*Original Article*
# Effect of systematic nursing on patients with dysfunctional uterine bleeding and rehabilitation

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**Abstract:** *Purpose:* To study the effect of systematic nursing on patients with dysfunctional uterine bleeding and rehabilitation. *Methods:* 98 patients who were treated in our hospital for dysfunctional uterine bleeding from May 2017 to May 2019 were selected, and were divided into a control group (n=49, conventional nursing) and an observation group (n=49, systematic nursing) according to the random number table method. The curative effect, uterine bleeding time, normalization time of biochemical index recovery, psychologic status, quality of life, and nursing satisfaction of the two groups were compared. *Results:* The efficacy rate of the observation group (93.88%) was higher than the control group (77.55%); the observation group had less uterine bleeding time and activated partial thromboplastin time (APTT) in comparison with the control group (*P*<0.05). There was no significant difference in self-rating anxiety scale (SAS) and self-rating depression scale (SDS) scores between the two groups before intervention (*P*>0.05); after intervention, the SAS and SDS scores of both groups decreased, with the observation group being more significant (*P*<0.05. The quality of life score and nursing satisfaction rate of the observation group were higher (*P*<0.05). *Conclusion:* Systematic nursing can improve the curative effect of patients with dysfunctional uterine bleeding, accelerate the rehabilitation process, relieve negative emotions, and improve the quality of life and nursing satisfaction.

**Keywords:** Systematic nursing, dysfunctional uterine bleeding, implementation effect, rehabilitation effect

## Introduction

Dysfunctional uterine bleeding refers to uterine bleeding caused by ovarian dysfunction [1], usually accompanied by symptoms such as abnormal menstrual flow, irregular vaginal bleeding, and menstrual disorder, which may result in secondary infections, anemia, and even infertility [2, 3]. In recent years, the incidence of dysfunctional uterine bleeding has been on the rise, and it has adversely affected the quality of life of patients [4]. Traditional nursing methods are not satisfactory in a curative effect and rehabilitation [5]. Therefore, it is of vital significance to seek a more effective nursing method. Systematic nursing is a nursing intervention that is conducive to patients' physical recovery and improves quality of life [6]. At present, studies of the effect of systematic nursing on patients with dysfunctional uterine bleeding and the rehabilitation effect of patients are rare. Systematic nursing intervention is a series of nursing interventions for patients mainly from the aspects of psychology, diet, infection prevention, and discharge guidance. Effective psychological care can relieve patients' anxiety, and other negative emotions, and increase confidence in the treatment. Good dietary guidance can meet the nutritional needs of patients and increase their own resistance. Reasonable infection prevention and discharge guidance for patients can effectively reduce the incidence of complications and improve medication compliance, thereby improving their quality of life and increasing nursing satisfaction. In view of this, the authors selected 98 patients with dysfunctional uterine bleeding to test the value of systematic nursing, to provide a basis for the prevention and treatment of dysfunctional uterine bleeding.

## Participants and methods

*Participants*

Patients who were treated in our hospital due to dysfunctional uterine bleeding from May 2017 to May 2019 were selected. Inclusion criteria:

(1) patients met the diagnostic criteria for dysfunctional uterine bleeding [7]; (2) patients voluntarily signed an informed consent form. Exclusion criteria: (1) patients with malignant tumor; (2) patients with severe heart, kidney, and liver dysfunction; (3) patients who had a history of mental illness; (4) patients with uterine bleeding induced by inflammation, pregnancy and other factors; (5) patients who failed to actively cooperate with researchers. This study was approved by the hospital Ethics Committee. 98 patients were included in this study. They were divided into a control group (n=49) and an observation group (n=49) according to the random number table method.

*Methods*

All patients were treated with Kangfu capsules and Norethisterone tablets. The control group adopted conventional nursing interventions, namely rational daily behavioral activities, bed rest to ensure adequate sleep, balanced diet, and followed the doctor's instructions and other interventions. The observation group received systematic nursing intervention on the basis of the control group. (1) Health education: nursing staff instructed patients with the relevant knowledge about the symptoms, causes, influencing factors, and precautions, of dysfunctional uterine bleeding, issued health knowledge manuals, and explained the question one-to-one through video learning, so that patients could understand the treatment of the disease and prognosis and other related knowledge, and establish confidence in treatment. (2) Psychological nursing: nursing staff are requested to communicate with the patient for at least 20 minutes every day, fully understand the patient's personality characteristics, psychology, physiology, personalize the patient's needs, respect the patient's self-esteem needs, and try to meet the patient's service expectations; pay attention to the problems patients care about, maintain a positive and optimistic attitude when communicating, send correct concept, and enhance the self-confidence of patients. (3) Medication and infection nursing: The patient's medication was subject to strict "three examinations and eight checks" principle, to ensure the safety of the patient's medication, and nursing staff are allowed to leave after the patient taking the medicine to avoid

missed medication, mistaking medicine and other conditions; concern about the clinical symptoms of the patient, such as vaginal bleeding color, foreign matter, bleeding volume; remind patients to change underwear in time and to keep the vulva clean, inform patients of not taking a sitz bath and having sex during treatment to avoid infections; if infections occurred they wouldprocess these accordingly. (4) Diet nursing: nursing staff instructed patients to develop healthy eating habits, eat lightly, prohibit the consumption of spicy foods, and eat more high-protein, highly nutritious foods, more fruits and vegetables. (5) Follow-up after discharge: nursing staff explained considerations that should be attended after discharge, commanded the patients to use the medicine in strict accordance with the doctor's instructions, and go back to the clinic regularly for follow-up.

