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Original Article

Negative emotions and quality of life levels improved by evidence-based nursing for postpartum urinary incontinence patients

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Abstract: Objective: The aim of the current study was to investigate the effects of evidence-based nursing on negative emotions and quality of life levels in postpartum urinary incontinence patients. Methods: A total of 72 patients with postpartum stress urinary incontinence were treated at the First Affiliated Hospital of Jinzhou Medical University. According to different therapeutic options, they were divided into the evidence-based group (using an evidence-based nursing program) and routine group (using conventional postpartum urinary incontinence nursing methods). There were 36 cases in each group. Prognoses of patients from the two groups were recorded and analyzed 1 month after nursing, including nursing effective rates, negative emotions, and quality of life levels. Self-Rating Depression Scale (SDS) and Self-Rating Anxiety Scale (SAS) scores were used to evaluate improvements in negative emotions. Results: The total effective rate of nursing in the evidence-based group was significantly higher than that in the routine group. Differences were statistically significant (P<0.001). SDS and SAS scores of the two groups, after treatment, were significantly lower than those before treatment. Differences were statistically significant (P<0.001). SDS and SAS scores of the evidence-based group, after treatment, were significantly lower than those of the routine group. Differences were statistically significant (P<0.001). Social barrier scores, behavioral restriction scores, and psychological impact scores of the evidence-based group were significantly higher than those of the routine group. Differences were statistically significant (P>0.001). Conclusion: Compared with the routine group, negative emotions and quality of life levels of postpartum urinary incontinence patients were significantly improved in the evidence-based nursing group. Therefore, evidence-based nursing is worthy of widespread use for postpartum urinary incontinence patients.

Keywords: Evidence-based nursing, postpartum urinary incontinence, negative emotions, quality of life

Introduction

Postpartum urinary incontinence refers to postpartum leakage of urine, which is involuntary urination caused by a sudden increase in intra-abdominal pressure and deficiencies in detrusor contraction force [1, 2]. A clinical gynecological disease with high incidence rates, it is more common in postpartum women with a pregnancy history [3, 4]. There is currently a lack of correct concepts for care and prevention of postpartum urinary incontinence. Therefore, the inconvenience of urinary incontinence often results in a variety of physiological and mental health problems in postpartum women [5, 6]. To improve the adverse psychological problems of women with postpartum urinary incontinence and actively enhance quality of life levels of patients, adoption of an appropriate nursing mode is crucial in clinical practice [7, 8].

Evidence-based nursing is a scientific working method, guiding nursing practice under an evidence-based medical science background [9]. Evidence-based nursing is focused on the nursing needs of the patients. It is a new and modern clinical nursing concept, combining clinical

experience with individual patient needs [10]. Relevant nursing staff members of evidence-based nursing should not only continuously improve their clinical nursing skills, but also pay full attention to maternal psychological and physiological problems. Moreover, maternal prognosis should also be constantly increased [11]. At present, there are few studies examining the impact of evidence-based nursing on postpartum urinary incontinence. The current study compared the effects of evidence-based nursing and routine nursing on postpartum urinary incontinence patients. This study analyzed clinical improvement levels of evidence-based nursing, regarding negative emotions and quality of life levels in postpartum urinary incontinence patients.

Materials and methods

General information

A total of 72 patients with postpartum stress urinary incontinence were treated at the First Affiliated Hospital of Jinzhou Medical University. According to different therapeutic options, they were divided into the evidence-based group (using an evidence-based nursing program) and routine group (using conventional postpartum urinary incontinence nursing methods).

Inclusion criteria: All patients met the international diagnostic criteria for postpartum urinary incontinence [12]. Exclusion criteria: Subjects with other diseases; Patients with organic and neurological diseases or patients with urinary incontinence caused by urinary tract infections or urinary tract obstruction. This study was approved by the Ethics Committee of the College of Nursing, Jinzhou Medical University. All patients and families were informed and voluntarily provided consent.

Main nursing methods

Routine group: Patients were treated with regular postpartum dietary instructions and basic nursing, such as perineum and skin care. The beds were kept clean and neat and communication with patients was carried out regularly.

