

Effect of Meticulous Nursing Combined with Evidence-Based Nursing on Life Quality and Psychological Status of Medical Oncology Patients after Chemotherapy

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Objective. The purpose was to study the effect of meticulous nursing combined with evidence-based nursing on life quality and psychological status of medical oncology patients after chemotherapy. **Methods.** 148 medical oncology patients treated in our hospital (January 2019-December 2019) were chosen as the research objects of this study, and randomly split into control group and experimental group, with 74 patients in each group. The control group received routine nursing mode for the diseases while the experimental group received meticulous nursing combined with evidence-based nursing mode to compare and analyze effect of the two nursing models on life quality and psychological status of medical oncology patients after chemotherapy. **Results.** The incidence of complications, SAS and SDS scores after intervention in experimental group were obviously lower compared with control group ($P<0.05$). The KPS scores of both groups after chemotherapy were obviously higher than those before chemotherapy, and the KPS score in the experimental group after chemotherapy was obviously higher than that in the control group. The life quality scores in experimental group were obviously higher compared with control group in generally good and good aspects, and obviously lower compared the control group in middle and bad aspects ($P<0.05$). **Conclusion.** For medical oncology patients, meticulous nursing combined with evidence-based nursing after chemotherapy can obviously reduce complications, improve life quality and enhance recovery of physical function. Compared with routine nursing mode, this nursing mode pays more attention to the changes of psychological status, which can obviously improve the psychological status, improve their enthusiasm and initiative to cure the diseases, improve their nursing satisfaction and facilitate the harmonious development of doctor-patient relationship.

Keywords: meticulous nursing, evidence-based nursing, medical oncology, chemotherapy

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Tumor is a kind of disease that seriously damages the health and life quality of patients. Chemotherapy is a common treatment in the department of oncology. However, many patients and their families are not familiar with the process of chemotherapy for tumors. In fact, chemotherapy often brings both physical and mental pain to patients, which not only affects the prognosis and life quality of patients, but also increases the mental burden of patients. Therefore, scientific and reasonable nursing measures after chemotherapy are very critical for medical oncology patients^[1-4]. Evidence-based nursing refers to combination of clinical nursing with evidence-based medicine and evidence-based health care by the method that the nursing staff carefully and explicitly combine their own clinical nursing experience and the wishes of patients and their families with clinical research conclusions when formulating nursing plans, with the three aspects as the important basis for nursing decision-making^[5-8]. Based on the patient-centered nursing concept, 148 medical oncology patients treated in our hospital (January 2019-December 2019) were chosen to compare effect of meticulous nursing combined with evidence-based nursing on the life quality and psychological status of the medical oncology patients after chemotherapy, summarized as follows.

MATERIALS AND METHODS

General Information

148 medical oncology patients treated in our hospital (January 2019-December 2019) were chosen as the research objects of this study, and randomly split into control group and experimental group, with 74 patients in each group. Control group included 38 females and 36 males, aged 40-77 years old with an average age of (54.36 ± 7.24) years old. The clinical stages included 8 cases of II a, 17 cases of II b, 35 cases of III a, 7 cases of III b and 7 cases of IV. The disease types mainly included 18 cases of gastric cancer, 12 cases of colorectal cancer, 9 cases of primary hepatic cancer, 9 cases of pancreatic cancer, 8 cases of lung cancer, 9 cases of breast cancer, 6 cases of cervical cancer and 3 cases of renal cancer. Experimental group included 37 females and 37 males, aged 40-76 years old with an average age of (55.04 ± 7.41) years old. The clinical stages included 7 cases of II a, 18 cases of II b, 34 cases of III a, 8 cases of III b and 7 cases of IV. The disease types mainly included 17 cases of gastric cancer, 14 cases of colorectal cancer, 8 cases of primary hepatic cancer, 9 cases of pancreatic cancer, 7 cases of lung cancer, 9 cases of breast cancer, 7 cases of cervical cancer and 3 cases of renal cancer. No obvious differences in general data were found in two groups ($P > 0.05$), which could be compared for study, as shown in Table 1.

