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Original Article

Effect of humanized nursing on sleep quality, depression and nursing satisfaction of postpartum patients

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Abstract: Objective: To explore the effect of humanized nursing on sleep quality, depression and nursing satisfaction of postpartum patients. Methods: A total of 228 maternal women, aged 21 to 36, with an average of (25.82±4.62) were divided into the research group (n = 114) treated with humanized nursing and the control group (n = 114) treated with routine nursing. The Pittsburgh Sleep Quality Index (PSQI) was used to evaluate the sleep quality of the two groups, such as the sleep quality, bedtime, sleep time and sleep efficiency. Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) were used to assess maternal nursing satisfaction at time of discharge. Results: There was no significant difference in PSQI scores and SDS and SAS scores of sleep quality, bedtime, sleep time and sleep efficiency between the two groups before nursing (P>0.050). PSQI scores, SDS and SAS scores of sleep quality, bedtime, sleep time and sleep efficiency in the research group were significantly lower than those in the control group after nursing (P<0.001). PSQI scores, SDS and SAS scores of sleep quality, bedtime, sleep time and sleep efficiency after nursing were significantly lower than those before nursing in the two groups (P<0.001). Nursing satisfaction score of the research group was (70.52±3.65), higher than that of the control group (61.52±6.82) (P<0.001). Nursing satisfaction of the research group was significantly higher than the control group (P<0.001). Conclusion: Humanized nursing can improve sleep quality, nursing satisfaction and adjust the psychological state of maternal women, which is worthy of clinical application.

Keywords: Humanized nursing, postpartum depression, sleep quality, nursing satisfaction

Introduction

Maternal women can endure heavy psychological pressure due to changes in physiology and roles before and after childbirth [1]. This may cause postpartum depression without psychological counseling [2]. Symptoms of postpartum depression include silence, loneliness, fatigue, dullness, loss of appetite and inattention, which is not conducive to the recovery of postpartum physical function, but also the health of newborns and family ties [3, 4]. Some patients attempt suicide [5]. Statistically, about 80% of maternal women suffer from different degrees of depression in the world, among which patients with postpartum depression accounted for 20% to 40% [6, 7]. Therefore, the improvement of the psychological state of maternal women is a hot topic in the clinic [8].

With increased research in recent years, many studies revealed that nursing interventions play an important role in improving postoperative psychological states of patients with cancer [9-11]. Traditional nursing has limitations in that the medical staff pay more attention to routine childbirth and midwifery, but less to the emotions of maternal women [12]. Obstetric nursing, an important part of nursing, requires professional ethics, human spirit and careful nursing from the medical staff [13]. Humanized nursing is a kind of nursing method that aims to provide "people-oriented" and considerate service for patients [14]. Some studies suggest that humanized nursing was of great value in pediatrics [15]. Currently, there are disputes about effective nursing guidance for maternal women. Humanized nursing can alleviate post-

partum depression in maternal women. This experiment is expected to provide guidance for serving maternal women in the future.

Materials and methods

General data

In total, 228 maternal women, aged 21 to 36, with an average of (25.82±4.62) were divided into the research group (n = 114) treated with humanized nursing and the control group (n = 114) treated with routine nursing. The experiment was been approved by the ethics committee of the hospital. All the subjects signed the informed consent.

Inclusion and exclusion criteria

Inclusion criteria were as follows: gestational weeks 36 or above, maternal women received eutocia or cesarean in our hospital, complete clinical data, coordination with arrangements of the medical staff, absence of psychological or mental illness. Exclusion criteria were as follows: pregnant women with tumors, cardiovascular disease, liver and kidney dysfunction, history of genetic disease, hospital transfers, or physical disability.

Methods

Maternal women in the control group received routine nursing, such as: prenatal education and preparation, operation-related matters, daily check of the ward, maternal vital signs, guidance of postpartum rehabilitation training and precautions after hospital discharge.

Based on routine nursing, the research group received humanized nursing, such as psychological guidance and suggestions, active communication, care for individualized needs, maternal psychological counseling, alleviation of maternal psychological pressure, explanation of pregnancy, childbirth, breastfeeding and neonatal nursing, visit of maternity wards, reeducation on fear, explanation of differences between eutocia and cesarean, choice of childbirth, changes of vital signs during childbirth, handling of abnormal conditions, arrangement of mother-infant contact, guidance of maternal breast-feeding skills, a clean ward, infection prevention, regular follow-up surveys and changes of the maternal psychological state.

