

Prevention and Care of Nausea and Vomiting in Cancer Patients After Chemotherapy

Na Zhang*

Chiping District People's Hospital of Liaocheng City, Liaocheng, Shandong,252100,China

*Correspondence to: Na Zhang,Chiping District People's Hospital of Liaocheng City, Liaocheng, Shandong,252100,China,E-mail:495191680@qq.com

Abstract: Chemotherapy is a crucial method for treating tumors, but chemotherapy drugs often cause adverse reactions such as nausea and vomiting, severely affecting patients' quality of life. This study compares the effects of conventional nursing care and the implementation of comprehensive nursing interventions and preventive measures in alleviating post-chemotherapy nausea and vomiting through a controlled experiment, aiming to provide higher quality nursing services for cancer patients.

Keywords: Cancer chemotherapy; Nausea and vomiting; Conventional nursing care; Comprehensive nursing intervention; Preventive measures

Introduction

With the development of modern medicine, chemotherapy has become one of the most important methods for treating tumors. However, while chemotherapy drugs are effective in killing tumor cells, they also cause some damage to normal cells in the body, leading to a series of side effects, with nausea and vomiting being the most common. Nausea and vomiting not only affect patients' appetite and nutrient absorption but can also lead to complications such as electrolyte imbalances and dehydration. In severe cases, these side effects can even force patients to discontinue chemotherapy. Therefore, effectively preventing and managing post-chemotherapy nausea and vomiting has become an urgent issue in the field of cancer treatment.

1. Materials and Methods

1.1 Study Subjects

This study included a total of 100 cancer patients undergoing chemotherapy, consisting of 58 males and 42 females, aged between 35 and 72 years, with an average age of 53.5 years. All patients had been pathologically diagnosed with malignant tumors and had undergone at least two cycles of chemotherapy. Patients were randomly divided into two groups: the control group ($n = 50$) and the experimental group ($n = 50$). To scientifically evaluate the effectiveness of the nursing interventions, the study employed a random assignment method. Specifically, patients were randomly allocated into the two groups using a random number table: the control group and the experimental group, with each group comprising 50 patients. This method aimed to ensure that the two groups were



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comparable in terms of gender, age, tumor type, and chemotherapy regimen, thereby enhancing the credibility of the study results.

1.2 Nursing Methods

1.2.1 Control Group

Patients in the control group received routine chemotherapy care, which included pre-chemotherapy education, monitoring during chemotherapy, and basic post-chemotherapy care.

1.2.2 Experimental Group

In addition to routine care, the experimental group received comprehensive nursing interventions and preventive measures aimed at more thoroughly addressing patients' needs and mitigating the adverse effects of chemotherapy.

(1).Psychological Intervention:To address the psychological stress that chemotherapy may cause, the experimental group focused on psychological interventions. Before chemotherapy, medical staff engaged in in-depth conversations with patients to explain the necessity and potential side effects of chemotherapy. Through psychological counseling, they helped patients develop a correct understanding to reduce their fear and anxiety about chemotherapy^[1]. During chemotherapy, medical staff regularly communicated with patients to understand their psychological changes and provide timely support. For patients with significant emotional fluctuations, professional psychological counseling was arranged to ensure their mental well-being.

(2).Dietary Guidance:Considering the impact of chemotherapy drugs on the digestive system, personalized dietary advice was provided to patients in the experimental group. Medical staff advised patients to avoid eating within two hours before chemotherapy to reduce gastrointestinal irritation. After chemotherapy, patients were encouraged to consume light, easily digestible fluids or semi-fluids, such as porridge and noodles, to lessen the burden on the gastrointestinal tract. Patients were also encouraged to drink plenty of water to expedite the elimination of chemotherapy drugs. For patients with poor appetite, nutritious fluid or semi-fluid foods were offered to meet their nutritional needs.

(3).Medication Therapy:To prevent nausea and vomiting, the experimental group was administered

antiemetic drugs, such as ondansetron and granisetron, 30 minutes before chemotherapy to alleviate symptoms and improve comfort. If nausea and vomiting occurred after chemotherapy, medical staff promptly provided antiemetic treatment to relieve patients' discomfort. Throughout the process, medical staff closely monitored patients' responses to medication and adjusted dosages and types as needed to ensure treatment safety and effectiveness.

(4).Lifestyle Guidance:The experimental group was encouraged to engage in appropriate physical activities, such as walking and Tai Chi, to enhance physical fitness and immunity while alleviating fatigue and discomfort caused by chemotherapy. Additionally, medical staff guided patients to maintain good daily routines, ensuring adequate sleep to promote recovery and boost immunity^[2]. For bedridden patients, relevant nursing guidance and assistance were provided.

