

COGNITIVE BEHAVIORAL THERAPY FOR ANXIETY IN PATIENTS WITH PTSD

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Abstract: Cognitive Behavioral Therapy (CBT) is a widely used approach for the treatment of psychological disorders, including Post-traumatic Stress Disorder (PTSD), characterized by persistent anxiety symptoms after exposure to traumatic events. The systematic review examined the effectiveness of CBT in reducing anxiety in patients with PTSD compared to other interventions or no treatment. This systematic review used an integrative literature approach, following steps that include formulation of the research question using the PICO method, sample selection in the Virtual Health Library, and collection and analysis of data from recently published articles in English, Portuguese, and Spanish. Non-pertinent studies such as monographs and theses were excluded. The research aimed to compare the effectiveness of CBT with other therapeutic approaches in reducing anxiety symptoms and improving the quality of life in patients with PTSD. Analysis of the selected studies indicated that CBT is effective in reducing anxiety symptoms in patients with Post-traumatic Stress Disorder. Different adaptations of CBT, including cognitive reprocessing and mindfulness techniques, were associated with significant improvements in the management of anxiety symptoms and the quality of life of patients. The results suggest that CBT is a promising therapeutic option for patients with PTSD, offering substantial benefits in reducing anxiety and in post-traumatic psychological adaptation. This systematic review reinforces the importance of CBT as an effective intervention in the management of anxiety in patients with PTSD. Future research should deepen the understanding of the therapeutic mechanisms of CBT and evaluate its efficacy in diverse populations, aiming to improve clinical practices and the treatment of these complex disorders.

Keywords: CBT. PTSD. Anxiety.

INTRODUCTION

Cognitive Behavioral Therapy (CBT) is a psychotherapeutic approach that aims to modify dysfunctional thoughts and inappropriate behaviors and is widely used to treat psychological disorders. Anxiety is a normal emotional response to threatening situations, but when persistent and disproportionate, it can lead to Post-traumatic Stress Disorder (PTSD), characterized by persistent anxiety symptoms after exposure to traumatic events (American Psychiatric Association, 2013).

Therefore, the question is: How does Cognitive Behavioral Therapy (CBT) compare to other types of intervention (or the absence of treatment) in reducing anxiety symptoms and improving the quality of life in patients diagnosed with Post-traumatic Stress Disorder (PTSD)?

Post-traumatic stress disorder (PTSD) is a global problem that significantly impacts the quality of life of individuals exposed to traumatic events. Cognitive Behavioral Therapy (CBT) is effective in treating anxiety disorders, including PTSD, by focusing on modifying dysfunctional thoughts and behaviors. However, there is an urgent need to study the applicability and effectiveness of CBT in different cultural and geographic contexts. This study aims to fill this gap by investigating how CBT can benefit patients with Post-traumatic Stress Disorder globally, contributing to the improvement of clinical practices and mental health policies internationally.

Considering the previously observed efficacy of Cognitive Behavioral Therapy (CBT) in the treatment of anxiety in other disorders, it is suggested that CBT may also be effective in reducing anxiety symptoms in patients diagnosed with Post-Traumatic Stress Disorder (PTSD). It is speculated that CBT may modify dysfunctional thought patterns

and maladaptive behaviors, potentially significantly improving anxiety management in individuals affected by PTSD.

This study aimed to investigate the efficacy of Cognitive Behavioral Therapy (CBT) in the treatment of anxiety in patients diagnosed with Post-Traumatic Stress Disorder (PTSD). The study evaluated how CBT can influence the reduction of anxiety symptoms, exploring its applicability in different clinical and cultural contexts. In addition, we examined the mechanisms by which CBT can benefit patients with PTSD, contributing to the development of more effective therapeutic strategies tailored to the individual needs of these patients.

METHODS

This research employed an integrative literature review approach, following six steps: formulation of the research question, sample selection, data collection, critical appraisal, analysis and synthesis of results, and finally, knowledge synthesis (Whittemore, 2005).