Table 1.
Comparison of general data between the two groups

	Control group (n=74)	Experimental group(n=74)	t/X ²	P
Age (years old)	(54.36 ± 7.24)	(55.04 ± 7.41)	0.5646	0.5732
BMI(kg/m ²)	(17.6 ± 2.2)	(17.4 ± 2.1)	0.5657	0.5725
Smoking			0.1208	0.728
Yes	24(32.43)	26(35.13)		
No	50(67.57)	48(64.86)		
Drinking			0.9794	0.322
Yes	31(41.89)	37(50)		
No	43(58.11)	37(50)		
Gender			0.0270	0.869
Male	38(51.35)	37(50)		
Female	36(48.65)	37(50)		
Residence			0.2604	0.610
Urban area	26(35.14)	29(39.19)		
Rural area	48(64.86)	45(60.81)		

Inclusion Criteria:

(1) It met the clinical diagnostic criteria of tumors; (2) The clinical medical records of the patients were complete; (3) The study obtained approval of the hospital ethics committee, and patients and their families accepted the nursing intervention plans, and signed the informed consent.

Exclusion Criteria:

(1)

The patients were complicated with other organ and tissue lesions of brain, heart, kidney and liver; (2) The patients had serious complications; (3) The patients had mental and other cognitive disorders or refused to cooperate in the experiment.

Methods

The control group received routine nursing mode while the experimental group received

meticulous nursing combined with evidence-based nursing mode.

Meticulous nursing. (1) According to the actual nursing needs of patients, a nursing team was established. Regular training was carried out to improve the mastery of tumor-related diseases of the nursing staff, and improve their conscious of risk management and comprehensive quality in the nursing process of medical oncology patients, so that the team members could provide better service for the patients. In addition, the nursing staff should cooperate with the attending doctor to evaluate of clinical features of various tumor diseases, and formulate targeted and meticulous nursing plans according to the assessment of the risk factors, chemotherapy side effects, psychological depression and other adverse conditions that may occur in the nursing process of patients based on their disease condition. (2) Reasonable division of posts. The nursing posts in the medical oncology were divided in detail, the responsibility system and division of responsibility for each post were clarified, the posts were regularly reviewed, and timely solutions were proposed to deal with the problems in the management process. (3) Strengthening risk management. The nursing staff removed unnecessary items in the ward, did a good job of handover, and often reminded patients and their families of relevant precautions. The risk management was upgraded for patients with poor activity ability and abnormal emotion. For patients with low risk, safety tips were hung at the bedside and health education manuals were distributed to remind them and their families to increase safety awareness. For patients with moderate risk, the nursing staff inspected the ward more often and the family members accompanied the patients at any time, paying attention to the daily activities of patients and reducing risk probability. High-risk patients must be closely monitored for 24 hours, with close attention to their physical status and emotional changes, and they were not allowed to move alone. (4) The nursing staff summarized and analyzed the patients' condition every day, and put forward timely solutions to deal with the problems in the nursing process, improving the nursing quality.

Evidence-based nursing. (1) Since tumor disease caused panic to patients more or less, nursing staff should pay special attention to the changes of psychological status in patients during nursing. At the beginning of nursing, the staff firstly communicated with patients and their families about the development of the diseases, and explained the relevant health knowledge of the tumors in detail to them, informed them of the function of chemotherapy and possible adverse reactions, and encouraged the patients to

actively treat the diseases and establish confidence in the fight against tumors. During nursing, the staff paid close attention to the emotional changes of patients, actively communicated with patients, timely solved their questions, and eliminated their adverse emotions^[9-11]. (2) During chemotherapy, the patients would show nausea, vomiting and loss of appetite. The staff should instruct the patients to take medicine in time and eat lightly. (3) Implantable venous access port (PORT) and PICC catheterization were performed after the stimulation of different types, doses and medication methods of drugs on the blood vessels of patients was observed^[12]. (4) The nursing staff helped the patients quit alcohol and smoking, and do appropriate exercise to maintain a good mental state. (5) The patients were instructed to clean their mouths, drank more water appropriately, and avoided stimulating food to reduce the adverse reactions such as stomatitis, glossitis, diarrhea and constipation caused by chemotherapy drugs^[13-15]. (6) After evaluating the nutritional status of the patients according to their body weight, the staff instructed the patients to supplement nutrition based on the evaluation results and their diet preference to enhance their physical tolerance. The patients in advanced stage needed parenteral nutrition support or enteral nutrition support. (7) The staff regularly helped patients to clean up mouth, skin, etc., and created a comfortable and quiet ward environment.

Observation Indexes

Incidence of complications

The complications of patients during nursing were counted, including skin abnormalities, myelosuppression, cystitis and digestive tract diseases. The incidence of complications was calculated and compared.