Evidence-based group: Evidence-based patients were treated with evidence-based programs and routine nursing. Specific operations were as follows: (1) Careful and responsible medical staffs with strong nursing skills were selected to formally establish the evidence-based nursing team. The team leader was served by a senior head nurse. The specific nursing process was arranged by the team leader; (2) A scientific nursing plan was developed. Data regarding pathogenesis and the family background was first collected. The goal of evidence-based nursing was clarified and the nursing content was implemented; (3) Implementation process of the evidence-based nursing plan: A) Psychological care: Relevant medical staff members patiently introduced urinary incontinence in detail to the patients. They informed patients that urinary incontinence can be completely cured. The patients developed a correct understanding of urinary incontinence. The nursing staff communicated with the patients, aiming to understand the patient's true feelings. Improving patient anxiety and depression, the staff encouraged the family members to get closer to the patients; B) Functional exercise: Patients were guided in performing training methods of routine pelvic floor muscle contractions. First, the vagina was lifted. Next, the vagina, urethra, and anus were closed. This action was maintained for 3~5 seconds. Each round contained 10 contractions. At least 4 rounds were completed each day. At the end, the pelvic floor muscles were contracted for 5 seconds, then slowly relaxed. After 5 to 10 seconds, the contraction was repeated.

Efficacy criteria

Efficacy evaluation criteria: [13] (1) Quality of life questionnaires concerning urinary incontinence were used to evaluate changes in quality of life. Changes in quality of life were evaluated from three dimensions, including social barriers, behavioral restriction, and psychological impact. QOL was positively correlated with dimension scores. Higher corresponding dimension scores indicate better QOL levels; (2) Negative emotion improvements between the two groups (including Self-Rating Anxiety Scale (SAS) and Self-rating depression scale (SDS) scores) were compared [14, 15]; (3) Nursing effects were evaluated via urinal pad tests [16]. Significantly effective: A urinal pad was no longer needed for patients with postpartum urinary incontinence; Effective: The daily demand

Table 1. General information [n (%)]

Group		Evidence-based group (n=36)	Routine group (n=36)	X^2	P
Average age		23.35±3.20	22.98±3.71	0.453	0.652
Pregnancy history	Primitive woman	16 (44.44)	16 (44.44)	0.000	1.000
	Maternal woman	20 (55.56)	20 (55.56)		
	Transvaginal delivery	17 (47.22)	18 (50.00)	0.056	0.814
Birth pattern	Line of cesarean delivery	19 (52.78)	18 (50.00)		
Pelvic organ pro-lapse	Have	20 (55.56)	20 (55.56)	0.000	1.000
	No	16 (44.44)	16 (44.44)		
Obesity	Have	18 (50.00)	18 (50.00)	0.000	1.000
	No	18 (50.00)	18 (50.00)		
Family medical history of urinary incontinence	Have	10 (27.78)	12 (33.33)	0.262	0.609
	No	26 (72.22)	24 (66.67)		
Hysterectomy	Have	0 (0.00)	0 (0.00)	0.000	1.000
	No	36 (100.00)	36 (100.00)		
Smoking	Have	0 (0.00)	0 (0.00)	0.000	1.000
	No	36 (100.00)	36 (100.00)		
Estrogen decline	Have	24 (66.67)	25 (69.44)	0.064	0.801
	No	12 (33.33)	11 (30.56)		
High intensity physical exercise	Have	13 (36.11)	11 (30.56)	0.250	0.617
	No	23 (63.89)	25 (69.44)		

Table 2. Total effective rates of treatment in the observation group and control group [n (%)]

Group	Evidence-based group (n=36)	Routine group (n=36)	t	P
Significant effective	20 (55.56)*	10 (27.78)	-	-
Effective	14 (38.89)	13 (33.11)	-	-
Ineffective	2 (5.56)*	13 (33.11)	-	-
Total effective rate	34 (94.44)*	23 (63.89)	10.190	0.001

Note: *indicates that differences are statistically significant, compared with the control group (P<0.05).

for urinal pads in patients with postpartum urinary incontinence was reduced by half or more; Ineffective: There was no change in the amount of urinal pads used per day for patients with postpartum urinary incontinence. Total effective rate = significant effective rate + effective rate.

