

Original Article

The effect of self-care guides on the complications, length of stay, and self-care ability of patients with hysteromyoma

Zhuying Yang¹, Li Chen², Qinqin Tang³

Departments of ¹Nursing, ²Obstetrics and Gynecology, ³Imaging, The First People's Hospital of Fuzhou, Jiangxi, China

Received October 28, 2019; Accepted December 18, 2019; Epub March 15, 2020; Published March 30, 2020

Abstract: Objective: This study aimed to analyze the effect of self-care guides on the complications, length of stay (LOS), and self-care ability of patients with hysteromyoma. Methods: Eighty patients with hysteromyoma admitted to our hospital from January 2018 to January 2019 were included for a retrospective analysis and divided into two groups based on the nursing model. The control group (n=39) was routinely nursed, while the observation group (n=41) received self-care guides based on the nursing in the control group. The two groups were compared in terms of their scores on the visual analogue scale (VAS), the self-rating anxiety scale (SAS), the self-rating depression scale (SDS), LOS and complications, and quality of life (QOL) before and after nursing. In addition, they were assessed on their self-care ability based on the exercise of self-care agency (ESEA). Results: Compared with the control group, the observation group had lower scores for VAS, SAS, SDS, LOS, postoperative incidence of complications (4.88% versus 17.95%), and higher self-care ability and QOL scores ($P<0.05$). Conclusion: Strengthening self-care guides in patients with hysteromyoma contributed to their fast recovery, shortened their LOS, improved their self-care ability and QOL, and eliminated their pain intensity and negative emotions.

Keywords: Hysteromyoma, self-care guides, complications, length of stay, self-care ability

Introduction

Hysteromyoma, also known as uterine fibroids or fibromyoma, is a kind of soft tissue tumor in females with a high incidence but an unclear specific pathogenesis so far. Generally it is believed that the disease has a close association with mutations in local growth factors (GF), sex hormones, and normal muscular layer cells [1]. The clinical manifestations are erythremia, hypohemia, abortion, infertility, leukorrhoea increase, pain, constriction, abdominal mass, and endometrorrhagia [2].

Surgery is a routine clinical method for the treatment of hysteromyoma. However, most of the patients lack knowledge and understanding about the surgery, and they worry about its side effects, which leads to negative emotions such as intensity and fear, and a series of perioperative nursing problems [3, 4]. According to

self-care theories, humans are born with the ability and obligation to take care of themselves. We also satisfy our self-care needs in life through acquired learning [5]. Improvements in self-care abilities not only help patients correct their mindsets, but they also effectively promote postoperative recovery, reduce the incidence of complications, and improve patients' satisfaction [6, 7]. For that reason, in order to improve the self-care ability of hysteromyoma patients after surgery, accelerate postoperative recovery, and reduce the incidence of complications, the present study aimed to enhance patients' self-care guides on the basis of routine nursing.

Previously, in the traditional nursing model, nurses are the provider and the patients are the passive recipients of various nursing services, during which, little emphasis is placed on the patients' need for nursing autonomy. Therefore,

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on the basis of self-care theories, this study innovatively enhanced the self-care guides for patients with hysteromyoma.

Materials and methods

Materials

Eighty patients with hysteromyoma admitted to our hospital from January 2018 to January 2019 were included in this retrospective analysis and divided into two groups based on the nursing model. The control group (n=39), with an age range of 23-52 years, was routinely nursed, while the observation group (n=41), with an age range of 22-51 years, received enhanced nursing with self-care guides based on the nursing in the control group. (1) Inclusion criteria: Patients without severe organic heart, liver or kidney disease, and with a normal ability for language exchange and communication were included, and their written informed consents were provided. The study was approved by the medical ethics committee of the First People's Hospital of Fuzhou. (2) Exclusion criteria: Some patients were excluded as they had gynecological malignant tumors, cognition and mental disorders, surgical contradictions or severe concurrent complications.

Methods

The surgeries in both groups were performed by the same medical team, after which, the control group was routinely nursed, including the provision of sufficient preoperative preparation and health education, close observation of changes in the patients' vital signs after the surgery, targeted nursing intervention based on the patients' actual conditions, and the active prevention of complications.

