



Review Article

**The use of CBT (Cognitive Behavioural Therapy) as a treatment of
Post-Traumatic Stress Disorder Among Adolescents in Nigeria**

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Abstract

Background: Post-traumatic stress disorder (PTSD) is a significant mental health concern among adolescents in Nigeria, exacerbated by socio-economic challenges and violence. Despite its high prevalence, treatment options remain limited, with Cognitive Behavioral Therapy (CBT) emerging as a promising intervention. **Aim:** To evaluate the efficacy of Cognitive Behavioral Therapy in treating PTSD among adolescents in Nigeria. **Setting:** Multiple regions across Nigeria, considering local socio-cultural factors influencing mental health outcomes. **Methods:** A systematic review was conducted across PubMed, Cochrane Library, Web of Science, and CINAHL Complete databases (up to March 2024). The search combined terms related to "PTSD," "CBT," and "cognitive psychotherapy" using Boolean operators (AND and OR). **Results:** Findings indicate that CBT significantly reduces PTSD symptoms in Nigerian adolescents, particularly anxiety, depression, and social withdrawal. The therapy's structured problem-solving techniques were shown to be effective in alleviating stressors unique to this demographic. Studies highlighted improvements in emotional regulation and coping mechanisms, suggesting CBT's adaptability to the Nigerian context. **Conclusion:** CBT is an effective therapeutic intervention for managing PTSD among adolescents in Nigeria, demonstrating substantial improvements in mental health outcomes. Its structured approach provides a feasible solution to address the high burden of PTSD in low-resource settings. **Contribution:** This study contributes to the limited body of knowledge on PTSD interventions in Nigeria, emphasizing the potential of CBT to enhance adolescent mental health in diverse socio-cultural environments. The findings support the integration of CBT into mental health policies to address adolescent PTSD in Nigeria.

Keywords cognitive behavioural therapy, post-traumatic stress disorder, adolescents, Nigeria

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Introduction

Post-traumatic stress disorder (PTSD) is characterized by persistent mental disorders and delayed onset following exposure to death, threats, or risk of physical injury¹. PTSD diagnosis occurs after a traumatic event leads to psychological disturbance, affecting approximately one in six children who experience trauma². Evidence suggests women face a higher risk of developing PTSD compared to men.

Children, particularly adolescents, represent a frequently overlooked population in PTSD diagnosis. They can develop the disorder due to harassment, abuse, or neglect³. Childhood trauma often manifests as PTSD during adolescence, significantly impacting both physical and psychological health⁴. The condition frequently leads to various mental health complications, including depression, academic underperformance, substance use, and suicidal tendencies⁴. Research has shown that PTSD can also manifest in physical symptoms, such as irritable bowel syndrome⁵. Furthermore, studies indicate strong associations between PTSD and suicidal ideation, depression, substance abuse, behavioral disorders, and anxiety⁶, emphasizing the critical importance of early diagnosis and intervention.

Treatment approaches for adolescent PTSD encompass various modalities, including family treatment, psychotherapy, and medication. Specific interventions include psychoanalytical therapy, cognitive behavioral therapy (CBT), eye desensitization reprocessing therapy, and hypnotherapy [6]. While combined psychotherapy and pharmacological treatment often yield optimal results, evidence suggests that psychotherapy, particularly CBT, demonstrates significant effectiveness in treating PTSD [2]. CBT has emerged as a primary intervention for children and adolescents with PTSD, with research supporting its efficacy in managing both PTSD symptoms and associated conditions like migraine in young populations⁷.

This research evaluates the effectiveness of cognitive behavioral therapy in treating post-traumatic stress disorder (PTSD) among adolescents in Nigeria. The absence of comprehensive policies addressing parent-child relationships and neglect has significantly impacted adolescent development and learning capabilities in Nigeria⁸. Studies indicate that PTSD prevalence among adolescents in developing countries, including Nigeria, substantially exceeds rates observed in high-income nations⁹. While various socio-economic factors in Nigeria contribute to increased PTSD risk among adolescents, existing research has not adequately addressed the specific context of Nigerian adolescents. Therefore, this study specifically examines PTSD etiology and treatment approaches within the Nigerian adolescent population.

