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Review Article

Effects of comfort nursing on the quality of life and compliance of chemotherapy patients after radical mastectomy

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Abstract: Objective: To explore the effects of comfort nursing on the quality of life and treatment compliance of chemotherapy patients after radical operation of breast cancer. Methods: A total of 74 cases of patients undergoing chemotherapy after radical mastectomy and receiving treatment in Liaoning Cancer Hospital from August 2017 to December 2019 were collected as study subjects. Patients were divided into an observation group (OG) of comfort nursing intervention (n=39) and a control group (CG) of routine nursing (n=35). Quality of life, psychological status, chemotherapy compliance, nursing satisfaction, complications, and negative emotions before and after nursing intervention were observed. Results: There was no remarkably difference in the scores of psychological problems between the two groups before nursing (P>0.05). The scores of psychological problems after nursing were significantly improved compared with those before treatment (P<0.05), and the improvement was more obvious in the OG than in the CG (P<0.05). After nursing, the functional score of quality of life of patients in both groups increased significantly (P<0.05), and it was significantly higher in the OG than in the CG (P<0.05). The chemotherapy compliance rate of the OG was higher than that of the CG (P<0.05). Before nursing, there was no significant difference in SAS and SDS scores between the two groups (P>0.05). After nursing, SAS and SDS scores of patients in the two groups were significantly lower than those before nursing, while the SAS and SDS scores in the OG were significantly lower than those in the CG. Conclusion: Comfort nursing can effectively improve the quality of life and compliance of chemotherapy patients after radical mastectomy of breast cancer, which is worthy of being popularized in clinical practice.

Keywords: Nursing intervention, breast cancer, quality of life, compliance

Introduction

Breast cancer is one of the most common malignant tumors in the world, which ranks first in terms of morbidity and mortality among women [1]. At present, surgery, radiotherapy and chemotherapy are important comprehensive treatment methods for breast cancer in clinic, and chemotherapy is the main method to prevent recurrence and metastasis of breast cancer and improve the survival rate of patients [2, 3]. However, the toxic side effects of the drug are big and the chemotherapy course is long, and the fear and worry of possible complications of patients will affect their compliance of the chemotherapy, which will seriously affect their quality of life and normal progress of treatment [4-6].

Currently, it is believed that nursing is an important part of the treatment of breast cancer patients [7, 8]. Studies of Ana et al., for example, have shown that nursing can significantly reduce patients' anxiety and relieve patients' pain before breast cancer screening mammography [9]. Comfort nursing is a kind of comprehensive nursing model based on high quality nursing, which aims to reduce the unpleasantness of patients. It pays more attention to the comfort needs of patients, enables patients to actively cooperate with treatment, reduces complications, and promotes the early recovery of patients. At the same time, it can reduce the generation of negative emotion and contribute more to the harmonious doctor-patient relationship [10, 11]. Moreover, the application of com-

fort nursing intervention will also help patients to develop a good living habit during the treatment [12, 13].

Clinical nursing is one of the most important links in the whole treatment process of patients, and the quality of nursing is directly related to the clinical treatment effect and safety of patients. However, there are few studies on the impact of comfort nursing on the quality of life and compliance of patients undergoing chemotherapy after radical mastectomy. This study compared the influence of comfort nursing intervention and routine nursing intervention on the quality of life and treatment compliance of patients with radical mastectomy, thus to investigate the clinical value of comfort nursing intervention in the treatment of patients with radical mastectomy.

