

OBSERVATION ON THE APPLICATION OF FOCUSED SOLUTION MODEL PSYCHOLOGICAL CARE IN PATIENTS WITH CHEMOTHERAPY-PHASE LEUKEMIA

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ABSTRACT

Objective: To investigate the effectiveness of the focused solution model of psychological care in patients with leukemia during chemotherapy.

Methods: 220 leukemia patients admitted to the hematology department of our hospital from January 2019 to December 2021 were selected as the study subjects, and the patients were divided into control and observation groups according to the principle of balanced comparability, with 110 cases in each group. The control group took conventional care and the observation group used focused solution model psychological care. The state of mind, coping style, cancer-caused fatigue and nursing satisfaction of patients in the two groups were compared before and after the intervention.

Results: Before the nursing intervention, there were no statistically significant differences in the state of mind scores, coping style scores and cancer-caused fatigue scores between the two groups ($P>0.05$). After the focused solution model psychological care intervention, patients in the observation group had higher positive mood scores and positive coping scores, lower negative mood scores and negative coping scores, and lower cognitive, affective, perceptual and behavioral scores than patients in the control group, with statistically significant differences ($P<0.05$). The nursing satisfaction rate of the observation group was higher than that of the control patients, with statistically significant differences ($P<0.05$).

Conclusion: Focused solution model psychological care for chemotherapy-phase leukemia patients can improve patients' positive state of mind, enhance their positive coping behaviors, improve the degree of cancer-caused fatigue, and have significant nursing effect, which has clinical promotion value.

Keywords: Leukemia, chemotherapy period, focused solution model psychological care, state of mind.

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Introduction

Leukemia is a disease caused by malignant cloning of hematopoietic stem cells⁽¹⁾. Leukemia cells proliferate uncontrollably in the presence of malignant clones, leading to impaired cell differentiation, infiltration of hematopoietic tissues and organs, and inhibition of normal hematopoietic function to proceed, which results in fever, infection, bleeding, anemia, bone and joint pain, and enlarged lymph nodes⁽²⁾. Due to the seriousness of leukemia and the difficulty of treatment, patients are prone to stress, irritability and anxiety, which

may even lead to coping disorders, thus affecting their compliance with treatment and aggravating their physical and psychological discomfort⁽³⁾. There are many clinical intervention options for leukemia, such as drug therapy, immunotherapy, radiotherapy, chemotherapy and surgery. Among them, chemotherapy has a more definite therapeutic effect, which can inhibit the development of the disease and effectively improve the discomfort of the patient's organism. However, the long duration of chemotherapy treatment can easily reduce their treatment motivation, so it is important to provide them with nursing interventions.

In recent years, the continuous development and progress in the level of medical care services has gradually increased the clinical application rate of focused solution model psychological care⁽⁴⁾. This nursing model not only highlights the concept of patient-centered services, but also effectively guides patients, fully mobilizes their treatment motivation and problem-solving ability, which in turn effectively inhibits the development of the disease, improves patients' negative emotions, and builds a good nurse-patient relationship^(5,6). Therefore, this study was conducted to analyze the clinical application value and nursing advantageousness of the focused solution care model for patients with chemotherapy-phase leukemia by conducting different care models. It is reported as follows.

Materials and methods

General Information

220 leukemia patients admitted to the hematology department of our hospital from January 2019- December 2021 were selected as the study population. Enrollment criteria: ① knowledge of the content and purpose of the study and signed informed consent; ② those who met the diagnostic criteria for leukemia and were clinically diagnosed to receive chemotherapy in our hospital; ③ survival time expected to be at least 6 months. Exclusion criteria: ④ those with combined heart, liver, kidney and other vital organ dysfunction; ⑤ those with combined cognitive dysfunction or psychiatric disease unable to cooperate with this study. The patients were divided into control and observation groups according to the principle of balanced comparability, with 110 cases in each group. This study was approved by the medical ethics committee of our hospital. There was no statistically significant difference ($P > 0.05$) in the comparison of basic information (gender, age, type of leukemia, etc.) between the two groups. See Table 1.

