

Effect of Meticulous Nursing on Negative Situation, Clinical Symptom and Quality of Life of Patients Undergoing Benign Prostatic Hyperplasia Surgery

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To explore the effect of meticulous nursing on postoperative recovery and adverse reactions of patients with benign prostatic hyperplasia (BPH) surgery. From February 2018 to February 2019, 104 patients with BPH who were diagnosed and treated in our hospital were selected. Forty-eight patients with BPH who received routine nursing were included in the routine nursing group (RNG). A total of 56 patients undergoing BPH surgery were included in the meticulous nursing group (MNG), who received meticulous nursing intervention on the basis of routine nursing. The scores of self-rating depression scale (BDI), self-rating anxiety scale (BAI), Hamilton anxiety scale (HAMA) and Hamilton depression scale (HAMD), quality of life, complications and nursing satisfaction were compared between the two groups after nursing. After nursing, the levels of BDI, BAI, HAMA and HAMD in both groups were obviously lower than those before nursing, and the differences were statistically significant ($P < 0.001$). After nursing, the levels of HAMA and HAMD in MNG were obviously lower than those in RNG, and the differences were statistically significant ($P < 0.001$). The nursing safety, disinfection and isolation, management of instruments and equipment, preparation of surgical instruments, standardization of nursing operation and nursing staff cooperation scores in MNG were obviously better than those in RNG ($P < 0.001$). The total nursing satisfaction of patients in MNG was obviously higher than that in RNG, and the difference was statistically significant ($P < 0.05$). Compared with the two groups, the QOL-C30 scale scores of physical health, mental health, material life and social function in MNG were obviously higher than those in RNG, and the differences were statistically significant ($P < 0.001$). After nursing intervention, the incidence of complications in MNG was obviously lower than that in RNG ($P < 0.05$). On the basis of routine nursing, meticulous nursing intervention can better improve the emotion regulation and quality of life of patients undergoing BPH surgery, and reduce their incidence of postoperative complications to some extent.

Keywords: benign prostatic hyperplasia, operating room detail, nursing intervention, mental health, quality of life

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INTRODUCTION

BPH is a common urinary system disease in middle-aged and elderly men, which has a serious impact on patients' physical and mental health and daily life [1-3]. Surgical techniques and nursing methods are closely bound up with the prognosis conditions of patients. As the main treatment method for patients with BPH surgery, surgical resection is accompanied by pain and related adverse reactions, which also brings great misery to the patients. Transurethral plasmakinetic prostatectomy is a common clinical treatment for BPH at present. Although transurethral plasmakinetic prostatectomy has the advantages of minor trauma and mild pain, patients often suffer postoperative urination pain, anxiety and depression due to lack of knowledge about surgery. As a result, surgical treatment and postoperative rehabilitation nursing cannot be carried out, which has a great impact on the rehabilitation effect [4-6]. Therefore, it is still necessary to carry out better nursing cooperation to improve the prognosis quality of patients undergoing BPH surgery, so as to achieve the best treatment effect. For patients undergoing BPH surgery, effective nursing intervention is the key to ensure their physical rehabilitation after operation [7].

With the continuous development of the nursing concept, the related medical environment has constantly improved the requirements for the improvement of patients' psychology and life quality [8]. Meticulous nursing measure is to carry out psychological counseling and health education for patients in time before operation, so as to effectively improve patients' unhealthy emotion and confidence in surgical treatment. At the same time, the changes of patients' vital signs are closely observed during and after the operation, and relevant warm measures are taken for the patients, which can effectively avoid the incidence of hypothermia. In addition, patients' urinary catheter drainage is closely observed after surgery, which can effectively reduce the complications of urinary tract infection and thus promote the recovery speed of patients [9]. Meticulous nursing intervention is often applied to patients with late stage cancer, and meticulous nursing intervention can strengthen the safety management of nursing work, improve the quality of nursing, and thus ensure the quality of treatment and nursing for patients [10]. This study aimed to explore the influence of the meticulous nursing intervention on the postoperative recovery and adverse reactions of patients undergoing BPH surgery by comparing the routine nursing intervention with the meticulous nursing intervention.