Karnofsky performance status (KPS)

The Karnofsky performance status was used to evaluate the life state of both groups before and after chemotherapy. The higher the score was, the more patients could tolerate the side effects of treatment. Independence (>80 points) meant that the patients could take care of themselves in daily life; Semi-dependence (40-80 points) meant that the patients could partially take care of themselves in daily life; Dependence (<40) meant that the patients could not take care of themselves at all. The patients higher than 80 points indicated a good life state of patients with long survival time. KPS scores of all patients before chemotherapy were not less than 40 points, reaching the chemotherapy standard.

Psychological status assessment

Self-rating anxiety scale (SAS) and self-rating depression scale (SDS) were applied to evaluate the psychological status of both groups before and after nursing intervention. The higher the score

was, the more serious the psychological problems were.

Life quality assessment

The modified life quality assessment scale SF-36 was adopted to assess life quality of both groups after intervention, with a total score of 60 points. The score above 50 was good, the score of 41-50 was generally good, the score of 31-40 was middle, and the score below 30 was bad.

Nursing satisfaction

The satisfaction questionnaire made by our hospital was used to record the satisfaction of patients with the nursing process in the two groups. The total score was 100 points. The score above 90 was fully satisfied, 70-90 was basically satisfied, and less than 70 was dissatisfied. Nursing satisfaction = (fully satisfied + basically

satisfied) / total number of patients $\times 100\%$.

Statistical Treatment

In this study, SPSS20.0 was selected as the data processing software, and GraphPad Prism 7 (GraphPad Software, San Diego, USA) was applied to draw pictures of the data. Data were measurement data and count data, tested by X^2 , t test and normality test. When $P < 0.05$, the difference was statistically significant.

RESULTS

Comparison of Incidence of Complications

The incidence of complications after intervention in experimental group was obviously lower compared with control group ($P < 0.05$), with a statistically significant difference, as shown in Table 2.

Table 2.
Comparison of incidence of complications (n=74, %)

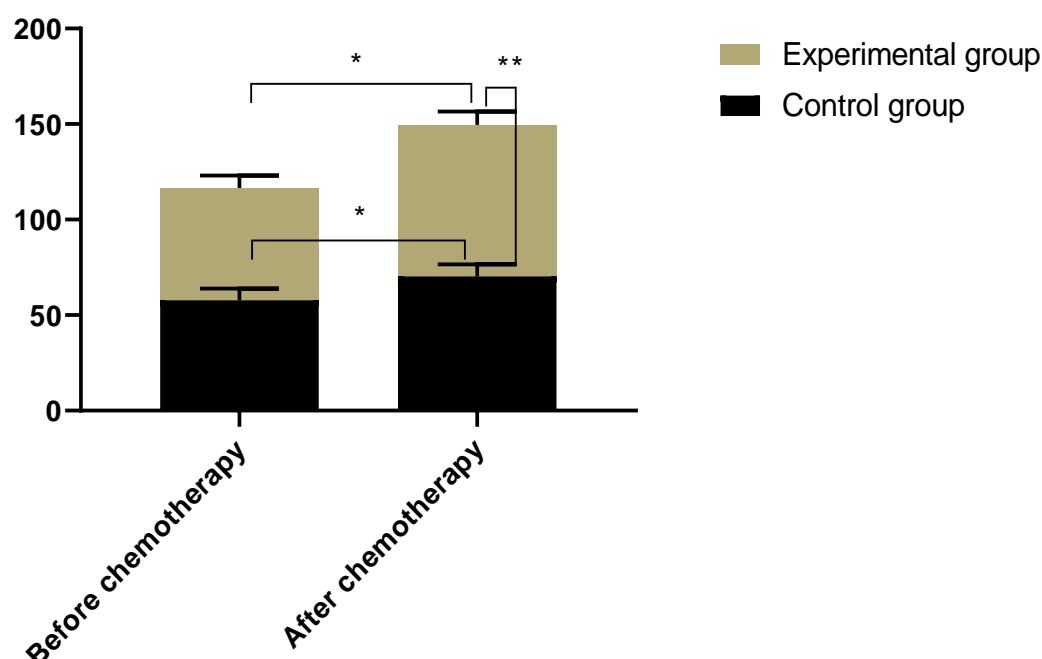
Group	Skin abnormalities	Myelosuppression	Cystitis	Digestive tract diseases	Incidence of complications
Experimental group	1(1.35)	0(0)	0(0)	2(2.70)	3(4.05)
Control group	3(4.05)	1(1.35)	2(2.70)	5(6.76)	11(14.86)
X^2					5.0490
P					0.025

Comparison of Karnofsky Performance Status (KPS) between the Two Groups

The KPS scores of both groups after chemotherapy were obviously higher than those before chemotherapy, and the KPS score in the

experimental group after chemotherapy was significantly higher than that in the control group, with a statistically significant difference, as shown in Figure 1.

