

# Application Effect of Emotional Nursing Combined with Comfort Nursing in the Perioperative Period of Percutaneous Coronary Intervention in Patients with Coronary Heart Disease

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**Abstract:** *Objective:* To explore the effect of applying emotional nursing combined with comfort nursing in the perioperative period of percutaneous coronary intervention (PCI) in patients with coronary heart disease. *Methods:* A total of 84 patients with coronary heart disease who underwent PCI treatment from January 2024 to December 2025 were selected and randomly divided into a control group receiving routine perioperative care and a study group receiving emotional nursing combined with comfort nursing, with 42 cases in each group. The intervention effects of the two groups were compared. *Results:* After the intervention, the GCQ score of the study group was significantly higher than that of the control group ( $p < 0.05$ ); the SAS and SDS scores of the study group were significantly lower than those of the control group after the intervention ( $p < 0.05$ ); the GCQ score of the study group was significantly better than that of the control group after the intervention ( $p < 0.05$ ). *Conclusion:* Emotional nursing combined with comfort nursing can effectively improve negative emotions in patients with coronary heart disease during the perioperative period of PCI, enhance comfort, and improve the quality of life related to angina pectoris.

**Keywords:** Coronary heart disease; Perioperative period; Comfort nursing; Emotional nursing

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## 1. Introduction

Percutaneous coronary intervention (PCI), as a core method for revascularization in coronary heart disease, offers advantages such as minimal trauma and rapid recovery, and has been widely applied in clinical practice. However, patients in the perioperative period of PCI are prone to negative emotions such as anxiety and depression due to fear of the surgery and concerns about the prognosis, which not only affect the

patient's treatment compliance but may also induce complications [1]. Conventional perioperative care pays insufficient attention to the psychological needs and comfort of patients, making it difficult to achieve ideal intervention effects. Emotional nursing, derived from the traditional Chinese medicine theory of "emotions causing diseases", improves the patient's psychological state through psychological counseling and emotional regulation, and has been proven to have a positive effect on the rehabilitation of patients with cardiovascular diseases [2]. Comfort nursing, centered on the patient, meets the patient's physiological, psychological, and social comfort needs through optimized nursing measures, reducing surgical stress responses [3]. In recent years, the application of combined nursing models in clinical care has gradually increased, but systematic application research on emotional nursing combined with comfort nursing in the perioperative period of PCI still needs to be improved. This study aims to explore the application effect of this combined nursing model in the perioperative period of PCI in patients with coronary heart disease and provide practical evidence for clinical care.

## 2. Materials and methods

### 2.1. General information

A total of 84 patients with coronary heart disease who underwent PCI treatment from January 2024 to December 2025 were selected and randomly divided into a control group and a study group, with 42 cases in each group. The general information of the two groups was comparable ( $p > 0.05$ ), as shown in **Table 1**.

**Table 1.** Comparison of general information

Group	Number of cases	Gender		Age (years)	Disease duration (years)	Lesion type	
		Male	Female			Stable Angina Pectoris	Unstable Angina Pectoris
Control group	42	20 (47.62)	22 (52.38)	62.35 ± 7.42	5.26 ± 2.13	23 (54.76)	19 (45.24)
Study group	42	22 (52.38)	20 (47.62)	63.12 ± 7.56	5.48 ± 2.25	22 (52.38)	20 (47.62)
	$\chi^2/t$		0.191	0.471	0.460		0.048
	$p$		0.663	0.639	0.647		0.827

### 2.2. Inclusion and exclusion criteria

#### 2.2.1. Inclusion criteria

- (1) Meeting the diagnostic criteria [4];
- (2) Undergoing PCI treatment for the first time;
- (3) Having clear consciousness and being able to cooperate in completing scale assessments;
- (4) Providing informed consent signed by both the patient and their family members.

#### 2.2.2. Exclusion criteria

- (1) Having severe heart failure, severe arrhythmia, or being in the acute phase of myocardial infarction;
- (2) Having severe underlying conditions such as liver or kidney failure, or malignant tumors;
- (3) Having cognitive dysfunction or a history of mental illness;
- (4) Having an infection at the puncture site or coagulation dysfunction.

## 2.3. Methods

The control group received conventional nursing care: preoperative preparation included completing relevant examinations and informing patients about the surgical procedure and precautions. Patients were instructed to fast for 6 hours and refrain from drinking water for 2 hours before surgery, complete skin preparation at the puncture site, and undergo bedside urination training. Medications were administered as prescribed before surgery. During the procedure, patients were assisted in adopting appropriate positions, intravenous access was established, vital signs were monitored, and patient responses were observed. Postoperatively, close observation was made for bleeding or hematoma at the puncture site, and radial/dorsal pedal artery pulsation was monitored. Adverse drug reactions were observed, and patients were guided on postoperative diet and activity.