DATA COLLECTION AND METHODS

Baseline Data

From February 2018 to February 2019, 104 patients with BPH who were diagnosed and treated in our hospital were selected. Forty-eight patients with BPH who received routine nursing were included in the routine nursing group (RNG). A total of 56 patients undergoing BPH surgery were included in the meticulous nursing group (MNG), who received meticulous nursing intervention on the basis of routine nursing. Among them, the average age of patients was (65.81 ± 4.62) years old in RNG, and the average duration was (7.30 ± 1.46) years. The average age of the patients was (65.59 ± 4.46) years old in MNG, and the average duration was (7.52 ± 1.55) years.

Exclusion and inclusion criteria: All patients with BPH diagnosed by clinical, imaging findings and pathological examination for the first time were included; There were indications for radical resection of BPH [11]; Patients with other complications were excluded; Patients with conscious, cognitive and other mental disorders were excluded.

Patients and their families were informed in advance before the study, and this research has been ratified by the hospital ethics committee.

Nursing Methods

In RNG, patients were given routine preoperative, intraoperative and postoperative care on the basis of operating nursing guidelines. At the same time, health education was carried out while patients' condition was closely monitored. In MNG, patients received meticulous nursing.

(1) Preoperative psychological care: BPH is a sensitive topic for male patients. Therefore, most patients had unhealthy psychological resistance, conflict with treatment, and did not cooperate with postoperative care. Therefore, the relevant nursing staff needed to solve the problem from the patient's point of view, patiently listen to their inner questions, and inform them of the correct way to release the inner unhealthy emotions through active communication. Before the operation, patients needed to know the specific procedures and expected efficacy of vaporization using transurethral prostate greenlight laser. Patients' trust in medical staff needed to be strengthened.

(2) Meticulous nursing during operation: The temperature was strictly controlled during operation. Before surgery for half an hour, the operating room temperature was adjusted to $24 \sim 26^{\circ}\text{C}$, and the humidity was $50 \sim 60\%$. A warming blanket was placed on the operating bed. During the operation, 3L special funnel-shaped surgical drape for brain surgery was applied to avoid contamination of towel and bed sheet by blood and washing liquid. During the operation, all patients

underwent lithotomy. When the patient was in the dorsal elevated position, the legs were extended down to the extensor position. The angle of the femoral hip joint was close to the horizontal line. The angle between the legs of the patient was extended $< 90^\circ$. The knee joint was increased to more than 120° compared with the previous angle. The patient was padded with a thin sponge mat (a thickness of 4cm) to improve the patient's intraoperative comfort.

(3) Postoperative meticulous nursing: Relevant medical staff needed to inform patients and their families of the completion of the operation in time and in detail after the operation, so as to relieve some patients' fear caused by the operation. According to the doctor's advice, the relevant medical staff needed to flush the bladder with the flushing fluid at 25°C , following the principle of fast first and slow later. Nursing staff adjusted titre in time according to the color and quantity of bladder irrigation fluid. Relevant medical staff supervised patients to properly increase the amount of drinking water and fiber intake according to doctor's advice. Patients were supervised to eat less spicy food and more high moisture and vitamin foods. Medical staff could also massage the abdomen properly to increase gastrointestinal peristalsis.

(4) Regular reexamination. The recovery period of BPH surgery is usually about 7 days. Men should go to the hospital for reexamination after the 7-day recovery period.

Outcome Measures

The general clinical data of patients were compared in RNG and MNG. After intervention for one month, the mental health and emotional state of patients were compared in RNG and MNG

before and after nursing (Mental health: The scoring criteria of BDI [12], BAI [13], HAMA [14] and HAMD [15] were applied to evaluate the negative emotions of patients in RNG and MNG, and the score was in direct proportion to the degree of anxiety and depression). The quality of life of the patients was compared in RNG and MNG (QOL-C30 scale [16] was applied to comprehensively assess the four dimensions: physical health, mental health, material life and social function, and the score was in direct proportion to the quality of life). The complications (intestinal adhesion, pulmonary infection, heart failure, respiratory circulatory failure, hypothermia) were observed in RNG and MNG. The nursing satisfaction of patients was compared in RNG and MNG.

STATISTICAL METHODS

SPSS 19.0 (Asia Analytics Formerly SPSS China) was applied for statistical analysis. The counting data were represented as $[n(\%)]$, and the counting data between the two groups was tested by χ^2 test. The measurement data were represented by $(\bar{X} \pm S)$. Paired T test was applied for intra-group comparison before and after treatment. Independent sample T test was applied for comparison between the two groups. When P value was less than 0.05, the difference was statistically significant.

