

The Influence of Comprehensive Nursing Intervention on the Negative Emotion and Quality of Life of Patients with Pulmonary Tuberculosis

Wenfang Fei*

Shanghai Pulmonary Hospital Affiliated to Shanghai Tongji University, Shanghai 200433, China

ABSTRACT Objective: The study discussed the influence of comprehensive nursing intervention on the negative emotion and quality of life of patients with pulmonary tuberculosis. **Method:** 118 patients with pulmonary tuberculosis were collected in our department, who were randomly allocated to the two groups. In the intervention group (59 cases), in addition to conventional nursing, the patients also received the comprehensive nursing intervention based on health education, psychological guidance, cognitive-behavioral change and encouragement of social support. The control group (59 cases) received conventional nursing. The differences of negative emotion and quality of life between two groups were analyzed by the negative emotion subscale and quality of life scale (WHONQOL-BREF) in the Positive and Negative Affect Scale (PANAS). **Results:** The quality of life in the intervention group was significantly higher than the control group after intervention, and the negative emotion was significant lower than the control group. **Conclusion:** The comprehensive nursing intervention, based on health education, psychological guidance and encouragement of social support, could significantly reduce the negative emotion of patients with pulmonary tuberculosis, improved the quality of life.

KEYWORDS

Pulmonary tuberculosis
Negative emotion
Comprehensive nursing

1. Introduction

Tuberculosis is a serious illness which threatens the human health. The study of world health organization shows that the global new tuberculosis every year is about 9 million; the death toll due to tuberculosis every year is 2 million, the tuberculosis has become the first cause of death resulted from single pathogens, the epidemic of the developing country is more serious. China has the world's second largest tuberculosis epidemic, the rates of tuberculosis infection is 44.5%, the number of tuberculosis accounts for more than 90%; the number of patients with active pulmonary tuberculosis in China is 4.5 million, and the preva-

lence is high [1]. Pulmonary tuberculosis is a kind of lung chronic infectious diseases because of *mycobacterium tuberculosis*, the main symptoms are cough, expectoration, fever, night sweat and hemoptysis [2]. The characteristics of longer course, refractoriness, many kinds of drug and side effect, larger doses which easily lead to drug resistance have an impact on the emotional state of patients with pulmonary tuberculosis, cause great psychological burden to the patients, even affect the quality of life. The poor psychological state and life's negative stimulus have a certain impact on the emergence of disease and the curative effect [3]. Therefore, studied the influence of comprehensive nursing intervention based on health education, psychological guidance, cognitive-behavioral change and encouragement of social support on the negative emotion and quality of life of patients with pulmonary tuberculosis, in order to provide theoretical basis for clinical nursing and the improvement of curative effect.

2. Data and method

2.1. General information

118 hospitalized patients with pulmonary tuberculosis in

Copyright © 2013 Wenfang Fei

doi: 10.18686/jn.v2i1.4

Received: August 12, 2013; Accepted: October 19, 2013; Published online: November 20, 2013

This is an open-access article distributed under the terms of the Creative Commons Attribution Unported License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Corresponding author: Shanghai Pulmonary Hospital Affiliated to Shanghai Tongji University, Shanghai 200433, China. E-mail: wenfang_2012@163.com

our department between September 2010 and September 2013 were selected. Among them, there are 56 males and 62 females. The inclusive criteria (1) Conform to the diagnostic criteria for pulmonary tuberculosis made by the Chinese Society for Tuberculosis, Chinese Medical Association; (2) Have no serious comorbidities, such as diabetes, heart, liver and renal insufficiency, silicosis etc.; (3) the patients voluntarily participated in the study and had a certain ability to read and write. The general information of inclusive patients: aged between 21 and 74 (41.03 ± 10.12 years old); the course of disease was 1–12 years; the degree of education: primary school 34 cases, junior middle school 48 cases; high school 23 cases; college diplomas 13 cases; the financial situation: 780–1900 yuan per month, an average of 892 yuan per month; there are 48 cases with infiltrative pulmonary tuberculosis, 58 cases with chronic fibro cavernous pulmonary tuberculosis and 12 cases with acute pulmonary tuberculosis. The patients were randomly allocated to the intervention group and the control group, 59 cases per group. Compared the general information of two groups, including gender, age, the degree of education, the course of disease, tuberculosis typing, recurrence rate, financial situation etc., $p > 0.05$, there was no statistical significance, the result was comparable.