The research question was formulated using the PICO method (P – population; I – phenomenon of interest; C – comparison; O – outcome). The components of the PICO method will consist of patients diagnosed with PTSD (P), the use of CBT to treat anxiety in these patients (I), comparisons between CBT and other therapeutic approaches, such as pharmacological therapy or exposure therapy, or the absence of treatment (C), and the observed results, such as reduction of anxiety symptoms, improvement of quality of life and reduction of PTSD symptoms (O). Thus, the investigation was guided by the following research question: “How does CBT compare to other types of intervention (or the absence of treatment) in reducing anxiety symptoms and improving quality of life in patients diagnosed with PTSD?”

This research was conducted based on

a literature search in the Virtual Health Library (VHL), which contains the following databases: MEDLINE, LILACS, SCIELO, IBECs, PAHO, WHOLIS, CUMED, and BDEF. The following health science descriptors (DECs) were used for the searches: Transtorno de Estresse Pós-Traumático, Stress Disorders, Post-Traumatic, Trastornos por Estrés Postraumático, Terapia Cognitivo-Comportamental, Cognitive Behavioral Therapy, Terapia Cognitivo-Conductual, Ansiedade, Anxiety, Ansiedad. Articles available in English and Portuguese, freely accessible, and published in the last four years were considered for analysis in this study. Monographs, books, incomplete articles, theses, dissertations, and studies not relevant to the objective of this review were excluded.

VHL		
Acronym	Keywords	Descriptors
P	Post-Traumatic Stress Disorder	Transtorno de Estresse Pós-Traumático OR Stress Disorders OR Post-Traumatic OR Trastornos por Estrés Postraumático.
I	Cognitive Behavioral Therapy	Terapia Cognitivo-Comportamental OR Cognitive Behavioral Therapy OR Terapia Cognitivo-Conductual.
Co	Anxiety	Ansiedade OR Anxiety OR Ansiedad.
Search strategy		Transtorno de Estresse Pós-Traumático OR Stress Disorders OR Post-Traumatic OR Trastornos por Estrés Postraumático AND Terapia Cognitivo-Comportamental OR Cognitive Behavioral Therapy OR Terapia Cognitivo-Conductual AND Ansiedade OR Anxiety OR Ansiedad.

Box 1. PICO strategies used to search the VHL database.

RESULTS

In the search carried out in the Virtual Health Library (VHL), 519 relevant articles were found, filtered by full texts, main subjects (Post-Traumatic Stress Disorders, Cognitive-Behavioral Therapy, and Anxiety Disorders), language (English, Spanish, and Portuguese) and publication interval (2020-2024). These

519 articles were initially evaluated based on the title and, when necessary, the abstracts, methods, and conclusions to check for the quality and relevance to the study. After this initial screening, 493 articles were discarded because they did not meet the specific objectives of this review. Consequently, 26 articles were selected for a complete and detailed reading. During this phase, 5 articles were excluded due to deviation from the study objectives or the presence of methodological biases. Therefore, 21 articles were selected to compose the basis of the analysis of this study, as detailed in the flowchart.

All articles presented a guiding analysis for the review as their objective.

DISCUSSION

EFFECTIVENESS OF CBT IN REDUCING ANXIETY IN PATIENTS WITH PTSD

CBT is recognized for its ability to help patients identify and modify dysfunctional thoughts that contribute to increased anxiety and traumatic stress response. Cognitive Behavioral Therapy (CBT) has demonstrated efficacy in reducing anxiety in patients with PTSD, as discussed by several studies. CBT is effective in modifying dysfunctional thought patterns and reducing anxiety symptoms, promoting better emotional control in the face of stressful situations (Fischer et al., 2021). Furthermore, the application of trauma-focused CBT techniques resulted in a significant decrease in anxiety, indicating a positive therapeutic response (Kaminer et al., 2023).

