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Original Article

Humanistic care in nursing improves postoperative recovery and reduces stress responses of breast cancer patients during the perioperative period

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Abstract: Objective: This study set out to assess if humanistic care in nursing improves postoperative recovery and reduces stress responses in breast cancer patients during the perioperative period. Methods: A total of 136 patients with early breast cancer who were treated surgically in the Nantong Maternity and Child Health Care Hospital were selected as the research subjects and divided into two groups according to different nursing methods. Among them, those in the research group (RG) (79 cases) received humanistic care and the control group (CG) (57 cases) received routine care. Their adverse reactions were observed and recorded. Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) were used to evaluate the nursing anxiety and depression of patients in both groups. The self-management skills of patients were evaluated by exercise of Self-care Agency (ESCA), the quality of life in both groups was evaluated by the Scale of Quality of Life for Patients with Breast Cancer (FACT-B), and their nursing satisfaction was analyzed via a self-made "Nursing Satisfaction Questionnaire". Results: Systolic pressure and diastolic pressure in the observation group (OG) were remarkably lower than those in the CG ($P<0.05$). The total incidence of complications in the OG was markedly lower than that in the CG ($P<0.05$). After treatment, the SDS, SAS scores in the OG were clearly lower than those in the CG ($P<0.05$). The self-management ability of patients in the OG after nursing intervention was significantly higher than that in the CG. The quality of life score and nursing satisfaction of those in the OG were remarkably higher than those in the CG. Conclusion: Humanistic care in nursing intervention for breast cancer patients during the perioperative period reduces their occurrence of stress reactions and adverse reactions, and also enhances their self-care abilities and quality of life.

Keywords: Humanistic care in nursing, perioperative period of breast cancer, recovery, stress response, quality of life

Introduction

The morbidity of breast cancer accounts for 7%-10% of all malignant tumors, is mainly found in women aged 40-60 years; accounting for the female malignant tumor type with the highest morbidity at present [1, 2]. Breast cancer is usually treated by radical surgery or modified radical surgery after diagnosis, followed by adjuvant radiotherapy and chemotherapy. However, most of the current methods for treating breast cancer are surgical resectionand cause the breast to be lost after the operation. The operation has relatively matured in clinical development and has good curative effects. After the operation, the postoperative patients mainly have rehabilitation problems [3]. In addition to the economic burden and family problems caused by the absence of mammary glands due to surgery, the addition of the impact of illness will not only cause serious physiological damage to patients, but also aggravate their psychology, and even lead to despair, pessimism, fear and other emotions [4, 5]. Therefore, the auxiliary effects of effective nursing measures is of great significance to reduce the psychological anexieties of patients, relieve their negative emotions, relieve their negative stress reactions and improve their quality of life [6].

At the moment, it is believed that nursing plays a crucial role in treating breast cancer patients [7]. Humanistic care in nursing can also be

called human care or human love, and at its main core it cares for patients, supports them, believes in them and shows consideration for them, so that their subjective initiatives can be fully mobilized and their needs can be met in a timely manner [8]. It carries out all-round comprehensive nursing from many aspects, taking patients as the center point of nursing, so that they can better face their own diseases, reasonably adjust their mentality, improve their disease cognition level, and raise their self-care ability. Research shows that humanistic care has achieved good results in nursing after breast cancer surgery by adopting humanistic compassion in clinical practice [9].

This study mainly discusses the clinical value of humanistic care nursing intervention in treating advanced lung cancer patients by comparing the effects of humanistic care nursing intervention and conventional nursing intervention on postoperative recovery and stress response of breast cancer patients during the perioperative period.

