

The Transformation of Anxiety: A Case of Cognitive Behavioral Therapy for Anxiety in College Students

Chang Shu*

Mental Health Education and Counseling Center, Student Affairs Office, Guangdong Polytechnic Normal University, Guangzhou 510665, Guangdong Province, China

*Corresponding author: Chang Shu, sccharlie@126.com

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Abstract: Through a case study of a college student experiencing anxiety, this paper elucidates the structured consultation process of cognitive behavioral therapy, highlighting the application, techniques, and outcomes of relevant consultation methods. The consultation aims to assist the client in overcoming challenges, improving emotional well-being, and reshaping thought patterns to achieve the desired therapeutic effects.

Keywords: Cognitive behavioral therapy; Case study; Anxiety in college students

Online publication: January 3, 2025

1. Basic information of the case

1.1. General case information

The client, referred to as “Miss A,” is a 20-year-old female of Han ethnicity. She identifies as non-religious and is currently a sophomore majoring in liberal arts. Miss A resides in an urban area of Guangdong Province and is the only child in her family. Her parents are married, employed in stable positions, and maintain a middle-class socioeconomic status.

1.2. Main complaint and consulting objectives

For the past two months, Miss A has been experiencing significant anxiety, primarily centered around concerns regarding her health. During periods of heightened anxiety, Miss A finds herself mentally fixated on her worries, which disrupts her concentration and contributes to difficulty falling asleep. Her primary objective for seeking consultation is to alleviate her anxiety and achieve emotional stability.

1.3. Significant past experiences

Miss A has lived with her parents since childhood and maintains a positive relationship with them. However, she perceives her parents as being strict, fostering a family environment focused on achieving success and meeting high standards. From an early age, her parents exhibited particular concern about her health.

Miss A was born with congenital heart disease and underwent heart surgery shortly after birth. Although her parents never discussed this openly, a heart murmur detected during a routine physical examination in primary school prompted a re-evaluation. Despite normal follow-up results, this incident heightened Miss A's awareness and concern about her health, particularly her heart condition, leaving her fearful of potential health issues.

In January 2024, Miss A began experiencing muscle pain, which led to intense worry about her health and severe difficulty sleeping. A medical examination ruled out any organic diseases, and she was diagnosed with moderate anxiety and depression, subsequently receiving medication. By March 2024, the medication had alleviated her muscle pain, sleep issues, and some anxiety. However, Miss A continued to experience persistent and irrational worries about her health and exhibited a tendency toward anxiety in other areas of life. Following a recommendation from her psychiatrist, Miss A sought psychological consultation at her school's psychological center.

2. Case evaluation and analysis

2.1. Case evaluation

In January 2024, Miss A was diagnosed with moderate anxiety and moderate depression, without any indications of personality disorders or organic diseases. Pre-consultation scale test results showed the following: the Self-Rating Anxiety Scale (SAS) ^[1] recorded a standard score of 62, indicating moderate anxiety; the Self-Rating Depression Scale (SDS) ^[2] yielded a standard score of 53, corresponding to mild depression. Additionally, the total score of the Symptom Checklist-90 (SCL-90) ^[3] was 198.05, with an average score of 2.2. Specific factor scores included 3.5 for anxiety, 3.25 for somatization, and 2.3 for compulsiveness, while all other factor scores were below 2.

Based on Miss A's chief complaint and medical history, it was preliminarily concluded that emotional issues, primarily anxiety, were the dominant concern. As Miss A's physical symptoms had already improved, psychological counseling was recommended by a psychiatrist. This case falls within the scope of psychological counseling ^[4].

2.2. Case conceptualization analysis

Miss A experienced congenital heart disease requiring surgery during infancy. Although Miss A recovered to a healthy state, the heightened attention and overprotective behaviors of her parents instilled in her an absolute belief that "physical health is extremely important" and "my body must not experience any issues." This belief, from Miss A's perspective, is tied to the notion that "if my body is unwell, it will lead to catastrophic consequences."

These beliefs are rooted in core assumptions, such as "I am not safe," "I am fragile," or even "I am incompetent." Consequently, when Miss A perceives a potential physical health issue, a series of defensive reactions are triggered. These include persistent medical consultations for reassurance and a heightened focus on and amplification of minor physical sensations, leading to severe anxiety responses.