ADAPTATIONS AND SPECIFIC APPROACHES OF CBT FOR PATIENTS WITH PTSD

The application of Cognitive Behavioral Therapy (CBT) for patients with Post-Traumatic Stress Disorder (PTSD) involves specific adaptations that aim to improve therapeutic efficacy and patient experience. CBT for PTSD often integrates cognitive reprocessing techniques that help patients reconstruct traumatic narratives and reinterpret meanings associated with stressful events (Bisson et al., 2023). In addition to cognitive techniques, the stability of treatment effects is important, as trauma-focused CBT has been shown to not only reduce symptoms immediately after treatment but also to sustain these gains over time, thus improving patient resilience and ability to face future challenges (Thielemann et al., 2024). Another significant adaptation of CBT for patients with PTSD includes the incorporation of emotion regulation and mindfulness strategies. Mindfulness training within the context of CBT can strengthen patients' ability to tolerate emotional distress and reduce reactivity to traumatic triggers (Zalta et al., 2024). These approaches not only highlight the flexibility of CBT in responding to the specific needs of patients with PTSD but also underscore the importance of integrated therapeutic strategies that promote sustainable recovery and ongoing improvement in quality of life.

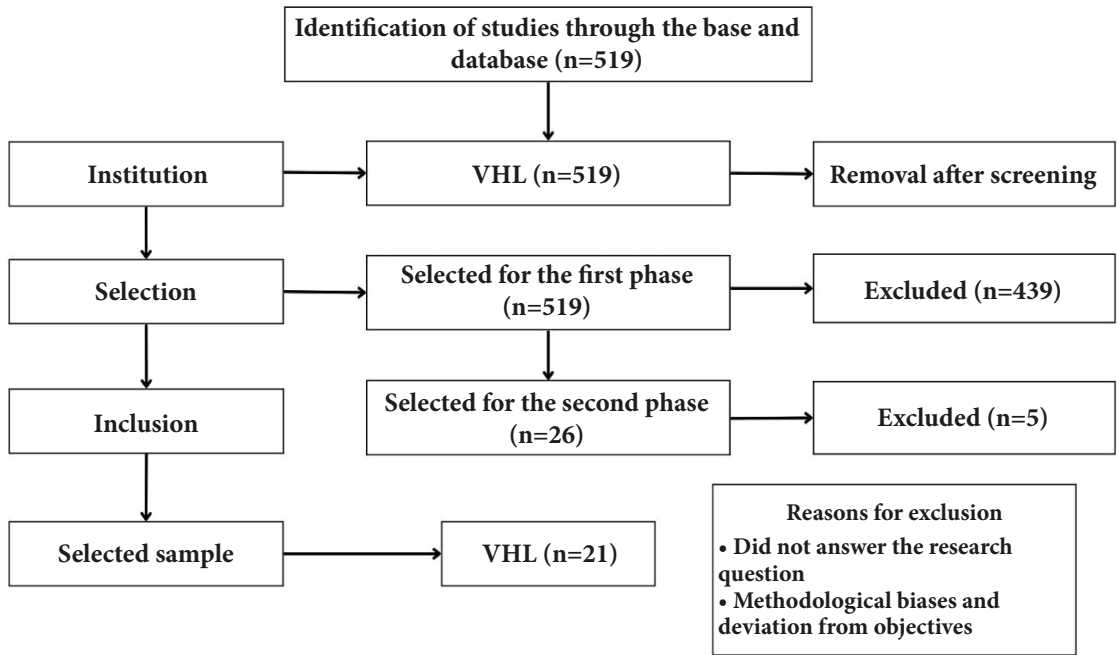


Figure 1 – Flowchart of the primary study selection process adapted from PRISMA.