Observation index

Sleep quality: Pittsburgh Sleep Quality Index (PSQI) [16] was used to evaluate the sleep quality of the two groups before and after nursing, such as sleep quality, bedtime, sleep time and sleep efficiency. The higher the score, the worse the sleep quality. Psychological state: Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) were used to evaluate the psychological state of patients before and after nursing. The higher the score, the worse the psychological state. Nursing satisfaction of the two groups: All patients were studied at time of discharge by an anonymous scoring system with 15 items, such as nursing satisfaction, nursing ability and evaluation of benefits. Each item was divided into five grades with a total score of 75, among which 65 or above indicates very satisfied, 50 to 65 indicates satisfied, 40 to 59 indicates room for improvement, 40 or below indicates not satisfied. Nursing satisfaction = (very satisfied + satisfied)/total case ×100%.

Statistical methods

The experimental results were calculated using SPSS 24.0 software (Beijing Strong-Vinda Information Technology Co., Ltd.). All the graphs were drawn using Graphpad 8 (Shenzhen Softhead Technology Co., Ltd.), we then calculated the results and checked twice. The count data, such as nursing satisfaction, were expressed by rate (%) and compared by chi-square test between groups. Measurement data such as SDS scores were expressed by (mean ± standard) and compared by t-test between groups. $P<0.050$ indicated being statistically significant.

Results

No significant difference in the general data

There was no significant difference in age, BMI, platelet, white blood cell, red blood cell, gestational week, mode of delivery, place of residence, history of smoking and sports of the two groups before nursing care ($P>0.050$) (**Table 1**).

After nursing, PSQI scores in the research group were significantly lower than those in the control group

There was no significant difference in PSQI scores of sleep quality, bedtime, sleep time and

Table 1. Comparison of clinical data [n (%)]

	Research group (n = 114)	Control group (n = 114)	t/x^2	*P*
Age	26.21±4.25	25.87±4.67	0.575	0.566
BMI	29.11±4.62	28.06±5.04	1.640	0.103
Platelet ($\times10^9$/L)	226.85±38.11	221.17±42.68	1.060	0.290
White blood cell ($\times10^9$/L)	22.89±6.66	21.14±7.05	1.927	0.055
Red blood cell ($\times10^{12}$/L)	9.24±5.02	10.05±4.86	1.238	0.217
Gestational week	38.82±1.21	38.71±1.16	0.701	0.484
Mode of delivery			0.166	0.684
Production	68 (59.65)	71 (62.28)		
Planned caesarean	46 (40.35)	43 (37.72)		
Place of residence			0.080	0.777
city	78 (68.42)	76 (66.67)		
rural	36 (31.58)	38 (33.33)		
History of smoking			0.422	0.516
yes	22 (19.30)	26 (22.81)		
no	92 (80.70)	88 (77.19)		
Sports habit			0.325	0.569
yes	38 (33.33)	34 (29.82)		
no	76 (66.67)	80 (70.18)		

Table 2. Comparison of sleep quality PSQI scores

		Research group (n = 114)	Control group (n = 114)	t	*P*
Before treatment	Sleep quality	2.54±0.52	2.56±0.49	0.299	0.765
	Sleep time	2.62±0.57	2.59±0.60	0.387	0.699
	Sleeping time	1.94±0.84	1.90±0.91	0.345	0.731
	Sleep efficiency	1.72±0.50	1.69±0.52	0.444	0.658
After nursing	Sleep quality	0.22±0.54[a]	0.59±0.72	4.389	<0.001
	Sleep time	0.26±0.35[a]	0.65±0.82	4.670	<0.001
	Sleeping time	0.14±0.28[a]	0.36±0.29	5.827	<0.001
	Sleep efficiency	0.39±0.26[a]	0.72±0.60	5.388	<0.001

'a' indicates a comparison of research group with control group after nursing, P<0.001.

sleep efficiency between the two groups before nursing (*P*>0.050). PSQI scores in the research group after nursing were significantly lower than those in the control group (*P*<0.001). PSQI scores after nursing were significantly lower than those before nursing (*P*<0.001) (**Table 2**; **Figure 1**).