On the basis of the control group, the observation group received enhanced self-care guides in the forms of face-to-face instruction, wall charts listing activities, display boards for education, and multimedia lecturing, with the specific contents as follows: (1) Information supports and enhances knowledge education: nurses should take the initiative to introduce themselves to the patients and their family members to build an amicable relationship; by means of preoperative visits, the provision of booklets with health knowledge, and displays on posters and wall displays, patients had a chance to garner more knowledge about and

further understand the disease; preoperative preparations were introduced to the patients, including the surgical methods, the objective, the anesthesia method, and cooperation and notes during the surgery. The patients were also made aware of the possibility of safely returning to normal sexual activity half a year after the surgery to motivate and guide them to be involved in their own self-management. Education should be carried out with simple and easy terms, and the patients' self-care awareness should be built by persuasion or discussion. (2) Enhancement of guides on self-care skills: patients were ordered to eat more food rich in vitamins and coarse fibers, and easily digestible food also. They also learned about the techniques to prevent constipation and infections of the urinary system, how to relieve their bowels in bed and cough; as the surgery was completed and the patients regained their consciousness, they were encouraged to be involved in their self-care, including independent turnover 2 h after the surgery, during which, the nurses may provide assistance as appropriate, and demonstrate the correct coughing method in front of the patients. One day after the surgery, patients should perform the exercises of sitting by the bed and doing whole body movements with guidance, and may engage in out-of-bed activities as appropriate. The possible complications and the correct preventive methods were explained to the patients, and they were encouraged to wash their faces, brush their teeth, go to the toilet, and change their clothes independently. (3) Enhancement of self-emotional management: the nurses should actively and positively communicate with the patients to make them feel respected and cared for. In the whole nursing process, the nurses should smile to get closer to the patients, and methods such as psychological tests and talks should be adopted to evaluate the patients' psychological characteristics and help them find a way to express their worries. The nursing staff should express their sympathy and understanding to the patients, and introduce them the self-emotional management methods, including intentional relaxation, confiding and emotional transfer, which may be used for self-emotional regulation and management in the case of unhealthy emotions. Also, the patients should be learn about the successful cases and the small impact of the surgery on sexual activity, so as to relieve them from psychological concerns and

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Table 1. Comparison of the general characteristics between the observation and the control groups [n (%)]/(Mean \pm SD)

Materials	Observation group (n=41)	Control group (n=39)	t/X ²	P
Age (y)	33.28 \pm 1.28	33.36 \pm 1.26	0.046	0.779
Onset type				
Intramural myoma	26 (63.41)	23 (58.98)	0.063	0.925
Subserous myoma	10 (24.39)	11 (28.21)		
Fleshy polyp	5 (12.20)	5 (12.82)		
Onset condition				
Single	18 (46.15)	16 (41.03)	0.068	0.795
Multiple	23 (58.97)	23 (58.97)		

increase their confidence in the recovery process.

Observation indices

(1) Visual analogue scale (VAS): after the surgery, the two groups were evaluated using VAS for pain intensity, which consists of 11 numbers from 0 to 10. Among them, 0 indicates no pain and 10 the worst possible pain. The VAS score interacts with the pain intensity positively, and patients should select a number according to the pain intensity they suffered from [8]. (2) Length of stay (LOS): the two groups were compared on their LOS. (3) Complications: the two groups were compared on their postoperative complications. (4) Psychological status: before and after nursing, the patients were assessed for anxiety using the self-rating anxiety scale (SAS) and depression using the self-rating depression scale (SDS). With 50 as the critical value, the SAS results include moderate (50-59), mild (60-69), and severe (>69). r SDS has a critical value of 53, and its results are categorized as moderate (53-62), mild (63-72) and severe (>73) [9, 10]. (5) Score of exercise of self-care agency (ESEA): the scale consists of 4 dimensions, including health knowledge level, self-care responsibility, self-care skills and self-concepts, and 43 items, each worth 0 to 4 points, so the total score ranges from 0 to 172 points and positively matches one's self-care ability [11]. (6) Quality of life (QOL): patients were followed up for 6 months and assessed for QOL using the short form 36 questionnaire (SF-36) which consists of 8 dimensions, namely, social function (SF), vitality (VT), mental health (MH), emotional role (RE), physical function (PF), general health (GH), role physical (RP), and body pain (BP). Each dimension has a total

possible score of 100 and is positively associated with the QOL [12].