Authors and year of publication	Journal, country, and year of study	Language	Objectives
PFEIFFER, Elisa et al. 2024	Trials - v. 25, Germany, 2024	English	To evaluate the effectiveness of cognitive-behavioral intervention for trauma in schools (CBITS) when applied in child welfare programs in Germany.
BUHMANN, Caecilie Böck et al., 2024	The British Journal of Psychiatry, United Kingdom, 2024	English	To determine the effectiveness of these interventions in reducing symptoms of PTSD and depression.
KUCK, Sascha et al., 2024	European Journal of Psychotraumatology, The Netherlands, 2024	English	To investigate the occurrence of sudden gains during routine treatment with trauma-focused cognitive behavioral therapy (TF-CBT).
BRAGESJÖ, Maria et al., 2024	European Journal of Psychotraumatology, The Netherlands, 2024.	English	To assess the feasibility and acceptability of (HOPE) for the treatment of severe and complex Post-traumatic Stress Disorder (PTSD).
KUZMAN, Martina Rojnic et al., 2024	European Psychiatry, Switzerland, 2024	English	To identify the most frequently used therapeutic approaches, variations between different countries, and factors that influence clinical treatment choices for PTSD.
ZALTA, Alyson K. et al., 2024	Journal of Psychiatric Research, United Kingdom, 2024.	English	To determine whether variations in BDNF levels can predict treatment efficacy and reduction in PTSD symptoms, providing a better understanding of the biological mechanisms underlying treatment response.
THIELEMANN, Jonathan Felix Benjamin et al., 2024	Child Maltreatment, United States, 2024.	English	To conduct a meta-analysis to assess the stability of treatment effects and caregiver-reported outcomes in trauma-focused cognitive behavioral therapy (TF-CBT) for children and adolescents.
GONZÁLEZ-ALEMAÑY, Eduardo et al., 2024	Brain Research, The Netherlands, 2024.	English	To investigate structural changes in the brain associated with cognitive behavioral therapy (CBT) in children victims of maltreatment.
WACHEN, Jennifer Schuster et al. 2024	Contemporary Clinical Trials, United States, 2024.	English	To evaluate the efficacy of massed cognitive processing therapy in the treatment of combat-related Post-traumatic Stress Disorder (PTSD).

SPENCER, Samuel D. et al., 2024	Journal of Affective Disorders, The Netherlands, 2024	English	To investigate the role of family accommodation in post-traumatic stress symptoms and functional impairment in children in the context of cognitive-behavioral therapy (CBT).
BISSON, Jonathan I. et al., 2023	Health Technology Assessment (Winchester, England), United Kingdom, 2023	English	To compare the effectiveness of two therapeutic approaches for the treatment of Post-traumatic Stress Disorder (PTSD): guided self-help and individual trauma-focused cognitive-behavioral therapy.
STEL, Regina et al., 2023	European Journal of Psychotraumatology, The Netherlands, 2023.	English	To investigate the relationship between adherence to dialectical behavior therapy (DBT) and cognitive processing therapy (CPT) and treatment outcomes in patients with Post-traumatic Stress Disorder (PTSD) resulting from childhood abuse.
PRGUDA, Emina et al., 2023	Journal of Clinical Psychology, United States, 2023	English	To conduct a pilot randomized controlled trial to evaluate the efficacy of cognitive behavioral therapy for insomnia (CBT-I) and imagery rehearsal therapy (IRT) in the treatment of post-traumatic sleep disorders in veterans.
WALTER, Kristen H. et al., 2023	Psychiatry Research, The Netherlands, 2023	English	To compare the efficacy of cognitive-behavioral therapy focusing on cognitive processing therapy (CPT) with and without the addition of behavioral activation (BA) therapy among U.S. military service members.
LENFERINK, Lonke IM et al., 2023	Cognitive Behaviour Therapy, United Kingdom, 2023	English	To investigate the effectiveness of online cognitive behavioral therapy in treating prolonged grief after a traumatic loss.
LEWIS, Catrin et al., 2023	Journal of Traumatic Stress, United States, 2023	English	To investigate the role of social support as a predictor of outcomes of trauma-focused cognitive behavioral therapy, both when delivered in person and via internet-based guided self-help.
KAMINER, Debra et al., 2023	European Journal of Psychotraumatology, The Netherlands, 2023	English	To evaluate the effectiveness of abbreviated trauma-focused cognitive behavioral therapy in the treatment of South African adolescents.
GREENE, Carolyn A. et al. 2023	Psychological Trauma Theory Research Practice and Policy, United States, 2023	English	To investigate the bidirectional effects of change in trauma symptoms in both parents and adolescents during trauma-focused cognitive behavioral therapy (CBT).
FISCHER, Susanne et al., 2021	Journal of Neural Transmission, 2021	English	Understand how genetic variations and hormone levels can influence the severity of PTSD symptoms and the effectiveness of therapeutic interventions focused on the HPA axis.

