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The Effects of Cognitive Behavioral Therapy and Music Therapy on Anxiety Disorder

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Abstract: The increasing prevalence of anxiety disorders is closely linked to rising social pressures. This paper examines the role of traditional and emerging psychotherapy in anxiety disorders, focusing on the characteristics of Cognitive Behavioral Therapy (CBT) and Music Therapy. Cognitive Behavioral Therapy is designed to help people with anxiety disorders improve core beliefs and correct bad emotions, while Music Therapy helps patients awaken positive emotions and relieve anxiety symptoms. From the perspective of the characteristics of the two treatment methods, Cognitive Behavioral Therapy tends to completely solve the patients' wrong cognition, which reduces the possibility of patients' disease recurrence; from the perspective of art, Music Therapy provides patients with a good rehabilitation environment, moreover, patients feel happy and have more motivation to change their thinking and behaviors. Based on HAMA, STAI, and PSOI, the data showed that anxiety patients experienced reduced anxiety levels and improved sleep quality and quality of life after receiving both therapies. This study provides valuable insights into the unique benefits of CBT and Music Therapy, helping therapists and patients make informed decisions regarding the most suitable treatment options for reducing anxiety.

Keywords: Anxiety disorder, Cognitive Behavioral Therapy, Music Therapy, treatment, therapeutic effect.

1. Introduction

With increasing social pressure and economic challenges, anxiety disorders have widely affected the lives of all groups of people in society, including students, parents, employees and managers. In the past, anxiety was often misunderstood and not recognized as a mental health condition, severely limiting the capacity for reasonable intervention. Concurrently, there was also limited awareness regarding the effects of different treatments for this disease. In recent years, societal awareness of mental health issues has grown substantially. Moreover, a wide range of treatment methods are now available for alleviating different psychological problems, with many effectively targeting the root causes of anxiety.

This paper focuses on two different therapeutic approaches: Cognitive Behavioral Therapy(CBT) and Music Therapy. CBT is a group of short-term psychological treatment methods to change bad cognition and rectify bad emotions and behaviors by changing thinking and behavior. It has been widely used and is one of the most influential psychological counseling and psychotherapy methods[1]; in contrast, as a new therapeutic method, Music Therapy uses music and its various

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components, such as melody, rhythm and harmony, to promote the physical and mental health of individuals[2], and has also been highly valued by all sectors of society. Different types of treatment will produce different effects on anxiety disorders, so this paper will explore the comparative therapeutic effects of cognitive behavioral therapy and music therapy, and propose more effective ways for people to relieve their symptoms and treat this ailment.

2. Anxiety Disorder

2.1. Overview

Anxiety disorder is a common category of psychological disorders that includes generalized anxiety disorder, panic disorder, separation anxiety disorder and social phobia. The American Psychiatric Association considers anxiety to be an emotional state characterized by mental manifestations of nervousness, worry and fear, and physical manifestations such as rapid heartbeat, shortness of breath, and even nausea and vomiting, which usually stem from worries about future or current events. Without timely intervention, excessive and persistent fear or worry may develop into anxiety disorders[3].

Human physiology and psychology are intricately interconnected aspects of health. When patients experience anxiety, it often triggers a series of clinical symptoms, including somatic, cognitive, behavioral and emotional symptoms [4]. People with anxiety often report physical symptoms such as chest tightness, palpitation, difficulty breathing, and nausea; they may also experience nervous or fearful, and may be prone to distraction, have reduced thinking ability and judgment. At the same time, they may exhibit restlessness through small movements and other behavior habits; and may feel constant tension, fear, and insecurity.

The diagnosis of anxiety mainly depends on an assessment screening according to a scale. Common forms include the Hamilton Anxiety Scale (HAMA), the State-Trait Anxiety Inventory (STAI), and the Life Events Scale (LES). Simultaneously, the treatment will also be combined with several physiological indicators to help diagnosis, such as blood pressure, heart rate and electric skin response.

There are two main ways to treat anxiety: medication and psychotherapy. For patients with more severe conditions or who expect a rapid response to treatment, medication is usually the first choice. The common therapies for psychotherapy include CBT and some breathing training to help patients improve poor cognition and relieve physical symptoms.

2.2. Influence Factor

As a type of social psychological disease, the formative factors of anxiety disorder are very complicated, comprised of endogenous factors and exogenous factors. Endogenous factors include genetics, biochemical and physical factors, age and personality. With regard to genetics, researchers have shown that the incidence of the same disease among relatives is 8 to 20 times higher than that of the general population, and the closer the blood relationship, the higher the incidence consistency[5]. When individuals suffer from some chronic diseases, the probability of anxiety disorders will also be significantly increased. In terms of age and personality, dental anxiety, as a kind of specific anxiety disorder, is very common in people's daily life and serves as an apt representation of the influence of age. For instance, younger children often exhibit more intense dental anxiety, likely due to a strong fear of the unknown. However, as children grow up, their adaptability and understanding and cognitive ability improves, resulting in reduced anxiety about dental treatment [6]. Similarly, different personality characteristics amongst children will also lead to varying degrees of acceptance of dental treatment, which in turn will lead to different degrees of anxiety symptoms.