The study group received emotional nursing combined with comfort nursing in addition to the conventional care provided to the control group

### 2.3.1. Emotional nursing

#### (1) Preoperative emotional intervention

Assess the patient's emotional state and identify core negative emotions. For patients primarily experiencing anxiety, use the "emotional dominance method" with "thought overcoming fear" and "joy overcoming sadness", guiding patients to think about postoperative rehabilitation plans to divert their emotions; play traditional Chinese medicine (TCM) wellness music every morning and before bedtime, combined with acupoint massage; instruct patients to practice TCM breathing techniques.

#### (2) Intraoperative emotional intervention

Nurses accompanied patients throughout the procedure, pressing the Hegu and Neiguan acupoint for 1 minute each with a sterile cotton swab before puncture to relieve instant tension; closely observe the patient's complexion and sweating during the procedure, and immediately press the Renzhong acupoint with the thumb to awaken the patient if signs of excessive emotional excitement such as pallor and excessive sweating appear.

#### (3) Postoperative emotional intervention

Use the "emotion diversion method", such as guiding patients to appreciate TCM wellness graphics and practice simplified Baduanjin exercises; for patients experiencing irritability due to pain, apply Wuzhuyu plaster to the Yongquan acupoint to draw fire downward and calm the mind; instruct family members to provide emotional support.

### 2.3.2. Comfort nursing

#### (1) Physiological comfort intervention

Postoperatively, dynamically assess the degree of pain. For patients with significant pain, administer analgesic medications as prescribed, and use physical interventions such as cold or hot compresses to relieve pain. Maintain the ward temperature at 22–25 °C and humidity at 50–60%, regularly ventilate the room, reduce noise interference, and ensure patients' sleep quality. For patients with difficulty urinating in bed, provide warm water rinsing of the perineum, listening to running water sounds, and other methods to induce urination; use indwelling catheters if necessary.

#### (2) Social comfort intervention

Promptly provide feedback to patients and their families on changes in the patient's condition and

rehabilitation progress, respecting the patient’s right to be informed and make decisions. For patients with special needs, try to meet them as much as possible, provide rehabilitation guidance manuals, inform them of community rehabilitation resources, and help patients better reintegrate into their families and society.

## 2.4. Observation indicators

### 2.4.1. Comfort status

Assessed using the Kolcaba Comfort Status Scale (GCQ), which includes 4 dimensions and a total of 24 items, with a total score ranging from 24 to 96. A higher score indicates better comfort status.

### 2.4.2. Psychological state

Assessed using the SAS and SDS scales. Both scales have 20 items and use a 4-point scoring system. Anxiety and depression are indicated by scores of  $\geq 50$  and  $\geq 53$ , respectively, with higher scores indicating more severe anxiety or depression.

### 2.4.3. Quality of life

Assessed using the Seattle Angina Questionnaire (SAQ), which includes 5 dimensions and a total of 18 items. Raw scores for each dimension are converted into standardized scores (0–100) using a formula, with higher scores indicating better quality of life for the patient.

## 2.5. Statistical methods

In the study, measurement data were expressed as  $(\bar{x} \pm s)$  and analyzed using *t*-tests. Statistical software (SPSS 24.0) was used for analysis, with  $p < 0.05$  considered statistically significant.

## 3. Results

### 3.1. Comparison of GCQ scores

After intervention, the GCQ score in the study group was significantly higher than that in the control group ( $p < 0.05$ ). See **Table 2**.

**Table 2.** Comparison of GCQ scores ( $\bar{x} \pm s$ , points)

Group	No. of cases	Physiological		Psychological/ Mental		Sociocultural		Environmental	
		Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Control group	42	12.18 ± 2.09	15.68 ± 2.35	20.42 ± 3.55	26.85 ± 3.82	8.63 ± 1.78	11.32 ± 1.92	5.26 ± 1.23	7.42 ± 1.36
Study group	42	12.35 ± 2.16	18.96 ± 2.58	20.15 ± 3.48	32.65 ± 4.12	8.45 ± 1.72	14.58 ± 2.13	5.13 ± 1.18	9.35 ± 1.42
<i>t</i>		0.367	6.091	0.352	6.690	0.471	7.367	0.494	6.361
<i>p</i>		0.715	< 0.001	0.726	< 0.001	0.639	< 0.001	0.622	< 0.001

### 3.2. Comparison of SAS and SDS scores

After the intervention, the SAS and SDS scores in the study group were significantly lower than those in the control group ( $p < 0.05$ ). See **Table 3**.