Box 2. Characterization of primary studies included in the systematic review.

CHALLENGES AND RECOMMENDATIONS FOR FUTURE RESEARCH

One of the main challenges faced in CBT research for PTSD is the variability in treatment response among patients. Studies suggest that individualization of treatment is essential, as different individuals may respond differently to standard CBT techniques (Steil et al., 2023). Furthermore, there is a growing need for long-term studies that investigate the durability of CBT effects over time. Understanding the stability of therapeutic gains and the factors that contribute to the

maintenance or recurrence of symptoms is crucial to improving therapeutic practices (Lewis et al., 2023). Another important challenge is the cultural adaptation of CBT to different contexts and populations. Adapting therapeutic interventions to respect and incorporate cultural particularities can increase the effectiveness and acceptance of treatment in diverse communities (Kaminer et al., 2023). Investing in robust research methodologies, such as controlled clinical trials and cohort studies, is also critical to comparatively assess the effectiveness of CBT relative to other therapeutic approaches and

inform evidence-based clinical practices (Bisson et al., 2023).

FINAL CONSIDERATIONS

Cognitive Behavioral Therapy (CBT) has emerged as a promising therapeutic approach for treating anxiety in patients diagnosed with Post-Traumatic Stress Disorder (PTSD). By targeting the modification of dysfunctional thought patterns and maladaptive behaviors, CBT offers effective strategies for reducing anxiety symptoms associated with trauma. The flexibility in the delivery of CBT allows therapeutic interventions to be tailored to individual patient needs, thereby

improving treatment response and symptom management over time.

However, significant challenges remain in the effective implementation of CBT for patients with PTSD. These challenges include variability in therapeutic response among patients, the complexity of cases that often involve psychiatric comorbidities, and the need for strategies to increase patient adherence to treatment. To advance the field, more studies are needed to investigate the long-term efficacy of CBT, its applicability in different cultural contexts, and methods for tailoring therapeutic interventions according to individual patient characteristics.