Data and methods

General data

A total of 74 cases of patients undergoing chemotherapy after radical mastectomy and receiving treatment in Liaoning Cancer Hospital from August 2017 to December 2019 were collected as study subjects. Patients were randomly divided into an observation group (OG, n=39) receiving comfort nursing intervention and a control group (CG, n=35) receiving conventional care, with an average age of 45.63± 4.12 years in the OG and 45.78±4.38 years in the CG. This study has been approved by the ethics committee of Liaoning Cancer Hospital. All the subjects have been informed and signed the informed consent. Inclusion criteria were as follows: All patients underwent radical mastectomy and adjuvant chemotherapy in Liaoning Cancer Hospital. Patients who were conscious and could cooperate with work actively. Patients with verbal communication normally. Patients with complete clinical data. Exclusion criteria were as follows: Patients with malignant tumors in other sites. Patients with mental illness or family history of mental illness previously. Patients with autoimmune defects. Patients with serious visceral lesions. Patients with hepatic and renal insufficiency. Female patients in pregnancy or lactation period.

Nursing methods

Routine nursing was given to patients in the CG after the operation: blood routine examination was conducted before each chemotherapy to understand the status of white blood cells, platelets and hemoglobin. Only when white blood cells $\geq 4 \times 10^9$/L, platelets $\geq 50 \times 10^9$/L, and hemoglobin >80 g/L could chemotherapy be carried out without significant bone marrow suppression.

Comfort nursing was given to patients in the OG on the basis of the CG: (1) Comprehensive assessment of the patients' condition was made upon admission, and individualized nursing plan based on patients' own condition and treatment was formulated. (2) Psychological nursing: Nurses were assigned to perform targeted psychological nursing according to patients' age, education level and clinical symptoms: go deep into the ward, inquire about patients' conditions actively, care about them, pay attention to their psychological changes, strengthen psychological counseling, relieve their mental and psychological pressure, and avoid the occurrence of anticipatory grieving. Before chemotherapy, patients were informed of possible complications and information such as the body feeling in common language. Nurses should introduce cases with great treatment effect and patients received treatment positively and optimistically. Patients' incorrect understanding should be corrected, and their anxiety, fear and psychological burden of chemotherapy should be eliminated. Patients were encouraged to face the disease actively and bravely. Successful cases should be displayed to chemotherapy patients to encourage them to maintain a correct attitude, actively cooperate with treatment, increase treatment enthusiasm, and strengthen communication with family members at the same time, so as to get the understanding and support of family members. (3) Dietary nursing: During chemotherapy, the intake of food was controlled. Patients should eat more vegetables, fruits, high quality protein nutrient-rich food, such as eggs, milk, etc, and try not to eat spicy, stimulating, fried and junk food and so on. It was generally recommended that patients should eat 3-4 h before chemotherapy, and not eat for 1-2 h before chemotherapy, drinking small amounts of water was allowed. This was mainly due to the increase in stomach contents caused by food intake before chemotherapy, which easily increased the incidence of food reflux vomiting in patients. If the side effect of chemotherapy was serious, patients can stop eating temporarily. (4) Nursing

of side effects of chemotherapy: Patients without heavy gastrointestinal reactions should have a light diet, with high nutrition food and plenty of drinking water. Patients were instructed to review the blood routine on time to prevent the decrease of blood picture caused by bone marrow suppression. Patients who developed hair loss during treatment were encouraged to wear wigs. (5) Illness nursing: Long-term chemotherapy might cause bone marrow suppression, and the blood biochemical indicators showed a significant decrease in the level of white blood cells. Therefore, the level of white blood cells of patients during chemotherapy should be closely monitored. If the level dropped to 2×10^9/L, leucocyte promotion drugs should be applied as prescribed by doctors. Nursing of the ward should be strengthened, the window should be opened regularly every day for ventilation, and ultraviolet disinfection was used once a day to avoid infection. (6) Liver function, kidney function and other indicators were detected regularly to understand the liver and kidney toxicity caused by chemotherapy, thus to treat the disease as soon as possible to improve the physical condition.