Statistical analysis

The statistical analysis was performed using SPSS 22.0. The numerical data were expressed as the means \pm standard deviations, and the intergroup and intragroup comparison studies were carried out using independent-samples *T* tests; in the cases of nominal data, they were expressed as [n(%)], and the intergroup and intragroup comparison studies were carried out using X^2 tests. For all statistical comparisons, $P < 0.05$ was considered as significantly different.

Results

Comparison of the general characteristics between the observation and the control groups

The patients in the observation group ranged in age from 22 to 51, with a mean age of (33.28 \pm 1.28) years. The patients in the control group ranged in age from 23-52, with a mean age of (33.36 \pm 1.26) years. The observation group included 26 (63.41%) intramural myomas, 10 (24.39%) subserous myomas and 5 (12.20%) fleshy polyps, and the control group included 23 (58.98%) intramural myomas, 11 (28.21%) subserous myomas and 5 (12.82%) and 18 (46.15%) fleshy polyps. The patients in the observation group reported a single lesion, and 23 (58.97%) multiple lesions, while in the control group, they reported 16 (41.03%) single lesions and 23 (58.97%) multiple lesions. The two groups had no statistical difference in terms of age, hysteromyoma type, or the onset conditions ($P > 0.05$, **Table 1**).

Comparison of the VAS scores between the observation and the control groups

Compared with the control group, the observation group had lower VAS scores after the surgery ($P < 0.05$, **Table 2**).

Comparison of LOS between the observation and control groups

Compared with the control group, the observation group had shorter LOS after surgery ($P < 0.05$, **Table 3**).

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Table 2. Comparison of the postoperative VAS scores between the observation and the control groups (Mean \pm SD, Score)

Group	VAS Score
Control group (n=39)	3.19 \pm 0.25
Observation group (n=41)	2.22 \pm 0.18*
<i>t</i>	19.990
<i>P</i>	0.000

Note: *represents $P < 0.05$ as compared with the control group.

Table 3. Comparison of the LOS between the observation and the control groups (Mean \pm SD, d)

Group	LOS
Control group (n=39)	8.96 \pm 1.22
Observation group (n=41)	6.15 \pm 0.16*
<i>t</i>	14.621
<i>P</i>	0.000

Note: *represents $P < 0.05$ as compared with the control group.

Comparison of the postoperative complications between the observation and the control groups

After the surgery, the observation group had 1 (2.44%) hemorrhages and 2 (2.44%) abdominal infections, leading to a complication incidence rate of 4.88%, while in the control group, the data were 4 (10.26%), 3 (7.69%), and 17.95% respectively ($X^2=6.557$, $P < 0.05$, **Figure 1**).

Comparison of the SAS and SDS scores between the observation and the control groups

The SAS scores in the observation and the control groups were (61.32 \pm 2.29) and (61.28 \pm 2.36) before nursing, and (32.15 \pm 1.05) and (43.26 \pm 1.28) after nursing. There was no statistical difference in the SAS scores before nursing ($P > 0.05$), but after the nursing, both groups attained a reduction in this index ($P < 0.05$), which was lower in the observation group than it was in the control group ($P < 0.05$, **Figure 2**).

The SDS scores in the observation and the control groups were (60.62 \pm 2.85) and (60.58 \pm 2.96) before the nursing, and (32.15 \pm 1.09) and (45.26 \pm 1.26) after the nursing. There were no statistical differences in the SDS scores before the nursing ($P > 0.05$), but after the nurs-

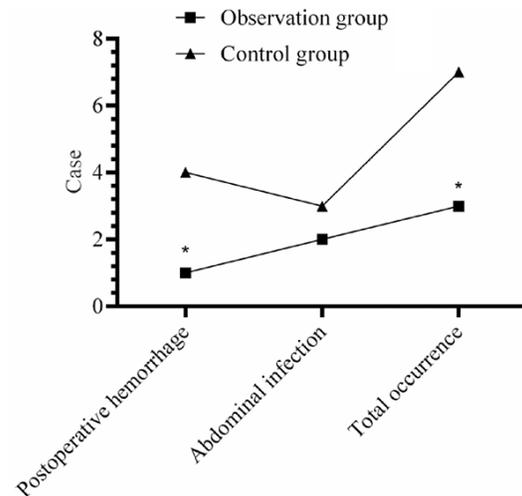


Figure 1. Comparison of the complications between the observation group and the control group. The observation group reported postoperative incidence of hemorrhage of 2.44% and of abdominal infection of 4.88%, and a postoperative total incidence of complications of 4.88%, while in the control group, the reported data were 10.26% ($P < 0.05$), 7.69% ($P > 0.05$), and 17.95% ($P < 0.05$).

