

Analysis of the Effect of Psychological Nursing Intervention on Perioperative Mood and NK Cell Activity in Breast Cancer Patients

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Abstract: Breast cancer (Breast Cancer, BC) is one of the most common malignant tumors in women in the world. It is the first malignant tumor that causes the death of women in developing countries. It seriously threatens the lives and health of women and causes damage to the family, economy and society. Through psychological nursing intervention, it has a positive effect on the perioperative mood and NK cell activity of breast cancer patients. The purpose of this article is to explore the effects of psychological intervention on the perioperative mood and NK cell activity of breast cancer patients. This article is based on the concept and theory of psychological nursing intervention for female breast cancer patients, and establishes personalized intervention measures in conjunction with clinical practice to intervene the emotions of breast cancer patients during the perioperative period. This article analyzes the nature, intensity, and causes of negative psychology of the subject through in-depth understanding of the subject's psychological emotions, coping ability, personality characteristics, past emotional experience, and social support, and discovers the different emotional characteristics of the patient, and formulates the personality psychological intervention measures to stimulate positive and optimistic attitudes and ease the degree of negative psychology. This article analyzes the psychological characteristics of several breast cancer patients. Take corresponding psychological intervention measures. Cope with a series of bad psychology caused by image damage caused by total mastectomy. The results and data in this article show that the incidence of anxiety and depression in the control group is higher than that of the psychological intervention group at 7 days after the operation, with P values of 0.0059 and 0.0215. Psychological intervention reduces the incidence of negative emotions and reduces the negativity of patients. The intensity of emotion has played a good clinical effect.

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Breast cancer is currently one of the most common malignant tumors that endanger the health of women of all ages worldwide, and its incidence is gradually increasing^{1,2}. The incidence of female breast cancer in my country has been at a relatively low level in the world^{3,4}. However, with the development of social economy in recent years, women's lifestyles have also undergone significant changes, and their incidence is increasing year by year^{5,6}. In the process of diagnosis, treatment and rehabilitation of the disease, breast cancer patients

not only bear the dual threats of life and female beauty, but also suffer tremendous psychological pressure^{7,8}. With the rise of psychological concepts, the research on the effects of psychological nursing intervention on the perioperative mood and NK cell activity of breast cancer patients has become a hot issue in the fields of psychology and medicine^{9,10}.

Many scholars have conducted in-depth investigations, studies and analyses on the impact of psychological nursing intervention on the

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perioperative mood and NK cell activity of breast cancer patients, and achieved good results. For example, Y Wang, et al. providing psychological guidance to patients, family therapy also provides psychological guidance to their spouses to guide them to strengthen emotional communication with patients, which significantly improves patients' negative emotions¹¹. Tianyi used the Mood State Scale and the Symptom Self-Rating Scale to study the effects of aerobic exercise on mood state and mental health. The results proved that aerobic exercise can significantly improve factors such as tension, depression, anxiety, confusion, self-esteem, etc¹².

This article first evaluates and analyzes the depression, anxiety and quality of life of breast cancer patients, and has a preliminary understanding of the incidence of psychological disorders in breast cancer patients with advanced chemotherapy. On this basis, corresponding psychological interventions are carried out to evaluate the impact of psychological interventions on patients. At the same time, in order to solve the problem that CNN training is easy to overfit due to the small amount of data of breast mammography with accurate pathology grade annotation, the S-Dense Net-based breast cancer mammography image pathology grading algorithm is proposed. At the end of the study, the differences in anxiety, depression and quality of life of breast cancer patients who underwent and did not receive psychological care intervention were compared, and the effects of psychological intervention on alleviating perioperative breast cancer patients' anxiety, depression and promoting NK cell activity were evaluated. This article combs the relevant research in the field of breast cancer psychology at home and abroad, hoping to provide a reference for constructing a more complete psychological nursing intervention model for breast cancer patients.

Effect of Psychological Nursing Intervention on Perioperative Mood and NK Cell Activity of Breast Cancer Patients

General Psychological Conditions of Breast Cancer Patients

Fear and anxiety

Breast cancer is one of the most feared diseases for women, especially those who have not yet been diagnosed or who are in a new hospital often show a kind of anticipatory anxiety and fear¹³. The most fearful thing for breast cancer patients is that their lives are threatened. Therefore, most breast cancer patients want to learn as much as possible about breast cancer treatment, nursing, and rehabilitation. Through reading many related books and magazines, this can help patients correct breast cancer. Poor cognition in the process of treatment and rehabilitation, but the introduction of breast cancer complications mentioned in the book, such as the metastasis of lungs and bones make patients feel fear and sadness. I am worried that my life will be threatened with a poor prognosis, and I am worried that long-term treatment and the need for family care will bring economic and labor burdens to the family, which is very painful.