Nursing methods

The patients in the control group were given conventional care

That is, the nursing staff first provided patients with disease science, clearly informed them of the process and regression of disease development and prognosis, as well as communicated the importance and necessity of standardized treatment to improve patients' compliance. Moreover, the nursing staff communicated actively and effectively with patients

to understand their psychological state, timely channeled and released their negative emotions, and encouraged patients to face chemotherapy with a positive and optimistic attitude⁽⁷⁾.

Group	Number of cases	Gender [cases (%)]		Age (x±s, years)	Duration (x±s, months)	Type of leukemia [cases (%)]	
		Male	Female			ALL	AML
Control group	110	69(62.7)	41(37.3)	43.73±8.68	8.79±2.15	45(40.91)	65(59.09)
Observation group	110	62(56.4)	48(43.6)	41.76±10.29	8.25±1.88	41(37.27)	69(62.73)
χ^2 -value		0.258		0.828	1.076		0.065
P-value		0.612		0.288			0.799
		0.411					

Table 1: Comparison of general information between two groups of patients.

The patients in the observation group were given focused solution model psychological care.

The main elements include: ① Admission assessment. The nursing staff communicated with the patient on the day of admission to understand the patient's personal information, family situation, and social situation, to instruct the patient to express his or her true psychological state. The nursing staff conducted a detailed assessment based on the patient's condition and psychological state when coping with the disease, and recorded the assessment results. The nursing staff answered patients' questions about disease care and disease treatment in detail. Based on clinical experience and relevant knowledge, the nursing staff explained the problems raised by the patients during chemotherapy and instructed them how to solve the problems arising during chemotherapy, stimulating their own potential, improving their self-care ability and helping them to complete chemotherapy successfully. ② Establish feasible goals. By asking eliciting and open-ended questions, the nursing staff encouraged patients to express their expectations in the treatment process, while the nursing staff developed appropriate plans to assist patients in accomplishing their goals according to their own conditions and expectations. ③ Exploration of possible adverse states. After receiving chemotherapy, patients were prone to adverse reactions such as hair loss, bone marrow suppression and gastrointestinal dysfunction. The adverse reactions could have an impact on patient's state of mind and quality of life. Therefore, the nursing staff should instruct patients to stay away from negative and adverse states of mind. The nurses actively guided patients' emotions through enlightening questions to stimulate their ability to solve problems on their own. ④ Feedback was given. After one week of intervention, the patient's efforts during care and chemotherapy were supported and affirmed. The patient's state of mind

and coping style were assessed again. The results of the assessment were analyzed. Those who did not achieve the expected results or had poor results were guided by the nursing staff to carefully analyze the results, find the reasons, and actively correct or adjust the feasible goals in order to motivate the patients to participate and take initiative. © Evaluation of progress. Throughout the study period, the evaluation of this observation index was conducted once a week by the charge nurse. After each assessment, the patients were helped to set milestone feasibility goals, such as a 1-point increase in positive state of mind and a 1-point decrease in negative coping. The patient was also asked questions to confirm whether he or she was able to do so, and was given full recognition when the milestones were indeed achieved at the next assessment. At the same time, the patient's confidence was enhanced by attributing his or her progress to the patient's own⁽⁸⁾.

Observation index

Mental state assessment

The positive state of mind scores, negative state of mind scores, positive coping scores, and negative coping scores of patients in both groups before and after care were assessed according to the state of mind (POMS) scale and the trait coping style (TCSQ) scale, respectively. Higher positive mood and positive coping scores indicated better status of the patients, and lower negative mood and negative coping scores indicated worse status of the patients.

Comprehensive assessment

The patient's cognitive, emotional, perceptual and behavioral aspects were comprehensively assessed using the Self-Assessment of Cancer Causative Fatigue Scale, with 22 dimensions and a total score of 10 for each dimension. The higher the score, the more serious the patient's cancer-caused fatigue was.

Nursing satisfaction rate assessment

Nursing satisfaction rate = (very satisfied + generally satisfied)/total number of cases × 100%.

Statistical methods

SPSS25.0 statistical software was used to analyze the data. The measurement data were expressed as ($\bar{x} \pm s$), and the t-test was used for comparison between groups. The Count data were expressed as (n (%)), and the χ^2 test was used for comparison between groups. $P < 0.05$ indicated that the difference was statistically significant.