This reaction creates a self-perpetuating negative cycle, where health-related worries exacerbate anxiety, and the resulting anxiety further affects Miss A's physical health. This cyclical pattern reinforces the anxiety, creating a continuous loop of concern over physical well-being and its adverse effects.

3. Counseling programs

3.1. Application of the theoretical basis of cognitive behavioral therapy

Cognitive behavioral therapy (CBT) is a widely used psychotherapeutic approach that integrates principles of cognitive psychology and behaviorist theory ^[5]. Its core premise is that thoughts determine feelings and behaviors and that emotional states and behavioral outcomes, in turn, influence thoughts ^[6]. CBT's theoretical framework and techniques are particularly well-suited for logical college students, as its emphasis on identifying and modifying negative thought patterns enables them to quickly grasp and apply skills for cognitive restructuring, emotional regulation, and behavioral adjustment ^[7].

Furthermore, a meta-analysis of 41 studies involving approximately 3,000 patients found that CBT demonstrated an effect size of 0.88 for anxiety disorders (including social anxiety and generalized anxiety disorder), highlighting its significant efficacy in alleviating anxiety symptoms, surpassing many other therapeutic approaches ^[8].

Considering Miss A's age, circumstances, and the development of her emotional issues, CBT is deemed highly appropriate for addressing her concerns.

3.2. Counseling objectives

- (1) Identify and challenge negative automatic thoughts to alleviate irrational concerns about health.
- (2) Develop anxiety management skills, enhance physical self-awareness, and promote objective health perception.
- (3) Improve sleep quality, alleviate muscle pain, and enhance overall emotional well-being.
- (4) Establish and maintain a healthy lifestyle.

3.3. Counseling settings

Counseling sessions were conducted once a week, with each session lasting 50 minutes, held at the school psychological counseling center ^[9]. A total of 12 sessions were carried out. The student provided informed consent for the sessions and agreed to the use of her case for research and publication purposes.

3.4. Evaluation of counseling effect

The effectiveness of the counseling process was assessed through pre- and post-intervention scale measurements, evaluations of the client's self-reported feelings, and observations and assessments conducted by the consultants ^[10].

4. Consultation process

4.1. Stage 1: Problem assessment and psychoeducation (Sessions 1–3)

Relevant information about Miss A's experiences was collected through unstructured interviews, followed by the completion of scale assessments. This process facilitated the initial case assessment and conceptualization, the identification of a problem list, and the formulation of treatment plans and goals ^[11].

To foster understanding, Miss A was guided to reflect on questions such as, "Why does shoulder and neck muscle pain cause anxiety in her, while others may not react the same way?" This reflection helped Miss A recognize that different thoughts lead to varying emotional responses, serving as an introduction to the fundamental concepts of CBT. The relationship between anxiety and physical symptoms was also explained to reduce misunderstandings about physical symptoms and alleviate associated concerns.

4.2. Stage 2: Cognitive work (Sessions 4–8)

4.2.1. Application of cognitive three-column technique

Miss A was introduced to the cognitive three-column table (**Table 1**) to analyze specific emotional situations. By completing the three-column form, Miss A gained a clearer understanding of her emotional states and the automatic thoughts underlying them. Scoring the certainty of her thoughts helped her recognize the lack of absolute certainty in her evaluations and understand that thoughts do not necessarily reflect reality ^[12].

During this stage, the consultant guided Miss A through repeated practice using examples of anxiety-inducing emotions documented in the three-column form. Homework assignments were given to reinforce this skill, requiring Miss A to complete the form independently and later discuss her reflections during sessions. This iterative process enabled Miss A to familiarize herself with the cognitive mechanisms behind emotions, assess her emotional states, and analyze the validity of her thoughts ^[13].