Frustrated self-esteem

After mastectomy, the negative consequences of self-image defects caused by the loss of such female characteristics will threaten the patient's feeling of being a woman and self-esteem¹⁴. Married women worry that their lover will despise themselves as a result, which will affect the relationship and life of the couple. Unmarried women worry about being abandoned by their boyfriends or unable to find their home, and they dare not predict their future life. Most women will also have psychological barriers to social interactions in the future, worrying about other people's arguments behind their backs.

Lack of security

Because breast cancer patients lack knowledge about chemotherapy, surgery, and anesthesia, they will have fear and anxiety, and feel insecure. Many breast cancer patients think that chemotherapy means that the cancer is in the advanced stage, and that cancer cells will spread through the blood during the operation. They are afraid of anesthesia accidents. Especially when patients with general anesthesia enter the operating room, they have a feeling of saying goodbye to their families. Married

breast cancer patients are afraid of sex and worry that it will lead to the spread of cancer.

Unbalanced psychology

Most of the breast cancer patients think that suffering from this disease is a kind of punishment for themselves. They usually treat everyone kindly, and sometimes even deal with things to accept it, but they suffer such retribution and are extremely depressed.

Suspected diagnosis, helplessness and despair

Breast cancer patients expect miracles to appear on themselves, and hope that the postoperative pathological results will be benign masses. Even patients with obvious symptoms will have a ray of hope for themselves, so they doubt the diagnosis and often think that they have been sentenced to death after they are diagnosed with cancer, and lose confidence in the treatment. Expressed as indifferent expression, negative pessimistic disappointment and unwilling to interact with others.

Special psychology during the rehabilitation period

The important problem that breast cancer patients will face during the rehabilitation period is the exercise of the function of the affected limb. Because radical mastectomy for breast cancer requires axillary lymphatic dissection, it will cause different degrees of adhesion of the axillary and wound skin flaps and nerve damage. The affected limb is dysfunctional, so the function of the affected limb must be exercised to restore the function¹⁵. At this time, the patient has two kinds of psychology: one is anxiously looking forward to recovering the function of the affected limb as soon as possible; the other is that there is no need to participate in work after the operation, and family members take care of it in life, so they are indifferent to the recovery of the function of the affected limb.

Psychological characteristics during discharge

Most breast cancer patients are psychologically complicated when they are about to be discharged from the hospital after physical recovery. Can you

do housework and work; care about your family's attitude towards yourself; whether you will be abandoned by your family and society; want to learn more about anti-cancer health care, etc.

Psychological Intervention Content

Cognitive intervention

Explain to patients that they have been in a state of depression and anxiety for a long time, and the body's immunity can be reduced through psycho-neuro-immunity, so that it can reconstruct negative thoughts. Implementers introduce disease-related knowledge to patients, encourage them to face the disease bravely, so as to help them accept the facts of the disease, master the self-care of the disease, affirm their correct methods, and help them change their bad perceptions. Seek more social support for patients, support them to participate in some social activities, increase their chances of contact with society, and return to society.

Emotional counseling

Encourage patients to vent their grievances, unhappiness, and pain, and provide targeted guidance and comfort, or use conversations to distract patients to relieve negative emotions and relax their minds and bodies.

Behavior intervention

Progressive muscle relaxation exercises. Let the patient concentrate, breathe slowly, adopt abdominal breathing, inhale for 4S, and then exhale for 4S.

Social support

On the one hand, it refers to objective and practical support, that is, material visible help and direct assistance from social relations; on the other hand, it refers to subjective and experiential support, that is, spiritual support. During the treatment of cancer patients, the professional help provided by medical staff and the encouragement and support provided by family members and patients all belong to the category of social support, and can also be regarded as a form of social support treatment. Social support therapy can help breast cancer patients express and respond to disease-related

emotions, strengthen relationships with family, friends, and doctors, and improve symptom control.

Empathy touch

In the communication with the patient, the patient is touched on the basis of empathy. Communicate with the patient before the operation, then place both hands on the patient's shoulders and gently stroke or pat, and stroke the patient's head, face, neck and shoulders, torso, and limbs, avoiding the face during the process, with light intensity. Speak softly to the patient to relax his whole body.

Individual psychotherapy

Or individual psychological consultation is an intentional interpersonal relationship, which means that trained psychotherapists use it to help solve the client's or patient's life problems. It includes non-directional, psychologically motivated, supportive, universal or crisis intervention. Individual psychotherapy can be used as an independent psychological intervention method, or as a supplement to group psychological intervention¹⁶. The diagnosis of cancer not only damages the patient's hope and confidence in life, but also challenges the patient's belief in self and the world. If the patient fails to cope, he will fall into a vicious circle of helplessness and negativity. And effective psychotherapy can break this cycle. And one-on-one individual counseling can intervene patients in more detail and specifically, highlight key points, and protect patients' privacy.

Influence of Psychological Nursing Intervention on the Perioperative Mood of Breast Cancer Patients

Impact on negative psychology

For breast cancer patients in the perioperative period, in addition to psychologically accepting and bearing the fact that they are suffering from cancer, they are also worried that surgical treatment will seriously damage the beauty and integrity of their female secondary sexual organs¹⁷. Therefore, their negative psychological experience changes before and after the operation. The unhealthy

psychological characteristics of cancer patients before surgery are mainly due to the fact that the patients are in a period of psychological shock and whether they are in a period of time, "feeling that the sky is falling", and the uncertainty of the disease, manifested as anxiety, depression, fear, pessimism, Guilt and so on.