RESULTS

General Clinical Data in Rng and Mng

There was no statistically significant difference in baseline data such as age and gender between the two groups ($P > 0.05$) (Table 1).

Table 1 General clinical data of patients in both groups

Grouping	RNG (48)	MNG (56)	t/X ²	P
Age/years old	65.81 \pm 4.62	65.59 \pm 4.46	0.247	0.806
Average duration (years)	7.30 \pm 1.46	7.52 \pm 1.55	0.741	0.460
Mean prostate volume (cm ³)	64.20 \pm 5.72	64.31 \pm 4.82	0.106	0.915
BMI (kg/m ²)	18.58 \pm 1.72	18.27 \pm 1.66	0.934	0.353
Smoking			0.196	0.658
Yes	32(68.18)	35(64.00)		
No	16(31.82)	21(36.00)		
Drinking			0.059	0.808
Yes	22(45.45)	27(48.00)		
No	26(54.55)	29(52.00)		
Hypertension			1.740	0.187
Yes	41(88.64)	42(78.00)		
No	7(11.36)	14(22.00)		
Diabetes			0.238	0.626
Yes	20(40.91)	26(46.00)		
No	28(59.09)	30(54.00)		

Clinical staging			0.080	0.777
Stage I/Stage II	2(0.00)	3(0.00)		
Stage III/Stage IV	46(100.00)	53(100.00)		
Lymph node metastasis			0.168	0.682
Yes	12(22.73)	16(26.00)		
No	36(77.27)	40(74.00)		

Mental Health of Patients in RNG and MNG before and after Nursing

Psychological state

Changes of BAI in RNG and MNG before and after nursing

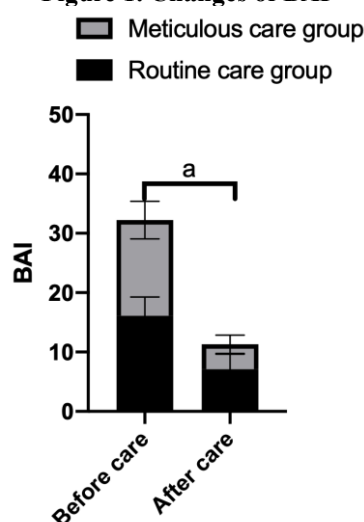
Before and after nursing intervention, BAI in RNG was (16.09 ± 3.20) and (7.10 ± 2.55) , while that in MNG was (16.13 ± 3.16) and (4.20 ± 1.54) , respectively. After nursing, BAI level was obviously lower than that before nursing in both groups ($P < 0.001$). Among them, the BAI level in MNG after nursing was obviously lower than that in RNG

($P < 0.001$) (Figure 1).

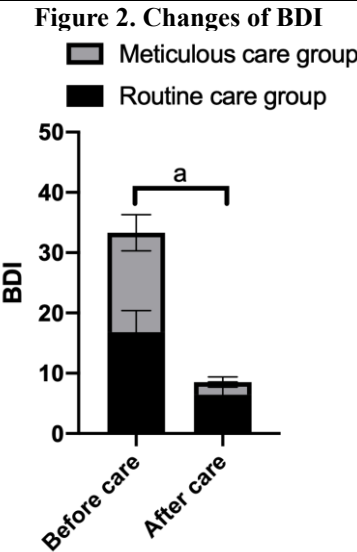
Changes of BDI in RNG and MNG before and after Nursing

Before and after nursing intervention, BDI in RNG was (16.80 ± 3.60) and (6.44 ± 2.11) , while that in MNG was (16.52 ± 3.00) and (2.09 ± 0.85) , respectively. After nursing, BDI level was obviously lower than that before nursing in both groups ($P < 0.001$). Among them, the BDI level in MNG after nursing was obviously lower than that in RNG ($P < 0.001$) (Figure 2.).

Figure 1. Changes of BAI



Note: a indicates that the BAI level in both groups after nursing is significantly lower than that before nursing ($P < 0.001$); a indicates that the BAI level in MNG after nursing was obviously lower than that in RNG ($P < 0.001$).