Outcome measures

(1) Before and after chemotherapy, the European Organization for Research on Treatment of Cancer (EORTC) questionnaire quality of life questionnaire core 30 (QLQ-C30) was used to evaluate the changes in patients' quality of life [14]. (2) Self-designed psychological status test scale was used to evaluate the psychological status of patients, including social behavior problems (10 items), personal emotion problems (8 items), habit problems (6 items), and study and work problems (6 items), with a total of 30 items. Grade scoring was adopted: 0 points = none, 1 point = occasional, 2 points = medium, 3 points = frequent. The questionnaires have obtained the consent of the patients and their families. It was anonymous and was collected on the spot after completion. (3) Chemotherapy compliance of the patients in the two groups was observed by the following methods: Full compliance meant that the patient could fully comply with the chemotherapy plan formulated by the doctor and actively cooperate to complete the chemotherapy. Partial compliance meant the fact that the patient could complete the chemotherapy plan formulated by the doctor, but the negative emotion is obvious. Non-compliance meant that the patient was unable to complete the nursing plan made by the doctor. Compliance rate = (full compliance + partial compliance)/total number of cases × 100%. (4) Self-rating anxiety scale (SAS) and Self-rating depression scale (SDS) were used to assess the negative emotions after chemotherapy [15]. The higher the score was, the more serious the negative emotions of the patients were. (5) Nursing service satisfaction questionnaire developed by Aiken et al. [16] was used for the anonymous nursing satisfaction score when patients were discharged from the hospital. A total of 15 items were investigated. Each item was divided into three levels of satisfaction: satisfaction, need to be improved, and dissatisfaction. Satisfaction was 6 points, need to be improved was 3 points, and dissatisfaction was 1 point, with the full score of 90 points.

Statistical method

SPSS22.0 (IBM Corp, Armonk, NY, USA) was used for statistical analysis and processing of all data. Measurement data were expressed as Mean ± SD and compared by t test. Enumeration data were expressed as number of cases/percentage (n/%) and compared using X^2 test. Rank sum test was used for the comparison of ranked data and was expressed by Z. When $P<0.05$, there was a statistically significant difference.

Results

Comparison of baseline data between the two groups

The comparison of baseline data between the two groups indicated that there was no significant difference in age, lesion site, TNM staging, pathological classification, types of surgery, marital status, education level, estrogen receptor, human epidermal growth factor receptor and progesterone receptor between the OG and the CG ($P>0.05$). As shown in **Table 1**.

Comparison of quality of life functional scores between the CG and the OG

Quality of life functional scores were compared between the two groups before and after treat-

Table 1. Comparison of baseline data between the two groups

Factors	OG (n=39)	CG (n=35)	t/χ^2 value	P
Age (years)	45.63±4.12	45.78±4.38	0.152	0.880
Lesion site			1.149	0.563
Left side	21 (53.85)	15 (42.86)		
Right side	17 (43.59)	18 (51.43)		
Bilateral sides	1 (2.56)	2 (5.71)		
TNM staging			1.813	0.178
Grade I+II	14 (35.9)	18 (51.43)		
Grade III	25 (64.1)	17 (48.57)		
Pathological classifications			1.714	0.887
Carcinoma in situ	17 (43.59)	15 (42.86)		
Intraductal carcinoma and lobular carcinoma in situ	5 (12.82)	6 (17.14)		
Papillary carcinoma	6 (15.38)	4 (11.43)		
Medullary carcinoma	4 (10.26)	3 (8.57)		
Mucinous adenocarcinoma	2 (5.13)	4 (11.43)		
Breast Paget's disease	5 (12.82)	3 (8.57)		
Types of surgery			0.758	0.831
Modified radical mastectomy	14 (35.9)	10 (28.57)		
Radical mastectomy	19 (48.72)	17 (48.57)		
Breast-conserving therapy	4 (10.26)	5 (14.29)		
Mastectomy	2 (5.13)	3 (8.57)		
Marital status			0.983	0.322
Married	37 (94.87)	31 (88.57)		
Unmarried	2 (5.13)	4 (11.43)		
Education level			1.472	0.225
High school or below	18 (46.15)	23 (65.71)		
Above high school	17 (43.59)	12 (34.29)		
Estrogen receptor			1.078	0.299
Negative	21 (53.85)	23 (65.71)		
Positive	18 (46.15)	12 (34.29)		
Human epidermal growth factor receptor-2			0.843	0.399
Negative	26 (66.67)	20 (57.14)		
Positive	13 (33.33)	15 (42.86)		
Progesterone receptor				
Negative	24 (61.54)	19 (54.29)	0.399	0.528
Positive	15 (38.46)	16 (45.71)		

