

## Original Article

# Effect of 5A nursing mode combined with fine nursing management on perioperative self-efficacy and living quality of hysteromyoma

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**Abstract:** Objective: In this study, we investigated the effects of 5A nursing mode combined with fine nursing management on perioperative self-efficacy and living quality of hysteromyoma. Methods: 116 hysteromyoma patients admitted to our hospital during August 2018 to August 2020 were enrolled as the research objects, and divided into control group and observation group by random-number-table method. Each group contained 58 cases. The control-group patients were treated with conventional basic nursing, while the observation-group patients received combined treatment of 5A nursing mode and fine nursing management. Subsequently, the changes of self-efficacy, living quality of the two groups of patients before and after interventions, and the occurrence of postoperative complications in both groups were recorded and compared. Results: The self-efficacy scores of both groups after intervention were markedly higher than those before intervention ( $P < 0.05$ ), and the score of the observation-group after intervention was obviously higher than that of control-group ( $P < 0.05$ ). The scores of the quality of life of the two groups after intervention were remarkably higher than those before intervention ( $P < 0.05$ ), and the score of observation group after intervention was substantially higher than that of control group ( $P < 0.05$ ). In addition, the incidence of complications in observation group was notably lower than that in control group, and the difference was statistically significant (10.34%, 29.31%,  $\chi^2 = 6.5619$ ,  $P = 0.0104$ ). Conclusion: The combined treatment of 5A nursing mode and fine nursing management has showed good nursing concept and standard nursing methods. It can effectively improve the self-efficacy and quality of life in hysteromyoma patients during perioperative period.

**Keywords:** 5A nursing mode, fine nursing management, hysteromyoma, perioperative, self-efficacy, living quality

## Introduction

Hysteromyoma is a common gynecological disease of middle-aged female with a high incidence. The pathogenesis of hysteromyoma remains unclear, and it is currently believed to be related to the estrogen level and growth factor of patients [1]. Hysteromyoma is mainly manifested as vaginal bleeding, abdominal distension, infertility, etc., seriously affecting the daily life and work of patients [2]. Surgery is the main treatment method for hysteromyoma in clinical practice, and the age, fertility demands, clinical symptoms and fibroid size should be considered comprehensively. Surgical methods include hysteromyoma exfoliation, hysterectomy, vascular interventional therapy, etc., among which uterine myomectomy is an effective way to preserve the fertility of patients [3, 4]. Most

hysteromyoma patients often have doubts about the treatment effect due to the lack of understanding of the surgical method. This, in turn, may cause heavy psychological pressure during the perioperative period. When such psychological pressures cannot be defused in time, the therapeutic effects and postoperative living quality will be affected [5]. The perioperative patients with hysteromyoma in this study received the combined treatment of 5A nursing mode and fine management of nursing, and achieved good results.

## Material and methods

### General material

116 hysteromyoma patients hospitalized during August 2018 to August 2020 were enrolled

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as the research objects and divided into control group and observation group by random-number-table method. Each group contained 58 cases respectively. This study was conducted after approval by the Medical Ethics Committee of our hospital.

### *Inclusive and exclusive criteria*

**Inclusive criteria:** (1) All patients included met the diagnostic criteria of hysteromyoma in *Consensus of Chinese Experts on Diagnosis and Treatment of Hysteromyoma* [6]; (2) The patients had not experienced with abdominal surgeries before; (3) Patients who were not complicated with heart, liver, kidney or other failure in important organs; (4) Patients without diseases such as diabetes or hypertension; (5) The patients were conscious before surgery and had certain cognitive and language abilities and (6) The patients were voluntarily enrolled and signed the informed consents.

**Exclusive criteria:** (1) Patients with malignant tumor(s); (2) Patients with organic diseases in reproductive system; (3) Patients during pregnancy or lactation; or (4) Patients who withdrew from treatment midway.

### *Methods*

The control group received a routine basic nursing model, with preoperative nursing included admission guidance, preoperative preparation, health education and simple psychological counseling; intraoperative nursing care such as posture guidance, monitoring of vital signs, intraoperative precautions, etc.; and the postoperative nursing by monitoring of postoperative vital signs, pain nursing, basic nursing and complication nursing.

