Application of Psychological Nursing Intervention Combined with Volume Management in Improving the Quality of Life of Patients with Heart Failure

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Abstract: To investigate the impact of psychological nursing intervention combined with volume management on the quality of life of patients with heart failure. A total of 68 patients with heart failure admitted to our hospital from February to October 2024 were selected and randomly divided into two groups. One group received conventional nursing (34 cases, control group), while the other group received psychological nursing intervention combined with volume management (34 cases, observation group). Changes in psychological status and quality of life were analyzed. The scores of negative emotions (anxiety and depression) in the observation group were significantly lower than those in the control group after nursing (P<0.05). The quality of life scores in the observation group were significantly higher than those in the control group after nursing (P<0.05). Psychological nursing combined with volume management for patients with heart failure can improve their psychological status and enhance their quality of life.

Keywords: Psychological Nursing Intervention; Volume Management; Heart Failure; Quality of Life

1. Introduction

Heart failure is one of the most common cardiovascular diseases in clinical practice, characterized by a complex disease mechanism, prolonged course, and impaired cardiac function, which significantly impacts patients' daily lives. Under the long-term influence of the disease, patients often experience varying degrees of psychological stress, which hinders recovery and reduces their quality of life[1-2]. During the treatment of heart failure, nursing interventions are critical to promoting the recovery of cardiac function and improving patients' quality of life. This study aimed to evaluate the effects of psychological nursing combined with volume management in the care of heart failure patients.

2. Materials and Methods

2.1 General Information

A total of 68 patients with heart failure admitted to our hospital from February to October 2024 were randomly divided into two groups. The control group (34 cases) received conventional nursing, while the observation group (34 cases) received psychological nursing intervention combined with volume management. The control group included 18 males and 16 females, aged 56-79 years (mean: 62.12 ± 1.23), with a disease duration of 3-7 years (mean: 4.45 ± 1.01). The observation group included 19 males and 15 females, aged 57-78 years (mean: 62.58 ± 1.85), with a disease duration of 3-6 years (mean: 4.22+ 1.08). No significant differences in baseline characteristics were observed between the two groups (P>0.05).

2.2 Methods

The control group received conventional nursing, including detailed explanations of treatment precautions, guidance on rehabilitation exercises, healthy lifestyle habits, medication adherence, dietary management, and disease-related education.

The observation group received psychological nursing intervention combined with volume management:

Psychological Nursing: Psychological Assessment: Nurses encouraged patients to express their inner pressures during nurse-patient communication, identified sources of negative emotions, and provided emotional

support. Psychological Counseling: Tailored counseling based on patients' psychological status was provided, emphasizing treatment efficacy and sharing successful cases to build confidence. Patients were encouraged to engage in social interactions and divert attention through hobbies (e.g., reading). Relaxation Training: Patients were guided in deep breathing, meditation, and other relaxation techniques to alleviate anxiety and fear.

Volume Management: Diet management: During the treatment of patients, it is necessary to scientifically manage the salt intake according to the severity of the patient 's condition and the physical level, and the daily intake should be controlled at 2-3g. At the same time, a scientific diet plan should be formulated to avoid premature intake of spicy, greasy and other irritating foods based on light and nutritious foods. Daily sodium intake should be controlled below 6g. Liquid intake management: The daily fluid intake of these patients should be controlled between 1.5L and 2L during the treatment. For patients with a body weight of less than 85kg, the liquid intake can be referred to as 30ml/kg, and the reference amount is adjusted to 35ml/kg when the body weight exceeds 85kg. 3 Body mass management. During the treatment of patients, nursing staff should accurately carry out patient weight management. The patient's weight was measured and recorded every morning, before eating and after toileting, and whether the patient had fluid retention was evaluated in time. If it is observed that the patient 's body weight increases by more than 2 kg, it is necessary to accurately determine whether the patient has hidden water and sodium retention. Once an abnormality occurs, the doctor needs to be informed in time for treatment.

2.3 Observation Index

Psychological Status: Assessed using the Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI). Higher scores indicated more severe anxiety or depression.

Quality of Life: Evaluated using the WHOQOL-BREF scale, covering physical health (0-30), psychological health (0-30), social relationships (0-20), and environmental factors (0-30). Higher scores indicated better quality of life.

2.4 Statistical Methods

The relevant data in the study were processed according to SPSS22.0. The mean ± standard deviation ($\bar{x} \pm s$) expressed BAI, BDI score and other measurement data, t test, chi-square test count data, percentage (%), (P<0.05) The difference was statistically significant.

3. Result

3.1 Comparison of Negative Emotions

After nursing, the observation group exhibited significantly lower BAI and BDI scores than the control group (P<0.05). See Table 1.

Table 1. Comparison of BAI and BDI Scores ($\bar{x} \pm s$)

Group	Cases	BAI Score		BDI Score	
		Before Nursing	After Nursing	Before Nursing	After Nursing
Observation	34	35.23±1.53	16.05±0.75	31.22±1.45	10.23±1.42
Control	34	35.46±1.45	22.33±0.68	31.31±1.52	23.58±1.34
t	-	1.857	28.045	0.185	31.045
P	-	0.078	0.000	0.915	0.000

3.2 Comparison of Quality of Life

After nursing, the observation group demonstrated significantly higher quality of life scores in all domains compared to the control group (P<0.05). See Table 2.

Table 2. Comparison of Quality of Life Scores（$\bar{x} \pm s$）

Group	Cases	Physiology		Environmental Factor		Social Relations		Psychology	
		Before Nursing	After Nursing	Before Nursing	After Nursing	Before Nursing	After Nursing	Before Nursing	After Nursing
Observation	34	15.15± 1.24	26.78± 1.25	17.65± 1.27	26.68± 1.25	8.05± 1.35	14.85± 1.24	16.23± 1.51	22.78± 1.32
Control	34	15.18±	21.22±	17.25±	22.45±	8.03±	11.22±	16.31±	19.25±

		1.31	1.34	1.35	1.17	1.15	1.35	1.71	1.41
t	-	0.615	18.152	0.352	17.063	0.066	18.445	0.207	9.912
P	-	0.534	0.000	0.726	0.000	0.947	0.000	0.837	0.000

4. Discussion

Heart failure, a terminal manifestation of cardiovascular disease, severely impairs cardiac function. Its prolonged course and slow recovery significantly reduce patients' quality of life and induce psychological stress, further hindering recovery[3]. Integrating psychological nursing and volume management into the care of heart failure patients effectively alleviates negative emotions, optimizes fluid balance, and enhances quality of life.Psychological nursing addresses patients' emotional needs through assessment, counseling, and relaxation techniques, fostering a positive mindset for recovery. Volume management, including dietary and fluid restrictions, prevents complications related to fluid overload, supporting cardiac rehabilitation[4]. This study confirms that the combined intervention significantly improves both psychological well-being and quality of life.

In conclusion, psychological nursing combined with volume management is a valuable approach to enhancing the quality of life and promoting recovery in heart failure patients.

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