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A Biopsychosocial Approach to Treating Trauma in Survivors of Human Rights Violations: A Systematic Review

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Abstract

Human rights violations impact millions of individuals across the globe, often targeting the most vulnerable populations and exposing them to severe physical and psychological trauma. This trauma results in the development of Post-Traumatic Stress Disorder (PTSD), a complex phenomenon that has far-reaching biological, psychological, and social causes and consequences. Given the complexity and severity of the trauma that results from human rights violations, identifying effective treatment approaches is essential for long-term recovery in survivors. This study takes a biopsychosocial approach to evaluate the effectiveness of PTSD treatment methods specifically for individuals exposed to severe human rights violations. A systematic review was conducted using the PubMed database, in accordance with the PRISMA 2020 guidelines. A total of 32 studies were included in this review. The findings identify trauma-focused psychotherapies, particularly Narrative Exposure Therapy (NET) and Cognitive Behavioral Therapy (CBT), as the most effective psychological interventions for reducing PTSD symptom severity in this population. In addition, this review finds that because human rights violations are inherently a biopsychosocial phenomenon, treatment interventions that target multiple biopsychosocial domains may more adequately address the complex trauma associated with human rights violations. Overall, the findings emphasize the need for further research that examines multidisciplinary treatment models for PTSD in the world's most vulnerable individuals.

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Acknowledgments

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My purpose in completing this thesis is to shed light upon the grave human rights violations endured by Sikhs (and other religious minorities) in India. Most importantly, this thesis is dedicated to the hundreds of Sikh political prisoners held in arbitrary detention throughout the country. Additionally, this thesis honors the martyrs of the 1984 Sikh Genocide and hopes to shed light upon the atrocities the Sikh community in India has had to face over the last several decades. As a scholar, it is my duty to fight for the rights of marginalized people, and that fight begins by speaking about the injustices experienced by my own community. After completing this thesis, I hope that the international human rights community begins to prioritize justice for survivors and enforces accountability for the perpetrators of human rights violations.

AI Statement: No generative AI technology was used in any of the work represented in or leading to this document.

Chapter 1

Introduction

Post-Traumatic Stress Disorder (PTSD) is a complex psychiatric disorder that falls under the American Psychiatric Association's category of "Trauma and Stressor Related Disorders" (American Psychological Association, 2025). PTSD typically develops as a result of severe physical or psychological trauma. Common traumatic events that cause PTSD include war or armed conflict, natural disasters, physical or sexual violence, or the sudden death of a loved one (Mayo Clinic, 2023). Exposure to human rights violations, particularly torture, or cruel punishment or treatment, result in high rates of PTSD (Orzechowski et al., 2021). Treating PTSD in survivors of human rights violations is essential because unaddressed symptoms can impair physical health, disrupt social functioning, and limit survivors' ability to recover and rebuild their lives (Orzechowski et al., 2021). PTSD is a biopsychosocial phenomenon both in its causes and consequences. Therefore, treatment must also take a biopsychosocial approach for effective and long-lasting improvements. In this systematic review, I use a biopsychosocial lens to analyze the effectiveness of various PTSD treatment methods for this population. The purpose of this thesis is to take a multidimensional approach to evaluate current treatment methods and to identify the most effective approaches.

In the introduction, I summarize PTSD as a biopsychosocial condition, describing its key symptoms and epidemiological patterns as well as what is currently known about available PTSD treatments. Next, I evaluate the burden of PTSD among survivors of human rights violations. The conclusion of the introduction explains why a biopsychosocial framework may offer a more appropriate approach for treating PTSD in this population.

A Biopsychosocial Approach

The biopsychosocial model was developed by George Engel in 1977 and proposed that health and illness arise from the dynamic interaction of biological, psychological, and social factors, rather than from biology alone (Tripathi et al., 2019). In the context of mental health disorders (especially PTSD), the biopsychosocial approach recognizes that traumatic stress impacts biological, psychological, and social aspects of an individual's life (Tripathi et al., 2019). PTSD symptoms arise through these interconnected pathways. For example, experiencing trauma impacts neuroendocrine response symptoms, influences trauma-related beliefs and coping strategies, and is reinforced by environmental stressors such as poverty, displacement, or stigma. A biopsychosocial approach to PTSD integrates evidence-based psychotherapies, biological interventions (when needed), and social support or community-based resources to address the multi-dimensional factors that impact trauma and recovery.

The biopsychosocial framework is particularly beneficial for survivors of human rights violations because their trauma rarely occurs in isolation. Chronic stress, exposure to violence, forced displacement, loss of family structures, and systemic oppression are all interconnected factors**.** Global mental health research consistently shows that PTSD outcomes worsen when biological vulnerability intersects with ongoing psychological trauma or social instability (Ford et al., 2015). Biological symptoms such as dysregulated neuroendocrine systems or sleep disturbances may persist if psychological factors (such as fear, shame, or helplessness) are not treated. Additionally, recovery is hindered when survivors face unsafe living conditions, lack community support, have limited access to healthcare, and/or face cultural barriers to treatment (Ford et al., 2015). Therefore, the biopsychosocial approach to treating PTSD takes a holistic approach that addresses the multidimensional influences of PTSD.

Biologically, survivors frequently present with chronic pain, somatic (physical) injury, and dysregulation of stress-response systems. The dysregulation of the stress-response systems intensifies psychological symptoms such as hyperarousal, sleep disturbances, and difficulties in concentration and memory (Kaur, 2017). In the psychological domain, experiencing inhumane treatment disrupts core assumptions about safety, trust, and human dignity (Vang et al., 2019). This leads to the development of persistent negative symptoms such as fear, shame, negative self-image, and reoccurring intrusive memories. From a social perspective, these violations are often intertwined with broader contexts of displacement, detention, and political repression, which result in fractured social networks, cultural dislocation (e.g., fleeing one's home country/culture), and ongoing vulnerability (e.g., poverty, homelessness) (Kaur, 2017). Together, the biopsychosocial framework aligns with the multidimensional aspects of PTSD and is thus utilized as the guiding framework in this review.

Biological Mechanisms of PTSD

Like most other mental health disorders, PTSD involves complex biological mechanisms that dysregulate crucial neurological and hormonal pathways. The hypothalamic-pituitary-adrenal (HPA) axis is a neuroendocrine pathway that regulates the human body's stress response and is responsible for homeostasis in the brain (Lawerence & Scofield, 2024). The HPA axis consists of 3 main components: the hypothalamus (located in the center of the brain), the pituitary gland (located just below the hypothalamus), and the adrenal glands (located on top of each kidney). When an individual is experiencing a stressful situation, the hypothalamus releases corticotropin-releasing hormone (CRH). The release of CRH signals the pituitary gland to secrete adrenocorticotropic hormone (ACTH) into the bloodstream. Then, ACTH in the bloodstream signals the adrenal cortex to produce cortisol, the primary stress hormone in our

body (Lawerence & Scofield, 2024). Cortisol initiates the body's stress response by releasing stored energy and raising blood glucose levels. As cortisol levels increase, they signal the hypothalamus and pituitary gland to reduce the secretion of CRH and ACTH. Normally, this creates a negative feedback loop that returns the stress response system to homeostasis (Lawerence & Scofield, 2024).

In PTSD, the regulation of the HPA axis is significantly disrupted, which contributes to symptom development and severity. Most notably, cortisol production in individuals with PTSD is disrupted, with some individuals having elevated levels of cortisol while others show lower than normal levels (PTSD UK, 2025). Typically, when individuals experience a stressful situation, their cortisol levels increase. However, scientific findings also reveal lower baseline cortisol in some individuals with PTSD (PTSD UK, 2025). According to behavior theorists, individuals with PTSD may become conditioned to respond to all stress-related cues with increased autonomic nervous system arousal and dysregulated cortisol release due to the severity of the initial traumatic event (PTSD UK, 2025). This suggests that constant activation of the HPA axis may reduce the overall cortisol levels in individuals with PTSD by lowering their overall peak stress response levels (Stoppelbein et al., 2012). Therefore, even though individuals are experiencing constant stress-response behaviors, the levels of cortisol being released could perhaps be lower. The fluctuation in cortisol levels in those with PTSD is currently an understudied phenomenon (Stoppelbein et al., 2012).

Along with the abnormal levels of cortisol, individuals with PTSD experience heightened physiological reactivity to stress. This manifests in symptoms such as hyperarousal, anxiety, and difficulties regulating their fear response (Schumacher et al., 2019). These dysregulations to the HPA axis play a major role in the persistence of PTSD symptoms by impairing the body's ability

to appropriately regulate stress (Schumacher et al., 2019). This puts individuals in a constant state of hypervigilance and emotional dysregulation.

Neuroimaging studies have revealed the amygdala, prefrontal cortex, and hippocampus as three neural structures that over time reduce in size in individuals with PTSD (Iqbal et al., 2023). This prohibits normal functioning in these brain regions. The amygdala is the primary region of the brain involved in emotional memory and drives the body's fear response. In PTSD, the amygdala becomes hyperactive, prompting increased stress responses in the body (Koenigs & Grafman, 2009). In those with PTSD the prefrontal cortex, commonly referred to as the "personality center" of the brain, becomes hypoactive, meaning it has reduced activity and reduced neurological functioning (Koenigs & Grafman, 2009). PTSD also causes the hippocampus, the brain structure involved in contextualizing memory, to reduce in volume and functioning (Iqbal et al., 2023).

In recent years, the genetic predisposition of PTSD has received more attention. A study revealed that a shorter SLC64A4 serotonin transporter gene may increase risk for PTSD development, especially when paired with environmental stressors and epigenetic modifications like DNA methylation after exposure to trauma (Pitman et al., 2016). This indicates that the children of individuals living with chronic PTSD may be at an elevated risk of developing PTSD or experiencing adverse genetic or biological changes. Altogether, PTSD heavily dysregulates biological and physiological functioning, resulting in poor health outcomes, especially for individuals who live with the condition for prolonged periods of time.

Psychological Mechanisms of PTSD

Psychological symptoms are the most well-known and most easily identified implications of PTSD. These symptoms are typically grouped into one of four categories: intrusive memories, avoidance, negative changes in thinking and mood, and changes in physical reactions (Mayo Clinic, 2024). Intrusive memories include flashbacks (unwanted and repetitive memories of the event) and severe reactions to reminders of a traumatic event (Mayo Clinic, 2024). Avoidance symptoms include deliberately avoiding thoughts or conversations about a traumatic event, as well as avoiding places, activities, or individuals that trigger reminders of the traumatic event. Negative changes in thinking and mood involve persistent negative thoughts about oneself or others, negative emotions (e.g. fear, guilt, anger, blame, shame), loss of memory, emotional detachment, and loss of interest in previously enjoyed activities (Mayo Clinic, 2024). In addition, difficulty experiencing positive emotions is another common symptom experienced by those with PTSD (Mayo Clinic, 2024).

Social Mechanisms of PTSD

Universal Declaration of Human Rights & Article 5 Violations

This review is focused on PTSD among those who have experienced human rights violations. I define "human rights violations" with deliberate specificity to ensure clarity and methodological consistency. To prevent mass atrocity, genocide, or widespread human suffering, the United Nations set universal guidelines meant to protect the fundamental rights of all persons. These guidelines were published as the Universal Declaration of Human Rights (UDHR) (United Nations, 1948). Although the UDHR is not a legally binding treaty, it is the first of its kind to set a global standard for justice, equality, and human rights. The UDHR consists of 30 articles that outline fundamental, civil, political, economic, social, and cultural

rights. Because the UDHR contains a broad range of rights, in this review I focus on violations of Article 5 of the UDHR. Article 5 of the UDHR states: “No one shall be subjected to torture or cruel, inhuman, or degrading treatment or punishment” (United Nations, 1948).

The Istanbul Protocol, a United Nations-endorsed manual for investigating and documenting torture, provides practical guidelines for identifying acts that would be rendered violations of Article 5. The Istanbul Protocol lists examples of Article 5 violations such as severe beatings, electric shocks, genocide, enforced disappearances, and forced displacement (OHCHR, 2022). Psychological forms of abuse, such as prolonged solitary confinement or sensory deprivation, can also meet the threshold of torture depending on their severity and intent (OHCHR, 2022). The Istanbul Protocol offers a standardized framework for identifying trauma exposures that fall within Article 5 protections. Thus, this review focuses only on violations of this caliber.

PTSD in the Context of Human Rights Violations:

As of June 2025, an estimated 117.3 million people globally were displaced because of persecution, violence, or human rights violations (UNHCR, 2025). Additionally, 42.5 million of these individuals have become refugees, with an additional 67.8 million people displaced in their home countries (UNCHR, 2025). These figures highlight the stark reality of human rights violations and the enormous number of people impacted by such violations. Furthermore, these statistics highlight that the identity markers associated with Post-Traumatic Stress Disorder (PTSD) (e.g., refugee status) are not isolated conditions; rather, they are a widespread consequence of structural and political violence. Although torture and related abuses are often

concealed and underreported, scientific research and international monitoring data suggest that these violations occur in nearly every region in the world (Amnesty International, 2025).

According to the United Nations Office of the High Commissioner (2025b), civilians living in areas of armed conflict and human rights defenders are two of the most at-risk populations to experience human rights violations. As of 2025, one civilian died every 12 minutes due to armed conflict (OHCHR, 2025b). Strikingly, at least one human rights defender, journalist, or trade unionist is killed every 14 hours (OHCHR, 2025b). These statistics highlight the world's most vulnerable populations, and those who fight for their rights are most often targeted by human rights violations. When examining the demographic breakdown of those who are subjected to such violations, a staggering 73% of individuals who are classified as refugees or in need of international protection originate from only five countries: Afghanistan, Syria, Venezuela, Ukraine, and Sudan (UNHCR, 2025). Other populations significantly at risk of human rights violations include women, racial and ethnic minorities, LGBTQ+ populations, and individuals living in poverty (Amnesty International, 2026). Altogether, these demographic disparities highlight that the world's most vulnerable populations are at the highest risk of experiencing additional human rights violations.