2.2. Method

The two groups received conventional nursing: according to the medical diagnosis of patients, the nurse performed conventional nursing by accurate nursing process, the conventional nursing included daily nursing care, such as medication, treatment, inspection education, how to prevent the cross contamination and increase nutrition. At the same time, the patients were administered various treatment, included early stage, regular, whole course, appropriate, drug combinations etc. The patients in the intervention group received the comprehensive nursing intervention based on health education, psychological guidance, cognitive-behavioral change and social support. The detailed measured included: (1) Assess the awareness of patients and their family to the disease; understand the existing problem, circumstance of life, negative emotion and misconception of the patients. (2) Carry out the pointed explanation, intensify the related knowledge of pulmonary tuberculosis (such as the occurrence and development of the pulmonary tuberculosis, adverse drug reactions, missed doses, dosage reduction which could cause recurrence and resistance, the correct remain of qualified sputum specimens, the method and importance of the prevention and control of disease), help the patients to correct the illusion. Meanwhile the patients are permitted to participation in the decision of nursing goal, promote the understanding, and help them to transfer the new behavior. (3) Point out the acquired progress and advertent question by reviewing the general information of cognitive behavior nursing with patients, the patients are request to restate in order to con-

solidate the gains. (4) The whole course and regularity of prescription is supervised by special person. (5) Perform the regular psychological guidance, encourage social support. Direct the families understand the patient's ideological concerns and change, resolve the psychological need of patients with health workers, for example: achieve the self-balance by means of typical rehabilitation cases, age advantage etc. Encourage the family, relatives and friends to give emotional support and care, proceed the psychological remodeling, look anew the significance of life, make the patient remain optimistic attitude towards life, encourage the confidence. (6) Home visit and telephone follow up will be carried out after discharge weekly, inspect and monitor the implement of measure, intensify the related knowledge. Notify the patient to return in order to review the chest X-ray and sputum bacteria culture by telephone monthly; communicate with the patient and their family, correct the poor compliance behavior of patients.

2.3. Scale

(1) Negative emotion: The emotional states of patients were analyzed by the negative emotion subscale in the Positive and Negative Affect Scale (PANAS). The scale used 10 adjectives to reflect the emotion, included upset, guilty, uneasy, feared, hostility, anger, shy, nervous, restless and afraid. The range of score was 10–50, the higher score indicated the serious negative emotion. (2) The quality of life: the qualities of life of patients were evaluated by the World Health Organization Quality of Life (WHONQOL-BREF). The scale included 2 independent topics (overall quality of life, overall health) and 4 dimensions (psychological domain, physiology domain, social relationship domain, and environmental domain), a total of 26 items. Employed Likert 5 point scale, 1 to 5 indicated “poor” to “good” respectively. The scores of each domain and total scale were the average of total scores in each item. The range of scores was 0 to 130, the higher score indicated the better quality of life.

2.4. Evaluation index

The level of negative emotion and quality of life when hospitalizing, the scores of negative emotion 2 weeks after in hospital and the level of quality of life one month after discharge were assessed by two scales.

2.5. Statistical method

For the emotional state when hospitalizing and 2 weeks after in hospital as well as the quality of life one month after discharge, the differences between the intervention group and the control group were compared by the *t* test, the significant level $\alpha = 0.05$. The quality of life before and after intervention in the intervention group was compared by the paired *t* test, the significant level $\alpha = 0.05$.

3. Result

The scores of each item of negative emotion in the two

groups (from high to low) were: restless, hostility, upset, anger, feared, uneasy, afraid, nervous, guilty and shy.

3.1. The comparison of negative emotion between two groups

For the scores of negative emotion when hospitalizing in the intervention group and the control group, there was no significant difference ($t = 3.16, p > 0.05$), indicated that it was comparable between two groups. The scores of the negative emotion 2 weeks after in hospital in the intervention group were significantly lower than those of the control group. See table 1.

Table 1. The comparison of negative emotion between two groups ($\bar{x} \pm s$).

	The total scores of negative emotion	
	When hospitalizing 2	weeks after in hospital
Intervention group	37.218.79	29.236.39
Control group	38.969.01	38.176.43
<i>t</i>	3.16	13.296**
<i>p</i>	0.759	0.00

Note: ** $p < 0.01$

3.2. The comparison of the quality of life between two groups

3.2.1. The comparison of the quality of life before and after intervention in the intervention group

The comparison of the quality of life before ($M = 61.36, SD = 15.26$) and after ($M = 80.67, SD = 19.34$) intervention in the intervention group by paired *t* test $t = 4.39 (p < 0.05)$ showed that the quality of life before the intervention was higher than the result of after intervention.

3.2.2. The comparison of the quality of life in the intervention group and the control group

The total scores of quality of life and the the scores of overall quality of life, psychological domain, physiology domain, social relationship domain after intervention in the intervention group were significantly higher than the control group, indicated the quality of life in the intervention group was better than the control group. See table 2.

