Efficacy Observation of Continuous Intervention in Conjunction with Bevacizumab in Managing Non-Small Cell Lung Cancer

YUMIN LI AND FANG WANG*

Department of Oncology, Affiliated Hospital of Yangzhou University, Yangzhou, Jiangsu Province 225000, China

Li *et al.*: Efficacy of Bevacizumab in Managing Non-Small Cell Lung Cancer

A study is being conducted to examine the effectiveness of continuous intervention in conjunction with bevacizumab in managing individuals with non-small cell lung cancer. In this study, we recruited 100 lung cancer patients who underwent treatment at our hospital between June 2020 and June 2022. Subsequently, these individuals were randomly allocated into two groups; control group and an observation group, comprising 50 patients in each group. Routine care was given to the control group, whereas the observation group received enhanced care continuously along with the routine care offered to the control group. Following a 6 mo follow-up period, the self-developed "Disease Knowledge Questionnaire" was utilized to assess the level of disease knowledge awareness in both groups. The quality of life evaluation scale was utilized to gauge the survival quality of the patients, taking into consideration their physiological, psychological, social, and health education aspects. Adverse reactions, including diarrhea, rash, nausea/vomiting, and elevated transaminases, were also monitored and documented. The observation group exhibited a notably higher disease knowledge awareness rate compared to the control group (p<0.05). Additionally, in terms of physiological, psychological, social, and health education domains, the observation group achieved remarkably better scores than the control group (p<0.05). However, no substantial difference was found in overall adverse reactions between the two groups (p>0.05). The outcomes of this research affirm the effectiveness and suitability of integrating continuous care and bevacizumab as a treatment approach for non-small cell lung cancer. By implementing continuous care measures, individuals experienced an improvement in disease knowledge awareness and an enhancement in their physiological, psychological, and social functions. Importantly, these measures did not exert a significant negative impact on the management of adverse reactions.

Key words: Continuous intervention, targeted therapy, non-small cell lung cancer, bevacizumab, life quality

Being the foremost cause of cancer-related fatalities[1], lung cancer predominantly manifests as Non-Small Cell Lung Cancer (NSCLC), comprising 80 %-85 % of cases, and approximately 30 % of these cases involve sensitive gene mutations. When contrasted with traditional chemotherapy, targeted therapy has shown significant advancements in the prognosis of NSCLC patients who harbor sensitive gene mutations. Nevertheless, research indicates that following discharge, several patients face challenges such as inadequate supervision, irregular lifestyles, and delays in identifying abnormal physical conditions, ultimately influencing treatment outcomes and potentially exacerbating the disease[2]. With the intention of diminishing the incidence of the aforementioned scenarios, a continuous intervention model has been advocated in clinical practice. This model ensures that patients receive consistent healthcare even after being discharged, thereby safeguarding the effectiveness of their treatment[3-5]. Through continuous monitoring and intervention, the aim of continuous intervention is to optimize treatment outcomes and minimize treatment-related adverse reactions. Continuous intervention typically involves regular disease monitoring, medication management, nursing support, and symptom

management for patients. It also entails effective communication and education with patients and their families to help them better understand disease progression and treatment plans[6,7]. The application effectiveness of the continuous care model was evaluated through a group analysis involving 100 NSCLC patients as the main focus of this study. Within the period of June 2020 to June 2022, a retrospective study was undertaken on 100 lung cancer patients who underwent treatment at our hospital. These patients were then allocated randomly into two groups; a control group and an observation group, comprising 50 patients each. Among the participants, the control group included 29 males and 21 females, with an age varying from 40 y to 70 y old, and an average age of (54.73±6.25) y. Meanwhile, the intervention group consisted of 26 males and 24 females, ranging in age from 39 y to 72 y, with an average age of (55.16±6.18) y. The general data showed no statistically remarkable disparities between groups, confirming their comparability (p>0.05). Approval for conducting this research was granted by the hospital's ethics committee, ensuring adherence to ethical principles. All patients were fully informed and willingly participated in the study, as indicated by their signed consent forms. The inclusion criteria pathologically confirmed diagnosis of NSCLC; age range between 20 y and 75 y; need for ongoing intravenous targeted drug therapy post-discharge and follow-up period duration of >6 mo. In exclusion criteria, coexistence of other malignant tumors; severe liver or kidney dysfunction, as well as cardiovascular and cerebrovascular diseases; pregnant or breastfeeding female patients and existence of evident mental disorders were excluded. Routine care, in addition to standard chemotherapy combined with bevacizumab treatment, was provided to patients in the control group. Conversely, the study group received continuous care, following the identical treatment protocol as the control group. In preparation phase, continuous care team was established, consisting of a head nurse as the team leader and three nurses as team members. The team received training on the continuous care for NSCLC patients treated with bevacizumab. Anticipated issues in care were discussed and explained. Health records were established for patients upon discharge, documenting personal information, family