PTSD that results from human rights violations is often qualitatively and clinically distinct from PTSD that arises from other forms of trauma. Article 5 violations (e.g. torture or inhumane treatment) are typically intentional, interpersonal, prolonged, and often involve repeated exposure to physical pain or psychological humiliation (Blackmore et al., 2020). Exposure to such conditions is known to impact biological, psychological, and social domains of health. Survivors of Article 5 violations, such as refugees and asylum-seekers, experience disproportionately high rates of post-traumatic stress disorder (PTSD). A meta-analysis

examining mental illness among refugees and asylum-seekers across 15 countries reported a PTSD prevalence of 31.46% in this population (Blackmore et al., 2020). This is vastly different from the global prevalence of PTSD, which is a mere 3.9% (WHO, 2024). This disparity highlights the disproportionate burden of disease on individuals who experience trauma associated with human rights violations, reinforcing the need to examine PTSD within a framework that can account for PTSD's complex biopsychosocial impact.

Current Treatments of Post-Traumatic Stress Disorder: A Biopsychosocial Overview

Treating PTSD presents many challenges due to the complex makeup of the disorder and the differences in symptom expression across affected individuals. Treating PTSD is particularly complex because it affects individuals across multiple levels of functioning, including neurobiological stress systems, psychological coping processes, and social relationships. Currently, PTSD is commonly treated with trauma-focused psychotherapies. Psychotherapies are commonly the "first-line" interventions in major clinical guidelines like the DSM-5 and ICD-11 (American Psychological Association, 2025). These include therapies such as Cognitive Behavioral Therapy, Prolonged Exposure, and Narrative Exposure Therapy. Pharmacological interventions such as Selective Serotonin Reuptake Inhibitors are also typically given to PTSD patients in clinical settings (REF). Within a biopsychosocial framework, these interventions primarily target psychological processes (e.g., maladaptive conditions, avoidance, fear conditioning), while pharmacological treatments address neurobiological dysregulation, and social-based approaches aim to address environmental and relational stressors that influence recovery (American Psychological Association, 2025). In this section, I will provide a brief overview of the most common PTSD treatments based on their biopsychosocial domain.

Psychological Interventions (Psychological Domain)

Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) is a structured psychotherapy that targets the interaction between thoughts and behaviors. CBT addresses the maladaptive patterns that are associated with psychological disorders like PTSD (American Psychological Association, 2025). Developed by Aaron Beck in the 1960s, CBT uses techniques like cognitive restructuring to challenge unhealthy beliefs (e.g., overgeneralizing negative outcomes). It also uses exposure therapy to reduce the avoidance of trauma-related stimuli (Wilson, 2024). For PTSD, CBT especially uses integrated trauma processing through memory "updating", where patients link new and adaptive information to traumatic memories. These sessions typically span 12-16 weeks and emphasize skill-building such as relaxation techniques to improve daily functioning and quality of life. CBT is often found to be effective due to its focus on modifying cognitive distortions and avoidance symptoms, both highly common PTSD symptoms (Wilson, 2024). Within the biopsychosocial framework, CBT primarily targets psychological mechanisms of PTSD through targeted behavior change.

Several studies have shown CBT to be an effective treatment method for PTSD. In a meta-analysis of 409 CBT trials consisting of 52,702 patients, the same study found that in total 42% of patients that had received CBT positively responded to treatment compared to only 19% of patients in a control group (Jacobs-Pinson, 2024). In another review by researcher Kar (2011), CBT demonstrated varying levels of efficacy across different populations with PTSD. Among adult survivors of sexual assault, CBT led to symptom reduction in approximately 83% of cases. For war veterans, response rates ranged from 60% to 80% (although about 20% to 30% showed

minimal improvement). In children and adolescents, CBT was also effective with recovery rates reported as high as 92% (Kar, 2011). These statistics highlight the strong but varied effectiveness of CBT depending on demographic factors and trauma type.

While CBT is widely regarded as an effective treatment for a range of psychiatric conditions (including PTSD), it has primarily been developed and practiced within Western cultural contexts only, raising questions about its cultural appropriateness when applied in non-western settings (Naeem et al., 2019). Cultural adaptation of CBT is essential to ensure its relevance and efficacy across diverse populations. As of today, CBT still presents many cultural limitations. Its foundational principles (e.g., individualism, cognitive restructuring, and its focus on personal autonomy) may conflict with collectivist worldviews like those seen in many Asian and Middle Eastern societies (Naeem et al., 2019). To further expand on this concept, some individuals may view emotional distress through spiritual or social lenses, making the standard CBT frameworks less applicable or even alienating (Naeem et al., 2019). These challenges highlight the importance of culturally responsive adaptations and highlight how psychological treatments may be constrained when social and cultural dimensions are insufficiently addressed.

Narrative Exposure Therapy

Narrative Exposure Therapy (NET) was developed in the early 2000s by psychologists Schauer, Neuner, and Elbert (American Psychological Association, 2025). NET is a short-term, manualized trauma-focused psychotherapy that was originally developed for individuals who had experienced multiple traumatic events, especially in contexts of war, torture, or displacement. The core concept of NET is to help the individual create a chronological narrative of their life experiences (American Psychological Association, 2025). Through this detailed life narrative,

traumatic events are revisited and the purpose is to improve the emotional processing of the trauma in a structured and controlled manner (American Psychological Association, 2025).

Research on NET indicates that it may be an effective treatment for reducing PTSD symptoms across diverse populations and settings, though these improvements are less significant than seen in CBT. A meta-analysis of randomized controlled trials administering NET in participants with PTSD found that NET consistently yielded moderate results in PTSD symptom reduction in 18 different trials (Wei & Chen, 2021). In addition, NET has been shown to effective in populations and settings ranging from natural disaster survivors to healthcare-related trauma (Wei & Chen, 2021). Net is often recommended in clinical guidelines as a trauma-focused intervention and appears feasible even in low-resource environments or for groups with complex trauma histories (Wei & Chen, 2021).

Despite recent promising findings, there are important limitations to the evidence and implementation of NET. First, many studies have methodological constraints, including small sample sizes, heterogeneity in control conditions, and potential research biases (e.g., Frank Neuner, the developer in NET is one of the most frequent authors in research trials evaluating its efficacy) (Raghuraman et al., 2020). Additionally, while NET has been adapted for a variety of populations, a direct comparison with other frontline trauma therapies remains limited (Raghuraman et al., 2020). These limitations highlight the need for larger, more controlled studies to better define when and for whom NET is most effective.

Eye Movement Desensitization and Reprocessing Therapy

Eye Movement Desensitization and Reprocessing Therapy (EMDR) is a very unique treatment used primarily for PTSD and trauma-related disorders only. EMDR therapy is a

structured, eight-week, psychotherapy that works to facilitate trauma processing by using bilateral sensory stimulation. This means that EMDR uses concepts such as side-to-side eye movements, hand tapping, or even auditory tones when treating patients (American Psychological Association, 2017). Developed in 1987 by psychologist Shapiro, the goal of EMDR is to reduce the emotional intensity of traumatic memories by linking them to adaptive information that is stored in the brain (American Psychological Association, 2017c). During EMDR sessions, patients will briefly focus on discussing memories of the traumatic event while actively engaging in bilateral stimulation. This is theorized to promote rapid eye movement (REM) sleep and neural reprocessing (American Psychological Association, 2017c). EMDR avoids extended recall of traumatic events and instead prioritizes desensitizing individuals to emotional reactivity. The ultimate goal is to reinforce positive self-belief in patients seeking EMDR.

One of the key insights from Wilson and colleagues (2018) was that EMDR's effectiveness was not limited by demographic factors such as cultural identity, age, or gender. This cultural flexibility is largely attributed to the therapy's non-reliance on extensive verbal processing (as seen in CPT) or culturally specific cognitive and behavioral reframing techniques (as observed in CBT). These traits thus make EMDR more accessible to populations where talk therapies may be less effective (Wilson et al., 2018). The findings of this study highlight that EMDR may be the PTSD treatment method that is culturally versatile and adaptable for global implementation.

Other Psychological Interventions

Several additional psychological interventions are available for treating PTSD, particularly within phase-based or skills-focused frameworks. Phase-1 trauma focused psychotherapy refers to the initial stabilization phase for individuals experiencing severe trauma. This intervention emphasizes safety, emotional regulation, grounding, and interpersonal skill development (Vliet et al., 2021). However, Phase-1 Trauma Focused Psychotherapy is not often used or is used in alternative variations such as the Skills Training and Stabilization Approach (STAIR) (Vliet et al., 2021).

Similarly, Control-Focused Behavioral Therapy (CFBT) is a less often used psychotherapy that is grounded in teaching self-regulation and emotional control of PTSD symptoms. CFBT restores a sense of self-control through behavioral modification and graded exposure to trauma-related but objectively safe stimuli (Salcioglu & Basoglu, 2010). CFBT targets brain mechanisms that are believed to be responsible for PTSD symptoms, such as the hippocampus (Salcioglu & Basoglu, 2010). This approach prioritizes present behavioral change over detailed trauma recounting, as is typically used in the more common PTSD treatments (e.g., in NET). Because CFBT is not commonly used in clinical settings, very limited research is available to evaluate its effectiveness.

Finally, psychoeducation can be incorporated into PTSD treatment as a foundation component. Psychoeducation involved providing information about common trauma responses, mental health disorders, symptom development, and coping strategies (American Psychological Association, 2019). The purpose of this intervention is to normalize experiences and enhance engagement in care. Clinical guidelines for PTSD care highlight psychoeducation as a beneficial element of evidence-based PTSD interventions, though it is typically insufficient as a standalone treatment for chronic PTSD (American Psychological Association, 2019).

Biological Interventions

Pharmacological Treatments

Although less commonly prescribed for treating PTSD, various forms of biological and pharmacological treatments are used to treat patients. Selective serotonin reuptake inhibitors (SNRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) are the most commonly prescribed pharmacological treatments for PTSD. SSRIs such as sertraline, paroxetine, and fluoxetine demonstrate small to moderate symptom reductions across re-experiencing, avoidance, and hyperarousal symptom clusters (Seales & Seales, 2022). Paroxetine shows the highest efficacy with 42-60% of patients achieving remission (Seales & Seales, 2022). However, SSRIs and SNRIs are commonly known to have side effects such as sexual dysfunction, gastrointestinal discomfort or disease, and insomnia. These side effects have caused at least a 9% discontinuation rate among patients seeking PTSD care (Seales & Seales, 2022). Both classes of these pharmacological treatments require at least 8-12 weeks for full effect, which creates challenges for acute PTSD symptom management. Second-line antidepressants like mirtazapine and atypical antipsychotics like quetiapine show small benefits but higher risks (REF).

Ultimately, pharmacological treatments primarily target neurobiological dysregulation but may not be sufficient as standalone interventions when evaluated through a biopsychosocial framework. While they can be highly beneficial as supplemental options alongside behavioral and social interventions, they are not universally necessary or appropriate for all individuals with PTSD, further emphasizing the importance of tailoring treatment strategies to individual needs and contexts.

Social Interventions:

Social Support as a Treatment Method

Social support is a critical determinant of health that significantly influences both the likelihood of developing PTSD and its symptoms, including symptom severity and symptom management. In a meta-analysis of 77 studies, Berwin and Valentine (2000) identified a lack of social support as one of the strongest predictors of PTSD severity, highlighting its protective role. Social support can take various forms, including emotional support from family and friends, practical support in daily activities, and informational support, such as guidance and advice. These forms of support create a protective buffer that reduces both the risk and intensity of PTSD symptoms (Berwin & Valentine, 2000). This is largely attributed to the notion that individuals with stronger social networks are more likely to experience a sense of belonging and validation, both of which can mitigate the effects of trauma.

Strong social support has also been found to foster resilience, enabling individuals to develop healthier coping strategies when facing traumatic memories or stressors. In a study by Ozer and colleagues (2003), a statistically significant? weighted correlation coefficient (r) of -0.40 was reported between social support and PTSD symptom severity, indicating a moderate negative relationship. This finding suggests that higher levels of social support are consistently associated with lower PTSD symptom severity, further emphasizing the value of supportive social environments.

Beyond symptom-focused psychotherapy and interpersonal support, addressing practical societal stressors such as legal, financial, and advocacy services can also be beneficial to mitigating the impacts of PTSD (Berwin & Valentine, 2000). Examples of this type of support include addressing housing instability, immigration status, monetary compensation, or help

improving other quality-of-life factors. These social support interventions for PTSD are consistent with the biopsychosocial model which posits that health outcomes arise from the interaction of biological, psychological, and social factors. However, similar to biological interventions, social support may not be sufficient as a standalone treatment, which is why it is rather used as an additional component of rehabilitation (Berwin & Valentine, 2000).

Purpose

This systematic review uses a biopsychosocial lens to evaluate the efficacy of current treatment methods for post-traumatic stress disorder (PTSD) in survivors of human rights violations. I focus specifically on violations of Article 5 of the Universal Declaration of Human Rights. Existing research demonstrates that exposure to severe trauma (e.g., torture, inhumane treatment, unlawful detention) results in profound biological, psychological, and social consequences for individuals. I hypothesize that standard, single-domain treatment interventions will be less likely to comprehensively address all the trauma-related symptoms experienced by survivors of human rights violations, especially symptoms related to the social domain of health (e.g., social integration, safety, refugee status, etc.). By applying the biopsychosocial framework, this review aims to synthesize evidence across pharmacological, psychological, and social or community-based interventions to determine how multidimensional treatment strategies may better support recovery in this highly vulnerable population. Ultimately, the goal of this paper is to identify patterns, strengths, and gaps in the current literature to inform more holistic and survivor-centered treatment approaches for PTSD care.