ment. The score included role functioning (RF), physical functioning (PF), cognitive functioning (CF), emotional functioning (EF), and social functioning (SF). Before treatment, there was no significant difference in RF, PF, CF, EF and SF scores between the two groups (P>0.05). After treatment, RF, PF, CF, EF and SF scores increased notably in both groups (P<0.05), and RF, PF, CF, EF and SF scores increased significantly in the OG compared with the CG (P< 0.05). As shown in **Figure 1**.

Comparison of psychological status before and after nursing intervention between the two groups

Psychological status of the two groups of patients was compared. There was no difference in the scores of the various problems before the nursing intervention in the two groups. After the nursing intervention, social behavior problems, personal emotional problems, habit problems, and study and work prob-

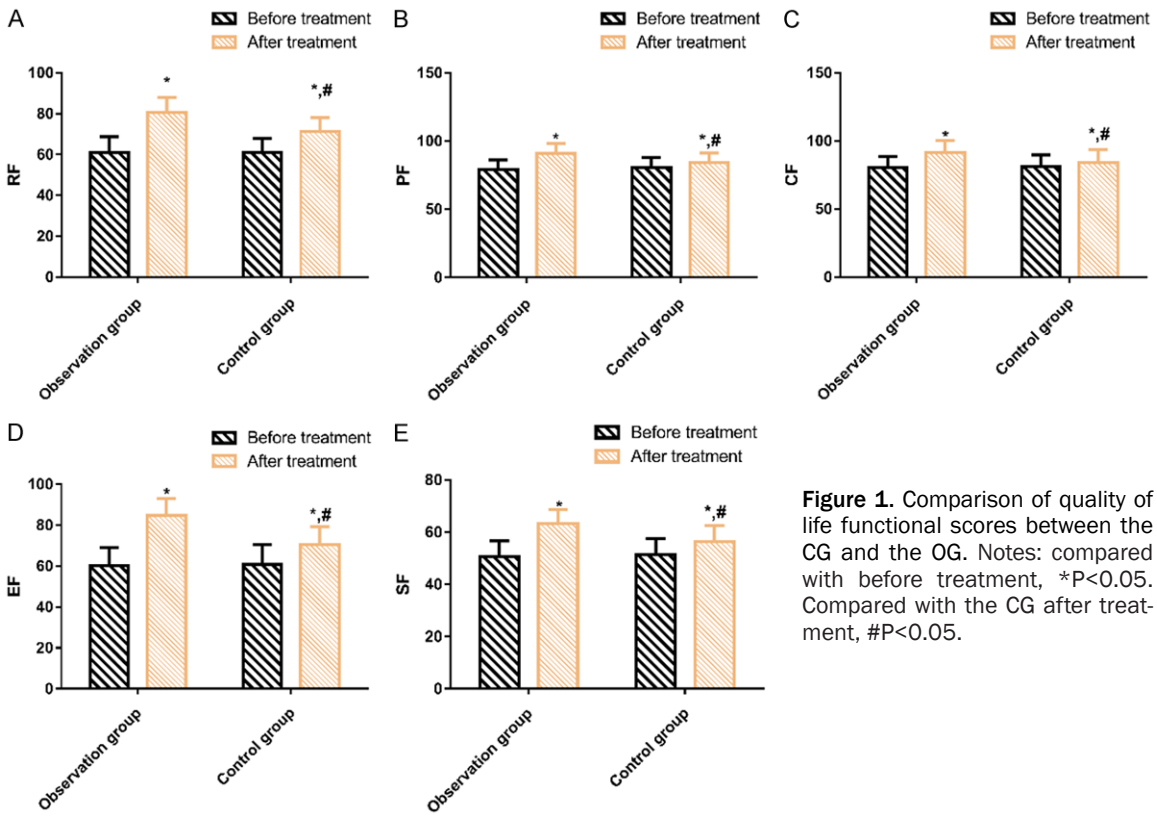

Figure 1. Comparison of quality of life functional scores between the CG and the OG. Notes: compared with before treatment, *P<0.05. Compared with the CG after treatment, #P<0.05.

lems were significantly improved than those before treatment (P<0.05), and the improvement in the OG was more obvious than that in the CG, with statistically significant differences (P<0.05). As shown in **Table 2**.

Comparison of treatment compliance between the two groups

After chemotherapy, there were 22 patients with full compliance, 16 patients with partial compliance, and 2 patients with non-compliance in the OG, and there were 16 patients with full compliance, 12 patients with partial compliance, and 12 patients with non-compliance in the CG. The compliance rate of the OG was higher than that of the CG, with statistically significant differences (P<0.05) (**Table 3**).

Comparison of negative emotions between the two groups before and after nursing

Before treatment, there was no significant difference in SAS and SDS scores between the two groups (P>0.05). After treatment, the SAS and SDS scores of patients in the two groups were remarkably lower than those before nursing, and the SAS and SDS scores of patients in the OG were significantly lower than those in the CG. As shown in **Tables 4** and **5**.