*Outcome measures*

(1) Curative efficacy [8]. ① Markedly effective: after one week of treatment, bleeding was stopped completely, and the menstrual volume and cycle return to normal, and no recurrence occurs within 3 months (the normal menstrual cycle is 24~35 days, the menstrual period lasts 2~7 days, the average blood loss is 20~60 ml); ② Effective: the amount of bleeding within 10 days after treatment was significantly reduced, and the menstrual volume and cycle basically return to normal, and no recurrence occurs within 3 months (the menstrual period lasts 2~7 days, the average blood loss is 61~80 ml); ③ Ineffective: bleeding volume, menstrual flow, and cycle hadve no improvement or even worsen after treatment (menstrual disorder and blood loss >80 ml). Effective rate = (markedly effective + effective)/total cases × 100%. (2) The time for uterine hemostasis to return to normal and activated partial thromboplastin time (APTT). French STA-R automatic coagulation instrument and supporting original reagents were used for APTT detection. 2 ml of venous blood was collected to separate plasma for APTT detection. All specimens were tested within 2 hours. (3) Psychologic condition. ① The Self-Rating Anxiety Scale (SAS) was adopted to assess the anxiety of patients [9], in which severe anxiety was above 69 points, moderate anxiety was 60-69 points, mild anxiety was 50-59 points, and normal range was less than 50 points. ②

**Table 1.** Comparison of general data

| Group | n | Average age (years) | Average disease course (d) | Stage | | |
|---|---|---|---|---|---|---|
| | | | | Adolescence | Child-bearing | Perimenopausal |
| Observation group | 49 | 35.78±6.98 | 27.46±8.87 | 10 | 21 | 18 |
| Control group | 49 | 36.24±6.88 | 28.64±8.46 | 12 | 20 | 17 |
| $x^2$/t | | 0.329 | 0.674 | | 0.235 | |
| P | | 0.743 | 0.502 | | 0.889 | |

**Table 2.** Comparison of efficacy [n (%)]

| Group | n | Markedly effective | Effective | Ineffective |
|---|---|---|---|---|
| Observation group | 49 | 25 (51.02) | 21 (42.86) | 3 (6.12) |
| Control group | 49 | 18 (36.73) | 20 (40.82) | 11 (22.45) |
| Z | | | -1.993 | |
| P | | | 0.046 | |

**Table 3.** Comparison of uterine hemostasis time and APTT ($\bar{x}$ ± s)

| Group | n | Uterine hemostasis time (d) | APTT (s) |
|---|---|---|---|
| Observation group | 49 | 4.17±1.05 | 32.96±2.46 |
| Control group | 49 | 7.06±2.13 | 38.62±3.41 |
| t | | 8.519 | 4.428 |
| P | | <0.001 | <0.001 |

The Self-Rating Depression Scale (SDS) [10] was applied to evaluate the depression, 72 points or above represented major depression, 63-72 points represented moderate depression, 53-62 points represents mild depression, and 53 points or below represented a normal state. (4) Quality of life. The SF-36 scale [11] was used for quality of life evaluation, including psychological, emotional, physical, and social aspects. The total score of each item was 100 points. The higher the score, the better the quality of life. (5) Nursing satisfaction. Nursing satisfaction was evaluated according to a questionnaire designed by nursing staff. There were 8 items in total, ranging from "very satisfied" to "very dissatisfied". Satisfaction rate = (very satisfied + satisfied + general)/ number of cases × 100%.

*Statistical analysis*

SPSS 23.0 statistical software was used for data analysis. Quantitative data that conformed to the normal distribution were expressed as x ± s, and the t test was performed. The qualitative data were expressed as n (%), and the rank sum test was conducted for ordered data, and the unordered data was conducted by $\chi^2$. P<0.05 was considered significant.

**Results**

*Comparison of general data*

The general data between the two groups were homogeneous (P>0.05). See **Table 1**.

*Comparison of efficacy*

The effective rate of the observation group (93.88%) was observed to be higher than the control group (77.55%) (P<0.05). See **Table 2**.

*Comparison of uterine hemostasis time and APTT*

On comparing the uterine hemostasis time and biochemical index recovery time, the observation group outperformed the control group (P<0.05). See **Table 3**.