Materials and methods

General information

A total of 136 patients with early breast cancer treated surgically in Nantong Maternity and Child Health Care Hospital from June 2008 to June 2012 were selected as the research subjects. Among them, 79 patients in the observation group (OG) received humanistic care and 57 patients in the control group (CG) received routine care. All of them were informed and they signed informed consent forms, and the study was approved by the hospital ethics Committee. They were diagnosed by detailed examination of relevant data such as pathology or histocytology before and after surgery. Inclusion criteria: all patients were informed of the disease; all of them were in early stage and single breast cancer; the maximum diameter of the tumor was ≤5 cm, and the axillary lymph nodes did not swell; there were no contraindications for surgery; all those underwent surgical treatment; no systemic or distant metastasis occurred before operation; they followed doctor's advice to complete relevant treatment and nursing. Exclusion criteria: those unable to tolerate surgical treatment; coagulation dysfunction accompanied by autoimmune diseases; their disease continued to deteriorate or their expected survival period was less than 3 months; patients suffering from benign and malignant tumors or metastasis in other body parts; those with cardiovascular and cerebrovascular diseases, pulmonary diseases and other diseases affecting surgical treatment; those with mental disorders, mental disease history and reading comprehension deficits; pregnant and lactating women.

Nursing methods

Patients in the CG received routine perioperative care, and then we visited them one day before the operation, informed them and their families of the necessity of the operation and related matters needing attention, and briefly introduced its contents, so as to relieve their nervousness and treat the disease correctly. After they were brought into the operating room, the surgical instruments were regularly prepared, and the itinerant nurses adjusted the indoor temperature and humidity appropriately, they also checked whether the special instruments and articles were already in place. They established venous access and kept it unobstructed. Before anesthesia started, they quickly injected 500 ml colloidal solution to expand blood volume. They also assisted anesthesiologists in the implementation of epidural anesthesia to ensure that patients were in appropriate anesthesia posture. During the operation, the itinerant nurses closely observed the changes of vital signs such as blood pressure and heart rate of the patients, and promptly notified the anesthesiologists when identifying problems and helped to handle them. Equipment nurses mastered the routine procedures of the operation and cooperated with doctors to successfully complete it. Soon afterwards, they sent the patients back to the ward, maintained the supine position, tightly monitored the blood pressure, pulse and respiration, and reported any abnormality to the doctors for treatment. The OG received humanistic care nursing in addition to the CG: (1) Preoperative psychological guidance: After the patients were admitted to hospital, the vital signs were monitored and other work was done well, and the tolerance of the operation was evaluated in line with their physical condition and mental state, and nutritional support was given if they were malnourished, so as to ensure sufficient nutrition. Besides, health knowledge information was carried out to help patients to

know more about surgery, disease knowledge and psychological guidance. Because patients and their families did not fully understand the surgical methods and disease knowledge, many of them refused to take surgical treatment. Hence, most patients were accompanied by negative emotions such as dysphoria, anxiety and tension. Nursing staff concentrated on their personality characteristics, actively contacted and communicated with them, so as to keep them optimistic and relaxed, and help them cooperate with the treatment work independently. During this period, we corrected their understanding of the disease, and introduced the inducing factors, development direction and mechanism of breast cancer disease to them. At the same time, we recommended the surgical treatment methods, purpose, and matters needing attention. (2) Intraoperative intervention: Preoperative preparation for various operations was done well, operation time was reduced as much as possible, indoor temperature and humidity were adjusted reasonably, so that the operation can be carried out smoothly, attention was paid to patients getting into bed, patients were encouraged and supported to cooperate with medical staff, various indexes were closely monitored, and aseptic operation principles were fully implemented during the operation. (3) Postoperative intervention: After the patients returned to the ward, oxygen was given to them, and ECG monitoring was connected. After the operation, coronal changes of their mood were strengthened, and the results were introduced to them and their family members. Whether there was bleeding in the incision and the blood circulation at the distal end of the upper limb was observed, so as to adjust the nursing plan. During radical operation, there was more accumulated fluid and blood in the residual cavity. To eliminate accumulated fluid and blood, a negative pressure ball was placed under skin flap to accelerate skin flap healing and nurses assisted patients in selecting comfortable posture. After treatment, the patients were instructed to participate in appropriate sports activities so as to recover as soon as possible and reduce the incidence of complications.

