

Effect of Clinical Pathway Combined with High-Quality Nursing on Postoperative Recovery, Psychological Emotion and Quality of Life of Endometrial Cancer Patients Undergoing Radical Resection

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This study aimed to explore the influence of clinical pathway combined with high-quality nursing on endometrial cancer (EC) patients undergoing radical resection. Methods: A total of 116 EC patients who underwent surgery in our hospital from July 2017 to December 2019 were randomized into control group (CG) and observation group (OG). The CG (n=58) took routine nursing mode, while the OG (n=58) received clinical pathway combined with high-quality nursing. The postoperative recovery, psychological emotion and quality of life of the two groups were observed. **Results:** The postoperative recovery, psychological emotion and quality of life of the OG were better than those of the CG. **Conclusion:** Clinical pathway combined with high-quality nursing can effectively improve the quality of life and postoperative recovery of EC patients after radical resection.

Keywords: clinical pathway, high-quality nursing, endometrial cancer, postoperative recovery, psychological emotion, quality of life

Tob Regul Sci.™ 2021;7(5):1263-1270

DOI: doi.org/10.18001/TRS.7.5.43

INTRODUCTION

Endometrial cancer (EC) accounts for about 76,000 female deaths every year in the world. Because of the disease mortality and the increasing new diagnosis, it has become an important consideration for women's health¹. Their prognosis is usually poor, and the 5-year survival rate is less than 40%². Postmenopausal bleeding is usually a common symptom of EC, accounting for about two-thirds of all gynecological visits of postmenopausal and postmenopausal women³, which often causes psychological and physiological troubles to patients. For EC women, the current standard treatment method is to remove the uterus by laparotomy (hysterectomy) and remove the fallopian tube (the tube through which eggs flow

from the ovary to the uterus) and the ovary (producing eggs). Other treatments include radiotherapy and chemotherapy⁴. Clinical pathway is a tool to improve surgical process, which can guide postoperative recovery and is related to high-quality nursing⁵. It is a common part of seeking to improve the quality of health, which is often used to reduce differences, improve the quality of nursing and maximize the efficacy of specific patient groups⁶. It has the ability to promote standardized evidence-based practice, patient safety and health system efficiency, and it can reduce the cognitive burden of clinicians, so that they can focus on more complex and thinking activities.

It is being used more and more in medical institutions, and it is suggested to improve the

international quality of the wider health care system⁷.

High-quality nursing is uniquely customized according to patients' own situation and needs. This mode connects the affected people with health services and provides support during the whole treatment process⁸. It requires nurses to acquire and utilize evidence-based clinical knowledge, critical thinking, effective communication and teamwork skills to ensure the quality of patient nursing and safety⁹. Clinical pathway is based on high-quality nursing service, and the latter is guided by the former. The combination of the two is a strong alliance with complementary advantages¹⁰. This study is to explore the influence of clinical pathway combined with high-quality nursing on postoperative recovery, psychological emotion and quality of life of EC patients undergoing radical resection.

DATA AND METHODS

General Information

A total of 116 EC patients who underwent surgery in our hospital from July 2017 to December 2019 were randomized into control group (CG) and observation group (OG). The CG (n=58) took routine nursing mode, while the OG (n=58) received clinical pathway combined with high-quality nursing.

Exclusion and Inclusion Criteria

Inclusion: All EC patients confirmed by pathology¹¹ were treated by radical resection. This study was approved by the Ethics Committee of our hospital, and all patients and their families were informed and they signed an informed consent form.

Exclusion: patients with surgical contraindications, infectious diseases, autoimmune diseases, severe heart and lung, or liver and kidney insufficiency were excluded.

Methods

The CG received routine nursing: patients were given routine education and publicity before surgery, and they were informed of points for attention, and all prepared well. During surgery, they cooperated closely with doctors. Finally, medical workers observed the changes of patients' diseases after surgery, and informed them matters needing attention.