After nursing, the SDS and SAS scores of the research group were significantly lower than those of the control group

SDS and SAS had no significant differences in the scores between the two groups before nursing (*P*>0.050). The research group SDS and SAS scores were significantly lower than those of the control group after nursing (*P*< 0.001). After nursing, the two groups SDS and SAS scores were significantly lower than those before nursing (*P*<0.001) (**Figure 2**).

After nursing, nursing satisfaction in the research group was significantly higher than the control group

The nursing satisfaction score of the research group was (70.52±3.65), higher than that of the control group (61.52±6.82) (*P*<0.001). In the research group, 63.16% (72 cases), were very satisfied, 30.70% (35 cases) were satisfied, 5.26% (6 cases) scored as room for improvement, and 0.88% (1 case) was not satisfied, with nursing satisfaction accounting for 93.86%. In the control group, 27.19% (31 cases) were very satisfied, 50.00% (57 cases) were satisfied, 16.67% (19 cases) scored as

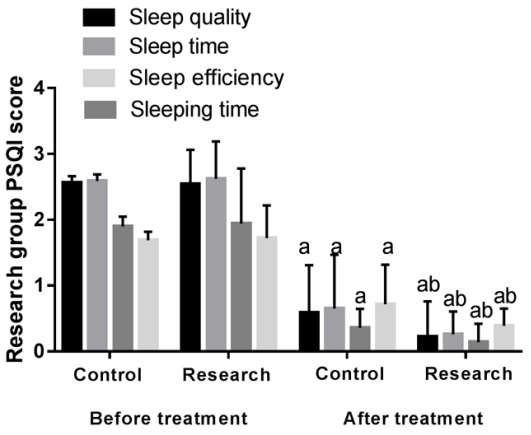

Figure 1. Comparison of PSQI scores of sleep quality before and after nursing in the control group and research group. 'a' indicates a comparison with the same group after nursing, $P<0.001$. 'b' indicates a comparison of research group with the control group after nursing, $P<0.001$.

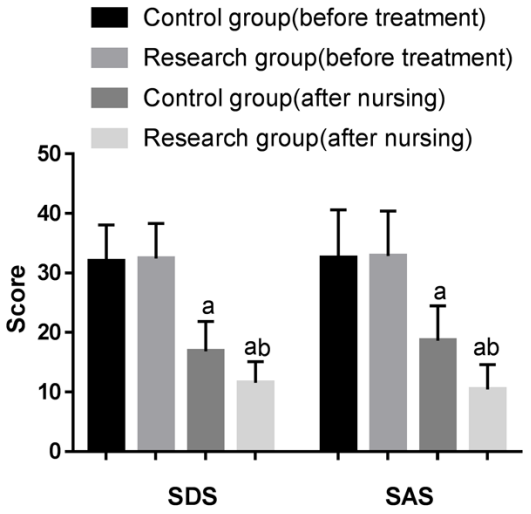

Figure 2. Comparison of SDS and SAS scores between the two groups. 'a' indicates a comparison of the same group after nursing, $P<0.001$. 'b' indicates a comparison of research group with the control group after nursing, $P<0.001$.

room for improvement, and 6.14% (7 cases) were not satisfied, with nursing satisfaction accounting for 77.19%. Nursing satisfaction in the research group was significantly higher than the control group ($P<0.001$) (**Figure 3** and **Table 3**).

Discussion

Obstetric nursing, a special nursing mode in the hospital, requires routine nursing as well as

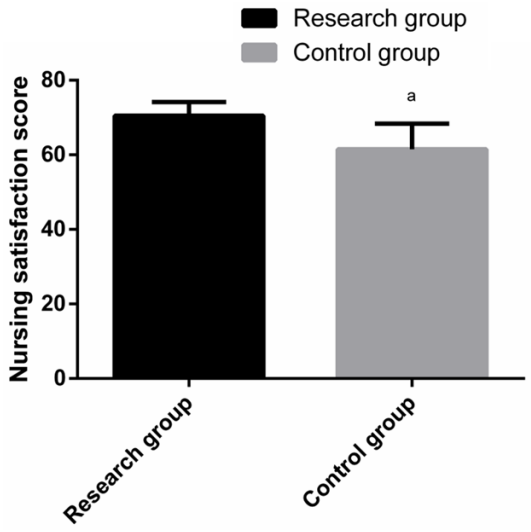

Figure 3. Comparisons of nursing satisfaction scores between the two groups. 'a' indicates a comparison with the research group, $P<0.001$.