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Chapter 2

Methods:

Study Design and Framework

This systematic review was conducted as part of an honors thesis for the Schreyer Honors College at Pennsylvania State University. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2020 guidelines. The PRISMA-2020 framework consists of a 27-item checklist for scientific data extraction and for structuring results through a specific flow diagram. The PRISMA 2020 guidelines guide researchers through the process of planning, identifying, screening, evaluation, and synthesizing research in a standardized and replicable manner (PRISMA, 2020). Although a complete internal protocol was created before beginning the review process, the project was not registered by PROSPERO, which is common for undergraduate theses and does not impact adherence to PRISMA methodology.

Search & Information Sources

A comprehensive and systematic search of scientific literature was conducted using the PubMed database. PubMed was selected for its broad coverage of peer-reviewed biomedical, mental health, trauma, and global health research scope. The search included studies published between January 2000 and June 2025. This time frame was chosen to ensure that all the studies that were included had access to modern PTSD diagnostic frameworks (e.g. DSM-IV, DSM-5, ICD-11). It was also important that all of the studies included had access to contemporary trauma-focused treatment models.

A predefined Boolean search strategy was used to create a comprehensive list of search terms. The following search terms were entered into the PubMed database: “("Post Traumatic Stress Disorder" OR "PTSD"[tiab] OR "posttraumatic stress"[tiab] OR "post-traumatic stress"[tiab]) AND ("treatment"[tiab] OR "therapy"[tiab] OR "intervention"[tiab] OR "psychological intervention"[tiab] OR "trauma-focused therapy"[tiab] OR "cognitive behavioral therapy"[tiab] OR "CBT"[tiab] OR "EMDR"[tiab] OR "pharmacological treatment"[tiab]) AND ("torture"[MeSH] OR "torture survivor"[tiab] OR "cruel treatment"[tiab] OR "inhuman treatment"[tiab] OR "degrading treatment"[tiab] OR "inhumane treatment"[tiab] OR "political imprisonment"[tiab] OR "state violence"[tiab] OR "human rights abuse"[tiab] OR "violation of human rights"[tiab] OR "Article 5"[tiab] OR "Universal Declaration of Human Rights"[tiab])”

The purpose of the search was to identify primary research studies that evaluated treatment methods for PTSD, specifically in individuals who had survived human rights violations related to Article 5 of the Universal Declaration of Human Rights (UDHR). This included (but was not limited to) torture, inhumane or degrading treatment, war, armed conflict, state violence, sexual violence, forced displacement, political imprisonment, and other forms of severe psychological or physical harm.

Search filters were applied to retrieve only peer-reviewed studies published between January 2000 and August 2025. Additional filters were applied to limit the search results to studies published in English and to studies involving human subjects. After setting the appropriate filters and removing duplicate results, 104 studies were retrieved. Each of the 104 studies was reviewed through an initial title and abstract screening process to assess whether it met basic requirements for this review. The requirements were that all studies included must have a clinical diagnosis process for PTSD in their participants. Additionally, it was required that

all participants in the studies must have experienced at least one human rights violation listed under Article 5 of the UDHR. Participants of all ages, genders, and demographics were included. Lastly, it was required that each study evaluate at least one treatment method specifically for PTSD. Studies that passed this initial review were then read in their entirety to determine whether all predefined eligibility criteria were met.

A total of 42 primary research articles were thoroughly reviewed following the PRISMA 2020 guidelines. Of the 42 studies, 20 studies met all predefined inclusion criteria and were included in this review. Additionally, five systematic reviews were retrieved from the PubMed search results. Although these systematic reviews were not primary research trials themselves, they were used to identify primary research to ensure saturation of the available research. Of the five systematic reviews, four met all inclusion criteria and were examined to extract relevant preliminary studies. After reviewing all four systematic reviews, 18 additional studies were extracted. Of these 18 studies, six studies were repetitions from the search results. Ultimately, 12 additional research studies (not found in the PubMed search) were extracted from the systematic reviews and are included in this review. Altogether, 32 research studies were included in the final synthesis of this systematic review.

Data Extraction

Data was extracted and collected through the use of a standardized Microsoft Form. This form was created specifically for this review so that every study was evaluated using the same criteria based on the PRISMA-2020 framework. Each of the 27 categories from the PRISMA guidelines were turned into online open-ended question options for notetaking during the review. The use of this form reduced the risk of selective reporting and researcher bias.

Each study was reviewed in full, and detailed information was recorded on its design, population, and results. This included the study title, authors, journal, and the geographical region where the study took place. Further detailing about study characteristics was also extracted, including information about the study setting (whether it took place in a conflict zone, refugee camp, asylum-seeking population, post-genocide society, post-war country, or another high-risk area). Additional data extracted from each study included sample size, participant demographics, eligibility criteria, and the type of Article 5 human rights violation experienced by participants.

Diagnostic methods included in each study were thoroughly reviewed as well. Diagnostic methods included Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text-Revision (DSM-5-T), International Classification of Diseases, Eleventh Revision (ICD-11), Clinician-Administered PTSD Scale (CAPS), and the Harvard Trauma Questionnaire. The purpose of this examination was to ensure that all studies used valid and contemporary clinical tools in their examination and diagnosis of participants. Intervention details extracted included the type of treatment administered, the duration and frequency of treatment, delivery methods, and the qualifications of the individuals administering each service.

Outcome information was then recorded for each study. This included the rate of PTSD symptom reduction among participants throughout the course of the intervention, mental health outcomes (e.g. depression, anxiety, insomnia), quality of life ratings, physical health measures, and any additional outcomes. Quantitative effect sizes and significance levels were extracted when available. The outcome information extracted in each of these categories varied significantly between studies. Limitations described by the original author were also included in

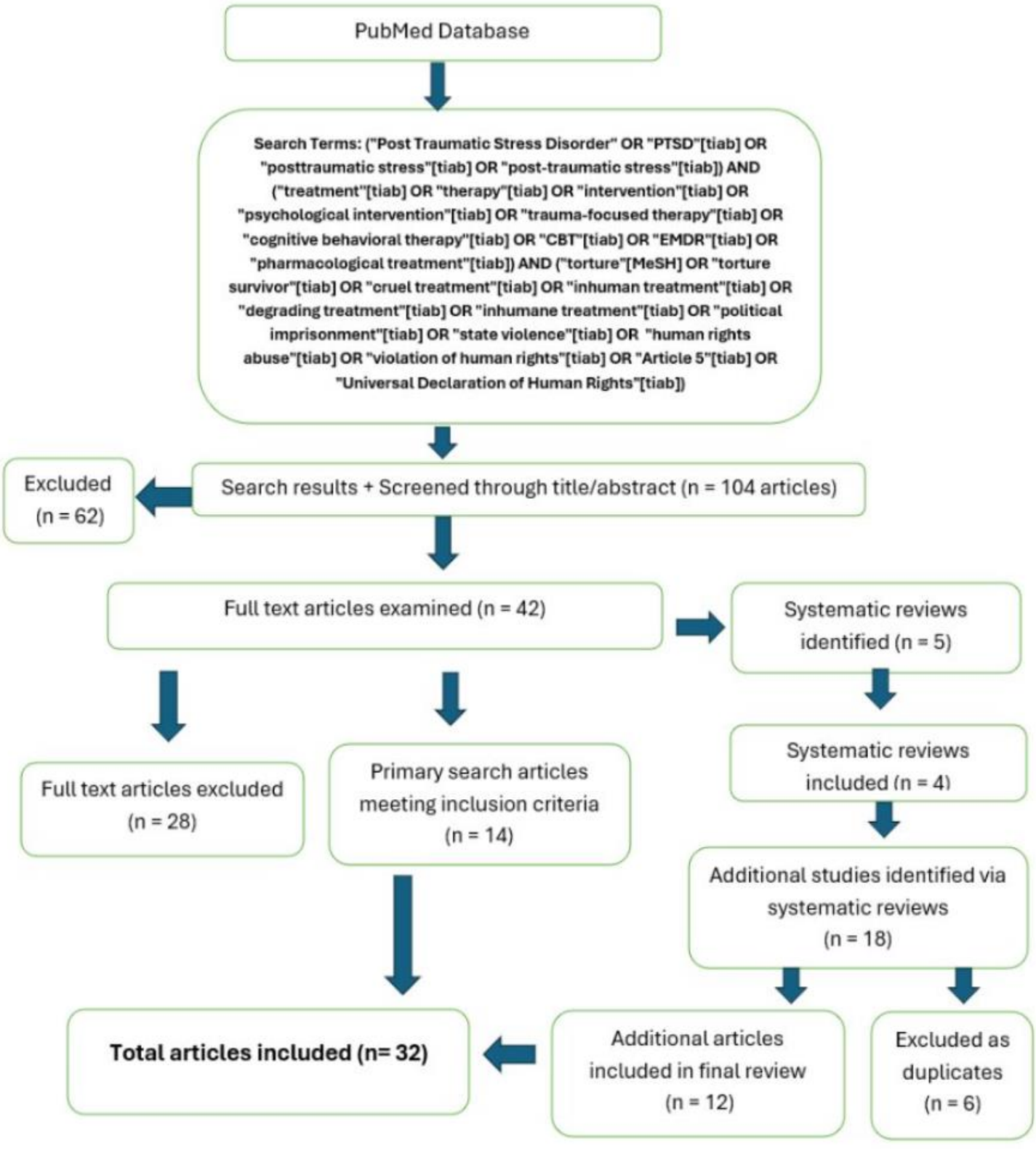
the data extraction to provide context for the interpretation of each study's findings. Finally, potential sources of bias and additional limitations as perceived by the author of this systematic review were also noted including key methodological features such as study design, attrition and completion statistics, researcher qualifications, and funding sources. All extracted data was organized and compiled into PRISMA-style tables in Microsoft Excel to maintain standardization and research standards.

The biopsychosocial approach was utilized as the guiding framework for the data synthesis process. This method allowed the evidence to be organized and analyzed in a way that reflects the multidimensional nature of PTSD and its treatment approaches. The biopsychosocial framework recognizes that both PTSD and its treatments are influenced by biological, psychological, and social factors. Therefore, the biopsychosocial framework allows this review to take a holistic approach to evaluate the effectiveness of PTSD treatments within this population. Additionally, this review examines how well current treatment methods address the biological, psychological, and social factors associated with PTSD development and persistence. The biopsychosocial framework serves as the central analytical lens for this review and provides structure for interpreting findings across diverse studies and fields.

The studies reviewed were first grouped into either single-domain or multi-domain interventions. Single-domain interventions only addressed one of the three biopsychosocial domains, whereas multi-domain interventions had components that were a part of at least two domains. Interventions were further analyzed by their specific treatment types. All pharmacological interventions were categorized as biological treatment methods. Psychological treatment approaches included (but were not limited to CBT, EMDR, NET, and trauma-focused psychotherapies. Studies that evaluated the influences of social factors such as group therapy,

cultural adaptation, community support, reintegration processes, or legal resources were included in the social category of treatments. Multidimensional studies typically include psychological interventions in addition to biological or social treatment components. Of the 32 studies included in this review, only two studies analyzed a combination of psychological, pharmacological, and social treatment methods. An analysis of treatment efficacy was conducted based on symptom reduction and improvements in quality of life or cognitive functioning. Improvements were classified as significant or mixed based on the individual authors' evaluation; typically, significant improvements had over 60% reductions in symptom severity or clinical PTSD diagnosis rates among participants.

Figure 1: Article Selection Tree



Chapter 3

Results

Study Characteristics

The characteristics of the studies included in this systematic review are presented in **Table 1.** A total of 32 studies met the inclusion criteria. These studies were published between 2001 and 2024, reflecting more than two decades of research on trauma-focused interventions in populations exposed to severe human rights violations. Study designs varied substantially. Of the total studies, 17 studies were randomized controlled trials, forming the largest proportion of the evidence base. Additionally, four studies used an observational design and three used a longitudinal design. Another study used both an observational and longitudinal design (Buhmann et al., 2015). There were four case studies included in this review. Lastly, three non-randomized and uncontrolled preliminary intervention studies were included. It is important to note that some studies examined more than one treatment intervention. Therefore, the number of studies does not directly correlate with the number of interventions examined in this review.

The studies included in this review were conducted across several geographical regions, with most participants originally from countries disproportionately impacted by conflict, displacement, and human rights violations. It is important to note that the location where a study was conducted and the location where the human rights violations took place (which is described in the "Participant Characteristics" section) were often different for each study. There were multiple studies conducted in Germany (n = 5), Sweden (n = 4), Uganda (n = 4), the United States (n=3), Turkey (n = 2), Denmark (n = 2), Norway (n = 2), and the Netherlands (n = 2). Additionally, two studies were conducted in the general Middle East and North Africa (MENA)

region (n = 2). There were single studies (n = 1) conducted in Austria, Romania, and the United Kingdom, Iraq, Kenya, and Rwanda. Lastly, one study took place in former Yugoslavia (n = 1), encompassing present-day Bosnia, Croatia, and Serbia. This diverse geographical distribution reflects the international scope of literature and the global burden of trauma associated with human rights violations.

Sample sizes also had significant variation, ranging from single-case reports to studies with over 400 participants. The minimum sample size was one (Başoğlu et al., 2004), while the maximum sample size was 463 participants (Priebe et al., 2010). The average sample size was approximately 77 participants (mean = 76.78).

Across the studies, the stated purpose for each study commonly emphasized the need to evaluate the effectiveness, feasibility, or cultural adaptability of trauma-focused psychotherapeutic interventions in resource-limited or non-Western settings. Several studies aimed to assess whether established treatment models could be effectively implemented among displaced individuals, refugees, or asylum seekers. Other studies explored alternative or shorter-duration interventions designed to improve accessibility and sustainability of various treatment methods.