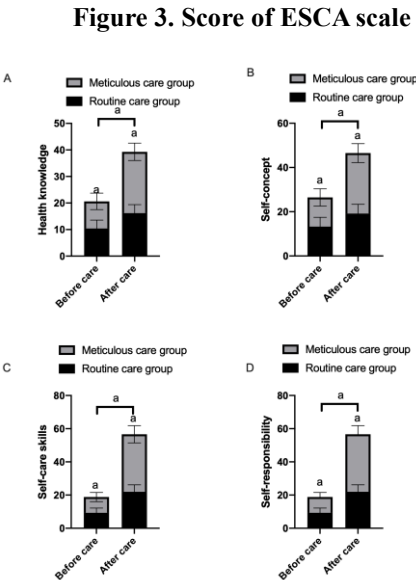


Note: a indicates that the BDI level in both groups after nursing is significantly lower than that before nursing ($P < 0.001$); a indicates that the BDI level in MNG after nursing is obviously lower than that in RNG ($P<0.001$).

ESCA scale

There was no statistically significant difference in the scores of health knowledge awareness, self-concept cognition, self-care skills and self-responsibility between the two groups before nursing ($P>0.05$). After nursing, the scores of health knowledge awareness, self-concept cognition,

self-care skills and self-responsibility in both groups were significantly improved compared with that before nursing ($P<0.001$). Compared with the two groups, the self-care ability score of each dimension in MNG was obviously better than that in RNG ($P<0.001$) (Figure 3.).



Health knowledge awareness (A); Self-concept awareness (B); Self-care skills (C); Self-responsibility (D); a means $P<0.001$.

Clinical Observation Indicators and Quality of Life of Patients in Rng and Mng

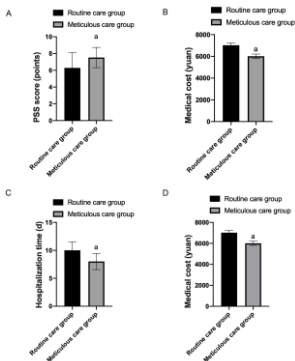
Clinical observation indexes

The PSS score, getting out-of-bed time,

hospitalization time and medical cost were obviously better than those of RNG ($P<0.001$) (Table 2 and Figure 4.).

Table 2 Comparison of nursing quality between RNG and MNG				
Grouping	RNG (n=48)	MNG (n=56)	t	P
PSS score (points)	6.29±1.85	7.52±1.21	4.065	<0.001
Getting out-of-bed time (d)	3.00±0.55	2.00±0.54	9.335	<0.001
Hospitalization time (d)	10.00±1.50	8.00±1.45	6.902	<0.001
Medical cost (yuan)	7023.00±210.00	6010.00±200.73	25.120	<0.001

Figure 4. Clinical observation indexes



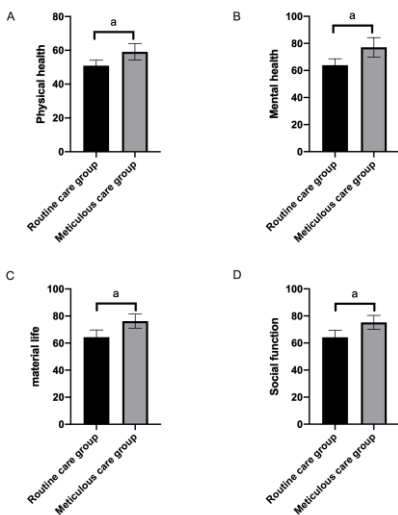
PSS score (A); Getting out of bed time (B); Hospitalization time (C): Medical cost (D); a means $P<0.001$.

Comparison of quality of life

The QOL-C30 scale scores of physical health, mental health, material life and social function in

MNG were obviously higher than those in RNG, and the differences were statistically significant ($P<0.001$) (Figure 5.).

Figure 5. Comparison of quality of life



Note: a indicates that the quality of life scores of physical health, mental health, material life and social function in MNG were obviously higher than those in RNG ($P<0.001$).

Nursing Satisfaction

The total nursing satisfaction of patients in MNG was obviously higher than that in RNG, and

the difference was statistically significant ($P<0.05$) (Table 3).