The OG received clinical pathway combined with high-quality nursing:

Medical and nursing integration working groups were established, each group consisted of a doctor (1), an attending doctor (1), N3 nurses (1) and nurses (2). N3 nurses were the team leaders, so they should be proficient in observing, treating and nursing EC, and be able to respond to emergencies

in time, and be approved by the competent doctor. It was also necessary to fix the beds in each group according to the number of patients, so that doctors and patients could be fixed and matched. Each group of doctors and nurses handed over to the next shift and made the rounds of the wards jointly, and they formulated corresponding treatment and nursing programs according to patients' conditions.

On this basis, we added high-quality nursing:

(1) knowledge propaganda: According to the different cultural background and economic situation of patients, we actively explained the relevant knowledge about EC, and purposefully clarified the precautions and surgical procedures in appropriate language, so as to reduce their uncertain psychology.

(2) Psychological intervention: Nurses should always communicate with patients and establish a good nurse-patient relationship. Besides, they should patiently answer patients' difficult questions, eliminate doubts, explain successful cases of surgery, and enhance their confidence in surgery.

(3) Dietary intervention: Nurses should adjust diet and supplement nutrition according to patients' situation, and they should eat digestible, high protein and light diet, instead of spicy and irritating food.

(4) Pain nursing: Pain is a common complication of patients with malignant tumor, and nurses need to evaluate their pain degree, and use analgesics as appropriate when the pain is not relieved.

(5) Postoperative nursing: They should monitor the vital signs of patients after surgery, observe whether the wound dressing exudes, keep the drainage tube unobstructed, and accurately record the nature and amount of drainage fluid.

(6) Discharge guidance: They should give comprehensive guidance to patients before discharge, distribute health brochures, emphasize matters needing attention, and review regularly.

Outcome Measures

(1) Patients' anxiety and depression were observed through self-rating anxiety scale (SAS)¹² and self-rating depression scale (SDS)¹³.

(2) The excellent and good rates of surgery after nursing for 3 months in the two groups were observed: excellent: The clinical symptoms and signs were completely eliminated, the incision healed well and no complications occurred; good: The clinical symptoms and signs were relieved without obvious complications; poor: Patients did not meet the above-mentioned excellent or good standards. Excellent and good rate = (excellent+good)/total cases × 100.0%.

(3) Altogether 5 mL venous blood after nursing was taken from patients in both groups. After it

stood for 20 min, the serum was separated by centrifuge (10xg at 4°C for 15 min, Beijing BMH Instruments Co., Ltd.) and quickly frozen with liquid nitrogen, and stored at -80°C for later use. CRP (C-reactive protein) and TNF- α (tumor necrosis factor) were tested by ELISA.

(4) According to SF-36 scale¹⁴, the quality of life (body function, psychological function, social factors and vitality) of both groups was scored, with a full score of 100. The higher the score was, the higher the quality of life was.

STATISTICAL METHODS

Statistical analysis were under SPSS 21.0 (SPSS,

Inc., Chicago, IL, USA). The measurement data were analyzed via T test, and those before and after nursing were assessed via paired T test and expressed by ($\bar{x} \pm sd$). The counting data were analyzed via Chi-square test and expressed by percentage (%). The difference was statistically remarkable when $p < 0.05$.

RESULTS

General Data of Patients in Both Groups

There was no difference in general data between both groups ($p > 0.05$). (Table 1)

Table 1.
General data table of patients [n (%)] ($\bar{x} \pm sd$)