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Exogenous factors include psychosocial environment factors and family factors. The environment a person is exposed to from a young age is the basis for their future interpretation of and reaction to stimuli, and exposure to a negative emotional environment often leads to psychological problems and an increase in the probability of anxiety. For instance, growing up in a depressing, unstable environment marked by frequent pessimistic events can predispose individuals to prolonged anxiety and worry in adulthood. Family income, parental education and the level of anxiety inherent in familial caregivers are among the main causes of future anxiety. This, coupled with parents' social, behavioral and cognitive interactions, are all components of a child's developmental environment which can act as the foundation for both positive and negative cognitive and emotional processes. Children will instinctively imitate parents' behaviors and absorb their emotions, resulting in similar emotional responses when patients face both similar and unfamiliar stimuli in the future.

3. Treatment of Anxiety Disorders

3.1. Cognitive Behavioral Therapy

3.1.1. Overview

Cognitive Behavioral Therapy(CBT) is a psychotherapy method that helps patients understand the thoughts and feelings that influence behavior by observing the external manifestations of behavior and emotions, analyzing the patient's way of thinking and finding strategies to cope with real-world problems [7]. In practical application, CBT includes the following characteristics: a problem-focused and goal-oriented approach, assessment guidance and objective indicators, time limits, homework and utilization of the reinforcement effect.

CBT is a systematic psychotherapy that combines cognitive and behavioral training[8]. Its treatment can be divided into three stages of counseling: the automatic thought stage, the intermediate belief stage, and the core belief stage. Throughout therapy, the therapist will also conceptualize the client's case in the process of communication with the patient, and analyze the historical causes of the client's current psychological problems.

In the automatic thought stage, the client can identify their own emotions and thoughts by means of concretization, or rationally analyze emotions through scene reproduction. By applying intervention techniques and evaluating changes, clients work toward correcting problematic automatic thought patterns. Intermediate belief is the psychological basis of automatic thinking, and it is also the manifestation of core belief in a specific psychological field, in which the client usually forms a compensatory strategy to adapt to life. The implementation of this stage involves four key steps: identification, evaluation, intervention, and application. Core beliefs are the client's general beliefs about self, others, and the world, and are often accompanied by some degree of cognitive distortion. Revising core beliefs is the ultimate goal of counseling, and the therapist will help the client to change negative core beliefs and put forward positive core beliefs. Currently, CBT is widely used in the treatment of mental illness, childhood illness and physical illness.

3.1.2. Therapeutic Effect

The data score before and after the intervention is crucial to judge the effect of any potential curative measure. This data is best derived from a detailed comparison of clinical effects, anxiety levels, sleep quality and overall quality of life, cognitive and self-regulation, and mental and social functioning. These factors are categorized and quantified to allow for a more objective and direct comparison of otherwise qualitative data sets. Generally, data[9] has shown that compared with anxiety symptoms before the intervention, patients receiving CBT had a much higher level of psychological stability than the control group, and related anxiety symptoms were significantly reduced. It can be seen that

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CBT can greatly improve the physical and mental health of patients with anxiety disorders, including improving sleep quality and quality of life, improving cognition and the ability to perform self-psychological adjustment, and promoting positive mental status and social function.

Despite these benefits, CBT exhibits some disadvantages, particularly in its suitability for patients of certain ages. As the Cognitive Therapy used in CBT involves problems of understanding and a requirement that patients record their own performance in the treatment process, it is mainly suitable for individuals aged 16 to 55 with high school or secondary school education or above[10]. Mature individuals can better follow the guidance of therapists when using CBT, and fulfill the corresponding reflection tasks. It is also possible to better complete the homework part of the CBT treatment model after the consultation, such as making mood charts or filling out self-measurement scales, to consolidate the treatment and shorten the treatment time. Faults in self-cognition due to incomplete brain and personality development amongst children or potential cognitive deficits that might occur through the natural aging process above the age of 55, may both lead to the inaccuracy of the patient's diagnosis and the inability of the therapist to give the appropriate treatment.

Nevertheless, CBT remains an effective and widely accepted treatment for anxiety disorders, and cognitive changes can not only reduce the distress of anxiety disorders but also reduce the possibility of relapse.

3.2. Music Therapy

3.2.1. Overview

Music therapy, a relatively new therapeutic method, has received much attention in recent years. Music therapy refers to the establishment of a therapeutic alliance with the client under the guidance of the therapist through music as the medium. By engaging with various targeted musical activities that activate musical imagination and musical rhythm resonance, music therapy affects individual's physiology, psychology and cognition, achieving the goals of regulating mood, relieving physical and mental symptoms and promoting physical health. It is generally recognized as an effective psychological intervention[11].

Art healing, a conceptual therapeutic categorization which includes music therapy, is a unique treatment that allows people to improve their problems without experiencing the side effects and pain of medications, which has raised interest amongst therapists and psychologists. Although music therapy remains a developing branch of therapeutic practice, it has already made great contributions in the fields of mental health, sports and rehabilitation, helping people to cultivate healthy psychology, improve sports efficiency and recovery ability. Simultaneously, music brings more vitality to individuals, groups, families, or communities, not only improving people's health, but also enhancing people's quality of life and emotional well-being.