The specific objectives of this study are:

- To examine the causes and treatment of post-traumatic stress disorder in adolescents in Nigeria by synthesizing evidence from relevant primary studies.
- To examine the various ways cognitive behavioral therapy can help treat post-traumatic stress disorder in adolescents in Nigeria.
- To examine the effectiveness of cognitive behavioral therapy in treating post-traumatic stress disorder in adolescents in Nigeria.

Method

Study Design

A systematic review with narrative synthesis was conducted to evaluate the effectiveness of Cognitive Behavioral Therapy (CBT) in treating post-traumatic stress disorder (PTSD) among adolescents in Nigeria. This methodology was selected for its rigorous approach to evidence synthesis and its established reliability in health science research¹⁰.

Setting

The review encompassed studies conducted across various regions in Nigeria, focusing on healthcare facilities, mental health centers, and community-based interventions that provided CBT services to adolescents with PTSD.

Study Selection

The review included primary studies published between 2019 and 2024 that focused on children and adolescents aged below 18 years who received CBT for PTSD in Nigeria. Studies were excluded if they involved individuals who developed PTSD as adults, contained incomplete data, or included participants with intellectual disabilities or serious emotional and behavioral disorders. Only English-language publications were considered.

Search Strategy

A comprehensive search was conducted across four major databases: Cochrane Library, Medline, Web of Science, and CINAHL Complete, up to March 2024. The search strategy employed Boolean operators combining key terms including "post-traumatic stress disorder," "CBT," "stress disorder," "PTSD," "cognitive psychotherapy," and "cognition therapy." The Abstrack software was utilized to manage the initial screening process.

Quality Assessment

The Cochrane Collaboration tool was employed to assess the risk of bias in included studies, evaluating five key domains: selection bias, outcome reporting bias, performance bias, attrition bias, and detection bias¹¹. Studies were categorized as having high, moderate, or low quality based on these criteria. Of the twelve studies included, five were rated as high quality, six as moderate quality, and one as low quality.

Data Extraction and Analysis

A structured data extraction template was developed to systematically collect information on study characteristics, participant demographics, intervention details, and outcomes. The extracted data were synthesized narratively, focusing on the effectiveness of CBT interventions and their implications for adolescent PTSD treatment in Nigeria.

Ethical Considerations

The study was conducted following the ethical guidelines for systematic reviews and received approval from Anglia Ruskin University's Ethics Committee (Ethics Reference: ETH2324-6141). All data were stored securely on the university's protected servers and an encrypted external drive to ensure data security and confidentiality.

Result

Study Characteristics

The study characteristics of the study involves the name of the study and its Author, aim of study, zone, characteristics of the participants, factors under study, and results. The design adopted for the included study is from a quasi-experimental design, scoping review, and randomized controlled trial. Second was that a characteristic of the included studies had to involve adolescent participants below the age of 18 years. All twelve studies enrolled participants less than 18 years hence making the studies relevant to the research. These studies were done in Nigeria from three different zones; South East, South West and the Northern part of Nigeria. The studies were between the years 2019 to 2024 which also makes the studies valid for this research.

