Journal of Clinical and Nursing Research, 2024, Volume 8, Issue 4
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Study on the Application Effect of Flexible Nursing Care in Patients with Postpartum Urinary Retention and its Effect on Lactation

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Abstract: *Objective:* To study the application effect of flexible nursing in patients with postpartum urinary retention and its effect on lactation. *Methods:* A total of 200 cases of postpartum urinary retention patients admitted between January 2021 and January 2022 were selected and randomly grouped into two groups, a control group (conventional nursing) and an observation group (flexible nursing), of 100 cases each. The time of onset of lactation, the lactation volume score, urinary indicators, the amount of post-partum hemorrhage, and the quality of life score of the two groups were compared. *Results:* The observation group's lactation initiation time (21.41 ± 1.52) h and lactation volume score (2.11 ± 0.52) were better than that of the control group ($P < 0.05$). The observation group's first urination time (2.11 ± 0.51) min was lower than the control group, while the urinary retention completely relieved time (33.12 ± 8.61) h, and first urinary volume (262.17 ± 52.41) mL was higher than that of the control group ($P < 0.05$). The amount of postpartum hemorrhage in the observation group (151.21 ± 22.12) mL was less than that in the control group ($P < 0.05$). The scores of somatic functioning (86.25 ± 2.20), psychological functioning (91.56 ± 1.45), social functioning (89.25 ± 2.45), and material life (89.75 ± 1.45) of the observation group were higher than those of the control group after nursing ($P < 0.05$). *Conclusion:* Flexible nursing care in patients with postpartum urinary retention exhibited significant nursing effects and lactation function was effectively improved.

Keywords: Flexible nursing; Postpartum urinary retention; Lactation

Online publication: April 22, 2024

1. Introduction

Postpartum urinary retention is a very common complication in obstetrics, which is caused by a variety of factors, such as the use of antispasmodic and sedative drugs, which reduces the tension of the maternal bladder; the uterine compression of the bladder and pelvic plexus in the process of labor and delivery, resulting in bladder muscle numbness; restriction on water consumption, thereby reducing urination. If not treated in time, it may lead to a urinary tract infection (UTI). Additionally, the postpartum ward is noisy, easily leading to maternal psychological disorders. Flexible nursing can reduce the mother's psychological burden and

effectively alleviate the postpartum urinary retention situation [1]. Therefore, this study selected 200 cases of postpartum urinary retention patients to analyze the effect of flexible nursing care on these patients and lactation.

2. Information and methods

2.1. Information

This study selected 200 cases of postpartum urinary retention patients who were admitted from January 2021 to January 2022 and randomly grouped into a control group and an observation group, with 100 cases each. The patients in the observation group were aged 21–36 years old, with an average age of 28.11 ± 1.26 years. There were 61 cases of primigravid women and 39 cases of menstruating women. The patients in the control group were aged 20–36 years old, with an average age of 28.12 ± 1.29 years. There were 62 cases of primigravid women and 38 cases of menstruating women. The data (gender and age) of the two groups were compared ($P > 0.05$). Inclusion criteria: (1) Patients with no spontaneous urinary behavior for 6–8 hours after delivery; (2) normal maternal indicators. Exclusion criteria: (1) Patients with hyperlipidemia and hypertension; (2) urinary system diseases.

2.2. Methods

The control group received conventional nursing. Two hours after delivery, nursing staff provided the with mother traditional Chinese medicine (TCM) hot compresses, and traditional Chinese medicine warm bags were placed in the lower abdominal area of the mother to increase their abdominal pressure and produce a sense of urination. Urination guidance was also provided to encourage the mother to take the initiative to urinate, which can effectively reduce the incidence of urinary retention.