After the operation, they faced the diagnosis of the disease, which became a cruel fact. Because of postoperative fatigue, loss of appetite, poor sleep, etc., they foresee the fear of chemotherapy, worry about the poor prognosis, and pressure from all aspects of the family and society, which make the patients feel overwhelmed, exhausted and weak and have a huge frustration. There are pessimism, despair, depression, depression, irritability, insomnia, anorexia, etc. Therefore, it is very necessary to intervene the patient's negative psychology as early as possible in the perioperative period.

Correspondence to the influence on the method

When an individual encounter a stressful event, it will show an "escape-fight" response, which means that in the early stage of illness, the patient not only shows different levels of negative emotions, but also chooses different coping styles in time, such as facing the disease. She will quickly arrange work and life matters, take the initiative to seek various social support resources, adjust her mentality, and treat the disease as an adult experience, a different experience¹⁸. There are also patients who choose to avoid the fact of the illness. They admit that they have cancer, but are unwilling to actively talk about their experience with other people. If they talk about this, the patient shows a change of topic or a silent reaction.

In addition, these patients like to watch TV, movies or do some trivial things to divert their attention from the disease. Some patients dealt with the fact of cancer in a more negative way-surrendering. They resigned to their fate, complained about others, felt that their disease had no hope of recovery, and were indifferent to daily affairs, and they had fallen into a pessimistic powerlessness. But everyone will not show a single performance, and their coping styles are diversified.

Psychological nursing intervention can improve the psychological resilience of breast cancer patients

Positive psychology advocates using one's own excellent qualities and positive strength to fight against psychological distress. Psychological resilience is an excellent psychological trait for successfully coping with adversity, it is a source of strength for individuals to maintain good adaptability and continuous development and growth, and is an important part of positive psychology theory¹⁹.

Psychological nursing intervention provides participants with a place for emotional venting, mutual support, and mutual support, so that participants can better explore themselves, tap their own potential advantages, establish positive self and disease awareness, feel positive emotional states, and promote positive behaviors. Develop, share feelings, summarize reflections, and harvest growth in the process of participating in activities.

The reasons for psychological nursing intervention to improve the psychological flexibility of patients during chemotherapy may be as follows:

By introducing groups, group expectations, and formulating contracts, participants trust and trust each other, and create a safe and respectful group atmosphere. Members can share and exchange experiences freely; through breast knowledge lectures, "20 Who Am I" and "The Most "Happy me" and "the most successful me", group members objectively and comprehensively know themselves, accept themselves, and improve self-confidence; through "emotional ABC", psychological expert guidance, and relaxation training, group members correctly understand emotions and constantly adjust emotions. Improve stress resistance and experience a relaxed and happy experience; through experience sharing, "happiness list", talent show, group members feel happy and happy, and form an optimistic, positive and confident mentality;

Through gratitude memories, gratitude songs, and "heart-shaped gratitude", group members feel the help from family and society, form a positive social attitude, and face life with gratitude; through homework, consolidate the effect of the entire activity and guide members to go deeper. Thinking and perception help them extend the feelings and gains of activities to their daily lives; at the same

time, a homogenous group, patients understand each other, encourage each other, and grow together, weaken the impact of disease on themselves, reduce fear and loneliness, Improve the ability to deal with setbacks.

Psychological nursing intervention can improve the self-efficacy of breast cancer patients

Self-efficacy is the individual's confidence or belief in accomplishing a set goal, which is affected by emotional and physical state, behavioral achievements, and verbal persuasion²⁰. Due to the established facts of the disease and the self-image dysfunction caused by surgery and chemotherapy, breast cancer patients are prone to lower self-evaluation and reduced ability to cope with frustration, which causes a significant reduction in individual self-efficacy. Through the breast knowledge lecture, "20 Who Am I", and "The Happiest Me", help participants change their wrong cognitions in the past, form correct cognitive methods, reduce disease stigma, improve self-esteem, and enhance self-efficacy; Through "emotional ABC", psychological expert counseling, and relaxation training, improve the level of emotional management and enhance self-confidence in coping with setbacks; through the "most successful me", help members review their achievements, affirm the meaning of self-existence, and recognize themselves. Form self-confidence; the group provides participants with a harmonious and respectful atmosphere. People with similar experiences merge together, feel the satisfaction of self-esteem and self-confidence, and feel the hope and joy of life, thereby improving self-efficacy.

