Proceedings of Anticancer Research, 2024, Volume 8, Issue 1
http://ojs.bbwpublisher.com/index.php/PAR
ISSN Online: 2208-3553
ISSN Print: 2208-3545

Analysis of the Role of Cognitive Behavioral Therapy on Self-Care in Thyroid Cancer Patients

Linlin Chai, Yakun Cheng*

Department of Head and Neck Surgery, Affiliated Hospital of Hebei University, Baoding 071000, Hebei Province, China

***Corresponding author:** Yakun Cheng, chailinlin2022@163.com

Abstract: *Objective:* To explore the effect of cognitive behavioral therapy on self-care in thyroid cancer patients. *Methods:* A total of 144 thyroid cancer patients treated at the Affiliated Hospital of Hebei University from January 2022 to August 2023 were selected as research subjects. Using the random number table method, they were divided into a control group and an experimental group, each consisting of 72 cases. The control group received routine nursing intervention, while the experimental group received cognitive behavioral therapy based on standard nursing practices. The self-care ability (self-concept, self-efficacy, self-care skills, health knowledge level), coping style (confrontation, avoidance, and surrender), and quality of life (psychological function, social function, material life, physical function) of both groups before and after the intervention were compared. *Results:* In comparison to the pre-intervention period, the experimental group exhibited significantly higher self-care ability, quality of life, and confrontation scores after the intervention, as opposed to the control group. Additionally, the avoidance and surrender scores were lower in the experimental group than in the control group, with these differences proving to be statistically significant ($P < 0.01$). *Conclusion:* The application of cognitive behavioral therapy can enhance the self-care ability of thyroid cancer patients, aid in better disease coping, and improve their overall quality of life. This approach is deserving of further promotion.

Keywords: Cognitive behavioral therapy; Thyroid cancer; Self-care ability; Quality of life; Coping style

Online publication: January 26, 2024

1. Introduction

Thyroid cancer is a common malignant tumor, and its incidence has shown an upward trend in recent years, posing a significant threat to patients' health [1]. As the primary treatment, surgical removal of the tumor can effectively address thyroid cancer. However, postoperative self-care is also crucial for the patient's recovery and for reducing the occurrence of complications. Therefore, improving patients' self-care ability is significant for the postoperative recovery of thyroid cancer patients [2]. Cognitive behavioral therapy is a patient-centered nursing model that enhances patients' self-care abilities and quality of life by improving their cognitive skills and implementing behavioral interventions [3,4]. This nursing model has proven effective in many disease areas [5]. Based on this, this study aims to explore the role of cognitive behavioral therapy in enhancing the self-care

ability of thyroid cancer patients.

2. Materials and methods

2.1. General information

A total of 144 thyroid cancer patients treated at the Affiliated Hospital of Hebei University from January 2022 to August 2023 were selected as research subjects. Using the random number table method, they were randomly divided into a control group and an experimental group, each comprising 72 cases. The control group consisted of 25 males and 47 females, with an average age of 48.23 ± 3.27 years and an average disease duration of 3.22 ± 0.57 years. The experimental group included 29 males and 43 females, with an average age of 47.52 ± 3.31 years and an average disease duration of 3.28 ± 0.59 years. There were no statistically significant differences in the basic data of the two patient groups ($P > 0.05$).

Inclusion criteria included: (1) Patients diagnosed with thyroid cancer by pathological examination and undergoing surgical treatment; (2) Patients with a certain level of understanding and communication skills, capable of comprehending and following doctor's suggestions and guidance; (3) Patients who agree to participate in this study and sign an informed consent form.

Exclusion criteria included: (1) Patients with other severe physical diseases such as heart disease, liver and kidney dysfunction, etc.; (2) Patients with mental illness or history of mental illness, and cognitive and communication disorders; (3) Exclusion of other conditions that may affect the study results, including patients receiving other related treatments and pregnant individuals.

2.2. Methods

The control group received routine nursing intervention, while the experimental group received cognitive behavioral therapy based on routine nursing practices. The guiding ideology of cognitive behavior therapy is to help patients clarify the problem, support emotional expression, establish daily goals, guide the planning of weekly or monthly care processes, and evaluate the result (**Table 1**) [6].