Results

Comparison of the state of mind of the two groups of patients before and after the intervention

Before the nursing intervention, there was no statistically significant difference between the positive and negative dimensional state of mind of the two groups ($P > 0.05$). After the focused solution model psychological care intervention, the positive dimension scores of both groups were higher than those before the intervention, and the negative dimension scores were lower than those before the intervention. The positive mood scores of the observation group were significantly higher than those of the control group, and the negative mood scores were significantly lower than those of the control group, and the differences were statistically significant ($P < 0.05$). See Figure 1.

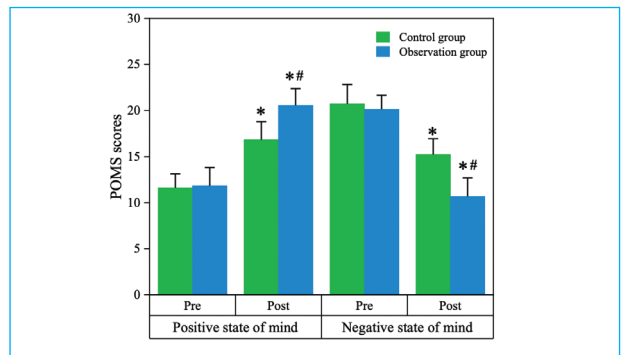


Figure 1: Comparison of POMS scores before and after nursing intervention between the two groups ($\bar{x} \pm s$, scores). Note: Compared with control group, # $P < 0.05$; Post with Pre * $P < 0.05$.

Comparison of coping styles between the two groups of patients before and after the intervention

Before the nursing intervention, there was no statistically significant difference between the positive and negative coping styles of patients in both groups ($P > 0.05$).

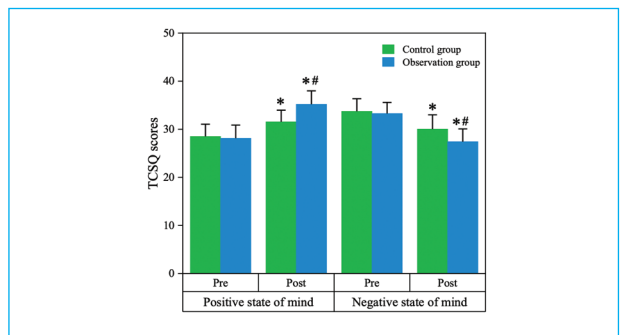


Figure 2: Comparison of TCSQ scores before and after nursing intervention between the two groups ($\bar{x} \pm s$, scores). Note: Compared with control group, # $P < 0.05$; Post with Pre * $P < 0.05$.

After the focused solution model psychological care intervention, patients in both groups had higher positive coping scores and lower negative coping scores than before the intervention. Moreover, the positive coping score of the observation group was significantly higher than that of the control group, and the negative coping score was significantly lower than that of the control group, with all differences being statistically significant ($P < 0.05$). See Figure 2.

Comparison of cancer-caused fatigue scores between the two groups of patients before and after the intervention

Before the nursing intervention, there was no statistically significant difference between the cancer-caused fatigue scores of the two groups ($P > 0.05$). After the focused solution model psychological care intervention, the cognitive, emotional, perceptual and behavioral scores of patients in the observation group were lower than those in the control group, and all differences were statistically significant ($P < 0.05$). See Figure 3.

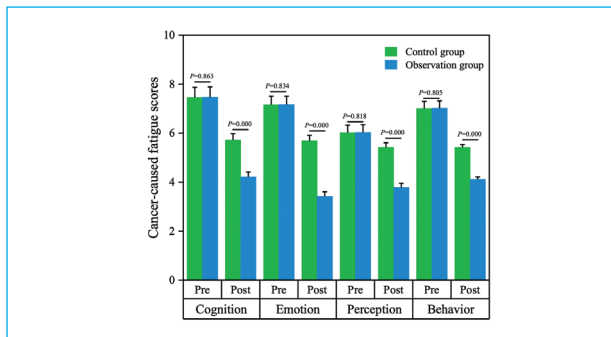


Figure 3: Comparison of cancer-caused fatigue scores before and after intervention between the two groups ($\bar{x} \pm s$, scores).