Table 1: Showing Study Characteristics

Author/pub lication year	Aim	Study design	Zone	Sample Size	Factor examined	Key findings
Armin, 2020	To reduce mental health in adolescents through CBT	Randomized controlled Trial	South-East Nigeria	76 Adolescents	Adolescents between the ages of 13-16	The results highlighted the importance of Cognitive-Behavioral Therapy for improving the mental health of adolescent
Are et al, 2021	To reduce PTSD through CBT treatment	Controlled two-group intervention study	North-West Nigeria	40 adolescents	Adolescents in Nigeria	It shows that CBT has been effective in treating post-post-traumatic disorder in adolescents
Talabi et al, 2023		quasi-experimental design	southeast Nigeria	580 adolescents	Use of CBT as an intervention	This study found that CBT was more effective in reducing PTSD among children who experienced parental death At 12-month follow-up, CBT was more effective in reducing PTSD only among children in rural and urban
Jibunoh and Ani, 2021	To reduce PTSD through CBT treatment	Controlled clinical Trial	South-East Nigeria	40 adolescents	Adolescents in Nigeria	The study showed that adolescents' anxiety symptoms were very high and probably required a more intensive intervention like CBT
Tolulope et al, 2015	To reduce stressors in adolescents through a problem-solving therapeutic approach applied by CBT	Randomized controlled Trail	Southwest Nigeria	40 adolescents	Adolescents	The study found that problem-solving is a therapeutic approach that is applied by CBT and this can help young people to resolve specific stressors
Obiweluzo et al, 2021	Decreasing anxiety in adolescents through CBT play therapy	Randomized controlled trial	South-East Nigeria	128 children	CBT as an intervention	The study shows that cognitive behavioral play therapy is beneficial in decreasing schoolchildren's social anxiety scores.
Amedu and Dwarika, 2024	Improving adolescent's mental health through CBT	Scoping review method	South-East Nigeria	284 children	CBT as an intervention	The study shows that CBT is an effective psychological therapy that improves the mental health of children, students, and adolescents. It has been demonstrated that the use of CBT enhances the mental health of individuals, regardless of their age.
Egenti et al, 2019	Decreasing social anxiety through CBT music therapy	Randomized controlled Trail	South-East Nigeria	155 schooling adolescents	CBT as an intervention	The study shows that music therapy with cognitive-behavioral therapy was significantly beneficial in decreasing social anxiety symptoms in adolescents
Egbegi et al, 2021		Controlled Trail	Southern area	50 adolescents	CBT as an intervention	The study shows that CBT is more effective in treating depressive disorder among adolescents
Ahmed et	Using CBT to treat	Quasi-	Northern parts	254 children and	CBT as an intervention	The study shows that

al., 2022	PTSD in adolescents	experimental design		adolescents		CBT was effective in treating PTSD among adolescents
Enem and Benedict., 2019	Reducing depression and anxiety among adolescents through CBT	Cross-section survey	South-North Nigeria	148 adolescents	Adolescents as the study population	The study shows that CBT was effective in reducing depression and anxiety among adolescents
Ede et al., 2020	Reducing depression and anxiety among adolescents through	Randomized controlled trial	South-Eastern Nigeria	162 adolescents	Adolescents as the study population	The study shows that CBT was effective in reducing anxiety and depression among adolescents

Author	Did the paper address a focused question?	Did the authors look for the right kind of papers?	Do you think all the important relevant studies were included?	Did the review authors do enough to assess the quality of the included studies?	If the results of the review have been combined, was it reasonable to do so?	What are the overall results of the review?	How precise are the results?	Can the results be applied to the local population?	Were all important outcomes considered?	Are the benefits worth the harms and costs?	Study Quality
Armin, 2020	+	+	+	+	+	+	+	+	+	+	+
Are et al, 2021	+	+	+	+	+	+	+	+	+	-	+
Talabi et al, 2023	+	+	+	+	+	+	+	+	+	+	+
Jibunoh and Ani, 2021	+	+	+	+	+	+	+	+	+	+	+
Tolulope et al, 2015	+	+	+	+	+	+	-	+	-	+	+
Obiweluo et al, 2021	+	+	+	+	+	+	-	+	-	+	+
Amedu and Dwarika	+	+	+	+	+	-	+	+	+	+	+
Egenti et al, 2019	+	+	+	+	+	+	-	+	-	-	+
Egbegi et al, 2021	+	+	+	+	+	+	-	+	-	-	+
Ahmed et al. 2022	+	+	+	+	+	+	+	+	+	+	+
Enem and Benedict., 2019	+	+	+	+	+	+	+	+	+	+	+
Ede et al., 2020	+	+	+	+	+	+	+	+	+	+	+

A total of 111 data were collected from CINHAL, PUBMED, MEDLINE and wen of science and an additional 7 data was collected from other sources making it a total of 118 data collected at first. A total of 32 were removed due to duplications leaving a total of 86, out of this a total of 25 was selected based on title and abstract while 17 were accessed for eligibility and a total of 5 was excluded with various reasons as shown in the figure below. This is demonstrated in the figure 1 below:

