Journal of Clinical and Nursing Research, 2025, Volume 9, Issue 5
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Application of Responsibility-based Holistic Nursing in Elderly Patients with Severe Pneumonia

Ying Cui*

School of Clinical Medicine, Affiliated Hospital of Hebei University, Baoding 071000, Hebei, China

**Corresponding author: Ying Cui, 842551809@qq.com*

Abstract: *Objective:* To explore the clinical effects of applying responsibility-based holistic nursing in elderly patients with severe pneumonia. *Methods:* Ninety-six elderly patients with severe pneumonia admitted to a hospital from January 2023 to December 2024 were selected and divided into an observation group (52 cases) and a control group (44 cases) based on a random number table method. The observation group received responsibility-based holistic nursing, while the control group received basic nursing. The clinical effects (time to normalize body temperature, disappearance of cough, disappearance of dyspnea symptoms, disappearance of lung rales, changes in oxygenation index) and nursing satisfaction were observed in both groups. *Results:* The observation group showed superior results compared to the control group in terms of time to normalize body temperature, disappearance of cough, disappearance of dyspnea symptoms, disappearance of lung rales, and changes in oxygenation index, with statistically significant differences ($P < 0.05$). The satisfaction rate with nursing services in the observation group (92.31%) was significantly higher than that in the control group (86.36%) ($P < 0.05$). *Conclusion:* Implementing responsibility-based holistic nursing in elderly patients with severe pneumonia can improve their oxygenation function, enhance quality of life, and increase nursing satisfaction.

Keywords: Responsibility-based holistic nursing; Elderly; Severe pneumonia

Online publication: May 30, 2025

1. Introduction

Elderly patients with severe pneumonia often face critical conditions, multiple complications, and significant treatment challenges. Inappropriate management can easily lead to various complications and even death [1]. Therefore, it is essential to implement scientific nursing interventions for these patients. Responsibility-based holistic nursing combines the advantages of traditional nursing with modern nursing concepts, enriched with humanistic care and holistic nursing connotations, to better meet patients' needs, improve their quality of life, and promote recovery [2]. This study selected 96 elderly patients with severe pneumonia admitted to a hospital

from January 2023 to December 2024 for investigation. The results showed that the clinical efficacy and nursing satisfaction of elderly patients with severe pneumonia who received responsibility-based holistic nursing were significantly better than those of the control group, with statistically significant differences. This indicates that responsibility-based holistic nursing positively impacts the treatment effectiveness and nursing satisfaction of elderly patients with severe pneumonia, effectively improving nursing quality. The detailed report is as follows.

2. Materials and methods

2.1. General information

A total of 96 elderly patients with severe pneumonia admitted to a hospital from January 2023 to December 2024 were selected and divided into an observation group (52 cases) and a control group (44 cases) based on a random number table method. There were no statistically significant differences in age, gender, or disease severity between the two groups ($P > 0.05$), making them comparable (see **Table 1**).

Inclusion criteria: Elderly patients aged ≥ 65 years; meeting the diagnostic criteria for severe pneumonia in the "Guidelines for the Diagnosis and Treatment of Community-Acquired Pneumonia in Chinese Adults (2023 Edition)" and confirmed by chest CT/X-ray and laboratory tests (such as PCT, CRP, blood routine); needing to satisfy at least one of the following: oxygenation index (PaO_2/FiO_2) ≤ 250mmHg, requiring mechanical ventilation or high-flow nasal cannula (HFNC), complicated with sepsis or multiple organ dysfunction (SOFA score ≥ 2); patients or their families signed informed consent and could cooperate with nursing interventions and follow-up.

Exclusion criteria: Advanced malignant tumors (expected survival < 3 months); severe cardiac insufficiency (NYHA class IV) or end-stage liver and kidney failure; active tuberculosis, pulmonary embolism, or interstitial lung disease; those who withdrew from treatment or were automatically discharged within 24 hours of admission; those already participating in other interventional clinical studies; those with Alzheimer's disease or mental illness unable to cooperate with nursing assessments.