Table 1: Study Characteristics

Citation:	Region of study:	Sample Size:	Design:	Study Purpose:
(Başoğlu, 2022)	Turkey	60	Preliminary Intervention study (no control group)	To develop and evaluate Control-Focused Behavioral treatment
(Özyıldırım et al., 2023)	Turkey	70	Observational Study	To assess the effectiveness of psychoanalytic psychotherapy
(Pokhariyal, et al., 2012)	Kenya and East Africa Region	43	Randomized Controlled Trial	To address the lack of systematic research on PTSD treatment outcomes in developing countries
(Neuner et al., 2004)	Uganda	43	Randomized Controlled Trial	To assess whether psychotherapeutic treatments developed for Western populations could be successfully applied in non-Western demographics
(Onyut et al., 2005)	Uganda	6	Case Study	To assess whether KIDNET could effectively treat PTSD in children in non-industrialized countries
(Neuner et al., 2008)	Uganda	277	Randomized Controlled Trial	To address the lack of qualified mental health professionals in developing countries
(Ertl et al., 2011)	Uganda	85	Randomized Controlled Trial	To explore a community-implemented therapy model
(Schaal et al., 2009)	Kigali, Rwanda	26	Randomized Controlled Trial	To assess the differences between individual N.E.T. or group-based Interpersonal Psychotherapy (ITP)
(Bass et al., 2016)	Iraq	295	Randomized Controlled Trial	To assess the impact of trauma-informed support, skills, and psychoeducation through counseling
(Viller Hansen et al., 2017)	Middle East and North Africa (MENA) Region	81	Preliminary Intervention Study	To assess the feasibility and effectiveness of N.E.T.
(Viller Hansen et al., 2018)	Middle East and North Africa (MENA) Region	69	Randomized-Controlled Trial	To provide evidence for using N.E.T. in culturally diverse and resource-limited areas.
(Paunovic & Öst, 2001)	Sweden	20	Randomized Controlled Trial	To determine if CBT is more effective than exposure therapy
(Başoğlu et al., 2004)	Sweden	1	Case-Study	To explore whether telling one's life story could help restore self-knowledge and promote emotional processing
(Bichesu et al, 2007)	Sweden	18	Case Study	To examine the effectiveness of CBT as a treatment for individuals in exile

(Tinghög et al., 2024)	Sweden	10	Preliminary intervention study (not randomized)	To offer a shorter (5-day) alternative to traditional therapies
(Buhmann et al., 2015)	Denmark	85	Observational, longitudinal Study (no control)	To evaluate mental health changes in refugees after treatment
(Nielsen et al., 2024)	Denmark	219	Randomized-Controlled Trial	To see if add-on treatments improved outcomes more than “treatment-as-usual"
(Halvorson & Stenmark, 2010)	Norway	16	Preliminary Uncontrolled Study	To examine the effectiveness of N.E.T. in this population
(Dibaj et al., 2017)	Norway	6	Case Study	To assess and highlight individual variations in treatment response
(Birck, 2001)	Germany	66	Longitudinal Study	To assess whether continued psychological or social support was beneficial for survivors after completing rehabilitation
(Kruse et al., 2009)	Germany	70	Longitudinal Study	To determine whether symptom reduction could be achieved without direct exposure to traumatic memories
(Ruf et al., 2010)	Germany	26	Randomized Controlled Trial	To explore trauma-focused interventions specifically adapted for children
(Hensel-Dittmann et al., 2011)	Germany	28	Randomized Controlled Trial	To compare exposure-based vs coping-focused treatment methods
(Neuner et al., 2010)	Germany	32	Randomized Controlled Trial	To test if N.E.T. can reduce PTSD symptoms in individuals with histories of torture and state-sponsored violence
(Ter Heide et al., 2011)	The Netherlands	20	Randomized Controlled Trial	To address ongoing clinical debates about whether trauma-focused treatments should be used with refugees
(Drožđek et al, 2014)	The Netherlands	69	Longitudinal Study	To examine the sustainability of treatment outcomes
(Renner, 2009)	Austria	37	Observational Study	To evaluate whether psychotherapy can be effective in difficult and unstable conditions
(Priebe et al., 2010)	Former Yugoslavia (Bosnia, Croatia, Serbia)	463	Observational Study	To identify patient characteristics that were associated with better or worse outcomes
(d’Ardenne et al., 2007)	London, United Kingdom	128	Observational Study	To test whether CBT remains effective when delivered through interpreters
(Hinton et al., 2004)	United States	12	Randomized Controlled Trial	To determine whether culturally adapted CBT is effective for Vietnamese refugees

(Otto et al., 2003)	United States	10	Randomized Controlled Trial	To determine whether adding CBT would improve symptoms in Cambodian Refugees
(Hinton et al., 2005)	United States	40	Randomized Controlled Trial	To evaluate the therapeutic efficacy of culturally adapted CBT

Participant Characteristics:

Table 2 details the participant characteristics of the studies included in the systematic review. The region where initial human rights violations occurred differed significantly across the studies, representing global violations of international human rights law. Regions represented were Southeast Asia, Europe, the Middle East, Africa, and multinational/unspecified regions. This reflects substantial fluctuation in research scope and population accessibility. To enhance the interpretability of the results, participants' characteristics were organized by geographic region because the sociopolitical and cultural contexts in which human rights violations occur may influence both trauma exposure and treatment outcomes. Breaking up participant characteristics by region allows for clearer identification of patterns across settings and supports more meaningful cross-cultural comparisons within the analysis.

The populations studied were all survivors of severe human rights violations, particularly violations related to Article 5 of the Universal Declaration of Human Rights (UDHR). Participants largely included asylum-seekers, refugees, and torture survivors. Some participants were internally displaced persons and/or survivors of war, genocide, political imprisonment, or systematic human rights violations. Several studies explicitly focused on individuals with experiences of torture or severe persecution, aligning with international definitions of human rights abuses.

1. *Southeast Asia*

Of the 32 total studies in this review, three studies were conducted with participants from Southeast Asia, representing a total of 62 participants. Only two countries from this region (Cambodia and Vietnam) were represented in this sample. A total of 50 survivors originated

from Cambodia. These individuals were survivors of the Khmer Rouge genocide, torture, and/or forced displacement (Hinton et al., 2005; Otto et al., 2003). Additionally, there were 12 survivors of torture, arbitrary detention, and/or forced displacement from Vietnam (Hinton et al., 2004). Notably, Otto et al. (2003) included an all-female sample from Cambodia (n=10), whereas the other two studies featured mixed-gender groups (Hinton et al., 2004; Hinton et al., 2005).

2. Europe

There were four studies conducted in Europe, representing a total of 571 participants. The participants in these studies either experienced human rights violations in Europe or were survivors currently residing in Europe (e.g., asylum-seekers or refugees). These studies few participants from multiple countries, including Romania (n=18), Bosnia (n=204), Chechnya (n=18), Kosovo (n=1), and the Balkans (n=32), as well as Serbia (n=145), Croatia (n=82), Afghanistan (n=7), Armenia (n=2), Georgia (n=2), Iran (n=1), Iraq (n=1), and Poland (n=1). Reported abuses included genocide, sexual violence, torture, arbitrary detention, and war-related displacement. Participants in these studies were mainly older adults (e.g., Başoğlu et al. [2004] reported a mean age of 69 years old). Gender distribution varied across studies, with some samples composed primarily of male participants, others predominantly female, and a few with relatively balanced gender distribution. The Romania-based study was a single case-study of a 22-year-old male survivor of torture, inhumane treatment, and arbitrary detention (Başoğlu et al., 2004). The study conducted solely with Bosnian participants had a predominantly female sample (67.2%), with survivors of genocide, sexual violence, torture, inhumane treatment, and/or forced displacement (Kruse et al., 2009). The largest study identified in this review included 463 participants from Bosnia, Serbia, and Croatia (Priebe et al., 2010). This study had a predominantly male (78%) population pool, and all participants were survivors of war and forced

displacement (Priebe et al., 2010). The study by Renner (2009) had participants from nine countries and had a more balanced participant group, with 21 females (56.8%) and 16 males (43.2%). These individuals were survivors of sexual violence, armed conflict, arbitrary detention, and forced displacement.

3. *Middle East*

A total of 10 studies included in this review had participants who survived human rights violations in the Middle East. The research conducted with Middle Eastern survivors was extensive, covering violations that took place in Iraq, Iran, Turkey, Afghanistan, Syria, Lebanon, Ethiopia, Sudan, Togo, and broader mixed-region samples, entailing a total of 557 survivors. These studies primarily focused on survivors of torture, arbitrary detention, forced displacement, and exposure to war/armed conflict. Participants were generally adults, with ages ranging from early adulthood to older age (e.g., 20–70 years), although one study specifically included children (Ruf et al., 2010). Gender distribution varied across studies, with several samples including both men and women, some demonstrating a male majority (e.g., Viller Hansen et al., 2018), and others reflecting more balanced gender representation (e.g., Nielsen et al., 2024). In contrast, multiple studies did not report gender data (Birck, 2001; Bichescu et al., 2007; Halvorson & Stenmark, 2010; Buhmann et al., 2015). Notably, Neuner et al. (2010) reported a predominantly male sample (68.8%), while Ruf et al. (2010) included a child sample with a relatively even distribution of boys (54%) and girls (46%).

4. Africa

Of the 32 studies included in this review, seven were conducted with participants from Africa, representing a total of 566 participants. These participants were drawn from multiple

countries across the region, including Kenya, Sudan, Somalia, Rwanda, and Northern Uganda. Across studies, sample sizes ranged from 6 to 277 participants. Reported human rights violations included sexual violence, torture or inhumane treatment, forced displacement, genocide, political persecution, and child soldiering. Participants varied in age across studies, ranging from adolescents to adults (e.g., 13–60+ years), with some studies focusing specifically on youth populations (Onyut et al., 2005; Ertl et al., 2011). Gender distribution varied across studies, with several samples including both male and female participants, some demonstrating relatively balanced representation (e.g., Neuner et al., 2008), and others showing slight gender differences across treatment groups (e.g., Neuner et al., 2004; Ertl et al., 2011). However, multiple studies did not report gender data (Başoğlu, 2022; Pokhrel et al., 2012).

5. Not Available

A subset of the studies (n=8) reported participant characteristics without specifying geographic origin. A total of 701 participants were represented in this category. These studies typically included survivors of torture, arbitrary detention, sexual violence, genocide, and exposure to war and violence (including witnessing arbitrary killings and surviving suicide bombings). Participants were primarily adults, with reported ages ranging from approximately 22 to 82 years, although several studies did not report age data. Gender distribution varied across studies, with some samples including both male and female participants (e.g., Hansen et al., 2017; Özvıldırım et al., 2023), others demonstrating a slight female majority (e.g., Özvıldırım et al., 2023), and some reflecting predominantly male samples (e.g., Paunovic & Öst, 2001; Bass et al., 2016). However, multiple studies did not report gender composition (d'Ardenne et al., 2007; Hensel-Dittmann et al., 2011; Drožđek et al., 2014; Tinghög et al., 2024).

Table 2: Participant Characteristic

Region of Human Rights Violation:	Citation:	Specific Location of human rights violation:	Type of Human Rights Violations:	Age:	Gender:
Southeast Asia	(Otto et al., 2003)	Cambodia	Genocide, Torture or inhumane treatment, forced displacement	N/A	100% female.
	(Hinton et al., 2004)	Vietnam	Torture or inhumane treatment, arbitrary detention, forced displacement	N/A	Both men and women participated
	(Hinton et al., 2005)	Cambodia (Khmer Rouge genocide)	Genocide	Approximately 51–53 years old.	60% female in both groups.
Europe	(Başoğlu et al., 2004)	Romania	Torture or inhumane treatment and arbitrary detention	22 years old	Male
	(Kruse et al., 2009)	Bosnia	Genocide, sexual violence, torture or inhumane treatment, forced displacement	18–61 years (mean ≈ 44 years)	67.2% female
	(Renner, 2009)	Chechnya (18), Afghanistan (7), Kosovo (4), Armenia (2), Georgia (2), Bosnia (1), Iran (1), Iraq (1), Poland (1)	Sexual violence, armed conflict, arbitrary detention, forced displacement	36.1 years (SD = 7.5; range 22–53 years).	21 females and 16 males.
	(Priebe et al., 2010)	Serbia (145), Bosnia (130), Croatia (82)	War and forced displacement	Mean = 43.9 years (SD = 11.0); ranged from 18 to 65 years.	22% female (n = 101) and 78% male.
Middle East	(Birck, 2001)	Middle East, Africa, and Southeast Europe	Torture or inhumane treatment	Mostly adults, varying across middle-aged and younger adult groups	N/A
	(Bichesu et al, 2007)	Turkey	Torture or inhumane treatment and arbitrary detention,	60s-70s	N/A
	(Halvorson & Stenmark, 2010)	Iraq (50%), Afghanistan, Eritrea, Ethiopia, Iran, Kosovo, Sudan, Togo (each 6.25%)	Torture or inhumane treatment	20–54 years (mean = 38.8 years)	N/A
	(Neuner et al., 2010)	Turkey and The Balkans	Torture or inhumane treatment, arbitrary detention, forced displacement	Approximately 31 years old.	22 males (68.8%) and 10 females (31.2%).
	(Ruf et al., 2010)	Turkey	Torture or inhumane treatment and forced displacement	N/A	14 boys (54%) and 12 girls (46%)

	(Ter Heide et al., 2011)	Afghanistan (4), Algeria (1), Angola (1), Bosnia (4), Iran (2), Iraq (6), Lebanon (1), and Turkey (1)	Torture or inhumane treatment	EMDR group = 40.0 years; Stabilization group = 43.0 years.	12 men and 8 women (5 men in EMDR group, 7 in stabilization).
	(Buhmann et al., 2015)	Mainly from the Middle East	Torture or inhumane treatment, forced displacement, and exposure to war	N/A	N/A
	(Dibaj et al., 2017)	Middle East, Caucasus, Central Africa	Torture or inhumane treatment	30s to 60s	Both men and women included
	(Viller Hansen et al., 2018)	Syria, Iraq, Iran, and surrounding countries	Torture or inhumane treatment, arbitrary detention, forced displacement	Participants were adults, ranging from early 20s to late 50s.	Both men and women were included, with a majority being male survivors.
	(Nielsen et al., 2024)	Iraq (26.8%), Syria(28.9%, Afghanistan (13.4%), Iran (10.3%), Lebanon (6.2%), others (27.3%)	Torture/inhumane treatment, forced displacement, and arbitrary detention	47.0 years (follow-up group)	~50% male, ~50% female
Africa	(Başoğlu, 2022)	Kenya	Sexual violence,	N/A	N/A
	(Pokhariyal, et al., 2012)	Kenya	Sexual violence, torture or inhumane treatment, forced displacement, and arbitrary detention	36.36 years (SD = 10.39)	N/A
	(Neuner et al., 2004)	Sudan	Sexual violence, torture or inhumane treatment, forced displacement	Mean ages were 31.9 years (NET), 33.8 years (SC), and 34.2 years (PE)	46.7% male and 53.3% female in the Narrative Exposure Therapy group; overall, participants were a mix of men and women across all groups.
	(Onyut et al., 2005)	Somalia	Armed conflict, political persecution, and forced displacement	13–17 years.	3 girls and 3 boys.
	(Neuner et al., 2008)	Rwanda and Somalia	Genocide, torture or inhumane treatment, forced displacement	Mean age around 35 years	Approximately equal—about half male and half female
	(Schaal et al., 2009)	Rwanda	Genocide	Mean age 19.42 years (range 14–28 years)	10 males and 16 females
	(Ertl et al., 2011)	Northern Uganda	Forced recruitment and child soldiering, sexual violence, torture or inhumane treatment	Average age: 18 years old.	Mixed; approximately 55% female in the Narrative Exposure Therapy group and similar distribution across groups.