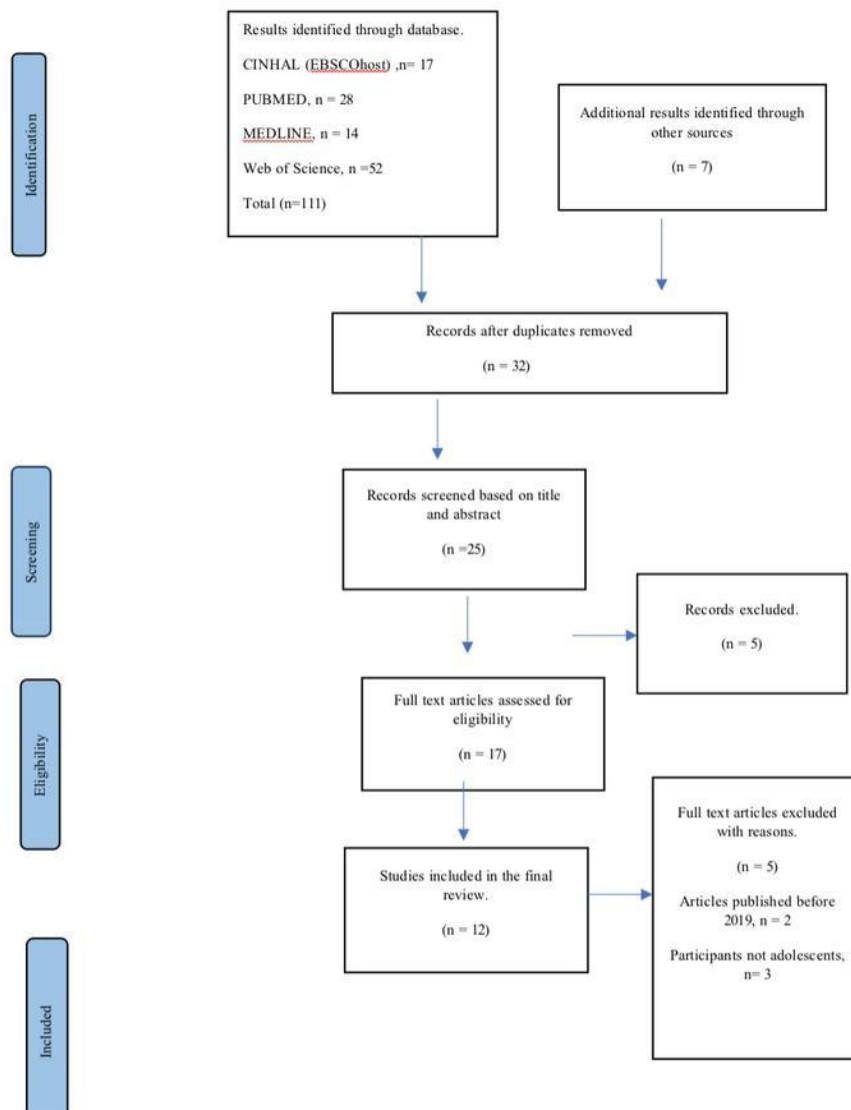


Figure 1. Showing PRISMA flow diagram of the search process and the number of studies included in the systematic review

Synthesis of Results

Studies consistently demonstrate the effectiveness of Cognitive Behavioral Therapy (CBT) in addressing adolescent mental health challenges and PTSD symptoms. Research indicates that compromised mental health in adolescents often leads to PTSD development, with CBT showing significant therapeutic benefits¹². Evidence supports CBT's efficacy in reducing post-traumatic disorder symptoms among adolescents, particularly when implemented through structured therapeutic sessions¹³.