Outcome measures

The incidence of postoperative complications and systolic pressure and diastolic pressure in both groups were observed and recorded. Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) were used to evaluate the anxiety and depression of patients in the two groups before and after nursing intervention. The higher the SDS and SAS scores were, the more serious the depression and anxiety were [10]; exercise of Self-care Agency (ESCA) was used to evaluate self-care ability, mainly including health knowledge level, self-responsibility, self-concept and self-care skills. The higher the score was, the better the self-care ability was [11]; the quality of life of patients from both groups was evaluated by Scale of Quality of Life for Patients with Breast Cancer (FACT-B), and the lower the score was, the worse their quality of life was [12]; the self-made "Nursing Satisfaction Questionnaire" was used to evaluate the patients' nursing satisfaction, which was divided into very satisfied and unsatisfied, and the nursing satisfaction in this research was very satisfied+satisfied.

Statistical methods

All the data were analyzed and processed by SPSS22.0 (IBM Corp, Armonk, NY, USA). The counting data were expressed by rate (%), and inter-group comparison was performed with χ^2. The measurement data were expressed by mean ± SD, and inter-group comparison was performed by t-test. The differences were statistically significant at $P<0.05$.

Results

Basic clinical data of patients in the two groups

The comparison of basic clinical data between the two groups revealed that there was no significant difference between both groups in terms of age, course of disease, previous medical history, marital status, operation, educational background, place of residence, TNM stage, estrogen receptor, human epidermal growth factor receptor 2 (HER2), and progesterone receptor ($P>0.05$), as shown in **Table 1**.

Systolic pressure and diastolic pressure between the two groups

Comparison of systolic pressure and diastolic pressure between both groups signified that those in the OG were markedly lower than those in the CG ($P<0.05$), as shown in **Figure 1**.

Table 1. Basic clinical data of patients in the two groups

Factor	Observation group (OG) (n=79)	Control group (CG) (n=57)	t/χ^2 value	P
Age (years)	52.17±3.76	52.54±3.97	0.553	0.581
Course of disease	8.34±3.55	8.76±3.31	0.7	0.485
Previous medical history			0.612	0.736
Hypertension	3 (3.8)	2 (3.51)		
Diabetes	4 (5.06)	3 (5.26)		
Hyperlipidemia	1 (1.27)	2 (3.51)		
Marital status			0.703	0.402
Married	76 (96.2)	53 (92.98)		
Unmarried	3 (3.8)	4 (7.02)		
Type of operation			0.454	0.501
Radical operation of mastocarcinoma with preservation of breast	12 (15.19)	13 (22.81)		
Modified radical mastectomy	67 (84.81)	54 (94.74)		
Education background			1.852	0.174
High school graduate and below	48 (60.76)	33 (57.89)		
Above high school graduate	21 (26.58)	24 (42.11)		
Place of residence			0.543	0.461
Countryside	52 (65.82)	34 (59.65)		
Cities and towns	27 (34.18)	23 (40.35)		
TNM stage			0.113	0.737
Phase I+II	31 (39.24)	24 (42.11)		
Phase III	48 (60.76)	33 (57.89)		
Estrogen receptor			0.134	0.715
Negative	55 (69.62)	38 (66.67)		
Positive	24 (30.38)	19 (33.33)		
Human epidermal growth factor receptor 2 (HER2)			0.05	0.823
Negative	50 (63.29)	35 (61.4)		
Positive	29 (36.71)	22 (38.6)		
Progesterone receptor			0.635	0.426
Negative	47 (59.49)	30 (52.63)		
Positive	32 (40.51)	27 (47.37)		

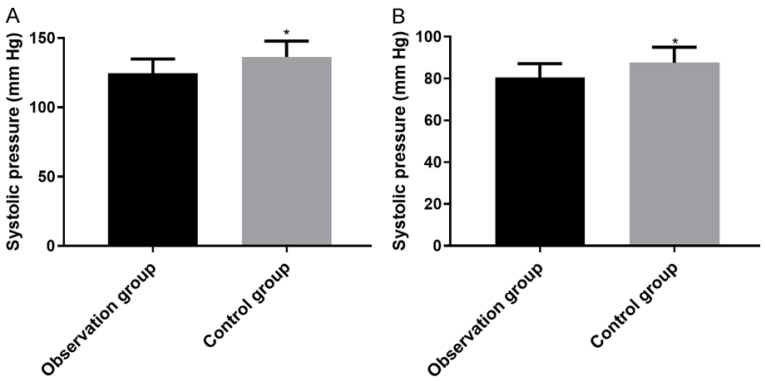

Figure 1. Comparison of systolic pressure and diastolic pressure between patients in the two groups. Note: * means the comparison with the OG (P<0.05).