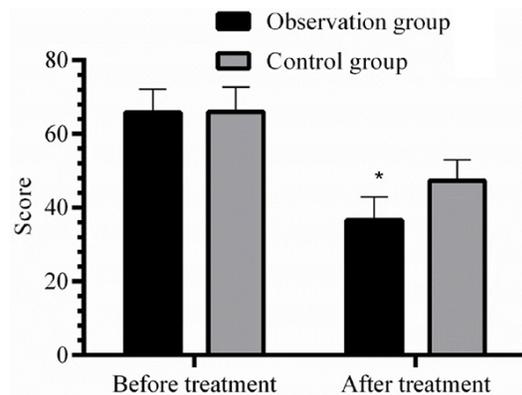


Figure 2. Comparison of the SAS scores between the observation and control groups before and after nursing. The two groups were compared in terms of their SAS scores before nursing ($P > 0.05$) and after nursing ($P < 0.05$), and the observation group was lower than the control group.

ing, both groups attained a reduction in this index ($P < 0.05$), which was lower in the observation group than it was in the control group ($P < 0.05$, **Figure 3**).

Comparison of the self-care ability scores between the observation and control groups

For the health knowledge level, self-care responsibility, self-care skills, self-concepts and self-care ability, the observation group attai-

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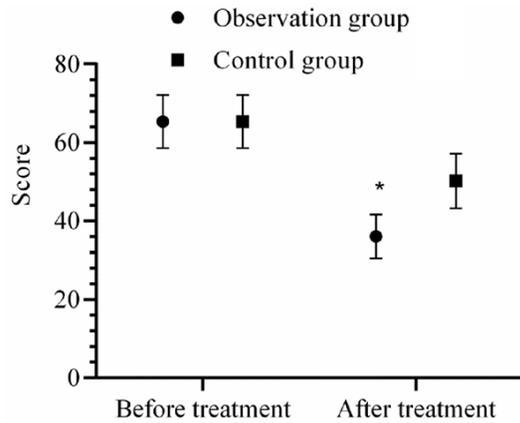


Figure 3. Comparison of the SDS Scores between the observation and control groups before and after nursing. The two groups were compared in terms of their SDS scores before nursing ($P>0.05$) and after nursing ($P<0.05$), and the observation group was lower than the control group.

ned scores of (48.56 ± 5.12), (17.52 ± 3.12), (28.56 ± 2.36), (20.75 ± 5.36) and (116.69 ± 12.56), and those scores in the control group were (40.02 ± 3.12), (13.02 ± 1.06), (22.13 ± 0.26), and (92.12 ± 3.69), respectively ($P<0.05$, **Figure 4**).

Comparison of the postoperative QOL scores between the observation and the control groups

Compared with the control group, the observation group yielded a higher score in postoperative SF, VT, MH, RE, PF, GH, RP, and BP ($P<0.05$, **Table 4**).

Discussion

Hysteromyoma is a kind of benign tumor mostly found in the reproductive organs of females with robust ovarian functions in the child-bearing period. With a higher incidence, the tumor depends on the ovarian hormone [13, 14]. Currently, with the accelerated development of the society, people are under more and more significant pressure in life, accompanied by an increasing number of patients with hysteromyoma [15, 16], for whom, conservative therapy is combined with surgery in clinical treatment. Though conservative treatment can alleviate some clinical syndromes, it cannot be cured [17, 18]. The surgery greatly relies on the surgeon's surgical skills and the perioperative nursing [19].

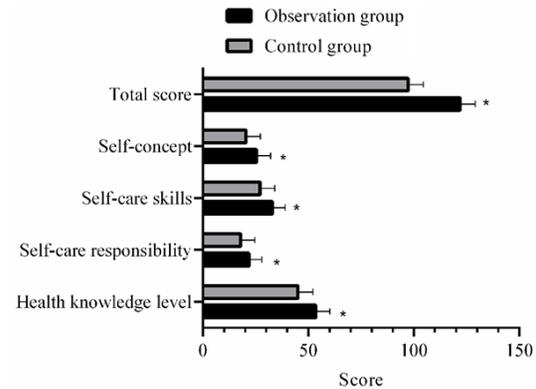


Figure 4. Comparison of the self-care ability between the observation and control groups before and after nursing. The two groups were compared in terms of their self-care ability scores before nursing ($P>0.05$), and after nursing, and the observation group was lower than the control group in health knowledge level, self-care responsibility, self-care skills, self-concept, and the total score ($P<0.05$).