*Comparison of mental status*

No significant difference was found with respect to the SAS and SDS scores between the two groups before intervention (P>0.05); after intervention, the SAS and SDS scores of the two groups decreased, and the decrease in the observation group was greater than the control group (P<0.05). See **Table 4**.

*Comparison of quality of life*

The observation group had a higher quality of life score after intervention when compared to the control group (P<0.05). See **Table 5**.

*Comparison of nursing satisfaction between the two groups*

**Table 6** details that the nursing satisfaction rate of the observation group was superior (95.92% vs. 77.55%) (P<0.05).

**Table 4.** Comparison of SAS and SDS score (x ± s, point)

| Group | n | SAS | | SDS | |
|---|---|---|---|---|---|
| | | Before intervention | After intervention | Before intervention | After intervention |
| Observation group | 49 | 58.65±6.84 | 36.57±4.15* | 55.63±6.41 | 42.15±4.07* |
| Control group | 49 | 58.93±6.27 | 54.23±5.11* | 55.96±6.28 | 51.96±4.25* |
| t | | 0.211 | 18.781 | 0.257 | 11.672 |
| P | | 0.833 | <0.001 | 0.797 | <0.001 |

Note: *indicates compared with before intervention, $P<0.05$.

**Table 5.** Comparison of quality of life score ($\overline{x}$ ± s, point)

| Group | n | Psychological score | Emotional score | Physical score | Social score |
|---|---|---|---|---|---|
| Observation group | 49 | 82.92±5.14 | 84.15±5.36 | 79.68±5.19 | 84.15±5.62 |
| Control group | 49 | 71.26±5.62 | 74.88±5.87 | 67.13±5.16 | 72.17±5.43 |
| t | | 10.381 | 7.909 | 11.631 | 10.403 |
| P | | <0.001 | <0.001 | <0.001 | <0.001 |

**Table 6.** Comparison of nursing satisfaction between the two groups

| Group | very satisfied | satisfaction | general | dissatisfied | very dissatisfied | satisfaction rate |
|---|---|---|---|---|---|---|
| Observation group | 26 | 14 | 7 | 2 | 0 | 95.92% |
| Control group | 19 | 12 | 7 | 6 | 5 | 77.55% |
| X² | | | | | | 1.635 |
| P | | | | | | 0.002 |

## Discussion

Dysfunctional uterine bleeding is attributed to various internal and external factors [12], which result in dysfunction of the endocrine system and nervous system. It is a common gynecological disease [13]. For women of childbearing age, adolescent girls and other morbidity groups, methods promoting ovulation and conditioning menstruation have been frequently applied in clinic [14]. For menopausal women who do not ovulate, hemostasis and menstruation reduction are mainly performed, by which dysfunctional uterine bleeding can be effectively treated [15]. However, the clinical efficacy is compromised due to the fact that patients lack knowledge about the disease and self-care experience [16]. The occurrence of dysfunctional uterine bleeding is also closely related to the patient's lifestyle, and negative mood [17]. Therefore, it bears great significance to find an effective nursing method to improve the rehabilitation of patients.

Nursing adjuvant therapy plays an increasingly important role in clinical practice. Systematic nursing intervention is an important means to improve clinical efficacy and speed up recovery of patients, and has a positive effect on the quality of life [18]. In response to problems that may affect patients with dysfunctional uterine bleeding, we conducted systematic nursing interventions such as health education, psychological care, medication, infection nursing, and diet nursing and follow-up after discharge. ① Health education is conducive to patients' awareness about diseases, and further promotes the patient's medication compliance, thereby improving the patient's efficacy [19]; ② Psychological nursing can alleviate patients' negative emotions such as anxiety, restlessness, depression, and increase confidence in treatment; ③ Medication, infection nursing can effectively avoid missed or mistaken medications, thus reducing the incidence of infections and complications; ④ Dietary nursing can provide patients with nutritional support, and can also avoid the symptoms of anemia [20]; ⑤ Follow-up after discharge can remind patients to comply with medical advice taking medicine to speed up the patient's recovery. The results of this study showed that the effectiveness rate of the observation group was

higher than that of the control group; the uterine hemostasis time and biochemical index recovery time of the observation group were less. After intervention, the SAS and SDS scores of the two groups decreased, with the observation group being more significant. The quality of life score and the nursing satisfaction rate of the observation group after intervention was higher than that of the control group. Thus the effect of systematic nursing is remarkable, and can shorten the time for stopping uterine bleeding and normalizing biochemical indicators, relieve negative emotions such as anxiety and depression, and improve patients' quality of life and nursing satisfaction.

However, this is a retrospective study, and some selection bias may exist. Additionally, the number of patients included is small, and propensity scores were not performed and only a matching analysis was performed. Therefore, the factors that affect the results must be screened out by prospective studies with a larger sample size.

### Conclusion

Systematic nursing can improve the efficacy in patients with dysfunctional uterine bleeding, speed up the recovery, alleviate negative emotions, and improve quality of life and nursing satisfaction.

### Disclosure of conflict of interest

None.

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