Classification	Control group (n=58)	Observation group (n=58)	t/χ^2 value	P value
Age (years)	52.84 \pm 5.28	53.29 \pm 5.54	0.447	0.655
Height (cm)	166.57 \pm 6.87	167.46 \pm 6.74	0.704	0.482
Weight (kg)	56.78 \pm 5.71	57.11 \pm 5.84	0.307	0.758
Place of residence			0.552	0.457
Countryside	26 (44.83)	30 (51.72)		
Cities and towns	32 (55.17)	28 (48.28)		
Education background			0.314	0.574
Below high school	34 (58.62)	31 (53.45)		
High school or above	24 (41.38)	27 (46.55)		
Nationality				
Han	47 (81.03)	50 (86.21)	0.566	0.451
Ethnic minorities	11 (18.97)	8 (13.79)		
Economic level			2.229	0.328
Difficulty	15 (25.86)	11 (18.97)		
Well-to-do	24 (41.38)	32 (55.17)		
Rich	19 (32.76)	15 (25.86)		
Stay up late			0.314	0.574
Yes	27 (46.55)	24 (41.38)		
No	31 (53.45)	34 (58.62)		
Smoking			0.347	0.555
Yes	21 (36.21)	18 (31.03)		
No	37 (63.79)	40 (68.97)		
Drinking			1.023	0.311
Yes	20 (34.48)	15 (25.86)		
No	38 (65.52)	43 (74.14)		
Movement			0.568	0.450
Yes	22 (37.93)	26 (44.83)		
No	36 (62.07)	32 (55.17)		
Obesity			1.265	0.260
Yes	28 (48.28)	22 (37.93)		
No	30 (51.72)	36 (62.07)		
History of diabetes			0.058	0.809
Yes	11 (18.97)	10 (17.24)		
No	47 (81.03)	48 (82.76)		
History of hypertension			0.086	0.768
Yes	7 (12.07)	6 (10.34)		
No	51 (87.93)	52 (89.66)		

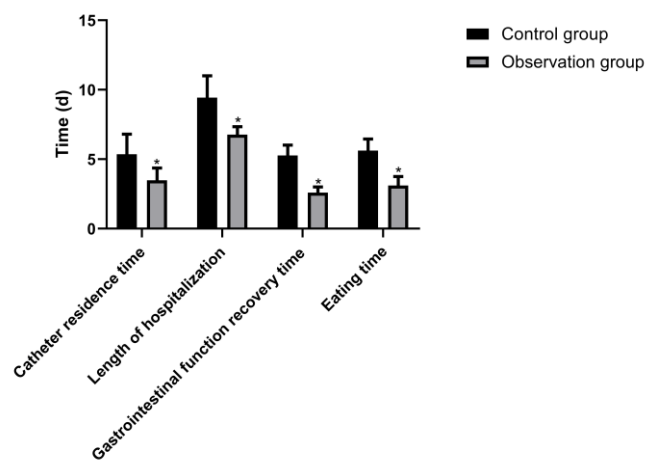
Comparison of Clinical Indicators between the Two Groups

The catheter retention time was (5.36 \pm 1.45) d in the CG and (3.48 \pm 0.89) d in the OG. The length of hospital stay in the CG was (9.43 \pm 1.58) d,

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and that of the OG was (6.77±0.58) d. The indexes of the OG were better than those of the CG (p<0.05) (Figure 1). The recovery time of gastrointestinal function was (5.27±0.75) d in the CG and (2.59±0.41) d in the OG. The feeding time was (5.62±0.83) d in the CG and (3.11±0.65) d in the OG. All clinical

Figure 1.
 Comparison of clinical indexes between both groups



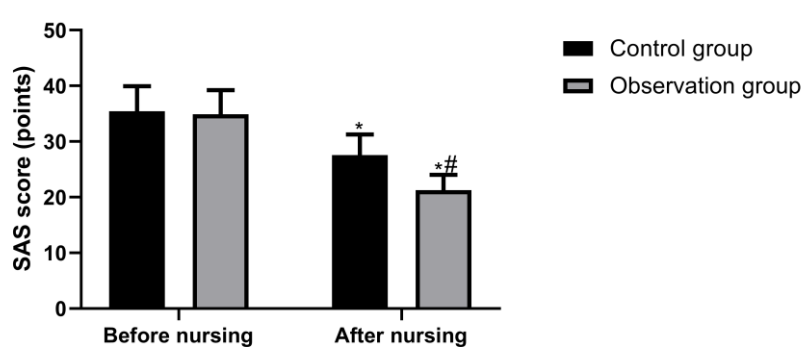
All clinical indexes of the OG were better than those of the CG (p<0.05). Note: * indicates the comparison with the CG (p<0.05).

Anxiety of the Two Groups before and after Nursing

The SAS score of the CG was (35.45±4.48) before nursing and (27.56±3.71) after nursing, while that of the OG were (34.88±4.36) before

nursing and (21.26±2.75) after nursing. There was no difference in SAS scores between both groups before nursing, but the scores of the OG after nursing were lower than those of the CG (p<0.05) (Figure 2).