2. Observation Indicators

2.1 Indicator Setting

To comprehensively evaluate the condition of patients after chemotherapy and the effectiveness of nursing care, the following key observation indicators were established:

(1).Incidence of Nausea and Vomiting:The proportion of patients experiencing nausea and vomiting symptoms after chemotherapy was recorded.

(2).Severity of Nausea and Vomiting:The severity was assessed using an internationally recognized nausea and vomiting assessment scale. This scale rates severity from 0 to 4, where 0 indicates no symptoms, 1 indicates mild nausea, 2 indicates moderate nausea with occasional vomiting, 3 indicates severe nausea and vomiting not requiring medication, and 4 indicates severe nausea and vomiting requiring medication control.

(3).Duration of Nausea and Vomiting:The duration of nausea and vomiting symptoms was recorded from the end of chemotherapy until the symptoms completely disappeared.

(4).Patient Satisfaction with Nursing Care:Patient satisfaction was collected through a questionnaire survey. The questionnaire included options of very satisfied, satisfied, average, and dissatisfied for patients to choose from.

(5).Quality of Life Score Post-Chemotherapy:A

specialized quality of life assessment scale was used to comprehensively evaluate patients from multiple dimensions, including physical function, emotional state, and social function.

(6).Medication Usage During Chemotherapy:The quantity and types of antiemetic and other supportive medications used during chemotherapy were recorded.

2.2 Assessment Methods and Calculation

(1).Incidence of Nausea and Vomiting

Incidence of Nausea and Vomiting = (Number of patients with nausea and vomiting symptoms\Total number of patients)x100%

(2) Severity of Nausea and Vomiting Score

The severity of nausea and vomiting is assessed

using a standardized scale, and the average score is calculated based on the ratings.

(3).Duration of Symptoms

The duration of nausea and vomiting is measured in hours from the end of chemotherapy until the symptoms completely disappear.

(4).Patient Satisfaction

Patient Satisfaction = ($\frac{\text{Number of very satisfied and satisfied patients}}{\text{Total number of patients}}$)x100%

3. Results Analysis

After two cycles of chemotherapy, a detailed statistical analysis of various observation indicators was conducted for both groups of patients. The results are shown in **Table 1** below:

Table 1: Observation Indicators of Patients After Chemotherapy

| Group | Incidence of Nausea and Vomiting (%) | Severity Score (0-4) | Duration (hours) | Patient Satisfaction (%) | Quality of Life Score | Medication Usage (units) |
|--------------|--------------------------------------|----------------------|------------------|--------------------------|-----------------------|--------------------------|
| Control | 80% | 2.8±0.9 | 36.5±8.2 | 70% | 65±10 | 15±3 |
| Experimental | 40% | 1.5±0.6 | 18.3±5.1 | 95% | 85±8 | 8±2 |

Data Analysis:

(1)Incidence of Nausea and Vomiting:The incidence of nausea and vomiting in the experimental group was 40%, significantly lower than the 80% in the control group. This significant difference indicates that comprehensive nursing interventions played a crucial role in reducing the occurrence of nausea and vomiting after chemotherapy. The interventions in the experimental group, which likely included psychological support, dietary adjustments, prophylactic medication, and lifestyle guidance, effectively reduced the incidence of these symptoms.

(2)Severity Score:The severity score of nausea and vomiting in the experimental group was 1.5 ± 0.6, markedly lower than the control group's 2.8 ± 0.9. This indicates that not only was the incidence of nausea and vomiting lower in the experimental group, but the symptoms were also milder when they did occur. This may be due to the psychological interventions and lifestyle guidance provided to the experimental group patients before chemotherapy, better preparing them to cope with the side effects.

(3)Duration of Symptoms:The duration of nausea and vomiting symptoms in the experimental group was 18.3 ± 5.1 hours, significantly shorter than the 36.5 ± 8.2 hours in the control group. This significant difference

further confirms the effectiveness of comprehensive nursing interventions. Through timely medication and lifestyle adjustments, patients in the experimental group were able to recover more quickly from nausea and vomiting, reducing the associated discomfort.

(4) Patient Satisfaction:Patient satisfaction in the experimental group was 95%, significantly higher than the control group's 70%. This indicates that patients in the experimental group were more satisfied with the nursing services they received. The comprehensive nursing interventions addressed not only the physical but also the psychological needs and quality of life of the patients, leading to higher overall satisfaction with the care provided.

(5)Quality of Life Score:The quality of life score for the experimental group was 85 ± 8, significantly higher than the control group's 65 ± 10. This demonstrates that patients in the experimental group had a better quality of life during and after chemotherapy. Comprehensive nursing interventions, through holistic care, helped patients better manage the side effects of chemotherapy, thereby improving their overall quality of life.