The observation group received flexible nursing. In the postpartum period, mothers were provided with a good living environment, and the ward was regularly ventilated and disinfected. A diet plan was formulated, and the mother was instructed to consume light and high-protein food. The status of the mother's bladder filling in the first two hours after delivery was closely monitored, and they were encouraged to urinate on their own. Nurses patiently explained the anatomy of the urethra and the consequences of urine retention, which may result in postpartum hemorrhage and death. The bladder area of the mother was massaged and the heat was applied to promote contraction of the maternal abdominal muscles, so that the abdominal pressure increases, and promotes the mother's self-urination. If all above fails to induce urination, mothers can try listening to the sound of running water. Conditioned reflexes can be used to ease the inhibition of urination so that the patient has the desire to urinate. Hot compresses like hot towels or hot water bags were placed in the maternal bladder area of the lower abdomen to stimulate abdominal muscle contraction and eliminate residual urine. In addition to the need for an indwelling urinary catheter maternal, the vulva was kept clean during this procedure. Before removing the urinary catheter, bladder function exercises were carried out. The urinary catheter is opened when there is a need to urinate. When each urination reaches 200–300 mL, it suggests that most of the bladder function is restored, and the urinary catheter can be removed.

During the postpartum period, nursing staff patiently explained to mothers about urinary retention, such as treatment measures, pathogenesis, and interventions, and patiently answered any questions. Breast massage was carried out, and before breastfeeding, the breasts were covered with hot towels for 10 minutes. The nursing staff used their middle finger and forefinger to massage the root of the breast, with both hands from the edge of the breast to the nipple, for 10 times. Each breastfeeding time was 10–15 minutes evenly with both breasts. Not only does this ensure that the baby receives sufficient nutrition but also helps to prevent milk retention in the

breasts and problems such as mastitis and breast lumps. Additionally, it can provide psychological guidance to the mother, which is conducive to her cooperation with nursing care, improves her compliance, and stabilizes her emotions. Finally, nurses explained breastfeeding knowledge to mothers, provided breast care guidance, and explained the consequences of improper breast care.

2.3. Observation indexes

The time of onset of lactation, lactation volume, postpartum hemorrhage, and quality of life score between the two groups were compared.

2.4. Statistical analysis

Statistical software application SPSS 26.0 was used. Measurement data were expressed as mean ± standard deviation and the count data were expressed as %. Measurement data were analyzed using a *t*-test, and count data were analyzed using a chi-squared (χ^2) test. Results were considered statistically significant at $P < 0.05$.

3. Results

3.1. Comparison of time of onset of lactation and lactation volume score between the two groups of patients

As shown in **Table 1**, the lactation initiation time was lower than that in the control group and the lactation volume score was higher ($P < 0.05$).

Table 1. Comparison of time of onset of lactation and lactation score between the two groups

Group	Cases, *n*	Time to onset of lactation (h)	Lactation score (points)
Observation group	100	21.41 ± 1.52	2.11 ± 0.52
Control group	100	26.12 ± 1.61	1.81 ± 0.53
t	-	9.126	6.112
P	-	0.000	0.000

3.2. Comparison of time to first urination, time to complete relief of urinary retention, and volume of first urination between the two groups

As shown in **Table 2**, the the time of first urination and the time of complete relief of urinary of the observation group were lower than those of the control group. The volume of the first of the observation group was greater than that of the control group ($P < 0.05$).

Table 2. Comparison of time to first urination, time to complete relief of urinary retention and volume of first urination between the two groups

Group	Cases, *n*	Time to complete relief of urinary retention (h)	Time to first urination (min)	First urine output (mL)
Observation group	100	2.11 ± 0.51	33.12 ± 8.61	262.17 ± 52.41
Control group	100	4.01 ± 0.97	52.01 ± 15.02	149.51 ± 32.81
t	-	6.291	10.162	19.112
P	-	0.000	0.000	0.000

3.3. Comparison of postpartum hemorrhage between the two groups

As shown in **Table 3**, the amount of postpartum hemorrhage in the observation group was lower than that in the control group ($P < 0.05$).

Table 3. Comparison of postpartum hemorrhage between the two groups (mL)

Group	Cases, *n*	Postpartum hemorrhage
Observation group	100	151.21 ± 22.12
Control group	100	191.11 ± 39.16
t	-	26.127
P	-	0.000

3.4. Comparison of quality of life scores between the two groups

As shown in **Table 4**, the somatic function, psychological function, social function, and material life scores of the observation group were higher than those of the control group after nursing care ($P < 0.05$).