Figure 2.
 Anxiety of both groups before and after nursing

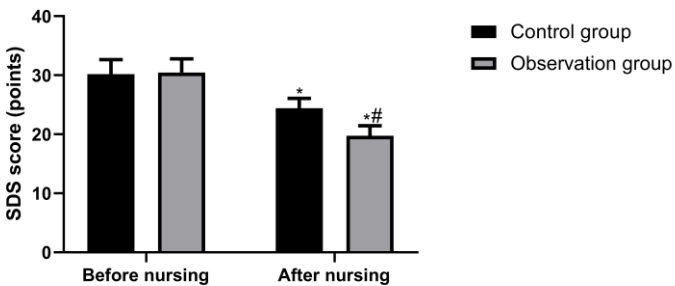


There was no difference in SAS scores between the two groups before nursing, and the scores of the OG were lower than those of the CG after nursing (p<0.05). Note: * means the comparison with the same group before nursing (p<0.05); # means the comparison with the CG (p<0.05).

Depression of the Two Groups before and after Nursing

The SDS score of the CG was (30.18±2.47) before nursing and (24.42±1.65) after nursing, while that of the OG was (30.44±2.35) before nursing and (19.75±1.71) after nursing. There was no difference in SDS scores between the two groups before nursing, but the scores of the OG after nursing were lower than those of the CG (p<0.05) (Figure 3).

Figure 3.
 Depression of both groups before and after nursing



There was no difference in SDS scores between the two groups before nursing, and the scores of the OG were lower than those of the CG after nursing (p<0.05). Note: * means the comparison with the same group before nursing (p<0.05); # means the comparison with the CG (p<0.05).

Comparison of Adverse Reactions between the Two Groups after Nursing

After nursing, the total incidence of adverse reactions in the OG was lower than that in the CG (p<0.05) (Table 2).

Table 2.

Comparison of adverse reactions between both groups after nursing [n(%)]				
Adverse reactions	Control group (n=58)	Observation group (n=58)	X ²	p
Wound infection	2 (3.45)	0 (0.00)	-	-
Fever	4 (6.90)	2 (3.45)	-	-
Rash	3 (5.17)	1 (1.72)	-	-
Giddiness	1 (1.72)	0 (0.00)	-	-
Dizziness	2 (3.45)	1 (1.72)	-	-
Vomiting	3 (5.17)	0 (0.00)	-	-
Total incidence rate	15 (25.86)	6 (10.34)	4.710	0.030

Comparison of Excellent and Good Rates of Surgery after Nursing between Both Groups

After nursing, the excellent and good rate of surgery in the OG was higher than that in the CG (p<0.05) (Table 3).

Table 3.

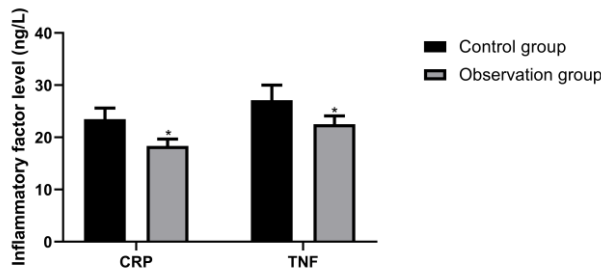
Comparison of excellent and good rates of surgery after nursing between both groups [n(%)]				
Excellent rate	Control group (n=58)	Observation group (n=58)	X ²	p
Excellent	15 (25.86)	31 (53.45)	-	-
Good	24 (41.38)	20 (34.48)	-	-
Poor	19 (32.76)	7 (12.07)	-	-
Excellent rate	39 (67.24)	51 (87.93)	7.138	0.007

Comparison of Inflammatory Factors between Both Groups after Nursing

The CRP level after nursing was (23.47±2.13) ng/L in the CG and (18.34±1.35) ng/L in the OG. The TNF-α level after nursing was (27.13±2.88) ng/L in the CG and (22.51±1.59) ng/L in the OG. After nursing, the level of inflammatory factors in

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 the OG was lower than that in the CG ($p<0.05$) (Figure 4).

Figure 4.
 Comparison of inflammatory factors between both groups after nursing



After nursing, the level of inflammatory factors in the OG was lower than that in the CG ($p<0.05$). Note: * indicates the comparison with the CG ($p<0.05$).