**Table 3.** Comparison of SAS and SDS scores ( $\bar{x} \pm s$ , points)

Group	Number of cases	SAS		SDS	
		Before intervention	After intervention	Before intervention	After intervention
Control group	42	56.32 ± 6.85	48.63 ± 6.12	57.15 ± 6.92	47.85 ± 6.03
Study group	42	55.87 ± 6.73	41.26 ± 5.35	56.92 ± 6.85	40.18 ± 5.25
<i>t</i>		0.304	5.876	0.146	6.217
<i>p</i>		0.762	< 0.001	0.884	< 0.001

### 3.3. Comparison of GCQ scores

After the intervention, the GCQ score of the study group was significantly better than that of the control group ( $p < 0.05$ ). See **Table 4**.

**Table 4.** Comparison of GCQ Scores ( $\bar{x} \pm s$ , points)

Group	No. of cases	Physical activity limitation		Angina stability status		Angina frequency		Treatment satisfaction		Disease cognition	
		Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention
Control group	42	45.32 ± 8.65	62.53 ± 9.12	42.15 ± 9.36	65.42 ± 9.57	38.68 ± 10.21	68.75 ± 10.03	52.42 ± 9.75	70.35 ± 9.82	48.35 ± 10.13	66.42 ± 10.25
Study group	42	44.85 ± 8.52	78.65 ± 9.56	41.87 ± 9.25	82.32 ± 9.68	38.23 ± 10.16	85.85 ± 10.25	51.87 ± 9.68	86.42 ± 9.87	47.92 ± 10.05	84.85 ± 10.46
<i>t</i>		0.251	7.907	0.138	8.046	0.202	7.728	0.259	7.480	0.195	8.156
<i>p</i>		0.803	< 0.001	0.891	< 0.001	0.840	< 0.001	0.796	< 0.001	0.846	< 0.001

## 4. Discussion

PCI is an important means of revascularization for coronary heart disease (CHD), but perioperative physiological and psychological stress responses can affect the treatment outcomes and rehabilitation process of patients. Comfort care is a holistic, personalized, and creative nursing model aimed at achieving the highest state of pleasure for patients in terms of physiology, psychology, society, and environment<sup>[5]</sup>. Emotional nursing, rooted in traditional Chinese medicine (TCM) theory, emphasizes the role of the “seven emotions” in causing and treating diseases. Through methods such as reasoning and persuasion, emotional diversion, and mutual restraint of emotions, it actively regulates patients’ emotions and promotes physical and mental harmony<sup>[6]</sup>. Studies have shown that the combination of comfort care and psychological intervention can significantly improve negative emotions in patients and enhance their quality of life<sup>[7]</sup>.

In this study, the total GCQ score of the study group was significantly higher than that of the control group after intervention. TCM emotional nursing improved psychological and mental comfort by “harmonizing Qi and blood and calming the mind”, enhancing psychological pleasure. Comfort care specifically optimized physiological and environmental comfort, and the combined intervention effectively

improved patient comfort. Su Min and other researchers pointed out that CHD patients are often affected by long-term illness, leading to high expression of negative emotions<sup>[8]</sup>. According to TCM, “the heart governs the mind” and “emotional imbalance leads to Qi and blood disorders”. Negative emotions such as anxiety and depression can cause Qi stagnation and heart vessel obstruction, exacerbating myocardial ischemia<sup>[9]</sup>. Studies have shown that TCM emotional nursing fully utilizes the theory of mutual restraint among the seven emotions, such as “joy overcoming sorrow”, to improve negative emotions in patients<sup>[10]</sup>. In this study, the SAS and SDS scores of the study group were lower after intervention. Based on the TCM theories of “the five internal organs corresponding to the five emotions” and “mutual restraint among emotions”, dialectical nursing care was implemented. Through precise assessment of emotional states, emotional regulation methods such as “contemplation overcoming fear” and “joy overcoming sorrow” were specifically employed. A full-cycle TCM emotional intervention system was formed through characteristic TCM interventions before, during, and after surgery, effectively alleviating patients’ negative emotions. The SAQ score of the study group was significantly better than that of the control group. TCM emotional nursing alleviated negative emotions such as anxiety and fear through dialectical nursing care, reducing angina pectoris induced by Qi stagnation caused by emotional imbalance and lowering the frequency of attacks. Interventions such as acupoint massage regulated autonomic nervous function and improved the stability of angina pectoris. Comfort care alleviated physical discomfort through personalized pain management and posture optimization, enhancing physical activity endurance and improving the degree of physical activity limitation. Social comfort interventions strengthened family support and disease awareness, improving treatment satisfaction. The synergy of both approaches comprehensively optimized the quality of life related to angina pectoris.

## 5. Conclusion

In summary, the application of emotional nursing combined with comfort care during the perioperative period of PCI in CHD patients effectively improves patients’ psychological states, enhances perioperative comfort, and improves the quality of life related to angina pectoris, making it worthy of clinical promotion and application. However, this study had a relatively small sample size and was a single-center study, resulting in certain limitations. Future studies could expand the sample size and conduct multi-center studies to further validate the research findings.

## Disclosure statement

The authors declare no conflict of interest.

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