Comparison of nursing satisfaction scores between the two groups

The nursing satisfaction score of the OG was 83.67±8.44, which was notably higher than that of the CG (71.92±9.57), P<0.001. As shown in **Figure 2**.

Complications in the two groups

In the OG, there were 2 cases of swelling of affected limbs, 1 case of pain, 1 case of phlebitis and 3 cases of gastrointestinal reactions, with the total complication rate of 17.95%. In the CG, there were 3 cases of swelling of affected limbs, 4 cases of pain, 4 case of phlebitis, 1 case of dermis floating, 2 cases of seepage, and 5 cases of gastrointestinal reactions, with a total complication rate of 54.29%. The total number of complications in the OG were significantly lower than that in the CG (P>0.05). As shown in **Table 6**.

Table 2. Comparison of psychological status before and after nursing intervention between the two groups (x ± sd)

Group	Social behavior problems		t	P	Personal emotional problems		t	P	Habit problems		t	P	Study and work problems		t	P
	Before treatment	After treatment			Before treatment	After treatment			Before treatment	After treatment			Before treatment	After treatment		
OG (n=73)	3.24±0.78	2.16±0.11	8.562	<0.01	7.45±0.35	4.63±0.74	21.51	<0.01	1.76±0.21	0.98±0.25	14.92	<0.01	1.36±0.17	0.84±0.18	13.12	<0.01
CG (n=33)	3.39±0.63	2.92±0.34	3.884	<0.01	7.37±0.28	6.95±0.18	7.465	<0.01	1.81±0.14	1.14±0.35	10.52	<0.01	1.32±0.26	1.15±0.16	3.294	<0.01
t value	0.903	13.22			1.078	18.06			1.191	2.28			0.791	7.793		
P	0.3693	<0.01			0.2848	<0.01			0.2377	0.0256			0.4316	<0.01		

Table 3. Comparison of treatment compliance between the two groups

Groups	Full compliance	Partial compliance	Non-compliance	Z value	P
OG (n=39)	22	15	2	3.279	<0.01
CG (n=35)	10	13	12		

Table 4. Comparison of SAS score between the two groups before and after nursing

Groups	Before treatment	After treatment	t	P
OG (n=37)	60.36±4.35	52.49±4.68	<0.05	<0.05
CG (n=33)	60.94±4.71	45.78±3.52	<0.05	<0.05
t value	0.565	6.779		
P	0.5738	<0.05		