Psychological nursing intervention can improve the comprehension of breast cancer patients and social support

Due to the loss of labor and the huge economic burden caused by treatment, cancer patients often have unreasonable perceptions that they are a burden to family and friends, and thus ignore the concern from family, friends and society. With the deepening of group activities, participants' understanding of social support has improved compared to before. Psychological nursing

intervention has a positive effect on patients' understanding of social support during chemotherapy, which is consistent with the results of group rational emotional therapy for peritoneal dialysis patients. Psychological nursing interventions can improve the understanding of social support for patients during chemotherapy. The reasons may be: through gratitude memories, grateful songs, "heart-shaped gratitude", "thanks to those around you for helping yourself", etc., to guide participants to experience help from family, friends, and society Support and feel the positive impact of gratitude on oneself; through sharing and discussion with members, observing and learning the support perceived by others, helping participants feel the support that they have neglected in their daily lives; the group provides warm and safe support for participants People with similar experiences understand and support each other, feel the sense of group belonging, reduce loneliness, improve the ability to understand social support, and face society and life optimistically and positively.

Multi-Level Feature Fusion End-To-End Breast Cancer Pathology Classification Algorithm

Texture features

With the increase of the distance between the two pixels, the gray-level co-occurrence matrix changes faster in the fine texture area and slower in the coarse texture area. The gray level co-occurrence matrix is obtained by calculating the number of pixels pairs whose gray values at different distances and angles are summed. Suppose $f(x,y)$ is a two-dimensional digital image, and S is a set of image pixel pairs with a specific spatial relationship in the target image region R , then the normalized gray-level co-occurrence matrix P is calculated as follows:

$$P(g_1, g_2)$$

$$\frac{\#\{(x_1, y_1), (x_2, y_2) \in S | f(x_1, y_1) = g_1 \& f(x_2, y_2) = g_2\}}{\#S} \quad (1)$$

A total of 9-dimensional scalar texture features derived from the gray-level co-occurrence matrix were extracted based on the tumor area of the mammogram image, and the pathological grade of

breast cancer was judged. Let the gray-level co-occurrence matrix be $P(i,j)$, and the size of the matrix is $N \times N$. among them:

$$\mu_x = \sum_i i \sum_j P(i,j) \quad (2)$$

$$\mu_y = \sum_j j \sum_i P(i,j) \quad (3)$$

$$\sigma_x^2 = \sum_i (i - \mu_x)^2 \sum_j P(i,j) \quad (4)$$

$$\sigma_y^2 = \sum_j (j - \mu_y)^2 \sum_i P(i,j) \quad (5)$$

$$\mu = \frac{\sum_i i \sum_j j P(i,j)}{N \times N} \quad (6)$$

Let $p(i,j)$ be the run length matrix in a given direction, L_g is the number of gray levels in the image, L_r is the number of different run lengths in the image, the size of the run matrix is: $L_g \times L_r$, N is the image The number of pixels.

The gray run length refers to a series of continuous collinear image pixels with the same gray value, and the length of the run is the distance between the image pixels in the run. For a given two-dimensional molybdenum target image, the gray run length matrix in 4 directions (0° , 45° , 90° , 135°) can be calculated. Each element i, j in the matrix represents the image in the given direction contains the number of pixels with gray value i and run length j . Based on the gray run length matrix, the 13-dimensional texture features of the mammogram image tumor are calculated, and the feature expression is shown in formula (7) and formula (8):

$$SRE = \sum_{i=1}^{L_g} \sum_{j=1}^{L_r} \frac{P(i,j)}{j^2} / \sum_{i=1}^{L_g} \sum_{j=1}^{L_r} p(i,j) \quad (7)$$

$$RP = \sum_{i=1}^{L_g} \sum_{j=1}^{L_r} p(i,j) / N \quad (8)$$

Feature selection algorithm

Based on the segmented tumor region, a total of 180-dimensional grayscale, texture, and wavelet features are extracted. Compared with a hundred-level mammography data set, the length of the feature vector is equivalent to the size of the data set. On the one hand, high-dimensional features can easily lead to over-fitting of the learning algorithm. On the other hand, some features may have no effect on the pathological classification task. Redundant features increase the

burden of the learning algorithm and affect the decision-making of the classifier. Therefore, after feature extraction, feature dimensionality reduction is necessary.

LASSO (Least Absolute Shrinkage and Selection Operator) regression estimates the regression coefficients by minimizing the mean square error added with the L1 norm constraint. The final regression coefficients will have multiple zeros, so the purpose of selecting variables can be achieved. Its objective function is shown in formula (9):

$$\min \frac{1}{2} \sum_{i=1}^n (y_i - \sum_{j=1}^m x_{ij} w_j - b)^2 + \lambda \sum_{j=1}^n |w_j| \quad (9)$$

Among them, n is the number of samples, which is an $M \times N$ original data, that is, each sample has m features, which is the response value corresponding to each sample, and b is the cutoff value of linear regression, which is used to control the regression non-negative regularization parameter for coefficient sparsity. It can be seen that LASSO regression considers the true response value corresponding to each sample and is a supervised feature selection algorithm.

