

Psychological nursing intervention improve the mental health status of young patients with lung cancer surgery during the perioperative period

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Abstract

Background: To explore the effects of psychological nursing on improving the mental health status of young patients with lung cancer surgery during the perioperative period.

Methods: seventy-eight young patients (From February 2018 to February 2019) underwent lung cancer operation were selected. All these patients were randomly allocated to intervention group and control group. The patients in the control group were treated with general routine care. The patients in the intervention group were treated with a comprehensive and systematic family participation psychological nursing. The mental health status of the patients in the 2 groups were compared and analyzed.

Results: The self-rating anxiety scale scores and self-rating depression scale scores of patients were significantly reduced in the intervention group compared with the control group ($P < .05$). The scores of somatization, obsessive symptoms, interpersonal relationship, depression, anxiety, hostile, phobic neurosis, stubborn, paranoia and psychosis were also significantly reduced in the intervention group compared with the control group ($P < .05$).

Conclusion: the comprehensive and systematic psychological nursing intervention improved the mental health status of young patients with lung cancer surgery during the perioperative period.

Abbreviations: SAS = self-rating anxiety scale, SDS = self-rating depression scale.

Keywords: family participation, lung cancer surgery, mental health, psychological nursing, young patients

1. Introduction

Lung cancer is 1 of the most causes of cancer-related death in the world.^[1–3] At present, early operation is still the preferred treatment.^[4] However, under the psychological stress reaction, patients are prone to atelectasis, infection or other surgical complications and affects the rehabilitation of these patients.^[5] The young patients who are the breadwinners of their families are more stressed after they suffering from lung cancer, so how to

provide systematic nursing intervention for young patients with lung cancer surgery during the perioperative period has become the key to improve the clinical treatment effects of these patients.^[6] This study focused on the psychological nursing in the young patients with cancer surgery to ensure the operation went smoothly and improve the effects of clinical treatment.

2. Materials and methods

2.1. General information

The present study was approved by the Ethics Committee of The First Hospital of Qinhuangdao. Seventy-eight young patients, age 21 to 50, underwent *lung cancer* surgery from February 2018 to February 2019 in our hospital were selected. All these patients passed a comprehensive and systematic physical examination. The inclusion criteria were confirmed by the clinical diagnostic criteria of lung cancer established by the World Health Organization Break and the exclusion criteria was as follow:

- (1) people with consciousness and mental retardation;
- (2) people with mental disorders.

2.2. Methods

All the patients were operated by the same group of surgeons and randomized allocated to intervention group and control group using the random number table method.

The control group of patients received general conventional care during the perioperative period. The intervention group of

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The datasets generated during and/or analyzed during the current study are publicly available.

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patients received general conventional care and a comprehensive system of psychological nursing intervention program including:

- (1) Preoperative psychological care:
 - (1) Preoperative assessment: the mental health status of young patients with lung cancer was evaluated such as their personality characteristics, cultural background, economic situation and social environment were further analyzed. The level of education and nursing ability of the family members were also assessed and explained the importance of psychological intervention to their family members and enable the family members to cooperate well with the patient's psychological nursing intervention;
 - (2) Prior operation guidance: explain the detail of the surgery can improve the condition of patients with lung cancer and provide a comprehensive introduction of the qualifications and professional skills to the medical staffs in the treatment area, so as to earn the trust of these patients to cooperate with treatment and care in a more positive manner;
 - (3) Strengthen family and social support: several factors such as the risk of surgery, postoperative pain, and encouraged distaste may increase the psychological burden on young lung cancer patients, so patients could communicate with their families and friends who should give more comfort and encouragement to young patients. So that patients could fully feel the warmth of family and social support, so as to reduce the psychological pressure and promote them to face the operation with a more positive attitude.
- (2) Postoperative care:
 - (1) Timely feedback: timely feedback to the patients using encouraging, positive words and tell the patients to cooperate with the treatment, so the tension of the body and mind may be relaxed;
 - (2) Standardize pain management: strictly comply with the doctor's advice such as talk, listen to music and using painkillers properly;
 - (3) Strong theory: after the operation, we should further strengthen the inspection of these young patients, make them clear the status of their mental health and give them psychological counseling and psychological comfort. Family members should encourage and comfort the patients, provide support and understanding for these patients, let the patients feel the care and loves of the family. Family members also need to communicate with the attending doctors and responsible nurses to understand the patient's psychological dynamics and develop effective prevention strategies;
 - (4) Discharge psychology refers to Guide: inform young lung cancer surgery patients that their postoperative rehabilitation needs a process and a comprehensively enhance of the psychological tolerance and coping ability. Gradually they may accept the changes of body postoperative, then positive adjust their mindset to better match follow-up treatment, insist on lung rehabilitation function exercise and change their lifestyle.