Table 4. Comparison of quality of life scores between the two groups (points)

Group	Somatic function		Psychological function		Social function		Material life	
	Before care	Aftercare	Before care	Aftercare	Before care	Aftercare	Before care	Aftercare
Observation group	64.25 ± 1.02	86.25 ± 2.20	66.25 ± 1.52	91.56 ± 1.45	68.25 ± 1.52	89.25 ± 2.45	70.25 ± 1.45	89.75 ± 1.45
Control group	64.53 ± 1.52	71.25 ± 1.58	66.26 ± 1.52	72.25 ± 1.52	68.26 ± 1.78	71.25 ± 1.14	70.26 ± 1.55	81.25 ± 1.45
t	0.927	39.142	0.916	41.112	0.813	36.174	0.126	37.112
P	0.421	0.000	0.663	0.000	0.211	0.000	0.316	0.000

4. Discussion

According to relevant research, urinary retention is clinically more serious and frequently associated with postpartum complications [2]. It is mainly manifested as difficulty in urinary excretion or inability to urinate independently, which is caused by physiological, psychological reasons, and social factors. In addition, urinary retention affects uterine contraction, resulting in postpartum hemorrhage, and increases maternal pain. Medical research showed that three factors cause postpartum urinary retention. First, due to prenatal use of antispasmodic and sedative drugs, such as Valium when the mother is emotionally stressed, and magnesium sulfate when the mother suffers from gestational hypertension syndrome, the tension in the mother's bladder is reduced, leading to urinary retention. Second, due to uterine compression of the pelvis and weak contractions, the second stage of labor is prolonged, resulting in congestion of the mucous membrane of the bladder, edema, obstruction of the urethra, and bladder paralysis. Furthermore, the obstruction of maternal contractile function causes a drop in postpartum abdominal pressure, resulting in weak urinary muscles and the inability of the mother to urinate. Third, pain in the perineal wound after delivery causes pain in voiding and urethral spasm. This reduces the frequency of voiding due to the weakness of the mother's body and long labor, which leads to a decrease in the bladder's muscle tone. Hence, the mother does not have any desire to urinate. Therefore, a good nursing care model can effectively reduce the occurrence of postpartum urinary retention [3].

The application of flexible nursing care exhibited positive effects in the care of postpartum mothers. Not only does postpartum urinary retention easily cause maternal pain but affects breastfeeding, hinders the normal contraction of the uterus, and increases the amount of vaginal bleeding. Nursing staff should explain the knowledge of urinary retention to the mother, such as treatment, pathogenesis, and interventions, to enable the mother to have a correct knowledge of the disease and understand the necessity of urination. When the mother has difficulty urinating, the corresponding methods can be used, such as the use of conditioned reflexes, hot water treatment, etc. The above methods can alleviate urinary retention and assist urination. In regards to maternal lactation, nursing staff carry out breast massages, while explaining the knowledge of breastfeeding, to enhance the mother's sense of security of the mother. With this, maternal pain can be relieved and maternal recovery can be promoted [4].

The present study showed that the time of onset of lactation (21.41 ± 1.52) h and the lactation volume score (2.11 ± 0.52) of the observation group were higher than those of the control group ($P < 0.05$). The time of first urination (2.11 ± 0.51) min and the time of complete relief of urinary retention (33.12 ± 8.61) h of the observation group was higher, and the volume of first urination (262.17 ± 52.41) mL was lower as compared to the control group ($P < 0.05$). The amount of postpartum hemorrhage in the observation group (151.21 ± 22.12) mL was lesser than that in the control group ($P < 0.05$). The observation group's post-care scores for somatic function (86.25 ± 2.20), psychological function (91.56 ± 1.45), social function (89.25 ± 2.45), and material life (89.75 ± 1.45) scores were higher than those of the control group ($P < 0.05$). This proved that flexible nursing had more advantages compared with conventional nursing.

Zheng carried out a study on the "application of flexible nursing in postpartum urinary retention patients and the effect on lactation," where 186 cases of postpartum urinary retention patients were selected [5]. The patients were randomly divided into an observation group and a control group, where both groups were given conventional nursing, and the research group on this basis was given flexible nursing. The results obtained were roughly similar to those of the current study, thus proving that the use of flexible nursing helps reduce the incidence of clinical adverse conditions in patients with postpartum urinary retention and promotes lactation.

5. Conclusion

Flexible nursing care in postpartum urinary retention patients exhibited significant nursing effects, which effectively improved lactation function. It is worthy of popularization.

Disclosure statement

The author declares no conflict of interest.

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