Statistical methods

Collected data was statistically analyzed using SPSS20.0 software package (Guangzhou Bomai). Data was plotted using GraphPad Prism 7 (Shanghai Beka). Enumeration data are expressed by rates (%) and measurement data are expressed by mean ± standard deviation (mean ± SD). Independent sample t-tests were used for comparisons between the two groups. Paired t-tests were used before and after treatment, indicated by t. Statistical differences are indicated when P is less than 0.05.

Results

Two groups show no differences in general clinical data

There were no significant differences in general information, including average age and onset time of postpartum urinary incontinence, between the two groups (P>0.05), which were comparable (**Table 1**).

Evidence-based group shows better total effective rates

The total effective rate of the evidence-based group, after nursing, was significantly higher than that of the routine group. Differences were statistically significant (P<0.005; **Table 2**).

Evidence-based group shows better SDS scores

Comparisons within each group showed that SDS scores, after nursing, were significantly lower than those before nursing (P<0.001).

Table 3. Comparison of SDS scores before and after nursing between the two groups

Group	Evidence-based group (n=36)	Routine group (n=36)	t	P
Before nursing	59.25±5.12	59.79±6.21	0.403	0.689
After nursing	36.24±3.81*,#	45.70±4.34*	9.828	<0.001
t	9.101	7.224		
P	<0.001	<0.001		

Note: *indicates that SDS scores of this group are significantly lower than those before nursing and differences are statistically significant (P<0.001). #indicates that SDS scores of the group after nursing were significantly lower than those of the control group after nursing. Differences are statistically significant (P<0.001).

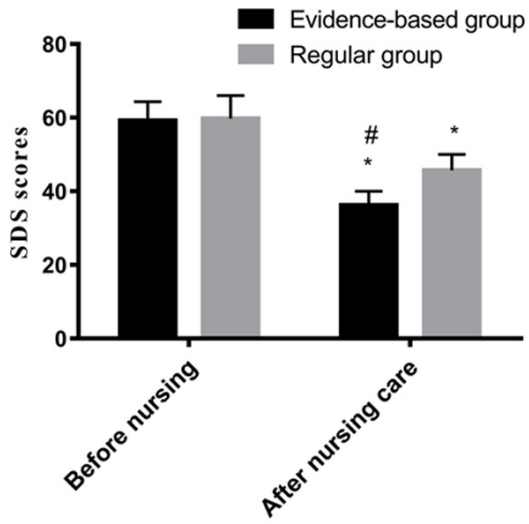

Figure 1. Comparison of SDS scores before and after nursing between the two groups. SDS scores of the two groups after nursing were significantly lower than those before nursing (P<0.001). The SDS score of the evidence-based group after nursing was significantly lower than that of the routine group (P<0.001). Note: *indicates that the score of this group was significantly lower than that before nursing, while #indicates that the score of this group was significantly lower than that of the routine group after nursing, and the difference was statistically significant (P<0.001).

Comparisons between groups showed no significant differences in SDS scores between evidence-based and routine groups (P>0.05). SDS scores in the evidence-based group, after nursing, were significantly lower than those in the routine group (P<0.001). Based on the above results, both nursing programs provide certain regulatory effects on depression of postpartum urinary incontinence patients. Depression levels, after nursing, in both groups were reduced. However, evidence-based nursing showed better controlling effects on patient depression (**Table 3** and **Figure 1**).

Evidence-based group shows better SAS scores

Comparisons within each group showed that SAS scores, after nursing, were significantly lower than those before nursing (P<0.001). Comparisons between groups showed no significant differences in SAS scores between evidence-based and routine groups (P>0.05). SAS scores in the evidence-based group, after nursing, were significantly lower than those in the routine group (P<0.001). Based on the above results, both nursing programs provide certain regulatory effects on depression of postpartum urinary incontinence patients. Depression levels, after nursing, in both groups were reduced. However, evidence-based nursing showed better controlling effects on patient depression (**Table 4** and **Figure 2**).