Logistic regression analysis is a generalized linear model commonly used for binary classification or one-to-many classification. It normalizes the response of simple linear regression to 0 and 1. Therefore, the linear regression in the LASSO regression model can be replaced by logistic regression to select two Features of meta-classification. Formula (10) is the objective function of LASSO logistic regression optimization.

$$\min \sum_{i=1}^n \log(\exp(-y_i(X_i^T w + b)) + 1) + \lambda \|w\| \quad (10)$$

Experimental Study on the Effect of Psychological Nursing Intervention on the Mood and NK Cell Activity of Breast Cancer Patients during the Perioperative Period

Objects

Convenience sampling method was used to select several cases of women with breast cancer.

Inclusion and Exclusion Criteria of Research Objects

Inclusion criteria

Female patients in the hospital who are pathologically diagnosed as primary breast cancer;

18 years old $\leq$ age $\leq$ 65 years old;

Informed consent to the research content, voluntarily participate in the research and be able to actively cooperate;

Education level of elementary school or above, able to understand the content of the survey;

Ignore visual and hearing impairments.

Exclusion criteria:

Those with a history of severe heart, liver, kidney dysfunction or other malignant tumors;

Patients whose family members conceal the fact of cancer;

Patients with previous mental illness or unable to express their thoughts normally.

Sample Size

This paper adopts the rough estimation method of sample size to determine the sample size to be 5-10 times the number of variables. A total of 14 variables were analyzed in this survey. The sample size was set to $14 \times 10 = 140$. Taking into account invalid questionnaires and questionnaires that were not returned for some reason, the sample size was about 200.

Methods

Using the cross-sectional survey research method, a preliminary survey was conducted on 30 subjects who met the inclusion criteria in breast surgery of a certain hospital. After the research design was improved, a formal questionnaire survey was then conducted on 200 subjects. Questionnaires include: General Situation Questionnaire, Self-Rating Anxiety Scale (SAS), Self-Rating Depression Scale (SDS) and Medical Coping Modes Questionnaire (MCMQ) to evaluate the two groups of patients 1 day before surgery (before intervention)) And the coping style and negative psychological stress on the 7th day after the operation (after the intervention) to analyze the difference between the coping style and negative psychological state of the two groups of patients after the strong psychological intervention. Under the premise of informed consent, the patients are asked to sign an informed consent form, collect data, and use uniform instructional language when issuing questionnaires. The questionnaire was completed independently by the patient and returned on site after completion.

Research Design

General Information Questionnaire

Including the patient's age, education level, religious beliefs, marital status, fertility status, work status, family monthly income per capita, medical insurance form, family location, etc.

Case grouping

Randomly assigned the breast surgery ward number in sequence, divided into intervention group and control group by random number method.

On the second day after admission to the controlled trial, the two groups of patients were tested for general information and psychological questionnaires (anxiety self-rating scale, depression self-rating scale, and medical response questionnaire), and the strength factors involved in the experimental group were recorded. Afterwards, based on the concept of toughness, patients in the experimental group were given a series of personalized psychological interventions, while patients in the control group were only given routine care before and after the operation, and no tough intervention was given. The other conditions of the two groups are basically matched.

Experimental Process

Routine care: After all patients are admitted to the hospital, conduct admission education, introduce the environment of the ward, introduce the mutual understanding of patients in the same ward, promote a harmonious and friendly atmosphere between patients, introduce routine matters such as inpatient work, rest and meals, and introduce patients to the doctor in charge and responsible nurse. Routine treatment and nursing content during hospitalization, etc.

Intervention group intervention: On the basis of conventional nursing, the researcher will implement psychological intervention on the patient with the concept of strongness as the theoretical basis until discharged from the hospital. The main content is as follows:

Preoperative cognitive adjustment

Conduct an in-depth interview with the patient one day before the operation, and the time is

controlled within 20 to 30 minutes. Distribute questionnaires to understand patients' general conditions, psychological stress status, coping styles and influencing factors, listen carefully to the detailed descriptions of patients' mental states, and formulate personalized and targeted psychological interventions based on the differences in individual strength-promoting factors.

Self-attribution: understand the patient's psychological needs and psychological characteristics, ask about the risk factors involved in the patient, help patients self-attribute, find out the cause of cancer, and prepare for a healthy lifestyle in the future.

Pay attention to diagnosis, treatment and rehabilitation knowledge: distribute books about breast cancer knowledge to patients and their families; encourage patients to speak out about their inner pain or vent their distressed emotions by shouting and crying; explain the problems that may be encountered after the operation and the corresponding measures, Such as improving lymphatic drainage disorder by massaging the affected limb, rehabilitation training of the affected limb, guidance on sexual life, etc.; interview with the patient's close family members, especially the husband of a married patient, and get their psychological support.

Accept the status quo rationally: explain the status quo of breast cancer treatment to patients, and let them understand the reality of cancer survival that they will face in the future. With the advancement of treatment methods, the cure rate of breast cancer has been continuously improved, and positive coping styles are conducive to improving the quality of life of patients after surgery. Many patients feel inferior due to lack of image after surgery, so they can be advised on breast implant surgery or wearing plastic underwear.

