

Analysis of the Intervention Value of Cardiovascular Nursing on the Incidence of Acute Cardiovascular and Cerebrovascular Events in Patients with Coronary Heart Disease

Xiaoyun Liu

Guanyun County Hospital of Traditional Chinese Medicine, Lianyungang 222200, Jiangsu, China

**Author to whom correspondence should be addressed.*

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Abstract: *Objective:* To analyze the implementation points, application value, and impact of cardiovascular care on the incidence of acute cardiovascular and cerebrovascular events when treating patients with coronary heart disease. *Methods:* 80 patients with coronary heart disease were divided into groups using the odd-even number method, and 40 cases were included in each group. After investigation, the above patients were selected from January 2025 to March 2026; during the treatment phase, routine care was provided for the control group, and cardiovascular care was provided for the experimental group. The final effect was compared between the experimental and control groups, including cardiac function indicators, SAQ scores (disease awareness, physical activity limitation, angina attack frequency, angina stable state, treatment satisfaction), and the incidence of acute cardiovascular and cerebrovascular events in patients with coronary heart disease. *Results:* (1) Among the cardiac function indicators of patients with coronary heart disease, LVEF in the experimental group was higher than that in the control group, $p < 0.05$; compared with LVEDD, the experimental group was lower, $p < 0.05$; (2) After SAQ score statistics, the experimental group Patients with coronary heart disease were at a higher level, $p < 0.05$; (3) In terms of the incidence of acute cardiovascular and cerebrovascular events, the incidence rate of coronary heart disease patients in the experimental group (5.00%) VS the control group (20.00%) was lower, $p < 0.05$. *Conclusion:* In the clinical treatment stage, the implementation of cardiovascular care has significant advantages in many aspects. For patients diagnosed with coronary heart disease, it can significantly improve cardiac function indicators and reduce various discomfort symptoms. More importantly, this care can also reduce the incidence of acute cardiovascular and cerebrovascular events in patients, and is worthy of further implementation.

Keywords: Patients with coronary heart disease; Cardiovascular care; Incidence of acute cardiovascular and cerebrovascular events; Cardiac function indicators

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1. Introduction

Among cardiovascular diseases, coronary heart disease is relatively typical. In its continuous progression stage, it will lead to aggravation of myocardial ischemia in patients, thereby inducing various adverse events, which are highly harmful

^[1]. Judging from the specific symptoms, patients with coronary heart disease present with angina pectoris, chest pressure, shortness of breath, and some are accompanied by dizziness and nausea, sudden cold sweats, and toothache, which in turn poses a serious threat to the patient's quality of life and physical and mental health ^[2]. During the clinical treatment process, patients with coronary heart disease mainly rely on medication. During this process, the assistance of cardiovascular care can effectively correct patients' cognitive misunderstandings and help patients develop good behavioral habits, thereby reducing stimulation and improving prognosis ^[3]. In view of this, this article will select and analyze patients who were diagnosed with "coronary heart disease" after treatment in our hospital from January 2025 to March 2026. After randomly grouping them, we will explore the application value of routine care (control group) and cardiovascular care (experimental group). The specific report is as follows.

2. Clinical data and methods

2.1. General information

Research time: January 2025 to March 2026, reference object composition: patients with coronary heart disease. During the treatment stage, all patients ($n = 80$ cases) need to be grouped according to the odd-even number method. The details are shown in **Table 1**.

Table 1. Comparison of general information of the control group and experimental group (% , $\bar{x} \pm s$)

Group	Gender distribution		Average age (years)
	Male patients	Female patients	
Control group ($n = 40$ cases)	23 (57.50)	17 (42.50)	60.58 ± 2.27
Experimental group ($n = 40$ cases)	21 (52.50)	19 (47.50)	61.09 ± 2.01
χ^2/t		0.202	1.064
p		0.653	0.291

The above information (gender, age) is balanced and comparable, $p > 0.05$.

2.1.1. Inclusion criteria

- (1) Coronary heart disease has been diagnosed, and the laboratory test results and imaging test results of the screened patients are highly consistent with the clinical diagnosis guidelines of the disease, and the personal information is relatively complete;
- (2) Patients with coronary heart disease have no drug contraindications;
- (3) Patients with coronary heart disease have no accompanying mental illnesses, and their communication and understanding abilities are normal;
- (4) Patients with coronary heart disease and their families have fully understood the purpose and process of the research and agree to sign relevant agreements.

2.1.2. Exclusion criteria

- (1) People with malignant tumors;
- (2) People with immune deficiency and severe infectious diseases;
- (3) Patients with coronary heart disease who were unable to fully participate in this research activity due to the influence of multiple factors;
- (4) People with severe organic lesions in liver and kidney function test results.