Table 3 Nursing satisfaction of patients in RNG and MNG

Grouping	RNG (n=48)	MNG (n=56)	X ²	P
Great satisfaction	12(25.00)	18(32.14)	-	-
More satisfactory	21(43.75)	22(39.29)	-	-
Satisfactory	9(18.75)	16(28.57)	-	-
Dissatisfaction	6(12.50)	0(0.00)	-	-
Total satisfaction	42(87.50)	100.00(100.00)	13.030	0.0003

Complications in Rng and Mng

After nursing intervention, the incidence of

complications in MNG was obviously lower than that in RNG ($P < 0.05$) (Table 4).

Table 4 Complications in RNG and MNG

Grouping	RNG (n=48)	MNG (n=56)	X ²	P
Cystospasm	7(14.58)	3(5.36)	-	-
Hemorrhage	7(14.58)	3(5.36)	-	-
Urinary incontinence	3(6.25)	0(0.00)	-	-
Urinary tract infection	10(20.83)	2(3.57)	-	-
Overall incidence	27(56.25)	8(14.29)	20.380	<0.001

DISCUSSION

Early BPH has no obvious clinical symptoms, and many patients have distant metastasis when they are diagnosed [17]. Many patients are in the middle and late stage after diagnosis, and surgical treatment is the best choice. Epidemiology and final result data show that the nursing method in operating room is of great significance to reduce the risk of gastrectomy, which is related to the prognosis of regional lymph node metastasis after operation [18 ~ 19].

In this research, we first scored the emotional state and psychological quality of patients in RNG and MNG before and after nursing. The results revealed that the levels of BAI and BDI in both groups after nursing were obviously lower than those before nursing. Among them, the levels of BAI and BDI in MNG after nursing were obviously lower than those in RNG. After nursing, the levels of HAMA and HAMD in both groups were also obviously decreased, and the levels of HAMA and HAMD in MNG were obviously lower than those in RNG. The levels of BAI and BDI, and the scores of HAMA and HAMD were inversely proportional to emotional state and psychological quality [20 ~ 21]. Therefore, we believed that meticulous nursing intervention could better improve the severity of anxiety symptoms for patients undergoing BPH surgery on the basis of routine nursing.

Then, we compared the quality of life of patients in RNG and MNG after intervention for one month. The results of QOL-C30 scale revealed that the quality of life scores of patients in MNG were obviously higher than those in RNG. Related studies have revealed that neurosis or other depression and anxiety symptoms of patients undergoing surgery will have a great impact on the postoperative incision recovery [22 ~ 23]. Reports

on the mental health of patients have revealed that the meticulous nursing can effectively alleviate the abnormal psychological state of patients undergoing operation before the surgery. However, the requirement of meticulous nursing throughout the whole operation process can greatly reduce the discomfort of patients during hospitalization [24 ~ 25]. Therefore, we believed that the meticulous nursing intervention had greater value in improving the quality of life of patients undergoing BPH surgery than the routine nursing of BPH.

Finally, we counted the nursing satisfaction and complications of patients in RNG and MNG. The results revealed that the incidence of complications such as intestinal adhesion, pulmonary infection, heart failure, respiratory circulatory failure and hypothermia of patients receiving meticulous nursing was less than that of patients receiving routine nursing. Moreover, the total nursing satisfaction of patients receiving meticulous nursing was obviously higher than that of patients receiving routine nursing. Therefore, we believed that the implementation of meticulous nursing intervention on the basis of routine nursing could prevent emergencies such as pulmonary infection and heart failure to a certain extent for patients BPH surgery. The acceptance and recognition were far beyond the routine nursing intervention of BPH. In recent years, clinical studies have also revealed that the meticulous nursing can guarantee the surgical safety and prognosis in patients with advanced surgical resection [26 ~ 28].

In this research, there are still some shortcomings. For example, the patient's other biochemical indicators were not shown. The nursing plan developed this time was also affected by the local medical level, which might be different from other regions. The follow-up time was too short. [29] In view of these defects, we will pay close attention to the latest related research results in the

later period, and regularly follow up and record the prognosis of the included patients, so as to continuously improve the research.

To sum up, meticulous nursing intervention can better improve the emotion regulation and quality of life of patients undergoing BPH surgery, and reduce their incidence of postoperative complications to some extent on the basis of routine nursing.

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