Postoperative complications between the two groups

Comparison of postoperative complications between both groups demonstrated that in the OG, hemorrhage occurred in 1 case, seroma in 2 cases, upper limb edema in 1 case, and complications occurred in 4 cases. Whereas in the CG, bleeding occurred in 2 cases, flap necrosis in 2 cases, seroma in 3 cases, upper limb edema in 4 cases, and complications occurred in 11

Table 2. Comparison of postoperative complications between patients in the two groups

	Observation group (OG) (n=79)	Control group (CG) (n=57)	χ^2 value	P
Hemorrhage	1 (1.27)	2 (3.51)		
Flap necrosis	0 (0)	2 (3.51)		
Seroma	2 (2.53)	3 (5.26)		
Upper limb edema	1 (1.27)	4 (7.02)		
Total incidence	4 (5.06)	11 (19.3)	6.837	0.009

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

Group	SDS score		SAS score	
	Before treatment	After treatment	Before treatment	After treatment
Observation group (OG) (n=79)	53.53±5.27	44.27±4.67	54.51±5.62	35.47±6.03
Control group (CG) (n=57)	52.89±4.81	49.73±4.34	53.97±4.72	42.85±5.69
t value	0.725	6.928	0.59	7.209
P	0.47	<0.01	0.556	<0.01

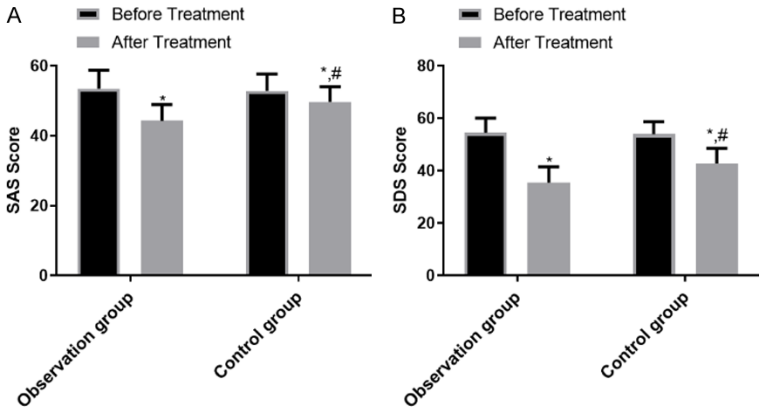

Figure 2. Comparison of SAS and SDS scores of patients between the two groups. Note: * means the comparison with before treatment (P<0.05); # means the comparison with the OG (P<0.05).

cases. The total incidence of complications in the OG was significantly lower than that in the CG (P<0.05). More details were shown in **Table 2**.

Comparison of SAS and SDS scores between patients in the two groups

Before treatment, there was no significant difference in SDS, SAS scores between the two groups (P>0.05). The SDS, SAS scores of patients in both groups after treatment were lower than those before treatment (P<0.05), and the scores of those in the OG after treatment was markedly lower than those of the CG (P<0.05). More details were shown in **Table 3** and **Figure 2**.

Self-care ability between patients in the two groups

The comparison of self-care ability between both groups verified that the self-care ability score of OG was greatly better than that of the CG (P<0.05), as shown in **Table 4**.

Comparison of quality of life scores between patients in the two groups

The quality of life scores of patients from the two groups were compared. The results indicated that there was no significant difference between both groups before treatment (P>0.05). After treatment, the quality of life scores of both groups were reduced remarkably (P<0.05), and those of the OG were dramatically higher than those of the CG (P<0.05), as shown in **Table 5**.

Nursing satisfaction between the two groups

Comparison of nursing satisfaction between both groups pointed out that the nursing satisfaction of the OG was clearly higher than that of the CG, as shown in **Table 6**.