2.2. Method

2.2.1. Control group

Carry out routine care. During the hospitalization period of patients with coronary heart disease, it is necessary to continuously monitor their disease symptoms and vital signs clinically, instruct patients to take medications as prescribed by the doctor, record drug reactions, and provide symptomatic intervention.

2.2.2. Experimental group

Carry out cardiovascular care, mainly including:

(1) Emotional comfort

Under the influence of coronary heart disease, patients' personal status is relatively poor, their negative emotions are serious, and some may even resist treatment. Nursing staff cannot ignore this. They need to maintain a warm and friendly attitude and actively comfort patients, guide patients to express their inner thoughts bravely, and then analyze the root causes of patients' negative emotions and respond accordingly. At the same time, for cases where the disease is well controlled in the hospital, nursing staff can share with patients in a timely manner, summarize corresponding experiences, and help patients rebuild their confidence in overcoming the disease; and in the ward where they are located, nursing staff can work with family members to simply decorate, adjust the internal temperature, humidity, and light, and open windows every day for ventilation to increase comfort.

(2) Knowledge mission

After establishing a good nurse-patient relationship, clinical knowledge education work needs to be carried out. In specific practice, the core content includes: coronary heart disease triggers, symptoms, treatment options, and common acute cardiovascular and cerebrovascular events. During the education process, nursing staff can intervene by distributing health manuals and face-to-face communication, accurately transmit the above professional information in easy-to-understand language, answer questions raised by patients and family members one by one, and correct cognitive misunderstandings. In addition, during the drug treatment process, nursing staff need to supervise the medication to be taken on time and in the correct amount, and are not allowed to change the dosage without permission. They should cite negative cases for patients to increase their attention and improve compliance.

(3) Scientific diet

After investigating the core causes of coronary heart disease, poor eating habits are the key indicator. Therefore, during the drug treatment stage, nursing staff need to make a comprehensive analysis, timely calculate the patient's daily energy needs, and then match them with personalized recipes. Generally speaking, they need to strictly follow the principles of low-salt and low-fat. In meal matching, nursing staff can appropriately increase the intake ratio of foods rich in high-quality protein, vitamins, and dietary fiber, such as milk, eggs, fresh fruits, vegetables, etc., and clearly inform patients not to overeat. In daily life, patients with coronary heart disease must quit smoking and drinking.

(4) Exercise

In the early stage of clinical treatment, because the discomfort symptoms of patients with coronary heart disease are relatively serious, the nursing staff can recommend respiratory function training, including: pursed lip breathing, abdominal breathing, etc., patiently explain the key steps to the patient, and guide the patient to practice correctly, 15 minutes/time, 3 times/day; as the patient's condition continues to improve, the nursing staff can instruct the patient to strictly implement the principle of step-by-step and slowly transition from low-intensity aerobic training, such as yoga, Baduanjin, Tai Chi, walking, etc., and gradually increase the daily training time and intensity. During the training, family members should accompany the patient throughout the training. If any discomfort occurs, stop immediately and inform the attending doctor for treatment.

2.3. Evaluation indicators

Among patients with coronary heart disease, the differences in cardiac function indicators, SAQ scores, and the incidence

of acute cardiovascular and cerebrovascular events between the two groups were compared.

Investigate cardiac function indicators, mainly including: LVEF (left ventricular ejection fraction), LVEDD (left ventricular end-diastolic diameter); SAQ score refers to: Seattle Angina Pectoris Scale, specifically including: disease awareness, physical activity limitation, angina pectoris Frequency of attack, stable state of angina, and treatment satisfaction; each dimension is worth 100 points. The level of measured data is directly proportional to the patient's status. Among acute cardiovascular and cerebrovascular events, common types include: cardiac death, acute cerebral hemorrhage, acute myocardial infarction, and acute cerebral embolism.

2.4. Statistical analysis

All data in this study were analyzed using SPSS 25.0 software. Among patients with coronary heart disease, relevant information is mainly divided into two categories. Among them, the *t*-test is used for measurement data, and the chi-square test is used for counting data. The representative forms of the above indicators are ($\bar{x} \pm s$), (%). When comparing between groups, $p < 0.05$ proves that the difference is significant.

3. Results

3.1. Cardiac function indicators

As shown in **Table 2**, after statistical analysis of cardiac function indicators in patients with coronary heart disease, the experimental group had higher LVEF and lower LVEDD, $p < 0.05$.