an assessment of psychological state from the medical staff [17]. Postpartum depression, a high-risk disease worldwide, poses a great threat to the patients and has a great impact on both the newborn and the whole family [18]. With the increase of postpartum depression in recent years [19], more attention to the psychological state of pregnant women is particularly important. For common depression, small doses of interventional drugs are feasible [20]. For the sake of the fetus, drug therapy is hopefully avoidable for the pregnant women [21]. At present, there are only a few studies and some limitations on nursing interventions for maternal depression. For example, Nahar et al. [22] demonstrated that comprehensive nursing could improve the psychological state of maternal women with mental illness. The number of cases was limited and the research object was mostly maternal women with mental illness. In this study, advanced statistical software was used and inclusion and exclusion criteria were followed. It is important and comprehensive to study the effect of humanized nursing on psychological state, sleep quality and nursing satisfaction of postpartum patients.

Based on the experimental results, there was no significant difference in SDS, SAS scores and sleep quality between the two groups before nursing. SDS and SAS scores of the research group with humanized nursing were significantly lower than those in the control

Table 3. Comparison of nursing satisfaction [n (%)]

	Research group (n = 114)	Control group (n = 114)	x^2	P
Very satisfied	72 (63.16)	31 (27.19)		
Satisfaction	35 (30.70)	57 (50.00)		
Needs improvement	6 (5.26)	19 (16.67)		
Not satisfied	1 (0.88)	7 (6.14)		
Nursing satisfaction (%)	93.86	77.19	12.791	<0.001

group with routine nursing after nursing care. The sleep quality was significantly higher over that in the control group. Furukawa S et al. [23] also studied the effect of humanized nursing on the improvement of psychological state of patients who received cholecystectomy, which proved the results of this experiment. The nursing satisfaction of the research group with humanized nursing was significantly higher than that of the control group, suggesting that humanized nursing has application value. The difference of the results between the two groups is as follows: pregnant women not only endured long gestation, but also severe pain after childbirth. Fear of childbirth can also be one of the influencing factors. Maternal women often suffer from negative emotions such as anxiety, fear and anger [24]. At this time, maternal women can be prone to negative emotions without timely and effective psychological counseling. Humanized nursing requires active communication, intervention on psychological state and alleviation of the psychological pressures on maternal women, so as to help them maintain confidence in the face of childbirth and avoid negative emotions. Coll-Vinent B et al. [25] demonstrated that humanized nursing reduced SDS and SAS scores of emergency room patients. Through targeted psychological counseling, answering questions from maternal patients, communication between maternal women, medical staff and family members, regular follow-up surveys, psychological state monitoring, humanized nursing can reduce depression and anxiety of maternal women, as well as the incidence of postpartum depression, which can be used as an effective nursing methods in obstetrics in the future. For maternal women after discharge, related knowledge counseling can prevent incorrect breastfeeding or aid in rehabilitation. Communication between nurses and maternal women shortens the distance and enhances the trust between each other, so as to improve the treatment compliance. The change of sleep state is mainly caused by both physiology and psychology [26]. Through humanized nursing, improvement of the psychological state and changes in functional roles reduce psychological burdens and improve the sleep quality of maternal women.

Based on the difference of psychological state, sleep quality and nursing satisfaction between patients with humanized nursing and patients with routine nursing, this experiment aims to prove the application value of humanized nursing for maternal women. There are still some shortcomings due to limited experimental conditions. For example, statistical analysis of big data could not be carried out because of limited patients. Moreover, humanized nursing may have different performance among maternal women of different races. Because of the short experimental period, long-term effects of humanized nursing on maternal women cannot be evaluated. At present, there are controversies about the most effective nursing intervention for maternal women in childbirth. Patients treated with routine nursing were used as the control group, differences in another nursing method should be studied. A longer follow-up survey on the subjects of this study will be continued to improve the experiment, so as to explore the most effective nursing intervention method and experimental results.

In summary, humanized nursing can improve the sleep quality, psychological state and nursing satisfaction of maternal women, which is worthy of clinical promotion.

Disclosure of conflict of interest

None.

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