Table 1. Cognitive three-column table

Situation	Automatic thoughts (thoughts and their certainty rated on a 0–100% scale)	Emotions and intensity (rated on a 0–100% scale)
Sitting in the dormitory chair and feeling shoulder and neck pain again.	My shoulders and neck hurt just sitting there. I definitely have a problem with my cervical spine (80%).	Anxiety (90%)
	Having cervical spondylosis at such a young age makes it impossible for me to enjoy life properly (70%).	Sadness (80%)

4.2.2. Application of the cognitive five-column technique

After mastering the three-column table, Miss A progressed to the cognitive five-column technique (**Table 2**). This technique involved identifying automatic thoughts, questioning their validity, and constructing rational thoughts. The five-column form enabled Miss A to document emotional changes after adopting more reasonable thoughts, facilitating reflection and self-regulation ^[14].

The five-column table was incorporated into Miss A’s daily routine through homework assignments and session discussions. This consistent practice allowed Miss A to challenge irrational thoughts, develop constructive perspectives, and adjust emotional responses effectively ^[15].

Table 2. Cognitive five-column table

Situation	Automatic thoughts (thoughts and their certainty rated on a 0–100% scale)	Emotions and intensity (rated on a 0–100% scale)	Rational thoughts (constructed thoughts, certainty rated on a 0–100% scale)	Post-adjustment emotions and intensity (rated on a 0–100% scale)
Sitting in the dormitory chair and feeling neck and shoulder pain again.	My shoulders and neck hurt just sitting there. I definitely have a problem with my cervical spine (80%).	Anxiety (90%)	The dormitory chair is relatively hard, and sitting for extended periods can cause discomfort, which does not necessarily indicate cervical spine problems (70%).	Anxiety (30%)
	Having cervical spondylosis at such a young age makes it impossible for me to enjoy life properly (70%).	Sadness (80%)	Even if cervical spine issues exist, recovery is possible through posture adjustment and exercise (90%).	Sadness (20%)

4.3. Stage 3: Behavioral training (Sessions 9–10)

4.3.1. Imaginal exposure and relaxation training

In the consultation room, the consultant asked Miss A to describe the sensation of shoulder and neck pain in detail and guided Miss A to experience the anxiety state triggered by the pain. While in this anxious state, the consultant introduced a breathing relaxation technique, encouraging Miss A to focus on each breath. By concentrating on the bodily changes during breathing, Miss A learned to redirect attention away from anxiety and gradually achieve relaxation.

4.3.2. Healthy living behavior experiment

The consultant and Miss A collaboratively discussed strategies to improve the shoulder and neck pain as well as general health, including setting time limits on sitting, learning healthier sitting and standing postures, and engaging in badminton or volleyball games 1–2 times per week. Miss A was encouraged to record physical sensations and emotional responses following these activities to document positive experiences and progress.

4.4. Stage 4: Consolidation and closure (Sessions 11–12)

Miss A's growth and progress during the treatment were reviewed, with a focus on reinforcing the new understandings and positive changes achieved throughout the consultation. Long-term maintenance goals were set to encourage Miss A to continue applying the learned skills in daily life, such as regularly using the three-column or five-column charts to record and analyze emotions^[16]. Following the final consultation, Miss A completed a follow-up scale test. Follow-up visits were scheduled one month and three months after the consultation to assess Miss A's ongoing progress.

5. Effect evaluation

5.1. Scale test effect evaluation

The results of the scale test indicated a significant improvement in Miss A's condition. The self-rating anxiety scale (SAS) score decreased to 48 points (standard score); the self-rating depression scale (SDS) score decreased to 40 points (standard score); the total score of the Symptom Checklist-90 (SCL-90) was 138.04, with an average score of 1.53. All factor scores were lower than 2, except for the somatization factor, which scored 2.1 points. These results suggest that Miss A's anxiety and depression levels had significantly improved, and overall symptoms were notably reduced.

5.2. Assessment of client's self-description effect

After completing 12 sessions of consultation, Miss A reported a significant reduction in the anxiety caused by shoulder and neck pain, as well as an improvement in sleep quality. During a follow-up visit three months post-consultation, Miss A mentioned having developed the habit of recording and analyzing her emotions. Miss A's ability to recognize and address emotional concerns had extended beyond anxiety about physical health; in various situations, when she recognized she was in a bad mood, she could analyze the thoughts behind her emotions using the three-column and five-column CBT tables. This helped her gain a deeper understanding of her emotions and better identify the irrational aspects of her cognition.