A longitudinal study in both rural and urban Nigeria demonstrated CBT's superior effectiveness in reducing PTSD symptoms among bereaved children, with sustained improvements at one-year follow-up ¹⁴. While some research suggests that severe anxiety cases might require more intensive interventions ¹⁵, CBT's problem-solving approach has proven particularly effective in helping youth manage stressors ¹⁶. Furthermore, studies have validated CBT's efficacy in reducing social anxiety among school-aged children ¹⁷.

Table 2: Showing Quality Assessment of Result

Author/Date	All inclusion criteria reported	Deviations from intended interventions	Total Score	Study Quality
Armin, 2020	5	0	5	Moderate
Are et al, 2021	6	0	6	Moderate
Talabi et al, 2023	9	0	9	High
Jibunoh and Ani, 2021	6	0	6	Moderate
Tolulope et al, 2015	3	0	3	Low quality
Obiweluzo et al, 2021	7	0	7	High
Amedu and Dwarika	8	0	8	High
Egenti et al, 2019	9	0	9	High
Egbegi et al, 2021	8	0	8	High
Ahmed et al. 2022	5	0	5	Moderate
Enem and Benedict., 2019	6	0	6	Moderate
Ede et al., 2020	6	0	6	Moderate

Regarding the quality appraisal a scale of 1-10 was used. The quality score between 1-4 is low quality, 5-6 moderate quality and 7-10 high quality. While doing the analysis of the studies, the papers of higher quality were given preference in order to improve the accuracy of answering the research question. To some extent, the moderate quality studies answered the research question but they also responded to other questions while the low was not so direct in answering the research question.

Discussion

This systematic review evaluated the effectiveness of Cognitive Behavioral Therapy (CBT) in treating Post-traumatic Stress Disorder (PTSD) among Nigerian adolescents. Several key findings emerged from the analysis.

Studies demonstrate that CBT serves as an effective psychological intervention for PTSD-related symptoms in adolescents, particularly anxiety and social phobia¹⁷. The therapy, typically administered in twelve one-hour weekly sessions, incorporates various techniques including skill modification, modeling, bibliotherapy, role-play, coping self-talk, and motivational enhancement¹⁸. Evidence suggests CBT functions as a psycho-intervention mechanism that enhances adolescent well-being and social interaction¹⁹. Research confirms its effectiveness in reducing PTSD symptoms,

particularly in contexts specific to Nigeria's security challenges^{14,20}. Long-term follow-up assessments indicate sustained reduction in PTSD symptoms following CBT intervention^{21,14}.

The severity and manifestation of PTSD symptoms vary based on trauma type, with interpersonal trauma showing elevated rates in both community and clinical settings²². Multiple and prolonged childhood trauma presents additional complexities, though the type of trauma exposure alone does not determine response severity in adolescence²³.

Randomized controlled trials demonstrate CBT's superior efficacy compared to other PTSD treatments, particularly in addressing re-experience and hyperarousal symptoms²⁴. The therapy shows significant effectiveness in reducing depression and anxiety among adolescents with PTSD, though its impact on avoidance symptoms appears more modest²⁵.

Strength of Study

Compared to the reviews of different studies, systematic review eliminates bias hence implying that the quality of the study is high. This method entails browsing through a number of literature and then selects the most applicable study to the research subject. Systematic review also has standardized guidelines hence it will be easier to do the research using the guidelines and leading to a more accurate outcome.

Limitation of Study

A systematic review is also very wide and time consuming when conducting the research. The duplications in the study must be carefully selected so that the results will not be duplicated. The application of systematic review can be complex especially where it is being used for the first time.

Conclusion

The treatment of the PTSD in adolescents is a focus of many of research studies currently conducted; however most of the results are post hoc analysis that use items derived from various self, report scales and clinical interviews and can therefore be viewed as the best guesses at this point. In this research, an explanation of the effectiveness of the CBT in the treatment of adolescents diagnosed with PTSD has been provided. As a result, the symptoms of PTSD of adolescents were reduced with the number of sessions they attended during CBT. This is beneficial to both clinicians and the adolescents because when any adolescents are diagnosed of PTSD CBT can be used to treat. The adolescents Nevertheless, a significant portion of them does not complete the course and some of them do not respond to the interventions being offered to them which are a hinderance in the effectiveness.

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