Figure 1.
Comparison of Karnofsky performance status (KPS) (n=74, %)



Note: The abscissa represents before chemotherapy and after chemotherapy, and the ordinate represents the score.

The KPS scores of control group before and after chemotherapy were (57.67 ± 6.24) and (70.18 ± 6.44) , respectively.

The KPS scores of the experimental group before and after chemotherapy were (58.92 ± 6.51) and (79.35 ± 7.13) , respectively.

* from bottom to top indicated that the KPS scores of the control group and the experimental group after chemotherapy were significantly different from those before chemotherapy ($t=12.001, 18.2027$; $P<0.05$).

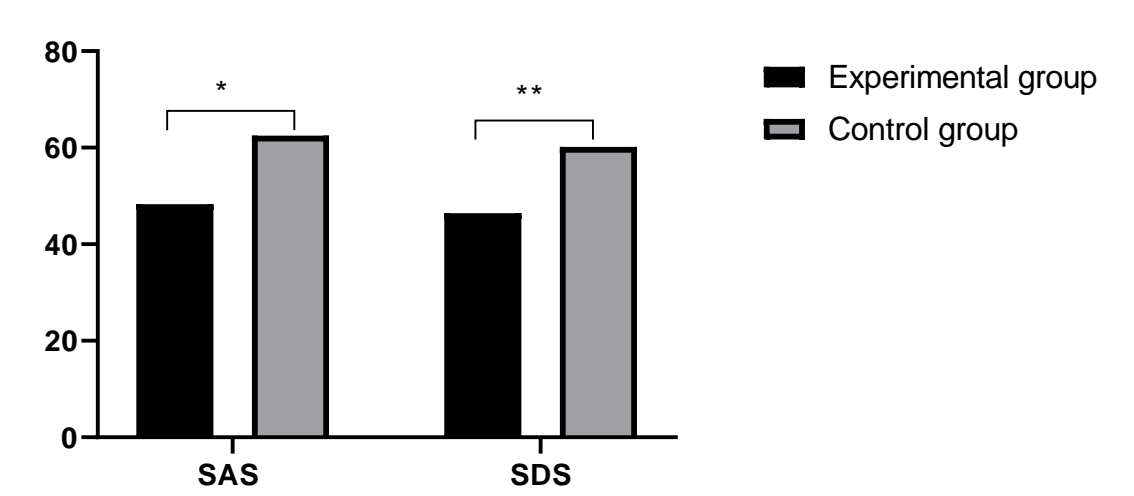
** indicated a significant difference in the KPS scores between the two groups after chemotherapy ($t=8.2103$; $P=0.000$).

Comparison of SAS and SDS Scores

After nursing intervention, the SAS and SDS scores in experimental group were obviously lower

compared with control group, with statistical significance ($P<0.05$), as shown in Figure 2.

Figure 2.
Comparison of SAS and SDS scores (x±s)



Note: The abscissa represents the evaluation dimensions of psychological status (SAS and SDS), and the ordinate represents the scores;
The SAS and SDS scores of experimental group after nursing intervention were (48.33±1.05) and (46.42±0.64) respectively.
The SAS and SDS scores of control group after nursing intervention were (62.49±4.91) and (60.14±1.48), respectively.
* indicated an obvious difference in SAS scores (t=24.2578, P=0.000);
** indicated an obvious difference in SDS scores (t=73.1353, P=0.000).

Comparison of SF-36 Life Quality Scores

The evaluation of life quality of patients after intervention showed that the life quality scores in experimental group were obviously higher compared with control group in generally good and good aspects, and obviously lower compared with control group in middle and bad aspects, with statistical significance(P<0.05), as shown in Table 3.