Table 5. Comparison of SDS score between the two groups before and after nursing

Groups	Before treatment	After treatment	t	P
OG (n=37)	62.55±2.79	54.41±2.56	<0.05	<0.05
CG (n=33)	61.68±2.48	46.69±2.34	<0.05	<0.05
t value	1.455	13.17		
P	0.15	<0.05		

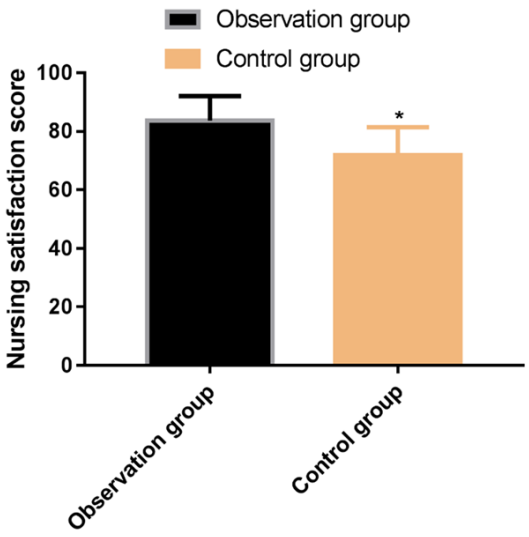

Figure 2. Comparison of nursing satisfaction scores between the two groups. Note: compared with the OG, *P<0.05.

Discussion

The incidence of breast cancer is higher in women. It is one of the diseases that poses a serious threat to patients' quality of life [17, 18]. For the treatment of breast cancer, appropriate treatment methods should be applied in accordance with the individual differences of patients [19]. Radical mastectomy is the most commonly used surgical method for breast cancer, lesion resection and lymph node dissection can be performed at the same time [20]. After surgery, continued adjuvant chemotherapy can kill residual or relapsed cancer cells, thus to improve patients survival and prolong the patients' life [21, 22]. In the course of chemotherapy, however, chemical drug treatment will produce certain toxic and side effects on patients, which will not only aggravate the pain of patients, but also have a negative impact on the psychological state of patients. Therefore, it is particularly important to provide reasonable and effective nursing interventions for breast cancer patients to enhance their confidence in treatment [23, 24].

With the development and progress of modern medical nursing intervention models, great changes have taken place in the concept of nursing. In order to improve the quality of life, patients' pain should be taken into account, and their poor psychological state should be improved in the process of treatment [25]. Treatment compliance refers to the behavior of the patient in accordance with the doctor's requirements and consistent with the doctor's order. It is customarily called "cooperative", otherwise it is called non-compliance [26]. Jayasinghe et al. [27] have shown that understanding the great power of dynamics of compliance through good nursing practices can improve compliance and nursing outcomes. Other studies have revealed that comfort nursing intervention for patients undergoing surgical treatment of breast cancer can significantly improve their treatment attitude and behavior [11]. In this study, different intervention measures were applied to 74 patients undergoing chemotherapy after radical mastectomy of breast cancer in Liaoning Cancer Hospital. After the end of chemotherapy, a compliance survey was conducted on the two groups of patients. It was found that the full compliance rate of the OG was notably higher than that of the CG (P<0.05). We also performed targeted