REFERENCES

- BUHMANN, Caecilie Böck et al. O efeito da terapia cognitivo-comportamental flexível e do tratamento médico, incluindo antidepressivos, no transtorno de estresse pós-traumático e na depressão em refugiados traumatizados: ensaio clínico controlado randomizado pragmático-CORRIGENDUM. *The British Journal of Psychiatry*, v. 224, n. 5, p. 186-186, 2024.
- PFEIFFER, Elisa et al. Evaluation of “Cognitive Behavioral Intervention for Trauma in Schools”(CBITS) in child welfare programs in Germany: study protocol of a randomized controlled trial. *Trials*, v. 25, n. 1, p. 399, 2024.
- KUCK, Sascha et al. Sudden gains in routine clinical care: application of a permutation test for trauma-focused cognitive behavioural therapy. *European Journal of Psychotraumatology*, v. 15, n. 1, p. 2335796, 2024.
- BRAGESJÖ, Maria et al. Exploring the feasibility and acceptance of huddinge online prolonged exposure therapy (HOPE) for severe and complex PTSD. *European Journal of Psychotraumatology*, v. 15, n. 1, p. 2320607, 2024.
- KUZMAN, Martina Rojnic et al. Escolhas de tratamento clínico para transtorno de estresse pós-traumático: pesquisa de embaixadores com psiquiatras em 39 países europeus. *European Psychiatry*, v. 67, n. 1, p. e24, 2024.
- ZALTA, Alyson K. et al. Brain derived neurotrophic factor and treatment outcomes among veterans attending an intensive treatment program for posttraumatic stress disorder. *Journal of Psychiatric Research*, v. 173, p. 1-5, 2024.
- THIELEMANN, Jonathan Felix Benjamin et al. Stability of treatment effects and caregiver-reported outcomes: a meta-analysis of trauma-focused cognitive behavioral therapy for children and adolescents. *Child maltreatment*, v. 29, n. 2, p. 375-387, 2024.
- GONZÁLEZ-ALEMAÑY, Eduardo et al. Brain structural change associated with cognitive behavioral therapy in maltreated children. *Brain research*, v. 1825, p. 148702, 2024.
- WACHEN, Jennifer Schuster et al. Terapia de processamento cognitivo em massa para transtorno de estresse pós-traumático relacionado a combate: Desenho de estudo e metodologia de um ensaio clínico randomizado controlado de não inferioridade. *Contemporary Clinical Trials*, v. 136, p. 107405, 2024.
- SPENCER, Samuel D. et al. The role of family accommodation in child posttraumatic stress symptoms and functional impairment in the context of cognitive behavioral therapy. *Journal of Affective Disorders*, v. 346, p. 252-259, 2024.

BISSON, Jonathan I. et al. Ensaio controlado randomizado pragmático de autoajuda guiada versus terapia cognitivo-comportamental individual com foco em trauma para transtorno de estresse pós-traumático (RAPID). *Health Technology Assessment (Winchester, Inglaterra)*, v. 27, n. 26, p. 1, 2023.

STEIL, Regina et al. Is adherence to dialectic behaviour therapy for post-traumatic stress disorder (PTSD) and cognitive processing therapy related to treatment outcome in PTSD after childhood abuse?. *European Journal of psychotraumatology*, v. 14, n. 2, p. 2260293, 2023.

PRGUDA, Emina et al. Posttraumatic sleep disturbances in veterans: A pilot randomized controlled trial of cognitive behavioral therapy for insomnia and imagery rehearsal therapy. *Journal of Clinical Psychology*, v. 79, n. 11, p. 2493-2514, 2023.

WALTER, Kristen H. et al. Comparison of behavioral activation-enhanced cognitive processing therapy and cognitive processing therapy among US service members: A randomized clinical trial. *Psychiatry Research*, v. 326, p. 115330, 2023.

LENFERINK, Lonneke IM et al. Online cognitive behavioral therapy for prolonged grief after traumatic loss: a randomized waitlist-controlled trial. *Cognitive behaviour therapy*, v. 52, n. 5, p. 508-522, 2023.

LEWIS, Catrin et al. Social support as a predictor of outcomes of cognitive behavioral therapy with a trauma focus delivered face-to-face and via guided internet-based self-help. *Journal of Traumatic Stress*, v. 36, n. 3, p. 511-523, 2023.

KAMINER, Debra et al. Eficácia da terapia cognitivo-comportamental abreviada focada no trauma para adolescentes sul-africanos: um ensaio clínico randomizado. *European journal of psychotraumatology*, v. 14, n. 1, p. 2181602, 2023.

GREENE, Carolyn A. et al. Efeitos bidirecionais da mudança de sintomas parentais e adolescentes na terapia cognitivo-comportamental focada em trauma. *Trauma Psicológico: Teoria, Pesquisa, Prática e Política*, v. 15, n. S1, p. S172, 2023.

FISCHER, Susanne et al. Genes and hormones of the hypothalamic-pituitary-adrenal axis in post-traumatic stress disorder. What is their role in symptom expression and treatment response?. *Journal of Neural Transmission*, v. 128, p. 1279-1286, 2021.