2.3. Evaluation Index

The Self-rating anxiety scale (SAS) and self-rating depression scale (SDS) of young patients in the 2 groups were recorded at admission and discharge. The score of SAS > 50 and the score of

SDS > 53 consider as anxiety and depression. Symptom Checklist-90, including somatization, obsessiveness, interpersonal sensitivity, depressive symptoms and coke anxiety, hostility, fear, paranoia, psychosis, etc were recorded at discharge. The 5-point scoring method (0 to 4) for the severity of each factor. The degree was assessed with a score of 0: none; 1: very light; 2: medium; 3: biased; 4: serious.

The test was in the form of a questionnaires and the patients completed the questionnaires themselves after the consents were obtained, if the patients could not complete the questionnaires independently, the nurses completed the questionnaires in the form of questions and answers.

2.4. Statistical

SPSS 21.0 software was used for statistical analysis. Analyses were performed using SPSS 21.0 statistical software. Continuous variables were presented as mean ± standard deviation and the differences among the groups were compared with the independent-samples t test. Categorical variables were presented as numbers (percentages) and compared using the Fisher exact test. P value less than 0.05 was considered as statistically significant.

3. Results

The SAS scores and the SDS scores of patients were not significantly difference between the 2 groups before intervention ($P > .05$), while after intervention the SAS scores and the SDS scores of patients in the intervention group were significantly reduced compared with the control group ($P < .05$), so the mental health status of the patients in the intervention group were significantly improved (Table 1).

Compared with the control group, the scores of somatization, obsessive symptoms, interpersonal relationship, depression, anxiety, hostile, phobic neurosis, stubborn, paranoia and psychosis were significantly reduced in the intervention group ($P < .05$), so the Symptom Checklist-90 scale of patients in the intervention group were also significantly improved (Table 2).

4. Discussion

Lung cancer has been the leading cause of cancer-related death in the world. Thoracoscopic surgery can greatly improve the survival rate of lung cancer patients. However, due to the surgical trauma, postoperative pain and other reasons, it is easy to cause patients physical and psychological pain, and more prone to negative emotions, such as depression and anxiety.^[7-10] Several studies have shown that there are various degrees of depression,

Table 1
The mental health status of the patients in 2 groups (n=39).

	Intervention group (n=39)	Control group (n=39)	P
SAS			
Before intervention	60.5 ± 6.8	61.3 ± 7.4	.82
After intervention	43.5 ± 6.2	60.8 ± 7.7	$P < .01$
SDS			
Before intervention	58.7 ± 8.1	59.2 ± 8.3	.75
After intervention	48.5 ± 8.0	57.8 ± 8.7	.02

SAS=Self-rating anxiety scale, SDS=self-rating depression scale.

Table 2
The SCL-90 scale of patients in 2 groups (n=39).

	Intervention group (n=39)	Control group (n=39)	P
Somatization	1.35±0.56	1.59±0.56	.02
Obsessive symptoms	1.46±0.42	1.65±0.57	.01
Interpersonal Relationship	1.38±0.25	1.64±0.39	.02
Depression	1.30±0.40	1.56±0.45	.01
Anxiety	1.35±0.42	1.55±0.52	.02
Hostile	1.38±0.32	1.57±0.43	.02
Phobic neurosis	1.32±0.51	1.50±0.57	.03
Stubborn	1.37±0.29	1.62±0.39	.01
Paranoia and psychosis	1.30±0.40	1.54±0.47	.04

SCL-90=symptom checklist-90.

anxiety and other psychological problems during the perioperative period of lung cancer patients.^[11]

The modern medical model has been transformed into the physiological-psychological-social medical model and the support of family members is essential. More and more research is focusing on the participation of family members and have achieved good results.^[12-14] This is consistent with our findings. The family member participation nursing mode mainly refers to the patient's family member participates in the patient's nursing, carries on the communication and the cooperation with the medical staffs. This model enables the medical staffs to assess the patients' condition more comprehensively and carry out the corresponding treatment plans, which can strengthen the intimacy of family members and patients and improve the comfort of patients. Family members have a good understanding of the patients' habits and may choose the appropriate way to communicate with these patients to improve their compliance. The participation of family members can obviously improve the safety and compliance of patients and reduce their negative emotions.^[15]

There were also some limitations in our study. First, the overall sample size was small; Second, we only recruited the young patients (age 21-50), therefore, our results may only suitable for young patients, not for the whole population; Third, it was not possible to blind investigator to the technique, consequently we cannot rule out the possibility of biases by investigator in this study.

Conclusion, the young patients with lung cancer surgery received comprehensive and systematic psychological nursing intervention can improve the mental health status of these patients during the perioperative period and it can be widely used in clinical practice. However, in order to ensure the quality, during the development of the family participation psychological nursing model, medical staffs must pay more attention to the communication with family members and develop appropriate intervention plans for these patients.

Author contributions

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