Table 1. Cognitive behavioral path care

	Routine nursing intervention	Cognitive behavioral therapy
After diagnosis	After diagnosis, explain the basic knowledge of thyroid cancer to the patient in detail; introduce relevant knowledge about thyroid cancer care and self-management skills; provide psychological support for the patient's anxiety, fear, and other negative emotions; encourage the patient to face the disease actively and enhance confidence and courage.	(1) Emotional stabilization: Pay attention to the patient's emotional state, listen and understand, provide health education, and offer personalized psychological counseling. (2) Medication management: Introduce the functions, dosages, usage, and precautions of the drugs used; inform patients of the importance of taking the medications on time and in the right amount; and closely observe the patient's condition changes and drug efficacy. (3) Integrated medical and nursing education: Establish a medical and nursing cooperation mechanism to formulate a patient diagnosis, treatment, and care plans jointly; communicate regularly to improve treatment effects; develop personalized education programs based on the specific conditions of patients.
Preoperative	Provide lectures on coping style scales and self-care to assess patients' emotions.	(1) Fully communicate with the patient, describe the surgery's principles, processes, and effects, improve the patient's cooperation, and relieve the patient's nervousness. (2) Instructs the patient to take deep breathing and other measures to relax before surgery. (3) Instruct patients to engage in cognitive imagination at least four times weekly. The imagination's content is the process of immune cells attacking cancer cells.

Table 1(Continue)

	Routine nursing intervention	Cognitive behavioral therapy
Postsurgery	Develop an effective anti-cancer plan, and nursing staff introduce postoperative care precautions to patients; pay attention to patients' emotional changes, help patients relieve negative emotions, enhance confidence and courage; and introduce relevant knowledge of rehabilitation guidance to patients.	(1) Pay attention to the patient's postoperative status and provide appropriate treatment to patients with symptoms such as vomiting. (2) Nursing staff should instruct patients to drink a small amount of water two hours after surgery and guide patients to eat reasonably according to the patient's condition.
After discharge	Within three months after discharge, assist patients in arranging follow-up plans; introduce to patients the necessity of follow-up and how to choose appropriate medical institutions; remind patients to take medications on time; conduct necessary examinations and evaluations; provide psychological support; encourage patients to face the recovery period actively and maintain a good attitude to promote comprehensive body recovery.	(1) Regular telephone follow-up within three months after discharge, paying attention to the patient's emotional state, and providing timely relief. (2) Guide patients to formulate a reasonable diet plan, avoid irritating foods and drinks, and consume more foods rich in vitamins and proteins; encourage patients to engage in appropriate exercise to enhance physical fitness and immunity; guide patients to use medications correctly to ensure the accurate dose, correct taking method, and that the dosage and method of use should be adjusted on time to avoid adverse reactions and drug dependence.

2.3. Observation indicators

A comprehensive assessment of the patient's self-care ability was conducted using the Exercise of Self-Care Agency (ESCA) scale, Medical Coping Modes Questionnaire (MC-MQ), and Generic Quality of Life Inventory-74 (GQOLI-74). Details are shown in **Table 2**.

Table 2. Observation indicators

Scale	Dimensions	Item	Scoring method	Evaluation orientation
ESCA	Self-concept Self-efficacy Self-care skills Health knowledge level	20	Single item 1 to 4 points	Higher scores indicate better patient self-care abilities.
MC-MQ	Confrontation Avoidance Surrender	20	Single item 1 to 4 points	A higher score indicates a greater tendency to apply this coping form.
GQOLI-74	Psychological function Social function Material life Physical function	74	Single item 1 to 5 points	A higher score indicates a better quality of life.

2.4. Statistical analysis

SPSS 22.0 software was used to analyze the data. Measurement data were expressed as mean ± standard deviation (SD), and the *t*-test was used; count data were expressed as %, and the χ^2 test was used. $P < 0.05$ means the difference is statistically significant.

3. Results

3.1. Comparison of self-care ability scores between the two groups of patients

Table 3 shows that all indicators of self-care ability (self-concept, self-efficacy, self-care skills, health knowledge level) in both groups improved after the intervention, with the experimental group significantly higher than those of the control group ($P < 0.01$).