The observation-group patients received the combinative treatment of 5A nursing mode and fine nursing management, and intervened through inquiry, evaluation, suggestion, assistance, and follow-up arrangements during perioperative period. The specific contents are follows: (1) Inquiry: the standardized face-to-face communication was conducted between the specialized nurses and patients after admission. The inquiry was in line with the questionnaire designed by the hospital, which including the patient's personal info, past and present history, physical examination on admission,

auxiliary inspection conditions and diagnostic results. The patient's treatment problems were recorded in detail. (2) Evaluation: based on the recorded problems, the perioperative patients with hysteromyoma were evaluated comprehensively by the specialized nurse before, after surgery and by pre-discharge. The preoperative evaluation, which including the patient's diet, defecation, psychology, nutrition, cardiopulmonary function, vital signs, etc., was to determine if the surgical treatment was suitable for the patients. The postoperative evaluation includes the activity, psychological states and mental state of the patients. The pre-discharge evaluation includes the patient's cognitive status, recovery of physical function and treatment compliance. The information obtained during the interrogation and assessment phase was summarized accordingly. (3) Suggestions: the responsible physician and the specified nurse provided advice on the patient's treatment plan. (4) Assistance: the responsible physician and the specified nurse provided patients with fine management of nursing according to the education degree and mental state of the patients and their families in order to achieve the superior caring results. *Pre-operative care:* the nursing staff conducted health education on patients before surgery, and carried out targeted psychological interventions according to the individual conditions of patients to help them relieve the pre-operative tension; The medical staff listened to and answered the questions raised by the patients, and helped them to establish a positive attitude towards surgery; Informed the patients to stay in bed for enough time after surgery, and advised them to practice in advance and get used to excretion in bed; Informed the patients to intake regularly and quantitatively, absorb more high-protein and vitamin-rich foods, and refrain from cold and spicy foods; Patients were required to intake semi-liquid food such as noodle soup or rice soup one day before the surgery, and abstain from water and fasting 6 hours before the surgery. *Intraoperative care:* The nursing staff adjusted the operating room temperature to 24~25°C and the humidity to 40%~50%. They also helped the patients to find the appropriate lying position, and tried to meet the reasonable requirement, so that they could felt at ease; Closely monitored the changes of blood pressure, breathing and other vital signs of patients, and informed the physi-

cian immediately in case of any abnormalities. *Postoperative care:* The nursing staff cleaned and disinfected the ward regularly and provided a clean and comfortable ward environment for patients; The patient's pulse and blood pressure were monitored every half an hour after waking up until the indicators stabilized. Appropriate psychological comfort was given to patients with postoperative wound pain, and suitable analgesic drugs could be given if they were in severe pain. 2 hours after surgery, the patients were encouraged to exercise according to their conditions to promote the blood circulation and wound healing. The nursing staff instructed the patients to take an appropriate amount of liquid food after smooth exhaustion, and ensured enough drinking water to avoid constipation; informed the patients to disinfect and clean the wound after the surgery to prevent infection. (5) *Follow-up visit:* the first return visit was settled 24 hours after discharge and every Friday afterwards; If the patients expressed with discomforts, timely guidance should be given, and the number of follow-up should be increased until they had no chief complaints.

### *Observation of indexes*

We observed the changes in self-efficacy and quality of life in two groups of patients before and after nursing intervention, and evaluated on admission and before discharge respectively. The self-efficacy scale (GSES) compiled by German clinical and psychology professor Ralf Schwarzer was applied to evaluate the self-efficacy of patients [7]. The scale contains 10 items, and Likert4 grading method is adopted, with a total score of 10-40 points. The higher score refers to the better general self-efficacy of patient. GSEs have good reliability and its internal consistency coefficient CronbachA = 0.87. The health-related quality of life was evaluated by SF-36 [8], which includes 4 dimensions: physical functioning, social functioning, psychological functioning, and material life state. We adopted the 5-level scoring method. Except for the material life state which contains 4 factors, the rest of the dimensions all contain 5 factors. The higher scores were associated with better quality of life in patients with uterine fibroids. The postoperative complications were recorded and compared between the two groups.

### *Statistical analysis*

The statistical software SPSS 25.0 was used for statistical analysis and processing of data. The measurement data conforming to the normal distribution were represented by ( $\bar{x}\pm s$ ), and the comparison between groups was by independent sample t test; Enumeration data was expressed as a percentage, and the result was  $\chi^2$  test.  $P < 0.05$  referred that the difference is statistically significant.

## Results

### *Clinical material*

The control-group patients were between 21-55 years old, with an average age of (38.58±5.23) years; The diameter of patient's fibroids was (3.21±0.45) cm, including 39 cases of single fibroids and 19 cases of multiple fibroids; There were 31 cases of myomas subserosal, 17 cases of myomas intermuscularly, and 10 cases of myomas submucosal. The average age of patients in observation group was (39.37±5.14) years old, ranging from 22 to 55 years old; the diameter of myoma was (3.19±0.33) cm, including 37 cases of single myoma and 21 cases of multiple myoma; There were 30 cases of myomas located subserosal, 15 cases intermuscular-wall, and 13 cases submucosal. The comparison of general data such as age, fibroid diameter and fibroid location between the two groups showed no statistically significant difference ( $P > 0.05$ ), indicating that the two groups were comparable, as shown in **Table 1**.