Table 2. Comparison of cardiac function indicators between the control group and the experimental group ($\bar{x} \pm s$)

Group	LVEF (%)	LVEDD (mm)
Control group (n = 40 cases)	49.18 $\pm$ 6.97	54.79 $\pm$ 5.08
Experimental group (n = 40 cases)	55.52 $\pm$ 6.63	50.02 $\pm$ 4.81
<i>t</i>	4.839	4.312
<i>p</i>	0.000	0.000

3.2. SAQ score

As shown in **Table 3**: Comparing the SAQ scores of patients with coronary heart disease, the experimental group performed higher, $p < 0.05$.

Table 3. Comparison of SAQ scores ($\bar{x} \pm s$, points) between the control group and the experimental group

Group	Disease awareness	Limitation of physical activity	Angina pectoris frequency	Stable state angina	Treatment satisfaction
Control group (n = 40 cases)	52.89 $\pm$ 9.13	64.05 $\pm$ 7.22	51.33 $\pm$ 7.14	83.29 $\pm$ 7.55	58.44 $\pm$ 4.73
Experimental group (n = 40 cases)	74.26 $\pm$ 9.11	69.07 $\pm$ 7.31	62.08 $\pm$ 7.57	94.11 $\pm$ 2.06	67.12 $\pm$ 5.19
<i>t</i>	10.479	3.090	6.534	8.744	7.818
<i>p</i>	0.000	0.003	0.000	0.000	0.000

3.3. Incidence rate of acute cardiovascular and cerebrovascular events

As shown in **Table 4**, after statistics on the incidence of acute cardiovascular and cerebrovascular events, the experimental group was lower than the control group, $p < 0.05$.

Table 4. Comparison of the incidence of acute cardiovascular and cerebrovascular events between the control group and the experimental group (%)

Group	Cardiac death	Acute cerebral hemorrhage	Acute myocardial infarction	Acute cerebral embolism	Total (%)
Control group (n = 40 cases)	1 (2.50)	2 (5.00)	3 (7.50)	2 (5.00)	8 (20.00)
Experimental group (n = 40 cases)	0 (0.00)	0 (0.00)	1 (2.50)	1 (2.50)	2 (5.00)
χ^2	-	-	-	-	4.114
<i>p</i>	-	-	-	-	0.043

4. Discussion

Coronary heart disease has a high clinical incidence and high harm. When investigating the causative factors, the core indicators include: coronary atherosclerosis, family inheritance, autoimmune diseases, overweight, poor diet, living habits, etc. Once the disease occurs, it will seriously affect the patient's health ^[4].

The results of this study show:

- (1) After analysis of patients with coronary heart disease, LVEF among cardiac function indicators was higher in the experimental group, $p < 0.05$; LVEDD was lower in the experimental group, $p < 0.05$;
- (2) In terms of SAQ scores, the specific dimensions of patients with coronary heart disease, including Disease Cognition, physical activity limitation, frequency of angina pectoris attacks, angina pectoris stable state, and treatment satisfaction, were compared and measured. The experimental group was higher, $p < 0.05$.
- (3) The incidence of acute cardiovascular and cerebrovascular events was compared, and the experimental group (5.00%, 2/40) was lower, $p < 0.05$.

The specific analysis is as follows: The development of cardiovascular care is comprehensive and can analyze the psychological and physiological needs of patients with coronary heart disease, and then determine targeted management strategies; during this process, emotional comfort and patient counseling measures for patients with coronary heart disease can help reduce their psychological burden and can improve the negative state of patients ^[5]. At the same time, the education of disease knowledge and drug knowledge can correct the misconceptions of patients with coronary heart disease and improve medication compliance; in addition, in daily life, nursing staff also need to analyze the core triggers of coronary heart disease, and then provide effective services to such patients. Dietary guidance can better correct patients' bad eating habits, timely supplement the nutrients needed by patients, and enhance patients' own physical fitness and immunity ^[6]. While respiratory function training and aerobic training in rehabilitation guidance can better enhance the cardiopulmonary function of patients with coronary heart disease, and can improve the myocardial blood supply status and promote the recovery of cardiac function indicators ^[7]. The combination of the above care is highly standardized and can take effective intervention measures from multiple dimensions, thereby better alleviating the uncomfortable symptoms of patients with coronary heart disease, improving patient treatment safety, and ensuring the best prognosis ^[8].

In summary, during the treatment stage of coronary heart disease, cardiovascular care has a definite effect, which is conducive to improving patients' cardiac function indicators, alleviating disease symptoms, and improving overall efficacy. At the same time, the application of this nursing program can also reduce the incidence of adverse events such as cardiac death and acute cerebral hemorrhage in patients. It has high clinical safety and high promotion value.

About the author

Liu Xiaoyun (1989.07-), female, Han nationality, native of Guanyun, Jiangsu, supervisor nurse, current employer:

Guanyun County Traditional Chinese Medicine Hospital; research direction: cardiovascular nursing

Disclosure statement

The author declares no conflict of interest.

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