Discussion

Breast cancer has a high incidence in women, and is a malignant tumor with a high morbidity,

Table 4. Comparison of self-care ability between patients in the two groups

Group	Health knowledge level	Self-responsibility	Self-concept	Self-care skills	Total score of self-care ability
Observation group (OG) (n=79)	64.27±5.72	23.44±3.29	17.46±3.91	34.69±3.81	143.28±9.46
Control group (CG) (n=57)	54.32±6.63	17.95±4.32	15.82±3.56	28.41±4.73	121.43±11.67
t value	9.36	8.413	2.505	8.565	12.04
P	<0.01	<0.01	<0.01	<0.01	<0.01

Table 5. Comparison of quality of life scores between patients in the two groups

Group	Before treatment	After treatment
Observation group (OG) (n=79)	90.17±3.16	86.43±3.21*
Control group (CG) (n=57)	90.54±2.89	74.27±3.49*
t value	0.768	19.36
P	0.444	<0.01

Note: *means the comparison with before treatment (P<0.05).

Table 6. Comparison of nursing satisfaction between the two groups

Grouping	Very satisfied	Satisfied	Dissatisfied	Satisfaction
Observation group (OG) (n=79)	39 (49.37)	28 (35.44)	12 (15.19)	67 (84.81)
Control group (CG) (n=57)	20 (35.09)	22 (38.6)	13 (22.81)	42 (73.68)
x^2				4.394
P value				<0.01

which can have a serious impact on the physical and mental health of patients [13, 14]. Radical surgical treatment is the main method of breast cancer treatment, but it often causes severe trauma to patients' physiology and psychology, resulting in a decline in postoperative quality of life [15, 16]. Therefore, strengthening perioperative nursing intervention for breast cancer patients is an important link to ensure postoperative rehabilitation [17].

Perioperative scientific and reasonable nursing helps patients feel cared for, reduce the pain of surgery and reduce the incidence of complications [18, 19]. Humanistic care is also called caring about human nature and human love, which are both the core of nursing work and the central task it contains [20]. The combination of humanistic care nursing and nursing practice help patients recover as soon as possible and return to society [21]. Delgado and others [22] also believed that care could not be called nursing without care. Watson and others [23] were the first group of people to combine nursing practice with humanistic care. They considered that humanistic care actually aimed to help patients regain states of physical, social, energetic and spiritual recovery. Humanistic care carries out exercise and health guidance according to the patients' postoperative physical condition, which can enhance their self-immunity and resistance, so that they can recover as quickly as possible.

In this study, the effects of humanistic care in nursing intervention and routine nursing intervention on breast cancer patients during the perioperative period were compared. The results displayed that systolic and diastolic pressures in the OG were remarkably lower than those in the CG. The total incidence of complications in the OG was clearly lower than that in the CG (P<0.05). This showed that humanistic care and nursing were helpful to reduce the occurrence of perioperative complications of breast cancer. Depression and anxiety are common negative emotions in breast cancer patients, which have a negative impact on their prognosis. Therefore, compassionate nursing should be carried out according to the physiological and psychological changes of patients to provide them with comfortable and high-quality nursing services; which helps them feel the care from medical

staff, thus promoting the improvement of their comfort and euphoria, relieving their pain, and improving their quality of life. In addition, the SDS, SAS scores of patients in the two groups after treatment decreased compared with that before treatment ($P<0.05$), and those of the OG were dramatically lower than those of the CG ($P<0.05$). The self-care ability of patients in the OG after nursing intervention was remarkably higher than that in the CG. The self-management ability of those in the OG after nursing intervention was markedly higher than that in the CG. The quality of life scores of those in the OG were clearly higher than those in the CG. Nursing satisfaction of those in the OG was significantly higher than that in the CG. This showed that humanistic care in nursing is more helpful to control patients' negative emotions and improve their self-management ability and nursing satisfaction. Hence, humanistic care fully mobilizes the subjective initiative of patients and promotes their psychological and physiological recovery during the perioperative period of breast cancer.

To summarize, humanistic care in nursing for breast cancer patients during the perioperative period reduces the occurrence of stress reactions and adverse reactions, and also improves the self-care ability and quality of life.

Disclosure of conflict of interest

None.

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