Table 2. The quality of life in the two groups ($\bar{x} \pm s$).

Quality of life	Intervention group	Control group	<i>t</i>	<i>p</i>
Overall health	2.761.35	2.701.03	1.013	0.944
Overall quality of life	3.461.02	2.531.11	1.174*	0.035
Physiology	32.368.71	24.177.35	1.482*	0.031
Psychology	24.575.13	16.454.78	2.493*	0.019
Social relationship	13.584.01	10.363.42	2.016*	0.021
Circumstance	28.274.93	24.675.98	0.892	0.782
Total	80.6719.34	61.3413.6	3.963*	0.013

Note: * $p < 0.05$.

4. Discussion

The negative emotions of the patients with pulmonary tuberculosis are generally higher. The result of study showed that the scores of the negative emotion of the patients with pulmonary tuberculosis when they went to hospital were (35.83 ± 6.91), among them, the first five adjectives that the scores were higher were restless (4.03 ± 1.08), hostility (3.86 ± 1.02), upset (3.81 ± 1.07), anger (3.49 ± 0.91) and feared (3.25 ± 1.01). The result agreed with those of Linyi [4], the study showed that the psychological health state of the patients with pulmonary tuberculosis was poor. The domains include somatization, anxiety, depression, hostility, terror etc. were higher than the health people. Pulmonary tuberculosis could cause drug resistance due to the characteristics of longer course, refractoriness, larger doses, missed doses, dosage reduction etc. Therefore, the patients were likely to increase the emotion of restless, upset etc.; infectiousness, treatment in isolation and so on kept the patients away from social circle. The alienation and discrimination of the surrounding population led the patients with pulmonary tuberculosis to arise the emotion of anxiety, upset and hostility; they were fear and restless about the issues of the future rehabilitation, family, job, social life and economic burden. Various negative emotions interleaved with each other, resulted in psychological and emotional disorders, which could have a negative effect on the occurrence of disease and the treatment effects. Pay attention to and improve the negative emotion of patients with pulmonary tuberculosis will become one of the means which are used to enhance the treatment effects. The negative emotions of patients with pulmonary tuberculosis were markedly decreased by the comprehensive nursing intervention based on health education, cognitive-behavioral change, psychological guidance and encouragement of social support. It followed that psychological nursing and social support has a remarkable effect on the improvement of psychologic and emotional disorders.

The result of the study showed that the quality of life of patients with pulmonary tuberculosis before intervention was lower, agreed with those of Zhang Huihui [5]. It can be concluded that the factors such as refractory, recurrence, resistance, psychologic and emotional disorders have a seriously impact on the quality of life of the patients. The difference of environment domain between the intervention group and the control group was not statistically significant, but the scores of physiology, psychology and social relationship domains were higher than the control group. There was no statistical significance in the difference of total scores of the quality of life between two groups. The result indicated that nursing intervention is difficult to improve the environment, the main factors influencing the quality of life were physiology, psychology and social relationship. The study indicated that because the tuberculosis was infectious, while the patients were subjected to the impairment of body ability, their interpersonal skills and social function were ob-

viously limited. Various degrees of social function defects and the shame of disease was an important factor led the quality of life to descend. Therefore, it was practicable to improve the quality of life of patients with pulmonary tuberculosis by the comprehensive nursing intervention based on psychological nursing, encouragement of social support. Furthermore, the health education and cognitive-behavioral change in the comprehensive nursing made the patients with pulmonary tuberculosis understand the related knowledge of disease and skills, improved the treatment compliance of patients, relieved their psychosomatic symptoms, and then improved the quality of life.

References

1. Wang XH. Study of the quality of life of patients with relapse tuberculosis and the influencing factors. *Clinical Nursing*. 2007;9(12):593-595.
2. Wang SM. The anxiety self-assessment of rural patients with pulmonary tuberculosis and the influencing factors. *Chinese Nursing Research*. 2008;12(3):151-152.
3. Lin Y. The relevant research of the psychological health of patients with pulmonary tuberculosis with coping style. *Nursing Education*. 2008;7(9):426-428.
4. Zhang HH, Yang SX, Liu JH. The effects of comprehensive nursing intervention on the quality of life of patients with multi-drug resistant tuberculosis. *Journal of Nursing Science*. 2007;22(5):226-228.
5. Liang J, Gao CN, Liu YM. The analysis of the quality of life's influencing factors of patients with pulmonary tuberculosis and nursing intervention. *Journal of Qilu Nursing*. 2005;11(1):6-7.