Not Available	(Paunovic & Öst, 2001)	N/A	Torture or inhumane treatment and witness to arbitrary killings	37.9 years (range 22–48).	17 males, 3 females
	(d'Ardenne et al., 2007)	N/A	Torture or inhumane treatment	N/A	N/A
	(Hensel-Dittmann et al., 2011)	N/A	Torture or inhumane treatment, arbitrary detention, forced displacement	N/A	N/A
	(Drožđek et al, 2014)	N/A	Torture or inhumane treatment	22–58 years at baseline; mean age ~38 years.	N/A
	(Bass et al., 2016)	N/A	Genocide, torture or inhumane treatment, arbitrary detention, forced displacement	Average age was about 40 years (range 18–82).	About one-third were female (34% in intervention, 30% in control).
	(Viller-Hansen et al., 2017)	N/A	Torture or inhumane treatment	Adults (18+)	Both men and women included
	(Özyıldırım et al., 2023)	N/A	Torture or inhumane treatment, sexual violence, arbitrary detention, and survivors of suicide bombing	37.7 years (range 22–70, SD = 12.25)	38 female (54.3%), 32 male (45.7%)
	(Tinghög et al., 2024)	N/A	Torture/inhumane treatment	N/A	N/A

Treatment Methodologies: Single Domain Interventions

Table 3 summarizes 21 studies that evaluated single-domain psychological treatments for PTSD. The psychological domain was the only domain represented in single-domain treatment interventions. NET and CBT were the most used interventions (n=14). Additional studies individually tested Control-Focused Behavioral Treatment (CFBT), EMDR, Trauma-Informed Supportive Counseling, Psychotherapy, Phase-1 Trauma-Focused Psychotherapy, and Psychoanalytic Psychotherapy. While participants in all 21 single-domain interventions received individual treatments, study designs varied widely in diagnostic methods, treatment duration, and treatment frequency. This significant variation between the studies limits direct comparability but allows for a clear mapping of common clinical approaches.

The diagnostic criteria most frequently used were the Diagnostic and Statistical Manual of Mental Disorders (4th and 5th editions [DSM-IV, DSM-V]). Additional diagnostic methods used were clinician-administered measures such as the Clinician-Administered PTSD Scale (CAPS) and the Composite International Diagnostic Interview. The Post-Traumatic Diagnostic Scale (PDS) and the Stress State Inventory (SSI) were used on occasion. This variability in diagnostic tools reflects both temporal shifts in PTSD assessment frameworks and methodological heterogeneity across trials.

Treatment Modalities and Frequency

Narrative Exposure Therapy (NET) emerged as the predominant single-domain intervention identified in this review, appearing in over 11 studies. NET protocols ranged from brief, intensive formats (4 sessions over 2 weeks; Neuner et al., 2004) to more extended treatment methods (10–12-week interventions; Viller-Hansen et al., 2018). The study conducted

by Başoğlu et al. (2002) examined NET in combination with Psychoeducation in five sessions over 10 weeks. Ruf et al. (2010) uniquely adapted NET for children, developing age-appropriate modifications to the same therapeutic frameworks used in adults. One study compared NET with Stress Inculcation Training (Hensel-Dittmann, 2011). These were delivered as separate methods, rather than integrated multi-domain interventions, maintaining the classification of a single-domain intervention.

Beyond NET, CBT constituted the second most common treatment modality. A total of three studies included CBT as a predominant treatment intervention. Studies using CBT ranged from 4-12 sessions. Paunovic & Öst (2001) delivered CBT combined with certain narrative components of NET once a week for 16-20 weeks, representing one of the lengthiest structured interventions in this category. Diagnostic methods for interventions using CBT included CAPS and DSM-V. All CBT sessions were delivered individually to participants.

Other trauma-focused psychological approaches included EMDR (n=1) Multisensory Trauma Reprocessing (n=1), Trauma-Informed Supportive Counseling (n=1), and Control-Focused Behavioral Treatment (n=1). Three variations of Psychotherapy were also included in this review. These studies mainly used CAPS, DSM-IV, and the Stress Inventory Scale to diagnose participants. Study duration ranged from 4 to 12 weeks for EMDR, Multisensory Trauma Reprocessing, and Trauma-Informed Supportive Counseling. The studies testing the different variations of Psychotherapy typically took place over 12 months. All sessions were delivered individually.

Table 3: Treatment Methodologies: Single-Domain Interventions

Citation:	Domain:	Type of Treatment:	Diagnostic Criteria:	Duration:	Delivery:
(Başoğlu et al., 2002)	Psych.	**Narrative Exposure Therapy** (+ Psycho-education)	Composite International Diagnostic Interview	5 sessions over 10 weeks	Individual
(Neuner et al., 2004)	Psych.	**Narrative Exposure Therapy**	DSM-IV	4 sessions over 2 weeks	Individual
(Onyut et al., 2005)	Psych.	**Narrative Exposure Therapy**	Post-traumatic Diagnostic Scale (PDS)	4-6 sessions	Individual
(Neuner et al., 2008)	Psych.	**Narrative Exposure Therapy**	DSM-IV	6 sessions over 3 weeks	Individual
(Halvorson & Stenmark, 2010)	Psych.	**Narrative Exposure Therapy**	CAPS	10 sessions	Individual
(Neuner et al., 2010)	Psych.	**Narrative Exposure Therapy**	DSM-IV	Average of 9 sessions	Individual
(Ruf et al., 2010)	Psych.	**Narrative Exposure Therapy for Children**	DSM-IV	7-10 sessions	Individual
(Ertl et al., 2011)	Psych.	**Narrative Exposure Therapy**	DSM-IV + CAPS	8 sessions	Individual
(Viller-Hansen et al., 2017)	Psych.	**Narrative Exposure Therapy**	CAPS	Once a week for 6 weeks	Individual
(Viller Hansen et al., 2018)	Psych.	**Narrative Exposure Therapy**	CAPS	10-12 sessions	Individual
(Hensel-Dittmann et al., 2011)	Psych.	**Narrative Exposure Therapy + Stress Inoculation Training**	CAPS	10 sessions of one or the other	Individual
(Paunovic & Öst, 2001)	Psych.	**Cognitive Behavioral Therapy** (+ Narrative Exposure Therapy)	CAPS	Once a week for 16-20 weeks	Individual
(Bichesu et al, 2007)	Psych.	**Cognitive Behavioral Therapy**	DSM-V + CAPS	16 sessions	Individual
(d'Ardenne et al., 2007)	Psych.	**Cognitive Behavioral Therapy**	CAPS	8-10 sessions	Individual

(Başoğlu, 2004)	Psych.	**Control-Focused Behavioral Treatment**	CAPS	> 12 sessions	Individual
(Ter Heide et al., 2011)	Psych.	**Eye Movement Desensitization and Reprocessing**	DSM-IV	11 sessions	Individual
(Pokhariyal, et al., 2012)	Psych.	**Multisensory Trauma Processing**	Stress State Inventory	4-10 sessions	Individual
(Bass et al., 2016)	Psych.	**Trauma-Informed Supportive Counseling**	DSM-IV	6-12 sessions	Individual
(Birck, 2001)	Psych.	**Psychotherapy**	N/A	Once a week for 6-12 months	Individual
(Kruse et al., 2009)	Psych.	**Phase-1 Trauma-Focused Psychotherapy**	DSM-IV	25 hours of therapy over 12 months	Individual
(Özyıldırım et al., 2023)	Psych.	**Psychoanalytic Psychotherapy**	DSM-IV	Once a week for 12 months	Individual

Treatment Methodologies: Multi-domain Interventions

Table 4 details the treatment interventions for studies that spanned across multiple biopsychosocial domains (n=11). These multi-domain interventions integrated psychological treatments with either biological components (e.g., pharmacological or physical) (n=4) or aspects of social support (n=5), reflecting aspects of the biopsychosocial framework in both structure and delivery. Additionally, two studies integrated the biological, psychological, and social aspects to their treatment, integrating the biopsychosocial framework in its entirety (Drožđek et al, 2014; Otto et al., 2003).

Psychological interventions most commonly used in these multi-domain interventions included CBT (n=6), NET (n=3), EMDR (n=1), and Prolonged Exposure Therapy (PE; n=1). Biological components included pharmacological treatments (e.g., SSRIs) and physiotherapy or structured physical activity. A total of four studies included pharmacological interventions, such as SSRIs, and three studies used a variation of physical therapy. Social components included culturally adapted therapy, interpersonal psychotherapy, advocacy support (e.g., housing, legal status, family reunification), interpreter use, and structured group therapy. Diagnostic criteria varied across all studies, and duration ranged from intensive 5-day protocols to long-term programs lasting up to 18 months. This reflects substantial heterogeneity in treatment methodology and duration.

The first domain outlined in **Table 4** represents interventions that integrated the psychological and biological domains. These studies combined trauma-focused psychotherapy with pharmacological or physiological support. Tinghög et al. (2024) delivered an intensive 5-day individual treatment modality that combined EMDR, PE, and physical activity. This study

integrated exposure-based psychological processing with somatic and physical regulation (Tinghög et al., 2024). In another study, Nielsen and colleagues (2024) implemented a two-stage program over 6-8 months that combined CBT with the antidepressant Mianserin (SSRI). This intervention then also integrated Imagery Rehearsal therapy, aiming for a structured cognitive and biological intervention (Nielsen et al., 2024). Similarly, Buhmann et al. (2015) integrated CBT with pharmacological treatment across 22 sessions over 8 months, while Dibaj et al. (2017) paired NET (20 sessions) with physiotherapy (10 sessions), explicitly combining trauma processing with physical rehabilitation. Across these studies, the biological domain functioned either to stabilize symptoms (through medication; n=2), regulate physical health (through exercise; n=2), and/or address somatic outcomes of trauma by using physical therapy (n=2). Psychological components of these interventions mainly aimed to reduce mental and cognitive symptoms related to trauma and coping.

The second domain outlined in **Table 4** represents treatment modalities that had psychological and social interventions. Within this domain, interventions expanded from intrapersonal cognitive symptoms to address the interpersonal, cultural, and structural aspects of PTSD, reflecting the key ideology of the biopsychosocial framework. There were two studies that combined CBT with culturally adapted therapy and were delivered individually and in group-format (Hinton et al., 2004; Hinton et al., 2005). Additionally, two studies paired NET with interpersonal psychotherapy or group therapy to integrate narrative/psychological trauma processing with social skill development (Schaal et al., 2009; Priebe et al., 2019). Additional studies in this domain integrated individual psychotherapy and small-group therapy sessions to improve personal and social well-being.

Of the total 32 studies included in this systematic review, two studies incorporated interventions that address each of the biopsychosocial domains. Drožd̄ek et al. (2014) presented the most holistic and comprehensive treatment model identified in this review. In this study, participants received 85 group and individual psychotherapy sessions over one year. In addition, pharmacological treatments (SSRIs) were administered to individual participants reporting high rates of PTSD symptomology, though the exact number of participants is unclear (Drožd̄ek et al., 2014). Uniquely, this intervention also provided participants with advocacy support including legal support, housing, family reunification, and social support services, adequately addressing all components of the biopsychosocial model (Drožd̄ek et al., 2014). Additionally, the study by Otto and colleagues (2003) also incorporated all three aspects of the biopsychosocial framework into their treatment methods by integrating CBT, group therapy, and pharmacological medications (SSRIs). Both studies administered treatments both individually and in groups, though the former study (Drožd̄ek et al., 2014) also provided social services as a treatment modality.