Evidence-based group shows improved quality of life

Comparing the two groups, social barrier scores, behavioral restriction scores, and psychological impact scores of the evidence-based group were significantly higher than those of the routine group (P>0.001; **Table 5** and **Figure 3**).

Discussion

At present, there are many treatment and recovery methods for postpartum urinary incontinence. Clinically, nursing research of postpartum urinary incontinence is very important. Superior nursing methods have been selected for prevention and treatment of postpartum urinary incontinence, confirmed by various reports [17, 18]. The current study provides reference for nursing options of postpartum urinary incontinence, comparing the effects of routine nursing and evidence-based nursing on postpartum urinary incontinence patients.

Related reports have indicated that postpartum urinary incontinence is mainly due to muscle strains during birth or pelvic soft tissue injuries caused by improper midwifery [19]. Ma-

Table 4. Comparison of SAS scores before and after nursing in the two groups

Group	Evidence-based group (n=36)	Routine group (n=36)	t	P
Before nursing	60.26±2.53	59.85±3.41	0.579	0.564
After nursing	37.01±1.03*,#	43.28±3.45*	10.450	<0.001
t	9.803	6.221		
P	<0.001	<0.001		

Note: *indicates that the SAS scores of this group were significantly lower than those before nursing and the differences were statistically significant (P<0.001). #indicates that the value of SAS in this group was significantly lower than that in the control group (P<0.001).

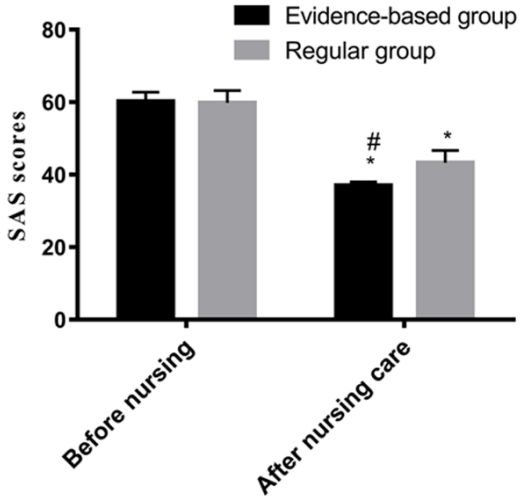

Figure 2. Comparison of SAS scores before and after nursing in the two groups. SAS scores of the two groups after nursing were significantly lower than those before nursing (P<0.001). The SAS score of the evidence-based group after nursing was significantly lower than that of the routine group (P<0.001). Note: *indicates that the score of this group was significantly lower than that before nursing, while #indicates that the score of this group was significantly lower than that of the routine group after nursing (P<0.001).

ternal age, pregnancy history, birth patterns, pelvic organ prolapse, obesity, a family medical history of urinary incontinence, hysterectomy, smoking, and estrogen are also associated with postpartum urinary incontinence [20, 21]. The current study compared general clinical data of postpartum urinary incontinence patients in the evidence-based group and routine group, comparing total effective rates of nursing between the two groups. General clinical data, such as maternal age, pregnancy history, birth pattern, pelvic organ prolapse, obesity, family medical history of urinary incontinence, hysterectomy, smoking, decreased or increased estrogen, and high-intensity physical exercise, of the two groups of patients were compared. Results showed that differences in general clinical data of the two groups of patients were not statistically significant. Statistical results showed that the total effective rate of the evidence-based group, after nursing, was significantly higher than that of the routine group. Differences were statistically significant. Therefore, the effects of evidence-based nursing on postpartum urinary incontinence patients were far superior to those of routine postpartum nursing. Related studies have shown that, with the continuous improvement of medical construction, more and more new nursing concepts have been applied to the auxiliary prognosis of clinical treatment. These high-quality nursing concepts usually require nursing staffs to consider the actual situation of different patients. Relevant medical staffs should develop a practical and feasible nursing plan with scientific methods according to the existing problems [22, 23]. Results of many studies have shown that evidence-based nursing has great positive significance for clinical treatment [24]. The reason may be that evidence-based nursing is patient-oriented, better meeting the needs of patients. Next, this study analyzed improvements in negative emotions between the two groups. It was found that SDS and SAS scores of the two groups, after nursing, were significantly lower than those before nursing. Differences were statistically significant. SDS and SAS scores of the evidence-based group, after nursing, were significantly lower than those of the routine group. Difference were statistically significant. Therefore, both treatments provided certain regulatory effects on depression and anxiety in postpartum urinary incontinence patients. Depression and anxiety levels of the two groups of patients were reduced after nursing. However, evidence-based nursing mode showed better controlling effects on patient depression levels. The reason may be that evidence-based nursing focuses on psychological needs, timely providing support. Psychological disorders, such as anxiety and depression, often occur in postpartum urinary incontinence patients due to inconvenience of daily life. Maternal emotional man-