Table 1. General information

Group	Control group (*n*=44)	Observation group (*n*=52)	t/χ^2	*P*
Age (years)	65.32 ± 6.78	66.15 ± 7.23	0.582	> 0.05
Gender (Male/Female)	24(54.55)/20(45.45)	28(53.85)/24(46.15)	0.011	> 0.05
Duration of illness (months)	3.25 ± 1.42	3.18 ± 1.37	0.251	> 0.05

2.2. Nursing methods

2.2.1. Observation group patients

(1) Inform patients of their condition and treatment plan promptly after admission.

(2) Conduct lung auscultation and observe the patient's respiratory status.

(3) Closely monitor the patient's vital signs, including heart rate (HR), respiratory rate (RR), blood pressure (BP), blood oxygen saturation (SpO2), and body temperature (T).

(4) Communicate effectively with the patient's family members, encourage patients to actively cooperate with treatment, and alleviate their psychological stress [3]

(5) Implement responsibility-based holistic nursing while providing routine basic nursing to the patients.

(6) Strengthen the nursing of underlying diseases, such as providing nebulization and oxygen inhalation for

cardiopulmonary insufficiency, and enhancing nutritional support.

(7) Pay attention to the patient's eating situation, perform oral care to prevent food from entering the trachea and inducing aspiration pneumonia.

(8) Administer medication strictly according to doctor's orders and closely observe side effects.

(9) Inform patients of discharge instructions.

2.2.2. Control group patients

(1) Provide routine basic nursing, including promptly notifying doctors of changes in the patient's condition and assisting in treatment.

(2) Adjust the dietary structure according to the patient's physical condition to ensure balanced nutrition.

(3) Maintain fresh indoor air to avoid cross-infection [4].

(4) Ensure adequate rest time for patients.

2.3. Observation indicators

Compare the clinical effects (time to normalize body temperature, disappearance of cough, disappearance of dyspnea symptoms, disappearance of lung rales, changes in oxygenation index) and nursing satisfaction between the two groups.

(1) Body temperature: refers to the average body temperature drop of no more than 0.36℃ per hour for normal people at a room temperature of 24℃, while the average body temperature of pneumonia patients is lower than this value.

(2) Cough: refers to the process of discharging sputum and purulent secretions from the trachea or bronchi through breathing, clinically used to judge the severity of the disease based on cough and sputum symptoms [5].

(3) Time to relief of dyspnea symptoms: refers to the time when patients show improvement and gradual disappearance of symptoms after reasonable treatment [6].

(4) Lung rales: refer to a sound produced by the accumulation of air in the alveoli, generally related to lung texture disorders [7]; observe whether there is a trend of increase or decrease.

(5) Oxygenation index: the percentage of the maximum exhalation peak flow after inhaling pure oxygen relative to the predicted value, which is an important indicator to measure the degree of hypoxia in the body [8], reflecting the oxygen demand status of body tissues and organs.

(6) Nursing satisfaction: measured using a self-made anonymous survey questionnaire, categorized into very satisfied, satisfied, and dissatisfied. Satisfaction rate = (very satisfied + satisfied) ÷ total number of cases × 100%.

2.4. Statistical processing

Statistical analysis was performed using SPSS 27.0 software. Measurement data were expressed as mean ± standard deviation (±s), and comparisons between groups were made using the t-test. Count data were expressed as rates (%), and comparisons between groups were made using the chi-square test. $P < 0.05$ was considered statistically significant.

3. Results

3.1. Comparison of clinical effects between the two groups

The observation group showed better results in terms of time to normalize body temperature, disappearance of cough, disappearance of dyspnea symptoms, disappearance of lung rales, and changes in oxygenation index compared to the control group. The differences were statistically significant ($P < 0.05$), as shown in **Table 2.**

Table 2. Comparison of clinical effects between the two groups [±s]

Group	Temperature returns to normal time (d)	Cough disappearance time (d)	Dyspnea symptom disappearance time (d)	Lung rales disappearance time (d)	Oxygenation index (mmHg)
Control group (n=44)	3.25 ± 0.68	5.42 ± 1.23	4.36 ± 1.05	6.15 ± 1.32	285.34 ± 32.15
Observation group (n=52)	2.13 ± 0.54	3.87 ± 0.96	3.02 ± 0.88	4.28 ± 1.07	342.67 ± 28.74
t	8.765	6.892	6.543	7.421	8.934
P	0.000	0.000	0.000	0.000	0.000

3.2. Comparison of nursing satisfaction between the two groups

The satisfaction rate of nursing services among patients in the observation group (92.31%) was significantly higher than that in the control group (86.36%) ($P < 0.05$), as shown in **Table 3**.