Adjust beliefs, build self-confidence, and stimulate strong will.

From 1 day before the operation to the 7th day after the operation, follow-up intervention was used to visit the patients 3 times each. According to the nature and degree of the patient's negative psychological symptoms, combined with the

strength characteristics that the patient has learned, help patients analyze their own strength-promoting factors. Prescribe the interview questions before psychological intervention in order to achieve the purpose of precise intervention. This also avoids errors caused by the randomness of the conversation, resulting in errors in the results due to different intervention methods, and also reduces the waste of time (to avoid patient fatigue), and the time for each interview is controlled at about 20 minutes.

Stimulate the desire to survive and help patients recall the difficulties they have overcome (studying, exams, job hunting, taking care of sick elderly and children, etc.). The difficult life experiences in the past will also become valuable experiences for overcoming difficulties now; help patients get more social support, or care from family members, understanding from colleagues, help from friends (patients) and encouragement from religious organizations. Encourage patients to live well for themselves, and to live hard for their family and friends.

Establish self-confidence and guide patients to face diseases and family, friends and patients with a positive and optimistic life attitude; listen to patients' opinions on wearing breasts; suggest that family members accompany patients to watch inspirational, warm, comedy movies or TV programs.

Behavior adjustment, coexist with cancer.

While helping patients build a strong belief, each interview must supervise the formation of their healthy lifestyle, promote postoperative recovery, and improve the quality of life.

Self-accountability: Work together with patients to formulate treatment plans, allow patients to participate in treatment, get along with medical staff in harmony, and establish a positive coping style. Help others realize their own value and share happiness. Make patients face the fact of cancer and believe that they will survive for a long time.

Self-control: Correctly use empathy touch and distraction methods to help patients relieve negative emotions, and teach patients to use meditation to relax their spirits, and control their anxiety and depression after discharge; guide patients to form a

healthy lifestyle, Such as a balanced diet, early to bed and early to wake up, and regular functional exercise of the affected limb; when discharged from the hospital, instruct patients to gradually restore their roles in the family and work in order to return to society; they can also develop their own hobbies and discover the meaning of life, Looking for a more suitable lifestyle.

Observation Indicators

(1) Comparison of general information of the two groups of patients.

(2) The scores of the three dimensions of "face", "avoidance", and "surrender" in the medical response questionnaire of all patients in the group are compared with the norm.

(3) Comparison of self-anxiety, depression and coping ability scores between the two groups of patients before and after intervention.

(4) Comparison of the scores of anxieties, depression and coping three-dimensionality between the two groups of patients after intervention.

(5) Comparison of the incidence of anxiety and depression between the two groups of patients before and after the intervention.

Statistical Analysis Methods

After obtaining the patient information, enter the serial number in time, and double-enter the SPSS statistical software for data consistency and logical verification, and randomly select 10% of the patient information for entry review, and strictly control the quality of data entry to ensure the accuracy of the database. Then use SPSS software for statistical analysis, and use descriptive analysis methods to describe the patient's general data, health and resilience, subjective well-being, and post-traumatic growth scores; use Pearson correlation to analyze breast cancer patients' health and resilience, subjective well-being, and trauma. The correlation between the three post-growth ones; using multiple stepwise regression and structural equation model Amos software to analyze the mediating effect of test variables. Statistical methods include group data and paired data for t-test.

Experimental Analysis of the Effect of Psychological Nursing Intervention on the Mood and NK Cell Activity of Patients with Breast Cancer

Emotional State of Breast Cancer Patients during the Perioperative Period

This article uses the Medical Response Scale to score 200 female breast cancer patients. 22% of the patients showed that they faced the disease with a positive attitude and were not afraid of the threat of the disease. 30% of patients showed negative avoidance, and 33% and 15% showed depression and anxiety.

It can be seen from figure 1 that in the early stage of the disease, breast cancer patients have both entered the psychological shock phase and the denial phase due to sudden illness, and exhibited negative psychological characteristics such as anxiety, depression, depression, and insomnia. At the same time, under the stimulation of the stressful event of disease, some patients quickly make psychological adjustments to fight the disease with positive coping methods.

Comparison of Self-Scores of Coping Style, Anxiety and Depression between the Two Groups of Patients before Psychological Nursing Intervention

It can be seen from Table 1 that there was no statistically significant difference in anxiety, depression and coping ability between the two groups of patients before the intervention ($p>0.05$).

Comparison of Anxiety, Depression and Coping Ability of the Two Groups of Patients before and after Intervention.

It can be seen from Table 2 that on the 7th day after surgery, the control group patients should note that the scores of "faces" and anxiety in the questionnaire decreased, and the scores of the "avoidance" dimension increased, but the difference was not statistically significant ($p>0.05$); the score of the "yield" dimension increased, and the depression score decreased, and the difference was statistically significant ($p<0.05$). After psychological intervention, there are significant differences in the coping style and quality of life

between the intervention group and the control group, that is, the positive attitude of the patients is enhanced, and the overall quality of life is improved.