Table 5. Comparison of quality of life improvements between the two groups

Group	Evidence-based group (n=36)	Routine group (n=36)	t	P
Social barrier score	69.14±9.34	51.05±8.62	8.540	<0.001
Behavior restriction score	73.76±9.23	62.64±6.24	5.988	<0.001
Psychological impact score	75.91±6.23	61.45±7.15	9.149	<0.001

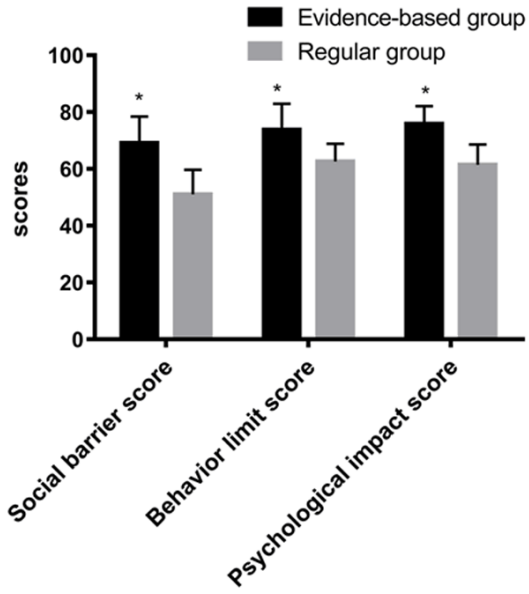

Figure 3. Improvements in quality of life after care in the two groups of patients. *indicates that the social barrier scores, behavioral restriction scores, and psychological impact scores of the evidence-based group were significantly higher than those of the routine group (P>0.001).

agement is very important [25]. If the maternal psychological negative emotions are not relieved, anxiety, depression and other bad emotions will continue to disturb the mother. This will lead to uncooperative nursing and treatment. In severe cases, it not only threatens the mental health of the patient, but also threatens their physical health [26]. According to many reports, in routine nursing intervention, more attention has been paid to maternal psychological changes. Comprehensive consideration of maternal emotional problems has provided better improvement effects on maternal anxiety, depression, and other negative emotions [27]. Finally, the current study evaluated changes in patient quality of life levels from the perspective of behavioral restrictions, social barriers, and psychological impact. Social barrier scores, behavioral restriction scores, and psychological impact scores of the evidence-based group were significantly higher than those of the routine group. Related reports have shown behavioral restriction, social barrier, and psychological impact scores in postpartum urinary incontinence patients decreased with increases in urinary incontinence [28]. Therefore, evidence-based nursing is better at improving quality of life levels of postpartum urinary incontinence patients, providing a more comprehensive service for patients.

Patients with different regional environments, imperfect nursing design programs, or different assessment scales may have led to some contingency in research results. Therefore, patient data from different hospitals of different regions will be included later. Present researchers will continue to focus on relevant reports and use a more optimized assessment scale, continuously improving research.

In summary, patients with postpartum urinary incontinence are more satisfied with evidence-based nursing, compared to routine nursing, showing emotional improvement and improved quality of life levels. Therefore, evidence-based nursing is worthy of widespread use in postpartum urinary incontinence patients.

Disclosure of conflict of interest

None.

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