Table 3 Comparison of life quality (n=74, %)				
Group	Bad	Middle	Generally good	Good
Experimental group	0(0)	4(5.41)	23(31.08)	47(63.51)
Control group	9(12.16)	18(24.32)	12(16.22)	35(47.30)
X ²	9.5827	10.4646	4.5279	3.9379
P	0.002	0.001	0.033	0.047

Comparison of Nursing Satisfaction

The nursing satisfaction in the experimental group was obviously higher compared with control group, with a statistically significant difference (P<0.05), as shown in Table 4.

Table 4 Comparison of nursing satisfaction (n=74, %)				
Group	Dissatisfied	basically Satisfied	Fully satisfied	Nursing satisfaction
Experimental group	2(2.70)	19(25.68)	53(71.62)	72(97.30)
Control group	10(13.51)	31(41.89)	33(44.59)	64(86.49)
X ²				5.8039
P				0.016

DISCUSSION

Evidence-based nursing, as a new nursing model in recent years, takes the safe and reliable clinical research conclusions as the important basis for the formulation of nursing programs, which makes the nursing process more scientific^[16-17]. Especially for medical oncology patients, the

clinical nursing is difficult because tumors have high mortality and recurrence rate. There are three major hidden dangers after chemotherapy in medical oncology, including digestive system injury, immune system collapse and general asthenia. Chemotherapy can damage the digestive tract mucosal cells of patients, leading to vomiting and diarrhea, weakening digestive and absorptive function, and affecting the nutritional intake of patients. Therefore, patients are often accompanied by nausea and vomiting, dysphagia, gastrointestinal dysfunction, loss of appetite, and malnutrition. Immune system collapse refers to that myelosuppression caused by chemotherapy leads to impaired hematopoietic function and leukopenia. Therefore, the immune system collapses, and patients often have decreased resistance, with fewer neutrophils, white blood cells, platelets and red blood cells. The general asthenia of patients after chemotherapy is mainly caused by insufficient nutrition intake, which is characterized by loss of weight and fatigue. However, routine nursing mode is unsatisfactory for the recovery of medical oncology patients. Therefore, it is crucial to choose a scientific and reasonable nursing intervention model to improve the prognosis and psychological status of medical oncology patients^[18-21]. Therefore, considering the pathological features and nursing characteristics of medical oncology patients after intervention, this paper selected the meticulous nursing combined with evidence-based nursing mode to explore its effect on tumor patients after chemotherapy. The results showed that the incidence of complications after intervention, SAS and SDS scores in experimental group were obviously lower compared with control group ($P<0.05$). The KPS scores of both groups after chemotherapy were obviously higher than those before chemotherapy, and the KPS score in the experimental group after chemotherapy was obviously higher than that in the control group. Life quality scores in experimental group were obviously higher compared with control group in generally good and good aspects, and obviously lower compared with control group in middle and bad aspects

($P<0.05$). It can be concluded that the meticulous nursing combined with evidence-based nursing mode has a better effect on the life quality and psychological status of medical oncology patients. According to the clinical research conclusions and their clinical nursing experience, the nursing staff formulate meticulous nursing plans for patients in advance, effectively avoid the possible adverse reactions after chemotherapy, pay attention to the patients' diet to prevent malnutrition, urge patients to take medicine according to doctor's advice, monitor the physical traits of patients at all times and carry out psychological intervention, making the nursing process more humanized. All these above are a good reflection of the patient-centered nursing concept. This study is similar to that of Korczowska et al.^[22] who stated that evidence-based nursing model combined practical experience with the latest tumor research results, and then formulated nursing decisions for patients. Meticulous nursing combined with evidence-based nursing for medical oncology patients perfected the nursing plans, which could improve the life quality, alleviate the negative emotions and promote rehabilitation of patients after intervention.^[23] This further demonstrates that meticulous nursing combined with evidence-based nursing mode can positively affect the life quality and psychological status of medical oncology patients after chemotherapy.

In conclusion, for medical oncology patients, meticulous nursing combined with evidence-based nursing after chemotherapy can obviously reduce complications, relieve pain, improve life quality and enhance the recovery of physical function. Compared with routine nursing mode, this nursing mode pays more attention to the changes of psychological status, which can obviously improve the psychological status, improve their enthusiasm and initiative to cure the diseases, improve their nursing satisfaction and facilitate the harmonious development of doctor-patient relationship. Therefore, meticulous nursing combined with evidence-based nursing is worthy of application and popularization in clinic.

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