Table 3. Comparison of self-care ability scores between the two groups of patients before and after intervention (mean ± SD)

Self-care skills	Time	Control group ($n = 72$)	Experimental group ($n = 72$)	t	P
Self-concept	Before intervention	17.52 ± 3.09	17.48 ± 3.21	0.076	0.939
	After intervention	19.28 ± 3.52	21.52 ± 3.62	3.764	0.000
Self-efficacy	Before intervention	97.25 ± 6.10	97.58 ± 5.13	0.351	0.726
	After intervention	110.21 ± 5.16	114.56 ± 6.27	4.546	0.000
Self-care skills	Before intervention	27.31 ± 4.01	27.35 ± 4.02	0.060	0.952
	After intervention	30.01 ± 4.10	33.04 ± 4.12	4.423	0.000
Health knowledge level	Before intervention	17.82 ± 2.51	17.89 ± 2.52	0.095	0.924
	After intervention	21.15 ± 2.48	23.88 ± 3.15	5.778	0.000

3.2. Comparison of coping styles between the two groups of patients

Table 4 shows that the confrontation scores of the experimental group were higher than those of the control group after intervention ($P < 0.01$), whereas the avoidance and surrender scores of the experimental group were lower than those of the control group ($P < 0.01$).

Table 4. Comparison of coping styles between the two groups of patients before and after intervention (mean ± SD)

Solution	Time	Control group ($n = 72$)	Experimental group ($n = 72$)	t	P
Confrontation	Before intervention	12.71 ± 2.28	12.72 ± 2.35	0.026	0.979
	After intervention	15.31 ± 2.15	16.72 ± 2.78	3.404	0.001
Avoidance	Before intervention	18.56 ± 3.04	18.62 ± 3.12	0.117	0.907
	After intervention	14.87 ± 3.01	12.15 ± 2.39	6.005	0.000
Surrender	Before intervention	16.81 ± 2.15	16.82 ± 2.21	0.028	0.978
	After intervention	14.28 ± 2.02	13.01 ± 1.52	4.263	0.000

3.3. Comparison of quality-of-life scores between the two groups of patients

Table 5 shows that the experimental group's quality of life indicators (psychological function, social function, material life, physical function) after the intervention were all higher than those of the control group ($P < 0.01$).

Table 5. Comparison of quality-of-life scores between the two groups of patients before and after intervention (mean ± SD)

Quality of life	Time	Control group (n = 72)	Experimental group (n = 72)	t	P
Psychological function	Before intervention	53.45 ± 1.26	53.56 ± 1.21	0.923	0.358
	After intervention	78.87 ± 1.31	79.99 ± 1.28	5.189	0.000
Social function	Before intervention	57.24 ± 2.57	57.31 ± 2.67	0.160	0.873
	After intervention	78.23 ± 1.89	80.12 ± 3.21	4.305	0.000
Material life	Before intervention	54.28 ± 1.21	54.35 ± 1.35	0.328	0.744
	After intervention	77.27 ± 2.15	79.56 ± 1.28	7.766	0.000
Physical function	Before intervention	56.69 ± 1.61	56.78 ± 1.59	0.338	0.736
	After intervention	84.28 ± 3.25	87.64 ± 2.15	7.316	0.000

4. Discussion

As a common malignant tumor, the incidence rate of thyroid cancer is increasing year by year [7], and the occurrence of this disease is higher in women than in men [8]. Its main types include papillary carcinoma, follicular carcinoma, and anaplastic carcinoma. The primary symptoms include a neck mass, neck pain, dyspnea, hoarseness, etc. [9,10]. Studies have shown that its onset is closely related to genetic factors, environmental factors, and radiation exposure. Currently, the primary method for treating thyroid cancer is surgery combined with radiotherapy and drug therapy. However, postoperative metastasis and recurrence are also common [11], often accompanied by anxiety, depression, and decreased quality of life [12]. For this reason, cognitive behavioral therapy has started to gain attention. Cognitive behavioral therapy is a comprehensive nursing model that aims to improve the postoperative recovery and self-care abilities of thyroid cancer patients by enhancing the patient's cognitive ability and conducting behavioral intervention [13].

Many studies have confirmed that cognitive behavioral therapy positively impacts patients' postoperative recovery. Ning and Wei explored the impact of cognitive behavioral therapy on patients with myocardial infarction and found that it can increase patients' myocardial oxygen consumption and improve patients' psychological emotions and sleep quality [14]. Research by Wang and colleagues found that cognitive behavioral therapy combined with mindfulness-based stress reduction therapy can help improve patients' self-care abilities, enhance their quality of life, and promote postoperative recovery [15]. This aligns with the effects achieved by the cognitive behavioral therapy proposed in this article. This study suggests that after the intervention, the experimental group's self-care ability, quality of life, and confrontation scores were higher than those of the control group, while the avoidance and surrender scores were lower than those of the control group. This indicates that applying cognitive behavioral therapy can assist thyroid cancer patients in improving their self-care ability, coping with the disease, and enhancing their quality of life. It is worthy of further promotion.