Table 3. Comparison of nursing satisfaction between the two groups [n(%)]

Group	Very satisfied	Satisfied	Dissatisfied	Satisfaction rate
Control group (n = 44)	18(40.91)	20(45.45)	6(13.64)	38(86.36)
Observation group (n = 52)	30(57.69)	18(34.62)	4(7.69)	48(92.31)
x^2				6.472
P				0.034

4. Discussion

Severe pneumonia is a common disease among elderly patients, especially prone to complications on the basis of respiratory system dysfunction and decreased immune system. Due to its critical condition, long treatment duration, and being prone to complications, coupled with the degradation of cognitive and behavioral abilities common in elderly patients, as well as their sensitivity to pain and hospital environments, it can easily lead to physical and psychological impairments, increasing the difficulty of nursing work. Therefore, actively implementing responsibility-based holistic nursing can improve patients' various indicators and enhance their quality of life. The responsibility-based holistic nursing adopts a responsibility nursing model, emphasizing patient-centeredness, proactive observation of the patient's condition, and providing effective assistance based on the patient's actual situation, thereby reflecting a good relationship between nurses and patients, and alleviating negative emotions such as fear, anxiety, and tension.

Simultaneously, promoting patient participation in treatment decisions through group discussions and other methods helps establish a healthy and positive attitude towards life, thereby improving treatment outcomes.

Elderly patients with severe pneumonia face critical conditions, and without effective treatment and care, they can develop multiple complications, leading to poor patient outcomes. Elderly patients often experience varying degrees of cognitive decline and psychosocial issues, which, to some extent, also increase the difficulty of nursing work. Responsibility-based holistic nursing, on the other hand, is a novel nursing model that focuses on the "person" as the center, prioritizing patients' life needs, social functions, and living abilities. By providing high-quality personalized care, it meets patients' physiological, psychological, and other needs [9]. The holistic concept of responsibility-based nursing emphasizes a people-oriented approach, focuses on individual differences among patients, and adopts a combination of comprehensive evaluation and classified management. Based on the specific conditions of patients, reasonable nursing measures are developed to maximize patients' potential [10].

This study shows that the observation group had better results than the control group in terms of time to normalize body temperature, disappearance of cough, disappearance of dyspnea symptoms, disappearance of lung rales, and changes in oxygenation index, with statistically significant differences ($P < 0.05$). Additionally, the satisfaction rate of nursing services among patients in the observation group (92.31%) was significantly higher than that in the control group (86.36%) ($P < 0.05$). Evidently, implementing responsibility-based holistic nursing for elderly patients with severe pneumonia can improve their clinical symptoms, enhance quality of life, help alleviate patient suffering, reduce hospital stay, and is worthy of promotion and application. Given that pneumonia often occurs in the elderly and is frequently associated with multiple medical comorbidities, leading to poor nutritional status, low resistance, and susceptibility to various infections, resulting in complex conditions, long treatment durations, and prone to complications.

The advantage of responsibility-based holistic nursing lies in strengthening communication between nursing staff and patients, gaining patients' trust, thereby enhancing nurses' work enthusiasm, strengthening nurse-patient relationships, timely grasping patients' psychological changes, meeting their spiritual needs, and facilitating patients' recovery. Establishing an equal relationship between nurses and patients, working closely together, and making joint efforts to overcome the disease can yield maximum benefits. Considering that most elderly patients with severe pneumonia suffer from malnutrition, low immune system, and difficulty in discharging viscous respiratory secretions, coupled with comorbidities such as hypertension, diabetes, and coronary heart disease, if not effectively controlled, they can easily trigger or exacerbate other systemic pathologies. Hence, corresponding measures should be taken to ensure patients' physical recovery.