### *Comparison of self-efficacy changes before and after nursing intervention in two groups of patients*

The self-efficacy scores of the two groups of patients after intervention were remarkably higher than those before intervention ( $P < 0.05$ ), and the scores of the observation group were substantially higher than those of control group after intervention ( $P < 0.05$ ), as shown in **Table 2** and **Figure 1**.

### *Comparison of changes in quality of life between the two groups of patients before and after nursing intervention*

The scores of the quality of life of the two groups after intervention were dramatically

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**Table 1.** Comparison of general data between the two groups

Item	Control group (n = 58)	Observation group (n = 58)	$\chi^2/t$	<i>P</i>
Age ( $\bar{x} \pm s$ , years old)	38.58 $\pm$ 5.23	39.37 $\pm$ 5.14	0.8205	0.4137
Diameter of myoma	3.21 $\pm$ 0.45	3.19 $\pm$ 0.33	0.2730	0.7854
Fibroids (single/multiple, cases)	39/19	37/21	0.1526	0.6961
Fibroids location			0.5327	0.8662
Subserosal myoma	31	30		
Intramural myoma	17	15		
Submucosal myoma	10	13		

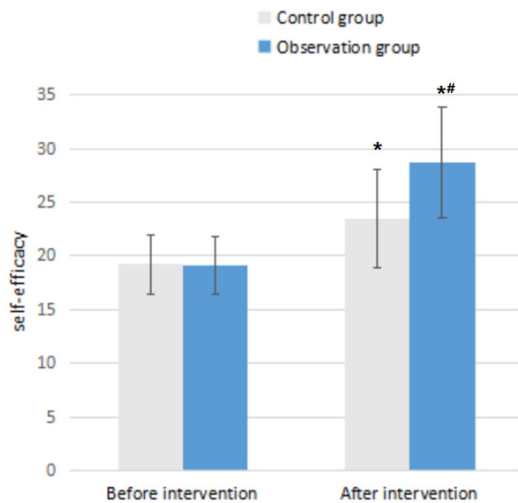
**Table 2.** Comparison of changes in self-efficacy of the two groups of patients before and after nursing intervention ( $\bar{x} \pm s$ , points)

Group	Before intervention	After intervention	<i>t</i>	<i>P</i>
Control group (n = 58)	19.24 $\pm$ 2.73	23.48 $\pm$ 4.62	6.0173	< 0.0001
Observation group (n = 58)	19.11 $\pm$ 2.65	28.67 $\pm$ 5.13	12.6094	< 0.0001
<i>t</i>	0.2602	5.7253		
<i>P</i>	0.7952	< 0.0001		

group, and the difference was statistically significant (10.34%, 29.31%,  $\chi^2 = 6.5619$ ,  $P = 0.0104$ ), as shown in **Table 4**.

### Discussion

Hysteromyoma is a common benign tumor in female and belongs to ovarian hormone-dependent tumors. The prevalence rate of childbearing aged women over 30 years old is about 20% [9]. The current clinical treatment of hysteromyoma includes conservative and surgical treatment. The conservative treatment can only play a certain role in alleviating the clinical symptoms, but it cannot guarantee the complete eradication of the disease. Surgical treatment, relatively speaking, is currently the direct and effective method for the treatment of hysteromyoma, especially for patients with poor conservative treatment effect or no fertility requirements [10, 11]. However, patients may have certain concerns, such as whether the surgical treatment will affect their sexual characteristics and sexual life, etc. Therefore, patients are under great psychological pressure during perioperative period and even after discharge from the hospital [12, 13]. Uterus is the target organ of the ovary. Although uterine surgery has imposed certain negative impact on ovarian function, most studies have shown that the impact of laparoscopic myomectomy on ovarian function is limited [14-16]. However, as patients have limited understanding of medical knowledge, and they may suspect that the surgical treatment will affect their female characteristics, fertility and sexual life. This is not conducive to the smooth progress of surgery and their postoperative physical and mental health [17, 18]. Therefore, it is of the great importance for the implementation of effective nursing inter-



**Figure 1.** Comparison of changes in self-efficacy of the two groups of patients before and after nursing intervention. Note: compare with before intervention, \* $P < 0.0001$ ; compare with control group, # $P < 0.0001$ .

higher than those before intervention ( $P < 0.05$ ), and the scores of the observation group after intervention were substantially higher than those of the control group ( $P < 0.05$ ). As shown in **Table 3** and **Figure 2**.