situation, economic status, tumor staging, pathological type, and past treatment history. Patients were educated on daily diet, exercise, emotional well-being, and regular follow-up before discharge. Intervention measures patients received biweekly phone follow-up, with detailed recordings of bevacizumab usage and the occurrence of adverse drug reactions. Patients were educated on the importance and necessity of molecular targeted drug treatment for the disease, as well as adverse reaction monitoring and self-care knowledge. They were instructed to maintain clean skin, follow a light diet, and ensure sufficient sleep. Communicating with patients, their level of disease knowledge awareness, and their psychological status were evaluated. Patients were guided in self-emotional management, and family members were encouraged to provide additional psychological support, ensuring patients were in the best psychological state. Patients were advised to visit the hospital for regular check-ups or hospitalization on a monthly basis. Follow-up hotlines, WeChat groups, and other communication channels were established to promptly address patient questions. Disease knowledge awareness rate a self-developed "Disease Knowledge Questionnaire" was utilized, covering awareness of etiology and risk factors, major clinical symptoms, complications, treatment methods, and pain management strategies. Quality of life evaluation scale was employed to evaluate patient's life quality across multiple domains, including physiological function, psychological function, social function, and health education. A higher score on the scale signified a greater quality of life[8]. Adverse reactions these included were diarrhea, rash, nausea/vomiting, and elevated transaminases. Statistical Package for the Social Sciences (SPSS) 25.0 will be employed to perform the statistical analysis in this research. Mean and standard deviation will be reported for continuous variables and analyzed through t-tests, while frequencies and percentages n (%) will be used to represent categorical variables and assessed using Chi-square (χ^2) tests. The significance level of p<0.05 will be applied to determine statistical significance. A 6 mo follow-up conducted after the intervention indicated that the observation group displayed a notably higher awareness rate concerning the etiology and risk factors, major clinical symptoms, complications, treatment

methods, and pain management strategies, in comparison to the control group (p<0.05) as shown in Table 1. As a result of the intervention, the study group achieved notably higher scores in physiological function, psychological function, social function, and health education in contrast to the control group (p<0.05) as shown in Table 2. During the 6 mo follow-up period, there was no remarkable difference in the occurrence rates of diarrhea, rash, nausea/vomiting, elevated transaminases, and overall adverse reactions between the two groups (p>0.05) as shown in Table 3. NSCLC patients not only undergo surgery, chemotherapy, and other treatments but also require long-term use of targeted drugs. Due to the prolonged duration of treatment, patients are prone to experiencing anxiety, irritability and other negative emotions, which can significantly impact their treatment and life quality[9,10]. To improve the quality of care and provide better services to patients, continuous care can be implemented after discharge. During the medication period, close communication with patients is maintained, paying attention to their psychological status, medication adherence, and lifestyle. Disease and health knowledge are disseminated, guiding patients on self-care and self-health management. Scientific guidance and assistance are tailored to each patient's specific condition, helping to increase their confidence in fighting the disease and ultimately facing it with a positive attitude. Continuous care is an extension of hospital care, ensuring that scientific and effective care measures continue beyond the patient's discharge, providing targeted services that allow patients to receive subsequent treatment in the best possible state[11,12]. The results of this study revealed that, in the treatment of NSCLC using continuous care combined with bevacizumab, the observation group had significantly higher awareness rates regarding disease etiology and risk factors, major clinical symptoms, complications, treatment methods, and pain management strategies compared to the control group. Therefore, it can be concluded that continuous care is more effective than routine care in improving comprehensive understanding of NSCLC, facilitating symptom control, and enhancing the quality of life. Extensive evidence has shown that the implementation of continuous care plays a crucial role in enhancing disease awareness, managing patient symptoms, and mitigating adverse emotional responses in various chronic diseases[13,14]. Additionally, the observation group exhibited markedly higher scores in physiological function, psychological function, social function, and health education compared to the control group (p<0.05). These findings suggest that the combination of continuous care and bevacizumab treatment has a favorable impact on enhancing the life quality and facilitating overall recovery. The results emphasize the importance of continuous care and the necessity for patients to receive comprehensive support and education throughout the treatment process. Similarly, Guo et al.[15] reported that patients in the continuous intervention group had higher scores in physiological function, overall health, social function, and mental health quality of life dimensions compared to the conventional intervention group. Moreover, the analysis revealed no statistically significant distinction in the overall occurrence of adverse reactions between the two groups (p>0.05). This implies that the integration of continuous care and targeted drug treatment exhibits satisfactory safety acceptability and does not noticeably heighten the occurrence of adverse reactions as compared to traditional treatment methods. However, individual adverse reactions such as diarrhea, rash, nausea/vomiting, and elevated transaminases require further observation and control to ensure patient's treatment experience and safety. Overall, this study confirms the effectiveness and acceptability of adopting continuous care in conjunction with bevacizumab for treating individuals with NSCLC. The implementation of continuous care measures improves patients' awareness of disease etiology and risk factors, major clinical symptoms, complications, treatment methods, and pain management strategies, as well as their physiological, psychological, and social functions, without significant adverse effects on the control of adverse reactions. These findings provide further evidence and guidance for clinical practice and serve as a reminder for clinical teams to pay attention to patient's comprehensive needs during the treatment process. Nevertheless, further research comprising large-scale samples and prolonged follow-up periods is warranted to verify these findings and investigate the long-term repercussions of continuous care measures on patient prognosis.