Table 6. Complications in the two groups

Class	OG (n=39)	CG (n=35)	χ^2 value	P
Swelling of bad limbs	2 (5.13)	3 (8.57)		
Pain	1 (2.56)	4 (11.43)		
Phlebitis	1 (2.56)	4 (11.43)		
Dermis floating	0 (0)	1 (2.86)		
Seepage	0 (0)	2 (5.71)		
Gastrointestinal reaction	3 (7.69)	5 (17.14)		
Total incidence rate	7 (17.95)	19 (54.29)	5.976	0.015

mental nursing according to patients' age, education level and clinical symptoms. The results showed that scores of RF, PF, CF, EF and SF in both groups were significantly increased after treatment (P<0.05), and scores of RF, PF, CF, EF and SF in the OG rose more obvious than the CG (P<0.05), suggesting that comfort nursing intervention could notably improve patients' quality of life and prolong their life. Comparing the occurrence of complications in two groups of patients after comfort nursing, it was found that the incidence of complications of breast cancer patients undergoing radiotherapy and chemotherapy after comfort nursing intervention was significantly lower than that of patients receiving routine nursing intervention, indicating that comfort nursing intervention could significantly reduce complications, and reduce the pain caused by treatment. Anxiety between two groups of patients after comfort nursing intervention was compared. The number of patients with mild and moderate anxiety in the OG was more than those in the CG, and the number of severe anxiety cases was less than those in the CG. Scores of SAS and SDS of patients with radiotherapy and chemotherapy were remarkably decreased compared with those of before treatment and patients receiving routine nursing. These indicated that comfort nursing interventions could reduce patients' negative emotions, and its effect was better than routine nursing. The survey on the satisfaction of patients in both groups showed that the satisfaction score of patients in the OG was notably higher than that in the CG.

To sum up, comfort nursing can effectively improve the quality of life and compliance of chemotherapy patients after radical mastectomy of breast cancer, which is worthy of being popularized in clinical practice.

Disclosure of conflict of interest

None.

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References

[1] Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA and Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin 2018; 68: 394-424.

[2] In: editors. Surveillance report 2018 - Advanced breast cancer: diagnosis and treatment (2009) NICE guideline CG81. London: 2018. p.

[3] Desautels C, Savard J, Ivers H, Savard MH and Caplette-Gingras A. Treatment of depressive symptoms in patients with breast cancer: a randomized controlled trial comparing cognitive therapy and bright light therapy. Health Psychol 2018; 37: 1-13.

[4] Saini VK, Sewal RK, Ahmad Y and Medhi B. Prospective observational study of adverse drug reactions of anticancer drugs used in cancer treatment in a tertiary care hospital. Indian J Pharm Sci 2015; 77: 687-693.

[5] Jodar M, Jacquin JP and Vallee J. [Perception of adverse reactions of chemotherapy and hormone therapy by women treated for breast cancer]. Therapie 2016; 71: 263-273.

[6] Su W, Zhang S, Li C, Hao X and Zhang J. [Efficacy and safety analysis of paclitaxel liposome and docetaxel for the neoadjuvant chemotherapy of breast cancer]. Zhonghua Zhong Liu Za Zhi 2015; 37: 379-382.

[7] Bana M, Ribi K, Kropf-Staub S, Naf E, Schramm MS, Zurcher-Florin S, Peters S and Eicher M. Development and implementation strategies of a nurse-led symptom self-management program in outpatient cancer centres: the symptom navi(c) programme. Eur J Oncol Nurs 2019; 44: 101714.

[8] Li J, Gao W, Yu LX, Zhu SY and Cao FL. Breast-related stereotype threat contributes to a symptom cluster in women with breast cancer. J Clin Nurs 2017; 26: 1395-1404.

[9] Fernandez-Feito A, Lana A, Baldonedo-Cernuda R and Mosteiro-Diaz MP. A brief nursing in-