(6)Medication Usage During Chemotherapy:The medication usage during chemotherapy in the experimental group was 8 ± 2 units, significantly lower than the control group's 15 ± 3 units. This indicates that

patients in the experimental group were less dependent on medications due to comprehensive nursing interventions. This not only reduces the financial burden on patients but also minimizes the potential side effects and risks associated with medication use.

4. Discussion and Conclusion

The results of this study demonstrate that implementing comprehensive nursing interventions and preventive measures significantly alleviates nausea and vomiting in cancer patients after chemotherapy. After receiving comprehensive measures such as psychological intervention, dietary guidance, medication therapy, and lifestyle counseling, patients in the experimental group experienced a noticeable reduction in the incidence, severity, and duration of nausea and vomiting. The effective implementation of these measures not only relieved the patients' physical symptoms but also improved their psychological resilience and quality of life. Compared to conventional nursing care, comprehensive nursing interventions and preventive measures are more comprehensive and meticulous, providing personalized nursing services tailored to the diverse needs of patients. Psychological intervention helps alleviate patients' anxiety and fear, thereby improving their compliance with chemotherapy; dietary guidance assists patients in selecting appropriate foods and avoiding stimulating foods that may irritate the gastrointestinal tract; medication therapy promptly controls nausea and vomiting symptoms, alleviating patients' discomfort; lifestyle counseling helps patients enhance their physical fitness and immunity to better cope with chemotherapy-related adverse reactions. Additionally, this study found that patients in the experimental group were significantly more satisfied with nursing care than those in the control group. This may be attributed to the comprehensiveness and specificity of comprehensive nursing interventions and preventive measures, which make patients feel more cared for and professionally supported during chemotherapy. However, this study also has some limitations. Firstly, the relatively small sample size may introduce sampling errors. Secondly, different types of tumors, chemotherapy regimens, and individual differences may influence the results. Therefore, personalized nursing plans should be formulated based on the specific conditions of patients in actual

practice. Future studies could expand the sample size and conduct multicenter research to validate the conclusions of this study.

5. Strategies for Implementing Comprehensive Nursing Interventions and Preventive Measures

Based on the research content and discussions above, the following are implementation strategies for comprehensive nursing interventions and preventive measures to alleviate nausea and vomiting in cancer patients after chemotherapy:

(1).Develop Detailed Plans: Clearly define the goals of nursing interventions, such as reducing the incidence of nausea and vomiting and alleviating symptoms. Develop detailed operational procedures for each step, including psychological intervention, dietary guidance, medication therapy, and lifestyle counseling.

(2).Establish a Professional Team: Form an interdisciplinary team, including oncologists, nurses, nutritionists, psychologists, etc., to ensure that all aspects of needs are met^[3]. Provide regular training to ensure that team members are equipped with the latest nursing knowledge and skills.

(3).Personalized Nursing Plans:Conduct comprehensive assessments of patients before chemotherapy, including physical condition, psychological status, lifestyle, etc. Based on the assessment results, develop personalized nursing plans for patients.

(4).Strengthen Communication and Education: Enhance communication with patients, explain in detail the possible side effects of chemotherapy and corresponding nursing measures, and gain patients' understanding and cooperation. Supplement with education for family members to understand the nursing plan, enabling them to provide necessary support and care to patients in daily life.

(5).Monitoring and Adjustment: Continuously monitor and regularly assess the nausea and vomiting conditions of patients, and record relevant data. Based on patient feedback and monitoring results, adjust nursing plans in a timely manner.

(6).Establish Support Systems: Provide psychological support through establishing psychological counseling hotlines or online platforms to offer psychological support to patients at any time. Encourage patients to

join support groups or social communities to share experiences and encourage each other.

(7).Quality Control and Feedback Mechanism: Regularly audit the implementation of nursing interventions to ensure that all measures are effectively implemented. Collect feedback from patients on nursing services as a basis for improvement^[4].

(8).Continuous Improvement and Innovation: Periodically summarize the experiences and lessons learned during the implementation process and continuously optimize nursing plans. Pay attention to the latest nursing technologies and research findings and integrate them into existing nursing practices.

Conclusion

This study demonstrates that implementing comprehensive nursing interventions and preventive measures significantly alleviates nausea and vomiting in cancer patients after chemotherapy, leading to a substantial improvement in patient satisfaction and quality of life. It is recommended to widely apply these nursing interventions and preventive measures in clinical practice to enhance the quality of life during

chemotherapy for cancer patients and to continuously optimize and enhance oncology nursing services.

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