It can be seen from the above table that the scores of the "face" dimension in the medical response questionnaire of the experimental group increased on the 7th day after surgery, while the scores of the "avoidance" dimension and anxiety decreased, but the difference was not statistically significant ($p>0.05$); the difference is not statistically significant; the score of the "yield" dimension is reduced, and the difference is statistically significant; the depression score is reduced, and the difference is statistically significant ($p<0.05$).

It can be seen from table 3 that comparing the scores of anxiety and depression of the control group before and after surgery, the difference in anxiety scores between the two is not statistically significant ($p=0.326$), the depression scores are elevated, and the difference between the two is statistically significant ($p=0.032$), which shows that the anxiety and depression of patients who have not been given the mental intervention of the strong concept have not improved after the operation, but have worsened.

Comparison of Depression Composition between the Intervention Group and the Control Group

It can be seen from figure 2 that after the psychological care intervention, the depression rate re-evaluated by the intervention group was significantly reduced. Among them, the proportion of patients with severe depression decreased from 7% to 3%, and the proportion of patients with moderate depression decreased by 5% before and after the intervention. It can be seen that the patient's depression has been significantly improved, and psychological nursing intervention has a better soothing effect on the patient's mood.

It can be seen from figure 3 that there is no significant difference in the depression ratio between the two assessments of the control group without psychological care intervention.

Comparison of the Anxiety Ratio between the Intervention Group and the Control Group

It can be seen from Figure 4 that during the preoperative evaluation of the intervention group, 2% of patients with severe anxiety and 20% of patients with moderate anxiety accounted for 20% of patients with severe anxiety. After psychological care intervention, the patients with severe anxiety after surgery were reduced to 0, and patients with moderate anxiety were reduced to 0. 15%, the anxiety rate of the re-evaluation is significantly reduced, and psychological intervention has a relaxing effect on anxiety.

It can be seen from figure 5 that there was no significant difference in the anxiety ratio of the two assessments in the control group. Combining the previous data analysis, it can be concluded that after psychological intervention, the rates of depression and anxiety of the patients are lower than before, but the difference between the two evaluations of the depressed patients is significant and statistically significant, and the difference between the anxious patients is not statistically significant. It shows that psychological intervention can alleviate the patients' psychological obstacles to a certain extent and relieve the depression.

Comparison of Coping Style, Anxiety and Depression Scores between the Two Groups of Patients after Intervention

It can be seen from table 4 that the score of depression in the experimental group decreased after the intervention, compared with the control group, and the difference between the two was statistically significant ($p < 0.01$); in addition, the medical response questionnaire in the experimental group after the intervention The scores of the "yield" dimension in the middle "yield" dimension decreased, and compared with the control group, and the difference between the two was statistically significant ($p < 0.01$); while the other dimensions were not statistically significant ($p > 0.05$).

Changes of Cd16+NK Cells in the Two Groups before and after Surgery

It can be seen from figure 6 that the NK cells of the two groups of patients have a process of first decline and then rise after surgery, with CD16+

and CD4+ NK cells being the most obvious. Regarding the changes of CD16+ and CD56+NK cells before and after surgery, there was no significant difference in the postoperative decline of the two groups of patients, but the patients in the intervention group recovered faster. It can be seen that psychological nursing intervention has shortened the time for the body's immune function to decrease after surgery to a certain extent, and has the advantage of allowing breast cancer patients to quickly recover their cellular immune function in a short period of time after surgery.

Conclusions

Patients with breast cancer all have different degrees of negative emotions such as anxiety, depression, sadness and fear. This mental state of patients before surgery inhibits their immune function. Psychological intervention can effectively improve the negative mood and immune function of breast cancer patients during the perioperative period. The immune status of T lymphocytes and NK cell activity reflect the strength of immune function. Psychological intervention proves that patients with stable mood and normal or enhanced NK cell activity can improve the body's immune function, promote disease outcome, and reduce the probability of recurrence. Perioperative breast cancer patients have negative psychology before surgery, but they also deal with the fact of cancer in a positive way. Patients with breast cancer 7 days after surgery tend to get rid of negative coping styles. Although psychological nursing intervention is not effective in improving the positive coping styles of breast cancer patients during the perioperative period, it can inhibit negative coping styles. The implementation of strong concept psychological interventions for perioperative breast cancer patients can reduce their negative psychological experience and reduce the occurrence of depression.

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TABLES AND FIGURES

Table 1.

Comparison of coping style, anxiety and depression between the two groups of patients before intervention ($\bar{x} \pm s$)

		Control group	Intervention group	t	p
Solution	face	20.52±2.815	20.42±3.4666	0.156	0.876
	avoid	14.25±2.384	14.25±2.535	0.000	1.000
	yield	10.07±2.365	10.13±2.249	0.142	0.887
	anxiety	48.95±5.382	50.56±5.472	1.542	0.126
	Depression	51.23±5.915	51.23±5.707	0.001	0.999

Table 2.