Table 4: Treatment Methodologies: Multi-Domain Interventions

Domain:	Citation:	Treatment type:	Diagnostic Criteria:	Duration:	Delivery:
Psych. + Biological	(Tinghög et al., 2024)	Eye Movement Desensitization and Reprocessing, Prolonged Exposure, Physical Activity	CAPS	5 consecutive days of intensive daily sessions	Individual
	(Nielsen et al., 2024)	Cognitive Behavioral Therapy, Mianserin (SSRI)	ICD-10	6-8 months; average of 36 sessions administered in 2 stages: (Stage 1: CBT + SSRI) (Stage 2: IRT)	Individual
	(Buhmann et al., 2015)	Cognitive Behavioral Therapy + Pharmacological treatments	ICD-10	22 sessions over 8 months	Individual
	(Dibaj et al., 2017)	Narrative Exposure Therapy + Physiotherapy	CAPS	NET: 20 sessions Physio-therapy: 10 sessions	Individual
Psych. + Social	(Hinton et al., 2005)	Cognitive Behavioral Therapy + Culturally Adapted Therapy	CAPS	Once a week for 12 weeks	Individual + Group
	(Hinton et al., 2004)	Cognitive Behavioral Therapy + Culturally Adapted Therapy	DSM-III	Once a week for 11 weeks	Individual + Group
	(Schaal et al., 2009)	Narrative Exposure Therapy + Interpersonal Psychotherapy	CAPS + DSM-IV	Once a week for 4 weeks	Individual + Group
	(Priebe et al., 2010)	Narrative Exposure Therapy + Interpersonal Therapy (group)	CAPS	Total study follow-up period: 12 months Assessments conducted at 3- and 12-months	Individual + Group
	(Renner, 2009)	The therapies included psychodrama (individual and group), behavior therapy, and existential analysis, all conducted with interpreters and adapted sensitively to avoid re-traumatization	Brief Symptom Inventory + Questionnaire of Change in Experience and Behavior	Average: 18 months (SD = 14.0) (range = 6-54 months)	Individual + Group
Psych. + Biological + Social	(Drožd̄ek et al, 2014)	Group Therapy + Nonverbal Therapies (Psychomotor, art therapy, music therapy) + Pharmacological support (SSRIs) + advocacy support (legal, housing, family reunion, social services)	DSM-III	85 group therapy sessions over 1 year. Sessions were held twice a week. Advocacy support for legal status, housing, and family reunification was also integrated. An after-care program was made available to address relapse, daily-life stress, family, or employment concerns.	Individual + Group + Social Support
	(Otto et al., 2003)	Cognitive Behavioral Therapy + Group Therapy + Pharmacological Therapy	CAPS	10 sessions of therapy + medication	Individual + Group

Treatment Outcomes: Single-Domain Interventions

The outcomes of the single-domain interventions are listed in **Table 5**. Across the 21 single-domain interventions included in this review, outcome measures mainly assessed PTSD symptom severity and diagnostic status (n=20), with many trials also evaluating quality of life (n=8), and cognitive functioning or overall mental state (n=5). In some cases, physical health symptoms or suicidal ideation were also considered as outcome measures (n=3). Many studies determined effectiveness based on reductions in PTSD diagnostic criteria during follow-up visits (n=13). Other studies used statistically significant decreases in symptom scores (n=16). Lastly, two studies also measured the long-term maintenance of symptom improvements (e.g., at 3-month, 6-month, or 1-year follow-ups). By evaluating the durability of treatment outcomes, these studies examine the longevity of PTSD treatment interventions along with immediate post-treatment changes.

Among the studies that included NET, eight out of 11 reported significant improvement after treatment. Neuner et al. (2004) reported that only 29% of participants met PTSD criteria at the 1-year follow-up compared to 80% at the baseline. Another study by Onyut et al. (2005) found sustained reductions in PTSD symptoms at 9 months, with 4 out of 6 participants no longer meeting diagnostic criteria for PTSD. Neuner et al. (2008) observed that 70% no longer met PTSD criteria and documented improvements in physical health symptoms. Halvorson & Stenmark (2010) reported that 40–65% no longer met diagnostic criteria, with over 60% achieving clinically significant improvement. Ruf et al. (2010) demonstrated that 60% of the children receiving KIDNET no longer met PTSD diagnostic criteria at the end of treatment. Only 17% of the children who received KIDNET continued to meet PTSD diagnostic criteria at follow-up compared to 70% in controls (Ruf et al., 2010). Ertl et al. (2011) found clinically

meaningful improvement in 80% of NET participants versus 50% in controls. Viller-Hansen et al. (2017) reported significant PTSD reductions alongside improved daily functioning and quality of life. Similarly, Bichesu et al. (2007) found that 55% of NET participants no longer met diagnostic criteria at 6 months compared to 11% in the control group receiving psychoeducation. Altogether, the studies provide scientific evidence for NET as an effective treatment modality for PTSD.

In contrast to the previous studies, three of the 11 studies focusing on NET produced mixed results. Neuner et al. (2010) reported that while there were greater symptom reductions for participants receiving NET compared to the 'treatment as usual' group, remission rates remained low, and overall results were inconclusive. In addition, the study by Hensel-Dittmann and colleagues (2011) found that 63% of NET and 71% of stress inoculation participants continued to meet PTSD diagnostic criteria at the 1-year follow-up, with no reductions in depression or comorbid disorders either. Similarly, Viller-Hansen et al. (2018) observed symptom reductions in NET patients but were unable to produce statistically significant results.

Among the studies evaluating CBT, study findings were positive but varied in statistical strength. Başoğlu et al. (2004) demonstrated substantial reductions in PTSD, depression, and anxiety with maintained improvements in social and occupational functioning. In addition, most participants in this study no longer met PTSD diagnostic criteria after treatment was complete (Başoğlu et al., 2004). Another study reported significant reductions in PTSD severity and depressive symptoms across refugee and non-refugee groups, though quality-of-life gains were weaker among certain participants (d'Ardenne et al., 2007). The third study that evaluated CBT as a treatment modality reported mixed results (Paunovic & Öst, 2001). This study found similar

improvements between CBT (53%) and NET (48%), with no significant differences between the two groups (Paunovic & Öst, 2001).

Several other single-domain psychological interventions indicated positive outcomes. Control-Focused Behavioral Treatment (CFBT) demonstrated strong improvements, with 82% reporting symptom reduction and 97% classified as asymptomatic (Başoğlu et al., 2022). The study evaluating EMDR therapy also found significant improvements (Ter Heide et al., 2011). Approximately 60% of participants who received EMDR no longer met PTSD diagnostic criteria at follow-up, compared to 0% who no longer met diagnostic criteria in the control group (Ter Heide et al., 2011). Phase-1 Trauma Focused Psychotherapy produced significant improvements in psychological distress and quality of life, with 82.4% of participants achieving complete remission compared to 0% in the control group (Kruse et al., 2009). Lastly, Psychoanalytic Psychotherapy also produced significant improvements, with 75.4% of participants showing clinical gains over 12 months (Özyıldırım, et al., 2023).

Conversely, some treatment modalities yielded inconclusive or mixed results. Multisensory Trauma Reprocessing therapy found no significant differences among Kenyan participants who received the treatment verses those who did not, with high rates of PTSD still present in both groups post-treatment (Pokhariyal et al., 2012). Trauma-Informed Supportive Counseling also produced no statistically significant improvements in PTSD or traumatic grief outcomes (Bass et al., 2016). Long-term psychotherapy showed symptom reductions at the 2-year follow-up (Birck, 2001). However, persistent trauma-related symptoms remained common among these participants, indicating partial rather than full remission

Table 5: Single-Domain Intervention Treatment Outcomes

Citation:	Type of Treatment:	Outcome measure:	Statistical Significance:	Description of Results:
(Neuner et al., 2004)	Narrative Exposure Therapy	Symptom reduction + Quality of life	Significant improvement	1 year follow-up: 29% of NET participants met PTSD diagnostic criteria (compared to 80% at start) NET found to produce meaningful, long-term change in outcomes.
(Onyut et al., 2005)	Narrative Exposure Therapy	Symptom reduction + mental state	Significant improvement	Significant reductions in PTSD maintained at 9-month follow-up. PTSD diagnostic status improved, with 4/6 patients no longer meeting PTSD criteria at follow-up (2/6 borderline)
(Neuner et al., 2008)	Narrative Exposure Therapy	Symptom reduction + physical health measures	Significant improvement	70% of NET patients no longer met PTSD criteria at follow-up Improvements in physical health symptoms: cough, diarrhea, and fever
(Halvorson & Stenmark, 2010)	Narrative Exposure Therapy	Symptom reduction	Significant improvement	40-65% of patients no longer met PTSD diagnostic criteria. More than 60% of patients achieved clinically significant improvements 1 patients experienced symptom deterioration.
(Neuner et al., 2010)	Narrative Exposure Therapy	Symptom reduction + physical health measures	Mixed results (not statistically supported)	NET resulted in significantly greater reductions in PTSD symptom severity over 6 months compared to treatment as usual group (d = 1.04) Complete remission was observed in one patient.
(Ruf et al., 2010)	Narrative Exposure Therapy for Children (KIDNET)	Symptom reduction	Significant improvement	60% decrease of PTSD in children who received KIDNET. Reductions observed in all symptom domains and improvements in overall functioning and cognitive performance. 17% of KIDNET participants met PTSD diagnostic criteria at the 6-month follow-up (compared to 70% in the control group).
(Ertl et al., 2011)	Narrative Exposure Therapy	Symptom reduction, physical health measures, suicide ideation rates	Significant improvement	Clinically meaningful improvement was observed in 80% of NET participants (compared to 50% improvements in both control groups).
(Viller Hansen et al., 2017)	Narrative Exposure Therapy	Symptom reduction + quality of life	Significant improvement	Significant PTSD symptom reductions were observed at 3- and 6-month follow-ups. Improvements in daily functioning and quality of life (e.g., mood, energy, enjoyment) were recorded.
(Viller Hansen et al., 2018)	Narrative Exposure Therapy	Symptom reduction + cognitive/mental state	Mixed results (not statistically supported)	NET resulted in greater symptom reductions compared to the control group. Symptom reduction was maintained at follow-up.

(Bichesu et al, 2007)	Narrative Exposure Therapy + Psychoeducation	Symptom reduction + quality of life	Significant improvement	At the 6-month follow-up, 5/9 (55%) of NET participants no longer met PTSD diagnostic criteria. Only 1/9 (11%) of participants in the PED group no longer met PTSD diagnostic criteria. Greatest symptom reductions occurred in the avoidance and arousal domains for NET participants.
(Hensel-Dittmann et al., 2011)	Narrative Exposure Therapy + Stress Inoculation Training	Symptom reduction + quality of life	Mixed results	63% of NET and 71% of SIT participants continued to meet PTSD diagnostic criteria at the 1-year follow-up. No significant reductions in depression or comorbid disorders were observed in either treatment group.
(Paunovic & Öst, 2001)	Cognitive Behavioral Therapy (+ Narrative Exposure Therapy)	Symptom reduction	Mixed results	48% of NET participants and 53% of CBT participants reported significant improvement in PTSD symptom reduction at the 6-month follow-up. General anxiety and depression symptoms decreased by 50-57% across both groups, with significant improvements in quality of life and cognitive schemas. No significant differences between CBT and NET.
(Başoğlu et al., 2004)	Cognitive Behavioral Therapy	Symptom reduction + Quality of life	Significant improvement	CBT resulted in substantial reductions in PTSD, depression, and anxiety symptoms, with improvements maintained at the 1-, 3-, and 6-month follow-ups. The participant no longer met PTSD diagnostic criteria at the completion of treatment. Improvements in social and occupational functioning were also observed (measured with the Work and Social Adjustment Scale)
(d'Ardenne et al., 2007)	Cognitive Behavioral Therapy	Symptom reduction + quality of life	Significant Improvement	Trauma-focused CBT resulted in significant reductions in PTSD severity and depressive symptoms across refugees with interpreters, refugees without interpreters, and English-speaking non-refugees. Quality of life scored improved across all groups, though improvements were not statistically significant in refugees who required interpreters.
(Başoğlu, 2022)	Control-Focused Behavioral Treatment	Symptom reduction	Significant improvement	82% of participants reported PTSD symptom reductions after an average of 6 sessions. 93% of participants rated themselves as "much or very much improved." 97% of participants were classified as asymptomatic at the end of treatment.
(Ter Heide et al., 2011)	Eye Movement Desensitization and Reprocessing	Symptom reduction + cognitive/mental state	Significant improvement	At the follow-up, 3/5 (60%) participants no longer met PTSD diagnostic criteria, compared to 0 participants in the stabilization (control) group. EMDR was associated with modest improvements in PTSD, anxiety, and depression symptoms.

(Pokhariyal, et al., 2012)	Multisensory Trauma Processing	Symptom reduction + quality of life	Mixed results	Among Kenyan participants, no significant differences in PTSD outcomes were observed between MTP and CT, whereas among refugees, CT resulted in greater improvement in Stress State Inventory (SSI) scores than MTP. Following treatment, PTSD was still prevalent in 56% of Kenyan participants and 77% among refugees.
(Bass et al., 2016)	Trauma-Informed Supportive Counseling	Symptom reduction	No improvement	No statistically significant improvements were observed for PTSD or traumatic grief symptoms.
(Birck, 2001)	Psychotherapy	Symptom reduction + cognitive/mental state	Mixed	Reductions in PTSD, depression, and anxiety symptoms were observed at 2-year follow-up compared to pre-treatment levels. Persistent trauma-related symptoms (i.e., sleep disturbances, intrusive memories, and concentration difficulties) remained common in participants, even at follow-up. Psychological distress was ongoing for many participants.
(Kruse et al., 2009)	Phase-1 Trauma-Focused Psychotherapy	Symptom reduction + quality of life	Significant improvement	Psychological distress and quality of life improved significantly in the treatment group, indicated by improved scores on the SCL-90 Global Severity Index. No such improvements were observed in the control groups. 82.4% of participants achieved complete remission in the treatment group, compared to 0% in the control group.
(Özyıldırım et al., 2023)	Psychoanalytic Psychotherapy	Cognitive/mental state	Significant improvement	Clinical improvement was observed in 75.4% of participants by the end of the treatment. CGI-I scored improved from 3.46 in month 1 to 1.54 in month 12. Higher rates of treatment participation were associated with better outcomes, indicating a strong correlation between number of sessions and clinical improvements.

Treatment outcomes: Multi-domain Interventions

The results of the multi-domain treatment interventions are detailed in **Table 6**. Outcome measures primarily assessed PTSD symptom reduction, quality of life, and cognitive and mental state. Disability improvement and physical health measures were also used at times to assess the impact of treatment.

