to the fact that nursing interventions based on the positivity theory are based on different levels of positivity and improve patients' knowledge of disease treatment and nursing in terms of peer education and digital education according to individualized nursing strategies [11]. Studies have proved [12] that positivity plays an intermediary role between disease perception and health behavior. Nursing intervention based on positivity theory is beneficial to promoting patients' healthy behavior, thus promoting patients' self-management level and ability, and improving patients' self-management level.

3.2 Nursing interventions based on the theory of positivity have effectively improved the self-efficacy level of elderly hospitalized coronary heart disease patients

The self-efficacy level of elderly hospitalized coronary heart disease patients is

mainly manifested in three aspects: health behavior, medication taking behavior, and compliance behavior. Some studies suggest that health education has a good effect on improving patients' self-efficacy, and different health education methods have significantly different effects on improving patients' self-efficacy [13]. This study showed that the self-efficacy scores of two groups of elderly hospitalized coronary heart disease patients showed that the health behavior, medication taking behavior, compliance behavior, and total score of the study group were higher than those of the control group, with a statistically significant difference (all $P<0.05$). It is suggested that carrying out nursing interventions based on the theory of positivity effectively improves the self-efficacy level of elderly hospitalized patients with coronary heart disease. In this study, peer education and digital education methods were used to enable patients to observe the effects of health education firsthand. Various methods such as videos enhanced patients' awareness, treatment, and prevention knowledge of coronary heart disease, promoting the establishment of healthy behavioral patterns among patients [14]. Based on different levels of positivity, different levels of health education content and in-depth education and nursing interventions were carried out for patients with different levels, which improved the patient's acceptance of disease care and effectively promoted changes in patient medication and compliance behavior [15,16]. Nursing interventions based on the theory of positivity have improved patients' self-efficacy levels in multiple ways.

In summary, this study found that nursing interventions based on the theory of positivity can effectively improve the self-management level of elderly hospitalized coronary heart disease jellyfish, improve patients' self-efficacy, and promote patients to establish healthy behavioral lifestyles. However, due to the limitations of the study area, the inclusion of a small number of subjects in this study may affect the validity and reliability of the study. Therefore, in the future, it is necessary to consider increasing the sample size for more in-depth research, while exploring and further refining the content of nursing interventions based on the theory of positivity.

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