Comparison of coping style, anxiety, and depression of patients in the control group before and after intervention ($\bar{x} \pm sn=56$)

		1 day before surgery	7 days after surgery	t	p
Solution	face	20.52±2.815	20.27±2.408	0.626	0.533
	avoid	14.25±2.384	15.05±2.652	1.685	0.095
	yield	10.07±2.365	10.96±2.232	2.955	0.004*
	anxiety	48.95±5.382	48.63±4.434	0.987	0.326
	Depression	51.23±5.915	50.88±4.899	2.176	0.032*

(Note: *p<0.05)

Table 3.

Self-comparison of coping style, anxiety and depression of patients in the experimental group before and after intervention ($\bar{x} \pm sn=52$)

		1 day before surgery	7 days after surgery	t	p
Solution	face	20.42±3.466	20.52±2.517	0.629	0.531
	avoid	14.25±2.535	14.15±2.437	1.705	0.091
	yield	10.13±2.249	9.50±1.799	2.983	0.004*
	anxiety	50.56±5.472	49.21±3.368	0.988	0.321
	Depression	51.23±5.707	48.69±4.069	2.188	0.031*

(Note: *p<0.05)

Table 4.

Comparison of coping style, anxiety and depression scores between the two groups of patients after intervention ($\bar{x} \pm s$)

		Control group	Intervention group	t	p
Solution	face	20.27±2.408	20.52±2.517	0.530	0.597
	avoid	15.05±2.652	14.15±2.437	1.832	1.070
	yield	10.96±2.232	9.50±1.799	3.737	0.000*
	anxiety	48.63±4.434	49.21±3.368	0.770	0.443
	Depression	50.88±4.899	48.69±4.069	2.502	0.014*

(Note: *p<0.05)

Figure 1.
Perioperative emotional state of breast cancer patients

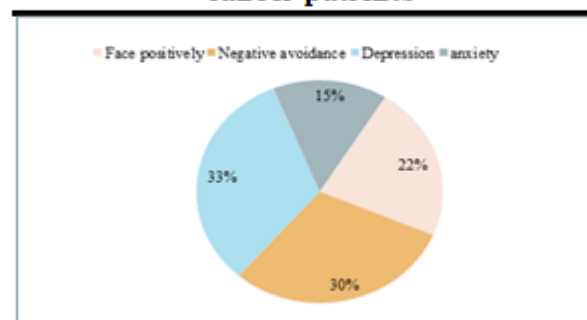


Figure 2.
Comparison of depression composition between the two assessments in the intervention group

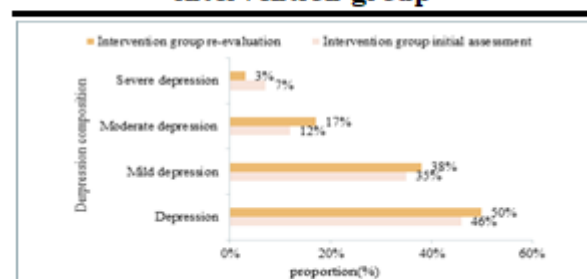


Figure 3.
Comparison of depression composition between two assessments in the control group

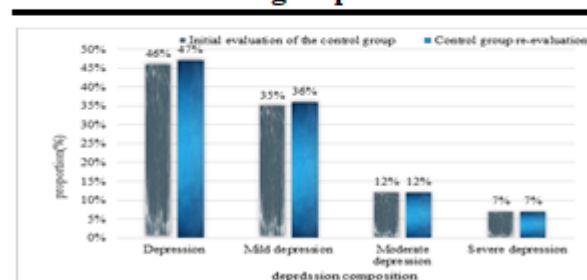


Figure 4.
Comparison of the anxiety ratio between the two assessments in the intervention group

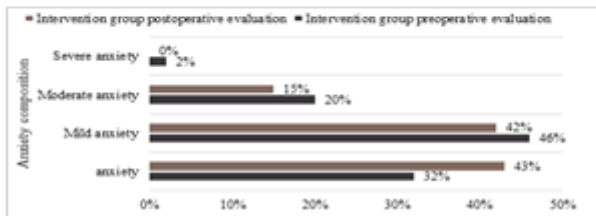


Figure 5.
Comparison of the anxiety ratio between the two assessments in the control group

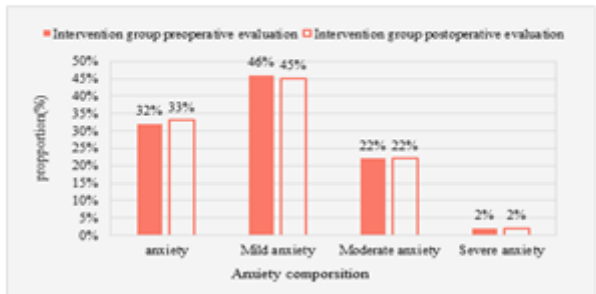


Figure 6.
The changes of CD16+NK cells in the two groups before and after surgery