Comparison of patient care satisfaction rates between the two groups

Group	Number of cases	Very satisfied	Fairly satisfied	Unsatisfied	Satisfaction rate
Control group	110	70(63.63)	11(10.00)	29(26.37)	81(73.63)
Observation group	110	88(80.00)	18(16.36)	4(3.64)	106(96.36)
t-value					4.706
P-value					0.030

Table 2: Comparison of patient care satisfaction rates between the two groups [n (%)]

After the psychological nursing intervention of the focused solution model, the nursing satisfaction rate of patients in the observation group was significantly higher than that of patients in the control

group, and the difference was statistically significant ($P < 0.05$), as shown in Table 2.

Discussion

Leukemia is a clinically common malignant neoplastic disease, a class of malignant clonal diseases of hematopoietic stem blocked cells. Leukemia is caused by uncontrolled cell proliferation, impaired differentiation, and blocked apoptosis, which leads to stagnation at different stages of cell development⁽⁹⁾. In the bone marrow and other hematopoietic tissues, leukemic cells can proliferate, leading to the suppression of normal hematopoietic tissue and infiltration of other organs. The incidence of leukemia is affected by a number of factors in an increasing pattern which is the main reason for the rising morbidity and mortality of such patients in our country^(10,11). To effectively inhibit the progression of the disease, patients may be given chemotherapeutic interventions. In contrast, most patients suffer from a lack of appetite during the long chemotherapy cycle for leukemia, which, combined with the effects of the disease, can exacerbate cancer-caused fatigue^(12,13). To further avoid associated risk factors and improve patient prognosis, nursing interventions can be implemented for patients during treatment.

The focused solution model psychological care program is a new clinical response to care. By analyzing the actual patient situation through assessment, goal setting, exploration of exceptions, feedback and evaluation, we can promptly identify the shortcomings in treatment and care, understand the patient's needs, and support the patient, thus regulating his or her negative internal emotions, maintaining good nursing participation and initiative, and achieving nursing goals as early as possible⁽¹⁴⁻¹⁶⁾. In addition, the focused solution model psychological care program highlights the concept of patient-centered services, corrects patients' wrong way of thinking, fully mobilizes their treatment enthusiasm, taps their own potential, and then eliminates their internal bad emotions, makes them face the disease squarely, enhances patients' compliance attitude, and actively cooperates with the medical staff, thus improving the chemotherapy effect⁽¹⁷⁻¹⁹⁾.

Conclusion

The results of this study showed that there was no statistically significant difference between the state of mind scores, coping style scores and can-

cer-caused fatigue scores of patients in both groups before the nursing intervention ($P>0.05$). After the psychological care intervention of focused solution model, the positive state of mind scores and positive coping scores of patients in the observation group were higher than those of patients in the control group, and the negative state of mind scores and negative coping scores were lower than those of patients in the control group. The cognitive, emotional, perceptual and behavioral scores were lower than the control, with statistically significant differences ($P<0.05$). The nursing satisfaction rate of the observation group was higher than that of the control patients, and the difference was statistically significant ($P<0.05$). This shows that focused solution model psychological care can not only effectively regulate the patients' negative emotions, but also improve their positive and negative coping behaviors, provide them with efficient and targeted care countermeasures, regulate cancer-caused fatigue due to psychological factors, increase patients' self-management ability and treatment cooperation, thus further improving the effectiveness of treatment, suppressing the development of disease, improving prognosis, and hence enhancing patients' satisfaction with care.

In conclusion, focused solution model psychological care for chemotherapy leukemia patients can improve patients' positive state of mind, enhance their positive coping behaviors, and improve the degree of cancer-caused fatigue with significant nursing effects, which has clinical promotion value.