The first domain represented in **Table 6** outlines the treatment methods that had psychological and biological components. The results of these studies were generally mixed. Tinghög and colleagues (2024) combined EMDR, PE, and physical activity to treat PTSD. Though some reductions in PTSD symptoms were observed, no statistically significant improvements were established by researchers. Nielsen et al. (2024) integrated Cognitive Behavioral Therapy (CBT) with Mianserin (an SSRI commonly used to treat PTSD). While this study found that improvements in sleep quality and overall mental health were sustained at the 6-month follow-up, the study also found that the pharmacological component of the intervention did not provide any additional benefit for PTSD symptoms or comorbid conditions. In contrast, the study by Buhmann et al. (2015) found statistically significant evidence that participants receiving combined CBT and pharmacological treatments improved more than participants receiving CBT alone (Buhmann et al., 2015). Other studies in this domain reported mixed or inconsistent findings with substantial individual variability. Collectively, the studies in this domain indicate that biological interventions may enhance psychological outcomes, though its value is not uniformly supported.

The second domain outlined in **Table 6** consists of treatment interventions that fit in the psychological and social domains of the biopsychosocial framework. The results of these studies

were more consistently significant, particularly when interventions included culturally adapted or interpersonal aspects. Hinton et al. (2005) reported large effect sizes (Cohen's d = 2.17–3.78) following culturally adapted CBT, which modified normal CBT to align with the participants cultural and linguistic needs. In this study, 60% of participants no longer met PTSD diagnostic criteria and maintained follow-up gains (Hinton et al., 2005). Similarly, Hinton et al. (2004) found statistically significant reductions in PTSD, anxiety, depression, and panic severity. Schaal et al. (2009) demonstrated superior outcomes for NET relative to interpersonal psychotherapy at 6-month follow-up, with only 25% of NET participants meeting PTSD criteria compared to 71% in the IPT group. Priebe et al. (2010), however, reported mixed results: although small but statistically significant symptom and quality-of-life improvements were observed, 86% continued to meet PTSD criteria at 1-year, and treatment response varied by site. Renner (2009) implemented a long-term psychodrama/behavioral therapy and provided interpretation support. This study found that 85% of participants reported significant PTSD improvement, reflected in marked reductions in emotional and behavioral distress (Renner, 2009). The findings in this domain suggest that incorporating psychological therapies within culturally responsive and socially supportive structures may strengthen symptom reduction and increase overall recovery.

The most comprehensive models that incorporated psychological, biological, and social components demonstrated some of the strongest and most sustained effects. Drožd̄ek and colleagues (2014) combined group and nonverbal therapies (art, music, etc.) with pharmacological medications, and structured advocacy support (legal, housing, family reunion, and social support). Significant reductions in PTSD, anxiety, and depression were observed at post-treatment and follow-up periods (Drožd̄ek et al., 2014). The results of this study had some of the longest longevity with symptom improvements maintained for up to five years. In contrast,

the only other study in this domain reported mixed results (Otto et al., 2003). This study combined the pharmacological intervention of sertraline with individual CBT, and group therapy. The results indicate that CBT combined with sertraline had more positive outcomes than CBT alone, but the individual impacts of group therapy were unclear (Otto et al., 2003).

Overall, multi-domain interventions reflect a stronger alignment with the biopsychosocial framework by targeting trauma at multiple levels: cognitive-emotional processing (psychological), neurochemical and pharmacological regulation (biological), and environmental stabilization or cultural integration (social).

Table 6: Multidomain Intervention Treatment Outcomes

Domain:	Citation:	Treatment type:	Outcome measure:	Statistical Significance:	Description of results:
Psych. + Biological	(Tinghög et al., 2024)	Eye Movement Desensitization and Reprocessing, Prolonged Exposure, Physical Activity	Symptom reduction + Quality of life + Disability & Functioning	Mixed results	Reductions in PTSD symptoms were observed throughout treatment. No statistically significant improvements were found for comorbid disorders or disability-related functioning.
	(Nielsen et al., 2024)	Cognitive Behavioral Therapy, Mianserin (SSRI)	Symptom reduction + Quality of life	Mixed results	Sleep quality and overall mental health improved across all groups, with improvements lasting at the 6-month follow-up. No additional benefit was observed for mianserin on sleep, PTSD symptoms, or comorbid conditions.
	(Buhmann et al., 2015)	Cognitive Behavioral Therapy + Pharmacological treatments	Symptom reduction + Quality of life	Significant improvement	45-68% of participants experienced a reduction of symptoms across PTSD, depression, anxiety, and improvements in quality of life. Greatest symptom reductions occurred in sleep, irritability, hopelessness, low energy, and nervousness. Participants receiving combined CBT and pharmacological treatment showed greater improvement than those receiving CBT alone.
	(Dibaj et al., 2017)	Narrative Exposure Therapy + Physiotherapy	Symptom reduction + Quality of life + Physical health	Mixed results	50% of patients no longer met PTSD diagnostic criteria at the 3-month follow-up, with improvements maintained at the 6-month follow-up as well. Substantial individual variability was observed in terms of treatment response (2 strong responders, 2 partial responders, 2 non-responders).
Psych. + Social	(Hinton et al., 2005)	Cognitive Behavioral Therapy + Culturally Adapted Therapy	Symptom reduction + cognitive/ mental state	Significant improvement	Culturally adapted CBT produced large, statistically significant improvements in PTSD symptom severity (Cohens D= 2.17 to 3.78). 60% of participants no longer met PTSD diagnostic criteria at the conclusion of the treatment. PTSD improvements were maintained at the follow-up.

	(Hinton et al., 2004)	Cognitive Behavioral Therapy + Culturally Adapted Therapy	Symptom reduction + cognitive/ mental state	Significant improvement	Statistically significant reductions were observed in PTSD, anxiety, depression, and panic attack severity. No indication if culturally adapted therapy had any special benefits.
	(Schaal et al., 2009)	Narrative Exposure Therapy + Interpersonal Psychotherapy	Symptom reduction + cognitive/ mental state	Significant improvement	25% of NET participants met PTSD diagnostic criteria at the 6-month follow-up. 71% of IPT participants met PTSD diagnostic criteria at the 6-month follow-up. NET participants showed larger reductions in PTSD severity, depressive symptoms, and guilt.
	(Priebe et al., 2010)	Narrative Exposure Therapy + Interpersonal Therapy (group)	Symptom reduction + Quality of life + healthcare utilization and economic outcomes	Mixed results	14% of participants no longer met PTSD diagnostic criteria at the 1-year follow-up. 86% of participants continued to meet PTSD diagnostic criteria at the 1-year follow-up. Small (but statistically significant) reductions in PTSD symptoms and improvements in quality of life were observed. Treatment responses varied by center and location.
	(Renner, 2009)	The therapies included psychodrama (individual and group), behavior therapy, and existential analysis, all conducted with interpreters and adapted sensitively to avoid re-traumatization	Symptom reduction + cognitive/ mental state	Significant improvement	85% of participants reported significant improvements in PTSD symptoms (with a mean Global Severity Index change of 218.3). Imporvements reflected reductions in emotional and behavioral distress.
Psych. + Biological + Social	(Drožd̄ek et al, 2014)	Group therapy + nonverbal therapies (psychomotor therapy, art therapy, music therapy) + pharmacological support (SSRIs, anticonvulsants, some antipsychotics), +	Symptom reduction + quality of life	Significant improvement	Significant reductions in PTSD, anxiety, and depression symptoms were observed at posttreatment (largest decline in PTSD symptoms). Symptom improvements were maintained for up to 5 years.

		coping skills, and advocacy (legal, housing, family reunion, social services);			
Psych. + Biological + Social	(Otto et al., 2003)	Cognitive Behavioral Therapy + Group Therapy + Sertraline (SSRI)	Symptom reduction + cognitive/ mental state	Mixed results	Combined sertraline + CBT produced greater reductions in PTSD symptom severity than sertraline alone. Serttraline-only groups showed little to no improvements in PTSD symptoms. Anxiety-related outcomes improved more in the combined treatment group.

Chapter 4

Discussion

This systematic review used the biopsychosocial framework to evaluate current treatments for PTSD and evaluated if and how these interventions utilize a biopsychosocial approach. To do so, I categorized treatments according to their biopsychosocial domain (further separating single- and multi- domain interventions) and then evaluated treatment efficacy through an analysis of PTSD symptom reductions. In this chapter, I discuss which treatment modalities were found to be effective (or not) for survivors of severe human rights violations and whether multidimensional approaches produce stronger and more durable outcomes when treating trauma in this population. Additionally, it is important to note that each treatment intervention identified in the Introduction was included at least once throughout the studies evaluated in this review (and vice versa).

The Impact of Human Rights Violations

When discussing human rights, this review focuses on violations of Article 5 of the Universal Declaration of Human Rights (UDHR, 1948). Article 5 specifically protects individuals from torture or inhumane treatment, or degrading treatment or punishment. These human rights protections are important because if violated, they negatively impact the core foundations of safety, trust, and control, often leading to the development of PTSD. To understand PTSD in the context of human rights violations, we must acknowledge its multidimensional causes and consequences. Trauma often occurs alongside chronic stressors such as forced migration, legal insecurity, family separation, and economic instability. As a result, symptoms such as hyperarousal, intrusive memories, and cognitive dysfunction persist for

long periods of time, even if the immediate traumatic events or dangers have passed. For this reason, evaluating treatment modalities across the biopsychosocial domains is imperative to account for the broader structural and social forces that influence recovery in survivors.

To adequately address the multidimensional influences of PTSD, the biopsychosocial model recognizes that PTSD symptoms emerge from the interaction of biological dysregulation (e.g., stress response system), psychological symptoms (e.g., intrusive memories), and social contexts (e.g., political vulnerability). Framing the evidence in this way allows for a deeper examination of whether multidimensional interventions are indeed more effective than single-domain treatments, particularly in addressing the multiple levels of harm caused by severe human rights violations.

Single-Domain Treatment Interventions

Of the 32 studies included in the systematic review, 21 utilized single-domain approaches. Though a majority of the interventions produced some degree of symptom improvement (not all were statistically significant), the most effective interventions were Narrative Exposure Therapy, Culturally Adapted Cognitive Behavioral Therapy, and trauma-focused psychotherapies, which are described below. All these interventions only addressed the psychological domain of the biopsychosocial model, highlighting a significant gap in research that studies the individual effects of biological or social treatment methods for Post-Traumatic Stress Disorder. *Narrative Exposure Therapy*

Narrative Exposure Therapy (NET), which guides patients to process traumatic experiences (typically) by chronologically narrating their life experiences, was the most frequently studied intervention (n=8) and produced significant improvements in diverse

geographic and ethnic populations. Of these studies, six trials reported statistically significant improvements (Ertl et al., 2011; Halvorson & Stenmark, 2010; Neuer et al., 2004; Neuner et al., 2008; Onyut et al., 2005; Ruf et al., 2010), while two studies observed symptom reductions but lacked statistical support for their findings (Neuner et al., 2010; Viller Hansen et al., 2017) An additional study tailored NET specially for child refugees, creating an alternative version of NET called KIDNET (Ruf et al., 2010). This study found significant improvements with children (Ruf et al., 2010).

Despite some mixed results, the studies that evaluate NET collectively highlight NET's potential in effectively treating PTSD. Human rights violations such as forced displacement, genocide, and armed conflict impact individuals of all ages. The findings that NET is an effective PTSD treatment method for both child and adult populations are particularly important for the international human rights community to properly treat all members of impacted communities, regardless of age.

Though NET consistently produced positive outcomes when administered alone, this review finds that NET is less effective when combined with other psychological interventions. Two studies used NET in combination with psychoeducation (general mental health education; Bichescu et al., 2007) or Stress Inoculation Training (talk therapy to teach coping skills; Hensel-Dittmann et al., 2011). Though these studies did not produce significant results, both indicate that combining NET with another psychological intervention may not provide any additional benefit when treating PTSD. Furthermore, Bichescu et al. (2007) suggest that a combination of NET and stress inoculation training may be less effective than NET alone. It's important to note that these two studies that examined NET with other psychological interventions had very limited sample sizes (<15) (Bichescu et al., 2007; Hensel-Dittmann et al., 2011). Due to the

severely limited sample sizes, Due to severely limited sample sizes, these findings cannot support definitive conclusions, but they suggest that combining psychoeducation or stress inoculation training with NET may be a promising area for future research in broader populations.

Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) is widely recognized as one of the most commonly utilized treatments for PTSD in general clinical populations (American Psychological Association, 2025). Yet, despite its prominence across global clinical settings, this review identified remarkably few studies (n=2) that examined CBT specifically among survivors of human rights violations. While this may reflect a gap between established best practices and their application in these populations, it may also be explained by the limitations of CBT in cross-cultural contexts, where its Western theoretical foundations may reduce its relevance or feasibility among individuals exposed to systematic violence and displacement.

Both studies suggest that CBT can reduce symptoms in survivors of human rights violations, but the strength of the evidence varies. In a larger observational study of asylum-seekers, positive outcomes were reported when CBT was delivered with language-competent interpreters (d'Ardenne et al., 2007). This highlights the importance of culturally and linguistically responsive care for refugee populations. Broader scientific research consistently finds that interpreter use is directly associated with better patient outcomes (Health et al., 2023), thus, the findings of d'Ardenne et al. (2007) further indicate the benefits of using language-competent interpreters. The only other individual CBT study was a single-participant case study, limiting generalizability (though significant PTSD improvements were observed) (Başoğlu et al.,

2004). Overall, while CBT shows promise, more rigorous research is needed before it can be confidently recommended as a standalone treatment for this population.

Psychotherapy

Across psychotherapy-based interventions, more structured and symptom-focused models consistently outperformed general psychotherapy. Standard psychotherapy produced limited improvement, with many participants continuing to experience persistent PTSD symptoms (Birck, 2001). Participants in this study were, however, exposed to ongoing psychological distress, which may have hindered the benefits of psychotherapy. Nonetheless, Phase-1 Trauma-Focused Psychotherapy demonstrated substantially higher remission rates, suggesting that early stabilization and direct symptom regulation may be critical populations exposed to severe trauma (Kruse et al., 2009). Psychoanalytic psychotherapy also produced meaningful clinical improvement, with outcomes closely tied to participation levels (Özyıldırım et al., 2023). Collectively, these findings indicate that structured and targeted approaches may be more effective than general psychotherapy when working with survivors exposed to severe trauma.