5.3. Evaluation of the effect from other observations

From the consultant's perspective, Miss A initially exhibited a nervous demeanor and experienced significant pain when discussing physical health issues, which triggered anxiety and helplessness. Following psychological education, Miss A began to better understand her emotional state and was able to complete cognitive adjustment tasks more effectively. As cognitive adjustment training and behavioral interventions progressed, Miss A's overly pessimistic view of her physical condition was altered, leading to a stronger sense of competence and control in managing her health.

6. Summary

In this case, cognitive behavioral therapy was employed to conduct psychological counseling for a college student experiencing anxiety. After 12 sessions, the student's anxiety symptoms were significantly alleviated. The case demonstrates the effective application of cognitive behavioral therapy in a university setting and highlights its suitability for addressing emotional challenges commonly faced by college students.

Disclosure statement

The authors declare no conflict of interest.

References

- [1] Hofmann SG, Asnaani A, Vonk IJ, et al., 2012, The Efficacy of Cognitive Behavioral Therapy: A Review of Meta-analyses. *Cognit Ther Res*, 36(5): 427–440. <https://doi.org/10.1007/s10608-012-9476-1>
- [2] Beck JS, 2013, *Cognitive Therapy: Basics and Beyond* (2nd Edition). The Guilford Press, New York.
- [3] Luo HX, Fu F, Li D, et al., 2018, The Impact of Catastrophic Interpretation on Anxiety: A Moderated Mediation Effect. *Chinese Journal of Clinical Psychology*, 26(2): 5.
- [4] He YX, 2019, Application of Cognitive Behavior Therapy in College Psychological Counseling. *Think Tank Era*, 43: 2.
- [5] Li JX, Zhao CY, 2023, A Case of College Student Psychological Counseling Based on Cognitive Behavior Therapy. *Psychological Monthly*, 2023(13): 184–187 + 198.
- [6] Zhang PW, 2023, A Case Study of Social Work Intervention for Appearance Anxiety in Female College Students—Based on Cognitive-Behavioral Theory Perspective, dissertation, Jilin Agricultural University.
- [7] Liu ZY, Ren XZ, Wang GB, et al., 2020, A Randomized Controlled Trial of Online Cognitive Behavior Therapy for Anxiety in College Students. *Chinese of Mental Health*, 34(3): 159–165.
- [8] Carpenter JK, Andrews LA, Witcraft SM, et al., 2018, Cognitive Behavioral Therapy for Anxiety and Related Disorders: A Meta-Analysis of Randomized Placebo-Controlled Trials. *Depress Anxiety*, 35(6): 502–514. <https://doi.org/10.1002/da.22728>
- [9] Li JJ, 2019, Emotional Regulation Strategies and Group Cognitive Behavior Therapy Intervention Effects for Social Anxiety in Deaf College Students, dissertation, Shaanxi Normal University.
- [10] Mi MM, 2017, Emotional Regulation Strategies and Group Cognitive Behavior Therapy Intervention Effects for Social Anxiety in College Students, dissertation, Suzhou University.
- [11] Wang L, Zhai BY, Li J, 2023, A Case Conceptualization Report of Cognitive Behavior Therapy for Depression and

Anxiety in a College Student. *Chinese Journal of Mental Health*, 37(10): 46–53.

- [12] Li M, Wang Y, Guo XL, 2023, The Impact of FOMO on the Mental Health of College Students and Coping Strategies. *Shaanxi Education (Higher Education Edition)*, 2023(12): 49–51.
- [13] Luo J, 2023, Research Progress in Cognitive Behavior Therapy for Anxiety Disorders. *Contemporary Forum*, 21(9): 25–28.
- [14] Fan ES, Liu P, 2020, Feasibility Study of Cognitive Behavior Therapy in Generalized Anxiety Disorder. *World Latest Medicine Information*, 20(A2): 66–67.
- [15] Li D, 2019, Design of a Group Cognitive Behavior Intervention Program for Social Anxiety in College Students. *Vocational Education News*, 2019(2): 5.
- [16] Xiao H, 2018, The Impact of Cognitive Emotional Regulation on the Psychological State and Behavior Characteristics of College Students with Hepatitis B. *Chinese Journal of Health Psychology*, 26(8): 3.

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