Previously, patients underwent hysteromyoma surgery were passive recipients of routine nursing in the clinic, including the provision of various nursing services by the nurses in strict accordance with the doctor's advice [20]. In such a nursing model, the patients depend more on the nurses such that some of their nursing needs may not be fully satisfied [21]. According to the self-care theories, self-care is defined as the process of objectively learning from others in activities to improve one's self-care ability for the purpose of self-care. Its guides require nursing staff to transfer disease-related knowledge and skills to the patients, and to encourage patients to be actively involved in care management. The model of self-care guides can fully motivate the patients' potential and encourage them to undertake some treatment or preventative activities during their diagnosis and treatment, which elevates initiative and further improves the treatment effects [22]. In general cases, patients with a higher self-care ability are also equipped with more ideal self-help skills and awareness, and some of them even are able to obtain information advantageous to facilitate recovery independently, which is also a way to improve their self-care ability [23].

In recent years, Bassola *et al.* [24] introduced the self-care theory into the perioperative nursing of patients, and observed significant improvements in their self-care ability and a

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Table 4. Comparison of the postoperative QOL scores between the observation and the control groups (Mean \pm SD, Score)

Group	SF	VT	MH	RE	PF	GH	RP	BP
Control group (n=39)	72.16 \pm 2.36	73.63 \pm 1.22	71.26 \pm 2.96	70.99 \pm 3.68	72.16 \pm 1.69	74.56 \pm 2.37	71.25 \pm 2.55	70.36 \pm 1.25
Observation group (n=41)	92.12 \pm 2.63*	90.23 \pm 3.69*	92.36 \pm 1.29*	90.57 \pm 2.63*	89.99 \pm 2.37*	93.32 \pm 1.58*	93.36 \pm 1.27*	89.99 \pm 1.88*
<i>t</i>	35.664	26.732	41.682	27.484	38.567	41.849	49.455	54.704
<i>P</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: *represents $P < 0.05$ as compared with the control group.

reduction in the postoperative incidence of complications after the enhancement of self-care guides, which fully demonstrates the effectiveness of the self-care guide model. Similarly, this study explored the application effects of the self-care nursing model on patients underwent hysteromyoma surgery. The results revealed that, as compared with the control group, the observation group was lower in VAS, the incidence of complications, SAS and SDS, higher in self-care ability scores and QOL scores, and shorter in LOS ($P<0.05$), indicating that the enhancement of self-care guides can help the postoperative recovery process of patients with hysteromyoma, shorten LOS, improve self-care ability and QOL, and mitigate pain intensity and negative emotions. To determine why, it was found that purposeful and planned perioperative knowledge education for patients underwent surgical treatment of hysteromyoma can consolidate their self-health responsibility, provide skills and knowledge to solve problems, and increase self-care ability [25]. Next, the enhancement of self-nursing guides helps to transfer the patients' role and mitigate various negative emotions due to the surgery and the disease. It is a process of rebuilding confidence in recovery, motivating the patients' potential and improving perioperative compliance and cooperation [26]. In addition to respecting patients' right to know, the self-care guides model also motivates them to participate in nursing and learn about disease prevention, health protection, and self-care, so as to enhance the self-care ability and awareness, build amicable nurse-patient relationships and achieve the utmost goals of mutual promotion and progression [27].

In conclusion, the enhancement of self-care guides for patients with hysteromyoma contributes to their fast recovery, shortening LOS, improving self-care ability and QOL, and eliminating pain intensity and negative emotions, which is worthy of popularization.

However, as the study included fewer study objects, the results were less representative. Further studies need to be more in-depth with larger sample sizes.

Acknowledgements

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Disclosure of conflict of interest

None.

Address correspondence to: Qinqin Tang, Department of Imaging, The First People's Hospital of Fuzhou, No. 1099, Yingbin Avenue, Fuzhou 344000, Jiangxi, China. Tel: +86-13970483137; E-mail: tangqtii@163.com

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