Under the responsibility-based holistic nursing model, medical staff fully consider patients' physiological and psychological needs, adopt responsibility-based nursing, and develop detailed nursing plans, clarifying each nurse's responsibilities, implementing hierarchical management, and fully leveraging team members' enthusiasm and creativity. Simultaneously, they focus on continuous quality improvement in nursing. In nursing work, the head nurse regularly convenes meetings to guide the entire nursing team to learn new nursing knowledge and techniques, continuously improving nursing professionalism; the nursing department organizes 1–2 training sessions monthly to enhance overall nursing standards; the department organizes weekly morning shift changes to summarize nursing work for the week, analyze existing problems, propose solutions, discuss and resolve difficult issues, standardize various operational procedures, and ensure nursing safety; clinical departments hold 1–2 academic lectures monthly to introduce the latest nursing developments domestically and internationally, enabling all nurses to gain experience through learning and improve through practice, comprehensively enhancing the professional skills and service capabilities of the entire nursing team.

5. Conclusion

In summary, implementing responsibility-based holistic nursing for elderly patients with severe pneumonia can improve their clinical symptoms, enhance their oxygenation function, enhance quality of life, and increase nursing satisfaction. However, due to factors such as economic conditions, human resource allocation, and hospital culture, the promotion of responsibility-based holistic nursing in China is still not ideal. How to better integrate responsibility-based holistic nursing into the modern nursing system is an urgent problem to be solved. Therefore, relevant departments should attach importance to the promotion of responsibility-based nursing to meet the growing needs of patients and provide them with high-quality medical services.

Disclosure statement

The author declares no conflict of interest.

References

[1] Sun J, 2022, The Value of Holistic Nursing Responsibility System in the Care of Elderly Patients With Severe Pneumonia. Medical Diet Therapy and Health, 20(11): 96–98, 106.

[2] Shen T, 2021, Application of the Holistic Nursing Responsibility System in the Care of Elderly Patients With Severe Pneumonia. Mother and Baby World, 2021(10): 227.

[3] Wu Y, 2020, Application of the Holistic Nursing Responsibility System in the Care of Elderly Patients With Severe Pneumonia. Health Must-Read, 2020(2): 124.

[4] Li X, 2024, The Impact of Hierarchical Holistic Nursing Responsibility System Combined With Standardized Nursing on Patients With Severe Pneumonia and Heart Failure. China Standardization, 2024(24): 326–328, 336.

[5] Wu H, 2022, Observation on the Application Effect of the Holistic Nursing Responsibility System in the Care of Elderly Patients With Severe Pneumonia. Marriage, Childbearing, and Health, 28(24): 73–75.

[6] Lei T, 2022, Observation on the Clinical Effect of Applying the Holistic Nursing Responsibility System to Elderly Patients With Severe Pneumonia. Capital Food and Medicine, 29(10): 101–103.

[7] Liu W, 2021, Observation and Analysis of the Implementation of the Holistic Nursing Responsibility System Intervention to Improve Nursing Effects in Elderly Patients With Severe Pneumonia. Smart Healthcare, 7(30): 189–191.

[8] Ye Y, Chen D, Li W, et al., 2021, Clinical Value Analysis of Holistic Nursing Interventions for Elderly Patients With Severe Pneumonia. Health Care Guide, 2021(4): 211.

[9] Zhao C, Yang H, Qin G, et al., 2019, Analysis of the Nursing Effect of the Holistic Nursing Responsibility System on Lung Function and Blood Gas Indicators in Patients With Severe Pneumonia. International Journal of Nursing, 38(20): 3384–3387.

[10] Liu J, 2020, The Application Value of Holistic Nursing Responsibility System Based on Nursing Procedures in ICU Patients With Ventilator-Associated Pneumonia. Henan Medical Research, 29(9): 1712–1714.