References

- 1) Chen J. Effect of focused solution mode psychological nursing on mood state and coping style of leukemia patients during chemotherapy(J). *Jilin Medical Journal*, 2021, 42 (12): 3038-3040.
- 2) Zhu ZF, Li XM and Zhang X. Effect analysis of PDCA nursing management mode in chemotherapy of acute leukemia patients(J). *Guizhou medicine*, 2021, 45 (11): 1841-1842.
- 3) Gui YF and Ma J. Effect of group counseling intervention on psychological status and compliance of older children with leukemia undergoing primary chemotherapy(J). *Contemporary nurses (last ten days)*, 2018, 25 (9): 113-115.
- 4) Arani LA, Hosseini A, Asadi F, Masoud SA, Nazemi E. Intelligent Computer Systems for Multiple Sclerosis Diagnosis: A Systematic Review of Reasoning Techniques and Methods. *Acta Inform Med*. 2018 Dec; 26(4): 258-264. DOI: 10.5455/aim.2018.26.258-264. PMID: 30692710; PMCID: PMC6311112.
- 5) Tao YJ, Li H and Gao L. Effect of focused solution model nursing intervention on psychological resilience of leukemia patients with cancer-related fatigue(J). *Journal of Clinical Psychosomatic Diseases*, 2020, 26 (6): 83-85.
- 6) Zhang SL and Niu SS. Effect of comprehensive nursing measures on gastrointestinal reactions in patients with acute leukemia during chemotherapy(J). *Capital food and medicine*, 2021, 28 (14): 123-124.
- 7) Zhang XH, Wang Z and Qin YY. Effect of synchronous health education on quality of life scores of leukemia patients' families after chemotherapy(J). *International Journal of Nursing*, 2021, 40 (20): 3704-3707.
- 8) Zhou LL, Fang WJ, Li H, et al. Effect of health education on treatment compliance and psychological status of leukemia patients undergoing chemotherapy under behavior change mode(J). *Clinical and education of general practice*, 2021, 19 (9): 850-852.
- 9) Guo XM. Multidisciplinary team cooperation under the guidance of nursing measures classification effect of rapid rehabilitation nursing on treatment compliance of leukemia patients undergoing chemotherapy(J). *General nursing* 2020, 18(31): 4304-4307.
- 10) Kalantari S, Karbakhsh M, Kamiab Z, Kalantari Z, Sahraian MA. Perceived Social Stigma in Patients with Multiple Sclerosis: A Study from Iran. *Acta Neurol Taiwan*. 2018 Mar 15; 27(1): 1-8. PMID: 30315555.
- 11) Guo T. Effect of clinical individualized nursing on fever caused by perianal infection in leukemia patients with bone marrow suppression(J). *International Journal of Nursing*, 2021, 40 (1): 98-102.
- 12) Chan Carmen WH, Lam Lai Wah, Li Chi Kong, et al. Feasibility of psychoeducational interventions in managing chemotherapy associated nausea and vomiting (CANV) in pediatric oncology patients(J). *Eur J Oncol Nursing*, 2015, 19(2): 182- 190.
- 13) Tu X and Li W. Study on the effect of holistic nursing model in the prevention and control of infection in leukemia patients during chemotherapy(J). *General nursing* 2018, 16 (33): 4109-4111.
- 14) Liu X. Analysis of the influence of focused solution nursing model on adverse mood and cancer-related fatigue in leukemia patients undergoing chemotherapy(J). *Oriental medicated diet*, 2019 (10): 86-87.
- 15) Karimabad MN, Mahmoodi M, Jafarzadeh A, Darekordi A, Hajizadeh MR, Hassanshahi G. Molecular Targets, Anti-cancer Properties and Potency of Synthetic Indole-3-carbinol Derivatives. *Mini Rev Med Chem*. 2019; 19(7): 540-554. doi: 10.2174/1389557518666181116120145. PMID: 30444199.
- 16) Wen BY. Effect of focused solution nursing model on negative emotion and cancer-related fatigue in leukemia patients undergoing chemotherapy(J). *Nursing practice and research*, 2018, 15 (17): 87-88.
- 17) Tavoli Zahra, Asgari Zahra, Afshari Fatemeh, Tabatabaei Fatemeh, Montazeri Ali. Recurrence rate of endometrioma after laparoscopic bilateral cystectomy and unilateral cystectomy and drainage in opposite side. *Iranian journal of obstetrics, gynecology and infertility*. 2020; 23(3): 20-26. Available from: <https://www.sid.ir/en/journal/ViewPaper.aspx?id=749933>
- 18) Han WX. The value of systematic and multivariate continuous nursing in the maintenance treatment of acute leukemia in children(J). *Journal of modern integrated traditional Chinese and Western medicine* 2020, 29(30): 3417-3420.

- 19) Luo D, Zhang Y and Feng WL. Analysis of the effect of high-quality nursing on improving the bad mood and treatment compliance of leukemia patients(J). Internal medicine, 2019, 14 (1): 119-121.

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