Comparison of Quality of Life between the Two Groups after Nursing
 After nursing, the quality of life in the OG was higher than that in the CG ($p<0.05$) (Table4).

Table 4.
 Comparison of quality of life between both groups after nursing ($\bar{x}\pm sd$)

Group	n	Body function	Psychological function	Social factors	Vitality
Control group	58	66.48±4.75	69.24±5.27	71.72±6.85	75.37±5.26
Observation group	58	74.56±5.12	78.61±6.53	77.19±5.24	81.85±7.39
t		8.811	8.504	4.830	5.441
p		<0.001	<0.001	<0.001	<0.001

DISCUSSION
 With the development of economy and medical care, the defects of the routine nursing mode are increasingly exposed. People have gradually realized that the future medical care needs to reorganize the medical supply, increase patients' power and participation, and train skilled medical professionals to provide cross-departmental and coordinated services. It may be a way to create a coherent, innovative and people-centered method to provide medical care for individuals with one or more long-term diseases ¹⁵. Patient-centered nursing is to enable patients to become active participants in their own care and get medical services based on their personal needs and preferences ¹⁶. In the people-oriented nursing environment, medical staff should show professionalism and writing ability with patients ¹⁷. In this paper, the combination mode of patient-centered clinical approach and high-quality nursing has shown its advantages. Our results show that clinical pathway combined with high-quality nursing can effectively reduce the hospital stays and promote the recovery of patients. Studies have shown that the combination of the two can

effectively improve the length of stay and secondary outcomes in ICU and hospital ¹⁸. There are also studies that implementing clinical pathway may help to improve patient experience and some outcomes related to hospitalization, and clinical pathway-oriented nursing may bring benefits to patients, families and institutions beyond those brought by routine nursing ¹⁹. This may be because the nursing model guided by clinical pathway can optimize resource allocation and health care plan, improve the quality and efficiency of health care, and measure the quality of nursing thus affecting patient outcomes and health care effects ²⁰. All these indicate that this combination can promote the recovery of patients.
 Most cancer patients will continue to have negative emotions, which will lead to fear of cancer and post-traumatic stress, thus affecting their quality of life and physical health ²¹. Therefore, in the treatment and nursing of cancer patients, it is necessary to pay special attention to the psychological emotion of patients and to conduct counseling. In this study, patients who received clinical pathway-oriented nursing had lower scores of negative emotions. This may be because this nursing mode often communicates with patients in

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the whole process, respects their preferences, explains disease knowledge and successful cases to them, and enhances their confidence and let them actively participate in treatment. Studies have shown that the role of knowledge is particularly important for nursing. If nursing quality is to be achieved, patients and nurses need knowledge that can redistribute and redevelop their services in a collaborative way beyond the current working mode²². It can be explained that knowledge propaganda and cooperation between nurses and patients are vital in nursing mode.

CRP is a useful marker for evaluating severe bacterial infection²³. Its level increases with the infection reaction, and it is mainly induced by IL-6's effect on the gene responsible for CRP transcription in the acute stage of infection process²⁴. TNF- α is a pleiotropic cytokine, which has been rising for a long time in sarcopenia and cancer cachexia. Higher TNF- α level is relevant to muscle loss and strength reduction, so the morbidity and early mortality are closely related²⁵. In this study, the level of inflammatory factors was lower in patients who received nursing guided by clinical pathway. This may be because clinical pathway concretizes each step and complements high-quality nursing, which reduces the course of disease and waste of resources and improves the quality of nursing. This may be the reason for less adverse reactions and high success rate of operation in the OG. Finally, we also indicated that clinical pathway combined with high-quality nursing can improve patients' quality of life, which may be because this nursing model has created new values about health and formed a social system, which improves their quality of life and social support through the process of establishing partnership with the community to maintain universal health care²⁶.

In a word, clinical pathway combined with high-quality nursing can improve postoperative recovery, psychological mood and quality of life of EC patients undergoing radical resection.

ACKNOWLEDGEMENTS

This study is financially supported by Qiqihar Medical College Academy of Science Project(QMSI2019M-36).

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