TABLE 1: COMPARISON OF EFFICIENCY AND CONTROL RATE

Group	n	Etiology and risk factors	Main clinical symptom	Complication	Treatment method	Ways to reduce pain
Observation	50	45 (90.00)	49 (98.00)	42 (84.00)	47 (94.00)	48 (96.00)
Control	50	34 (68.00)	40 (80.00)	31 (62.00)	35 (70.00)	34 (68.00)
χ^2		7.294	8.274	6.139	9.756	13.279
p		0.007	0.004	0.013	0.002	0.000

TABLE 2: COMPARISON OF LIFE QUALITY

Group	n	Physiological function	Psychological function	Social function	Health education
Observation	50	53.29±3.85	49.75±4.74	51.38±4.85	46.48±3.01
Control	50	41.27±3.39	41.57±4.13	42.38±4.64	37.48±2.86
t		-3.837	-4.381	-2.394	-4.292
p		0.001	0.02	0.000	0.000

TABLE 3: COMPARISON OF ADVERSE REACTIONS

Group	n	Diarrhea	Rash	Nausea and vomiting	Elevated transaminase	Overall adverse reactions
Observation	50	2 (4.0)	2 (4.0)	1 (2.0)	2 (4.0)	7 (14.0)
Control	50	1 (2.0)	2 (4.0)	2 (4.0)	3 (6.0)	8 (16.0)
χ^2						6.173
p						0.736

Conflict of interests:

The authors declared no conflict of interests.

REFERENCES

1. Ma J, Xu F, Xue Y. Effect of continuous nursing support on quality of life of postoperative patients with gynecological malignant tumor. Chin J Mod Nurs 2013;25:4.

2. Chen FN, Chen HR, Zheng XZ, Liu T, Huang YB, Ward S. Continuous nursing care in patients with rectal cancer: Nursing effect and impact on gastrointestinal function. World Chin J Digestol 2017;25(12):1088-91.

3. Li P, Fu W. Analysis of continuous nursing needs and current situation of discharged patients in China. Health Res 2010;1:4.

4. Zong Z, Guan Y, Wang L. Research progress on continuous nursing of elderly patients with chronic diseases. Chin Geriatr Med 2023;21(3):123-6.

5. Li H, Li F. Progress in the application of continuous nursing in elderly patients with chronic diseases in China. Primary Health Care China 2023;37(5):102-4.

6. Liu S, Fu F, W. Effect of continuous nursing support on discharged patients with non-small cell lung cancer treated with oral molecular targeted drugs. Chin J Cancer Prev Treat 2019;S01:2.

7. Wang H, Han H, Zhu H. Adverse reactions and nursing of molecular targeted drug therapy for advanced non-small cell lung cancer. J Nurs Edu 2017;32(8):3.

8. Li D, Zhang J, Zhang L. Study on the relationship between social support and quality of life in patients with non-small cell lung cancer. Chongqing Med J 2016;45(4):4.

9. He L. Observation on the effect of continuous nursing in improving life comfort of patients with advanced non-small cell lung cancer after discharge. Contemporary Nur Med 2016;9:2.

10. Wang P, Xia P, Wang Y. Psychological resilience of postoperative chemotherapy in patients with non-small cell lung cancer and the effect of social support on their quality of life. Nurs Pract Res 2020;17(21):3.

11. Dong Y, Shang S, Mo L. Research progress of continuous nursing model abroad. Nurs Manag China 2012;12(9):4.

12. Lei Y, Chen L, Li M. Continuous nursing care of patients with non-small cell lung cancer treated with oral molecular targeted drugs. Electr J Pract Clin Nurs 2018;25:54-8.

13. Duan Y. Effect of continuous nursing on disease cognition, mental state and quality of life in patients with coronary heart disease. Dietary Health Care 2021;37:000.

14. Zhu Z, Zhou X, Huang M. Effect of continuous nursing on disease cognition level and asthma control score of parents of children with asthma. Huaxia Med 2023;36(1):71-4.

15. Guo W, Chu W, Ji Y. Application of continuous care in targeted drug therapy of lung cancer patients. Chin J Drug Abuse Prev Treat 2022;8(11):4.