tervention reduces anxiety before breast cancer screening mammography. Psicothema 2015; 27: 128-133.
[10] Aksoy Derya Y and Pasinlioglu T. The effect of nursing care based on comfort theory on women's postpartum comfort levels after caesarean sections. Int J Nurs Knowl 2017; 28: 138-144.
[11] Levin RF, Krainovitch BC, Bahrenburg E and Mitchell CA. Diagnostic content validity of nursing diagnoses. Image J Nurs Sch 1989; 21: 40-44.
[12] Wittenberg E, Reb A and Kanter E. Communicating with patients and families around difficult topics in cancer care using the COMFORT communication curriculum. Semin Oncol Nurs 2018; 34: 264-273.
[13] Lima JV, Guedes MV, Silva LF, Freitas MC and Fialho AV. Usefulness of the comfort theory in the clinical nursing care of new mothers: critical analysis. Rev Gaucha Enferm 2017; 37: e65022.
[14] Gadisa DA, Gebremariam ET and Ali GY. Reliability and validity of Amharic version of EORTC QLQ-C30 and QLQ-BR23 modules for assessing health-related quality of life among breast cancer patients in Ethiopia. Health Qual Life Outcomes 2019; 17: 182.
[15] Li H, Jin D, Qiao F, Chen J and Gong J. Relationship between the self-rating anxiety scale score and the success rate of 64-slice computed tomography coronary angiography. Int J Psychiatry Med 2016; 51: 47-55.
[16] Aiken LH, Sermeus W, Van den Heede K, Sloane DM, Busse R, McKee M, Bruyneel L, Rafferty AM, Griffiths P, Moreno-Casbas MT, Tishelman C, Scott A, Brzostek T, Kinnunen J, Schwendimann R, Heinen M, Zikos D, Sjetne IS, Smith HL and Kutney-Lee A. Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. BMJ 2012; 344: e1717.
[17] Giordano SH, Elias AD and Gradishar WJ. NCCN guidelines updates: breast cancer. J Natl Compr Canc Netw 2018; 16: 605-610.
[18] Gong XF, Yu AL, Tang J, Wang CL, He JR, Chen GQ, Zhao Q, He M and Zhou CX. MicroRNA-630 inhibits breast cancer progression by directly targeting BMI1. Exp Cell Res 2018; 362: 378-385.
[19] Calvo FA, Sole CV, Rivera S, Meirino R, Lizarraga S, Infante MA, Boldo E, Ferrer C, Marsiglia H and Deutsch E. The use of radiotherapy for early breast cancer in woman at different ages. Clin Transl Oncol 2014; 16: 680-685.
[20] Yang XH, Bai Q, Lv MM, Fu HG, Dong TL and Zhou Z. Effect of dexmedetomidine on immune function of patients undergoing radical mastectomy: a double blind and placebo control study. Eur Rev Med Pharmacol Sci 2017; 21: 1112-1116.
[21] Giuliano AE, Edge SB and Hortobagyi GN. Eighth edition of the AJCC cancer staging manual: breast cancer. Ann Surg Oncol 2018; 25: 1783-1785.
[22] Takahashi H and Suzuki T. Complete antethoracic block for analgesia after modified radical mastectomy: a case report. A A Case Rep 2017; 8: 250-253.
[23] Giarratano T, Frezzini S, Zanocco M, Giorgi CA, Mioranza E, Miglietta F, Griguolo G, Falci C, Faggioni G, Tasca G, Di Liso E, Vernaci G, Menichetti A, Mantiero M, Grosso D, Guarneri V and Dieci MV. Use of scalp cooling device to prevent alopecia for early breast cancer patients receiving chemotherapy: a prospective study. Breast J 2019; [Epub ahead of print].
[24] Nagini S. Breast cancer: current molecular therapeutic targets and new players. Anticancer Agents Med Chem 2017; 17: 152-163.
[25] Hodge AJ, Miller EL and Dilts Skaggs MK. Nursing self-perceptions of emergency preparedness at a rural hospital. J Emerg Nurs 2017; 43: 10-14.
[26] Cortellini S, Favril C, De Nutte M, Teughels W and Quirynen M. Patient compliance as a risk factor for the outcome of implant treatment. Periodontol 2000 2019; 81: 209-225.
[27] Jayasinghe J. Non-adherence in the hypertensive patient: can nursing play a role in assessing and improving compliance? Can J Cardiovasc Nurs 2009; 19: 7-12.