This study acknowledges certain limitations in the research. The number of thyroid cancer patients in this study is relatively small. Considering the time and resource limitations of the analysis, it may not have collected a sufficient amount of patient data, potentially affecting the stability and generalizability of the results. Future research should aim to expand the sample size to more comprehensively and accurately evaluate the effect of cognitive behavioral therapy on the self-care ability of thyroid cancer patients.

In summary, utilizing cognitive behavioral therapy has the potential to support thyroid cancer patients in enhancing their self-care abilities, helping them cope better with the disease, and elevating their overall quality of life. This merits further promotion.

Disclosure statement

The authors declare no conflict of interest.

References

[1] Zhou J, Qu L, Shi B, et al., 2020, Nursing Care of Microwave Ablation of Thyroid Micropapillary Carcinoma Under Ultrasound Guidance. Journal of Changchun University of Traditional Chinese Medicine, 36(2): 356–358.

[2] Qi B, Mu H, Yin D, 2022, Application of Comprehensive Intervention Combined with Cognitive Behavioral Therapy in Postoperative Thyroid Cancer Care. Journal of Clinical Psychosomatic Diseases, 28(6): 143–147.

[3] Wang Y, 2019, Analysis of the Impact of Motivational Nursing on Negative Emotions and Quality of Life in Patients Undergoing Thyroid Cancer Surgery. Heilongjiang Medical Sciences, 42(1): 186–187.

[4] Liang L, Chen C, Zhang W, 2017, Effect of Cognitive Intervention on Cancer Patients' Medical Compliance Behavior and Self-Care Ability. Nursing Practice and Research, 14(10): 80–81.

[5] Jiang M, 2018, The Impact of Path-Based Health Education on Cognition and Behavior of Family Members of Children with Hand, Foot, and Mouth Disease. Contemporary Nurse, 25(5): 110–112.

[6] Zhou L, Zou W, Pan J, et al., 2019, Perinatal Depression Prevention Intervention Path and Effect Evaluation Based on Cognitive Behavioral and Mother-Infant Relationship Therapy. Chinese Nursing Management, 19(3): 373–379.

[7] Li X, Zhou X, 2020, Effect of Cognitive Behavioral Pathway Intervention Based on Empowerment Theory on Self-Care Ability and Quality of Life of Patients with Thyroid Cancer. Nursing Practice and Research, 17(4): 49–51.

[8] Liu Z, Liu P, Xie Z, 2019, Regulatory Mechanism of Thyroid Cancer Proliferation and Differentiation. Chinese Clinical New Medicine, 12(7): 804–808.

[9] Qin W, Guan C, Xu Z, et al., 2019, Analysis of Clinical Characteristics of 854 Patients with Thyroid Cancer. Journal of Clinical Otolaryngology-Head and Neck Surgery, 33(8): 718–721.

[10] Jin N, Li Y, Xi Y, et al., 2019, The Impact of Motivational Nursing on the Incidence of Postoperative Complications and Psychological State of Patients with Thyroid Cancer. Nursing Practice and Research, 16(9): 61–62.

[11] Wu R, Yuan S, Liu Y, et al., 2020, Clinical Observation on the Impact of Different Thyroid Surgery Methods on Parathyroid Function. Chinese Journal of General Surgery, 29(11): 1357–1363.

[12] Chen L, Li Y, Yu Y, et al., 2019, Research Progress of Rapid Recovery Surgery in Perioperative Thyroid Cancer Care. Nursing Research, 33(16): 2810–2813.

[13] Li T, 2017, Effect of Comprehensive Intervention Combined with Cognitive Behavioral Therapy on the Compliance of Patients with Thyroid Cancer During Postoperative Treatment. Chinese General Medicine, 15(8): 1440–1443.

[14] Ning X, Wei J, 2023, Analysis of the Impact of Cognitive Behavioral Path-Based Intervention on the Psychological Emotions and Sleep Quality of Patients with Myocardial Infarction. Guizhou Medicine, 47(10): 1665–1666.

[15] Wang L, Shen W, Jing J, et al., 2021, Application of Cognitive Behavioral Path Intervention Based on Empowerment Theory Combined with Mindfulness-Based Stress Reduction Therapy in Breast Cancer Patients. Qilu Nursing Journal, 27(13): 30–33.