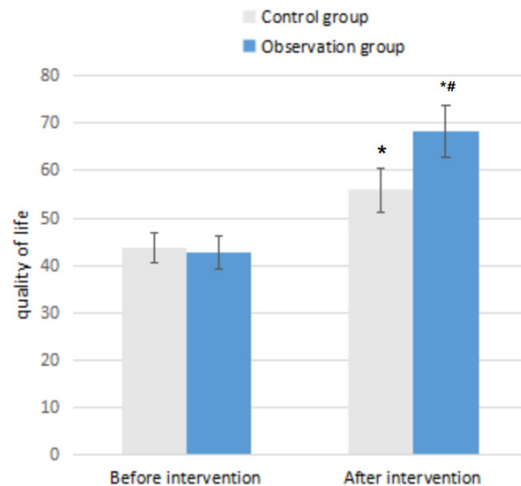
### Comparison of postoperative complications between the two groups

The incidence of complications in observation group was notably lower than that in control

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**Table 3.** Comparison of changes in quality of life between the two groups of patients before and after nursing intervention ( $\bar{x} \pm s$ , points)

Group	Before intervention	After intervention	t	P
Control group (n = 58)	43.64±3.13	55.86±4.55	16.8515	< 0.0001
Observation group (n = 58)	42.72±3.42	68.28±5.39	30.4943	< 0.0001
t	1.5113	13.4097		
P	0.1335	< 0.0001		



**Figure 2.** Comparison of changes in quality of life between the two groups of patients before and after nursing intervention. Note: compare with before intervention, \* $P < 0.0001$ ; compare with control group, # $P < 0.0001$ .

ventions on perioperative patients with hysteromyoma.

In conventional nursing mode, patients often passively receive series of treatment and nursing measures, while their actual needs cannot be fully met. By contrary, the combined treatment of 5A nursing mode and fine management of nursing is a new nursing intervention mode. The mode changes from the traditional single concept of body nursing to comprehensive care in various aspects from physical, psychological, social and spiritual dimensions. With a refined, standardized and personalized nursing mode as the core, the medical staff would carry out the comprehensive nursing service measures to better meet the needs of patients, and ensure the smooth treatment and promote the rehabilitation of patients [19, 20]. Self-efficacy refers to the individual's conjecture and judgment on whether he has the abili-

ty to accomplish a certain thing, and it plays a decisive factor in whether the individual would perform certain behaviors. People with a strong sense of self-efficacy tend to have the confidence to overcome kinds of difficulties [21, 22]. Patients with high degree of self-efficacy are confident in treat-

ing the disease, and meanwhile have a higher compliance and care implementation [23, 24]. Therefore, improving the self-efficacy of patients is critical to the smooth surgery and postoperative recovery. The health-related quality of life is a comprehensive index of multi-dimensional structure in psychological, physiological, social and spiritual adaptation that an individual experienced [25, 26], and it can comprehensively evaluate the individual's health status. The results of this study showed that the self-efficacy scores of the two groups of patients after intervention were remarkably increased, and the ascending range of score in observation group was obviously greater than that in control group; The health-related quality of life scores in two groups of patients after interventions were substantially uplifted, and the ascending range of score in observation group was obviously more than that in control group ( $P < 0.05$ ); The incidence of complications in observation group was notably lower than that in control group. The above results indicated that the intervention of medical staff can increase the self-efficacy of patients during perioperative period, improve their quality of life, and reduce the incidence of postoperative complications. In addition, the therapeutic efficacy of 5A nursing mode combined with fine management of nursing is more evident. Through analyzing, we considered as the mode has carried out a comprehensive evaluation on the situation of patients. The medical staff has formulated personalized nursing interventions in line with the patient's personal situation. Through active care and guidance on various aspects, the patient can face the surgery with a positive attitude. This enables patients to enhance their sense of self-efficacy. By constantly improving the understanding of disease, the patients' enthusiasm for postoperative functional exercise can be improved, so that



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**Table 4.** Comparison of complications between the two groups [n, (%)]

Group	Infection	Urinary retention	Postoperative bleeding	Urinary irritation	Total incidence
Control group (n = 58)	5 (8.62)	3 (5.17)	4 (6.90)	5 (8.62)	17 (29.31)
Observation group (n = 58)	2 (3.45)	1 (1.72)	1 (1.72)	2 (3.45)	6 (10.34)
$\chi^2$	-	-	-	-	6.5619
<i>P</i>	-	-	-	-	0.0104

the postoperative recovery could be promoted to reduce the incidence of complications and improve the quality of life.

In conclusion, the combined treatment of 5A nursing mode and fine management of nursing has good nursing concept and standardized nursing methods. It can effectively improve the self-efficacy and quality of life in perioperative patients with hysteromyoma, and is worthy of clinical promotion.

### Disclosure of conflict of interest

None.

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