Music influences people's physiology through changes in rhythm and melody. Physical changes in sound, tone, frequency and other aspects of music promote physiological and psychological potential or image reactions and changes, forming a stimulus-response mode of action[12]. Music Therapy is generally divided into three types: listening, active, and improvisational. he listening approach involves a therapist designing a specific music plan and leads the patient through the treatment. Active participation requires patients to sing or play music under the therapist's guidance. Improvisation, on the other hand, involves creating rhythms or melodies, often using instruments provided by the therapist.

3.2.2. Therapeutic Effect

The previously referenced HAMA, PSQI and STAI scales, which are all used to assess aspects of anxiety in patients, are again used here to measure the effectiveness of music therapy. Studies

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comparing pre- and post-treatment scores on these scales have divided participants into a control group and a music therapy group. Results indicate that relevant data points of S-AI, T-AI, HAMA and PSQI all decreased significantly after treatment, and the decline rate of the music group was higher than that of the control group [13]. Therefore, it can be seen that Music Therapy can effectively improve patients' sleep quality, reduce anxiety levels and improve anxiety.

Different types of music have been shown to have diverse therapeutic effects on patients, and are classified as relaxing music, happy music and sad music. Relaxing music (slow and soothing) significantly reduced physiological markers such as diastolic blood pressure, systolic blood pressure, and heart rate compared to unpleasant music (with sharp turns and harsh metal instruments)[14]. Happy music can stimulate the excitement of patients through more happy melodies, and achieve the purpose of reducing depression. However, compared with slower rhythm music, the therapeutic effect of happy music may be weaker, because frequent rhythm changes may cause patients to be agitated thus affecting physical indicators, such as heart rate and blood pressure, which in turn may have a negative effect on the treatment of anxiety disorders. Sad music can induce both happy emotions and nostalgic emotions, both of which have been proven to be effective in relieving anxiety[3]. Hearing sad music may encourage patients to express their negative emotions through crying or singing, thereby releasing built-up tension and reducing anxiety levels.

3.3. Contrastive Analysis

Both CBT and Music Therapy have significant effects on anxiety disorders, but their effectiveness varies depending on the target population. Age, for instance, plays a crucial role in determining the suitability of these therapies. Since CBT requires a high level of cognitive ability, Music Therapy is often a more appropriate first choice for children and elderly patients with anxiety disorders. Education level is also one of the factors that affect the effectiveness of treatment. In the course of treatment, patients with higher education level can complete the self-recording and "homework" part of CBT more efficiently, making CBT a better option for them.

In terms of treatment duration, CBT is generally shorter than that of Music Therapy, which is due to the differences in fundamental treatment principles. CBT starts from changing the patient's core beliefs, helps the patient solve the problem from the source, and adapts to the change of the patient's own psychological state, greatly shortening the treatment time. On the other hand, Music Therapy works by gradually improving patients' moods and behaviors through music, requiring a longer treatment duration.. Therefore, for patients with strict time requirements, such as students and employees, CBT can help them improve anxiety symptoms more quickly.

Despite increasing social pressures, people should also take responsibility for their physical and mental health. Making appropriate adjustments to life plans, setting aside leisure time, and managing stress effectively can reduce the risk of anxiety. At the same time, continued exploration of more effective measures to treat mental illnesses and a deeper study of different therapeutic methods will help advance treatment strategies and improve outcomes for diverse patient populations.

4. Conclusion

Societal pressures and the increasing pace of life around the world has led to the proliferation of anxiety disorders across all strata of society. Anxiety can cause a series of different psychological and physiological reactions, affecting the patient's normal life. It is influenced by both endogenous and exogenous factors, and patients can be affected by both their inner state of being and their surrounding environment. The common diagnosis mainly relies on the self-test questionnaires and the measurement of physical data. Once diagnosed, treatment typically involves either medication or psychotherapy. Cognitive Behavioral Therapy (CBT), recognized as one of the most effective ways

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to treat mental illness, can cure patients facing anxiety through its unique treatment style. CBT is designed to help patients modify core beliefs, change negative perceptions, and reinforce the effects of treatment through "homework". Studies have shown that after implementing this treatment, the quality of sleep and life were greatly improved, along with the cognitive ability and self-psychological adjustment of patients. However, it has certain limitations, particularly when applied to children and the elderly. Cognitive impairments in these groups can reduce treatment effectiveness, and in some cases, hinder therapists' ability to accurately assess and address the patients' needs. Music Therapy allows patients to relieve pain without going through the torture of medications, and improves patients' mood and quality of life through rhythm and melody changes. Similar to CBT, Music Therapy has been shown to reduce anxiety levels and improve sleep quality of patients. An important consideration is that patients are affected differently by different types of music, such as relaxing, happy, and sad music.

Although combining Cognitive Behavioral Therapy and Music Therapy has obvious results in practical application, the impact on the therapeutic effect is inconsistent due to the different age, personality, cultural background and family status of patients. Future research should aim to refine the integration of these two therapeutic approaches, expanding their applicability and identifying optimal scenarios for their use.

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