Other Treatment Modalities

Control-Focused Behavioral Treatment (CFBT) demonstrated the highest remission rates in this review, particularly among survivors of war, torture, sexual violence, and forced displacement (Başoğlu et al., 2022). Designed specifically for mass-trauma contexts, CFBT emphasizes restoring a survivor's sense of control over trauma-related symptoms. The exceptionally high remission rates of CFBT suggest that control-oriented treatment models may be especially beneficial in post-conflict and displacement settings. However, the absence of long-term follow-up and a control group limits confidence in the durability and comparability of these

outcomes, highlighting the need for more rigorous trials in humanitarian settings. Additionally, despite the fact CFBT is designed specifically for mass-trauma settings, CFBT was only evaluated by one of the 32 studies, highlighting a significant gap in scientific literature examining the effectiveness of this intervention.

Other psychological interventions showed more modest or negligible effects. EMDR, while typically perceived in medical research as one of the most effective PTSD treatments, demonstrated limited improvement in a small sample (n=5) (Ter Hiede et al., 2011). Multisensory Trauma Processing and Trauma-Informed Supportive Counseling both failed to significantly reduce PTSD diagnostic status, though some symptom improvements were observed in both (Pokhariyal et al., 2013; Bass et al., 2016). Collectively, these findings indicate that supportive care alone is insufficient in this population and that highly structured, skills-based interventions may be more effective in survivors who require concrete tools for symptom management.

Findings and Implications

Overall, this review of 21 single-domain PTSD interventions highlights that Narrative Exposure Therapy (NET), is the most supported psychological intervention for treating PTSD in survivors of human rights violations. NET is currently one of the most used PTSD treatment interventions in clinical settings, so these findings largely align with general practice. This review additionally finds KIDNET to be a particularly beneficial treatment method for children exposed to human rights violations. While the benefits of CFBT were also significant, a small sample size of studies limits an in-depth analysis of its effectiveness. While CFBT is created specifically for war and torture survivors, the current clinical "gold standard" for treating PTSD

is CBT (American Psychological Association, 2025). In this review, CBT was found to be particularly beneficial in improving the quality of life in individuals who were no longer under continued psychological distress. However, a small sample size of CBT trials (n=2) highlights that even "gold standard" treatments are vastly understudied in this population. Additionally, Phase 1 Trauma-Focused Psychotherapy and Control-Focused Behavioral Therapy (CFBT) both highlight significant potential for reducing psychological symptoms of PTSD by teaching increased self-control and direct symptom management skills. However, further studies in the psychological domain should compare the benefits of NET, CBT, CFBT, and Phase 1 Control-Focused Psychotherapy to identify the most effective elements of each treatment intervention and focus on individualizing PTSD treatment techniques.

Limitations

The largest limitation of the single-domain treatment interventions is that all included studies focus exclusively on psychological approaches, with no studies examining the independent effects of biological or social interventions. While this represents a gap in the literature, it is also consistent with prior evidence suggesting that biological and social interventions alone may have limited effectiveness in treating PTSD, particularly among survivors of human rights violations. PTSD physiologically impacts individuals through dysregulated neurological and hormonal pathways. Survivors of human rights violations experience extremely high rates of PTSD and therefore, experience significant somatic imbalance and disruption of normal physiological symptoms. Biological interventions such as Selective Serotonin Reuptake Inhibitors (SSRIs) aim to treat PTSD by rebalancing dysregulated physiological symptoms, and have been found to significantly improve PTSD in external, clinical research (Seales & Seales, 2022). Therefore, future research should evaluate the benefits

of pharmacological treatments as a supplement to psychotherapeutic treatments. Additionally, a potential limitation to the effectiveness of these interventions is variability in fidelity of delivery, as certain treatment approaches may be more feasible to implement than others in resource-constrained or unstable settings, thereby contributing to differences in observed outcomes independent of the intervention itself (Carroll et al., 2007).

Current scientific literature lacks an understanding of how PTSD biologically impacts survivors of human rights violations and an understanding of how biological interventions (e.g., medications) could help mitigate the symptoms and effects of PTSD. Future research should address this gap by examining the individual impacts of biological treatments for PTSD. PTSD directly impacts the physical and mental well-being of individuals, so the social interventions (such as financial or economic support) are likely to be ineffective if administered by itself. Therefore, future research aiming to address the benefits of social support on treating PTSD should do so through randomized controlled trials that examine the benefits of social support, after psychological interventions have reduced initial, severe symptoms.

Multi-Domain Treatment Interventions

Biopsychosocial Treatments

Overall, this evidence indicates that biopsychosocial interventions may be more effective than single-domain approaches; however, the limited quantity of available research severely limits any conclusive interpretation of the results. While integrated models appear clinically promising (particularly in promoting longer-term stabilization) the current evidence base is too limited and sparse to establish treatment superiority. Rather than confirming the biopsychosocial model as the empirically dominant intervention method, these findings reveal a critical gap: the

field endorses integration in theory, but has not yet rigorously tested its additive or synergistic value.

Of the 32 studies included in this review, only two studies implemented fully integrated biopsychosocial treatment models, highlighting how limited the empirical testing of this theoretically dominant framework remains (Drožđek et al., 2014; Otto et al., 2003). Drožđek et al. (2014) provided the most structurally comprehensive model, combining trauma-focused psychotherapy, pharmacological regulation, and formalized social advocacy (e.g., legal assistance, housing support, family reunification). Participants demonstrated significant reductions in PTSD, anxiety, and depression, with improvements sustained for up to five years. These long-term findings suggest that addressing environmental instability alongside symptom processing may enhance the durability of treatment gains. However, the non-randomized design, absence of long-term control comparisons, and simultaneous delivery of multiple components make it impossible to isolate which domains drove the observed effects. Similarly, Otto et al. (2003) combined CBT, sertraline, and group therapy in Cambodian refugees, finding that combined treatment outperformed pharmacotherapy alone. Yet the social component was minimally operationalized, and its independent contribution was not evaluated. Additionally, long-term outcomes were not systematically documented, limiting conclusions about treatment outcomes. Across both studies, the biopsychosocial model was conceptually embraced but not methodologically disentangled.

Since Post-Traumatic Stress Disorder (PTSD) is a multidimensional disorder that has biological, psychological, and social implications, it is imperative that effective treatment approaches adequately address all of these domains as well (Ford et al., 2015). The findings of this review indicate that treatment interventions spanning across multiple domains of the

biopsychosocial model may produce more comprehensive and sustained outcomes than single-domain interventions among survivors of human rights violations. While single-domain interventions (especially trauma-focused psychotherapies) are to some extent capable of reducing core PTSD symptoms, multi-domain treatment models have the potential to uniquely and comprehensively address the biopsychosocial factors associated with PTSD that single-domain treatment models overlook and produce the most sustained improvements in PTSD outcomes (as identified by this review).

Of the 32 studies included in this review, 11 studies implemented multi-domain interventions. These interventions were combinations of psychological, biological, and/or social treatments. Of the eleven multidimensional studies included in this review, six studies recorded significant improvements across multiple PTSD domains (Buhman et al., 2015; Droždek et al., 2014; Hinton et al., 2004; Hinton et al., 2005; Renner, 2009; Schall et al., 2009). The other five studies reported mixed results (Dibaj et al., 2017; Nielsen et al., 2014; Otto et al., 2003; Priebe et al., 2010; Tinghög et al., 2014). These studies either lacked significant improvement in PTSD symptoms or had unclear multidimensional benefits. Overall, this review finds that multidimensional treatment interventions reported more limited but long-lasting benefits over single-domain interventions. In the following sections, I will expand upon the findings of treatment interventions that spanned across two or more of the biopsychosocial domains, discuss the generalizability of the findings, and evaluate the limitations of the multidimensional studies included in this review.

Psychological and Biological Integration

Interventions that combine psychological and biological components demonstrate some added value, but the evidence remains mixed and only partially supports a clear synergistic effect. While "stacking" biological and psychological approaches did produce reductions in core PTSD symptoms, these gains were not reliably or consistently observed across broader domains such as physical functioning, quality of life, or comorbid symptoms (Tinghög et al., 2024; Nielsen et al., 2024). This pattern suggests that combining treatments in these two domains may enhance symptom-focused outcomes but does not necessarily translate into the comprehensive recovery that survivors of human rights violations need.

In terms of pharmacological interventions administered alongside psychotherapies, evidence of the benefits from the combined treatments remains largely inconsistent. Two studies examining CBT combined with SSRIs in refugee populations found inconsistent results: while one reported greater overall symptom improvement with adjunct medication, another found no added benefit of mianserin beyond CBT alone (Buhmann et al., 2015; Nielsen et al., 2024). These contradictory findings suggest that pharmacological augmentation may not uniformly enhance psychotherapy outcomes and may depend on factors such as medication type, dosage, or sample characteristics. Overall, the findings of this review suggest that while combining psychological and biological treatments may benefit certain individuals, the added value of pharmacological interventions remains inconsistent, reinforcing the need for individualized evidence-based treatment planning in trauma-affected populations.

Psychological and Social Integration

Psychosocial interventions combined various aspects of psychological and social treatment methods. These five studies consistently demonstrated significant and sustained

improvements in PTSD symptoms. In addition to psychological trauma processing, psychosocial interventions address the cultural context, language barriers, and social aspects related to trauma and human rights violations. Across the five studies in this category, culturally adapted therapies and group-based approaches were associated with the most meaningful reductions in PTSD severity, highlighting the importance of and need for culturally competent social integration frameworks for survivors. The results of this section align with the growing body of research suggesting that while standard clinical populations are effective, holistic recovery for survivor populations often requires addressing the social determinants of health alongside psychological trauma (Hynie, 2017).

Cognitive Behavioral Therapy and Cultural Adaptation

Culturally adapted CBT aligns with the biopsychosocial model by integrating core cognitive behavioral techniques with culturally grounded beliefs, values, and social contexts, thereby addressing both individual psychological processes and the broader social determinants that shape trauma response and recovery (Naeem et al., 2019). Across the studies, culturally adapting CBT consistently produced stronger and more clinically meaningful outcomes than standard Western models. When CBT was delivered in refugees' native languages and aligned with cultural beliefs, symptom reductions were substantially greater, underscoring that effectiveness in real-world refugee populations depends not only on the therapy itself, but on how it is delivered (Hinton et al., 2004; 2005). Similarly, interpreter-supported and culturally sensitive behavioral therapies improved trust, engagement, and emotional stabilization among asylum-seekers, suggesting that linguistic access and cultural competence are structural components of effective care—not optional enhancements (Renner, 2009).

In contrast, interventions that utilized interpersonal or group components without first establishing strong individual symptom control produced weaker or inconsistent long-term outcomes (Schaal et al., 2009; Priebe et al., 2010). In other words, interventions that prioritized addressing the social aspects of trauma through group therapy and related interventions actually produced lower PTSD symptom reductions than single-domain psychotherapies. Nonetheless, these interventions are categorized as multidomain interventions as they target psychological trauma and social well-being through interpersonal and group therapy. Overall, these finding of this section indicate that in survivors of human rights violations, culturally responsive, individually focused psychological stabilization should precede broader social or group-based integration efforts.

These findings align with broader scientific literature demonstrating that culturally adapted, trauma-focused psychotherapies produce stronger and more sustained outcomes than non-adapted or primarily supportive interventions. A comprehensive meta-analysis by Benish et al. (2011) found that culturally adapted mental health treatments were significantly more effective than unadapted interventions, particularly when adaptations directly addressed language, cultural values, and explanatory models of distress. This contextualizes the present findings by suggesting that the success of culturally modified CBT and interpreter-supported models is not incidental, but is rather consistent with established scientific evidence that cultural congruence enhances engagement, trust, and symptom reduction. These findings situate this review within a growing evidence base that supports culturally responsive, trauma-focused care as the emerging gold standard for treating PTSD in displaced and survivor populations.

Overall Findings and Implications

After a comprehensive review of the scientific literature available in this field, only one study statistically supported a holistic multi-dimensional treatment approach for PTSD. The study by Drožđek and colleagues (2014) suggests that this review's hypothesis that a comprehensive multi-dimensional treatment approach may be more effective for treating PTSD in survivors of human rights violations than single-domain interventions. However, further research on this matter is critical before any definitive claims can be made.

While only one study (Drožđek et al., 2014) could be used to support (or refute), my hypothesis, the overall findings support that survivors of human rights violations need structured psychological interventions that increase self-control over symptom management. NET, Culturally Adapted CBT, Trauma-Focused Psychotherapy, and CFBT were found to be the most effective methods of treating PTSD in these survivors of human rights violations. All of these interventions directly target the cognitive and behavioral components of PTSD, adequately addressing the psychological domain. In terms of biological interventions, this review finds that pharmacological interventions (particularly SSRIs) may be helpful to some individuals in addition to cognitive therapies, though SSRIs were not typically effective when administered alone. Most importantly, this review suggests that effective social support for survivors of human rights violations must address external barriers, such as legal advocacy, housing support, and family reunification. Group therapy or sharing of traumatic grief between survivors was not found to be particularly beneficial as a preliminary treatment intervention.

Future research and treatment approaches need to incorporate comprehensive biological, psychological, and social support interventions to address the complex and multidimensional

components of PTSD. Additional research in this field must use structured and reliable research methodologies (e.g., randomized controlled trials) to provide statistical support for biopsychosocial interventions. Particularly, the benefits of culturally adapted cognitive therapies (e.g., NET, CBT) need to be further evaluated. Trauma and behavioral-focused psychotherapies should be administered as the initial, primary treatment interventions. These interventions should be supported by biological interventions, such as medications, as well as social support through advocacy (legal, housing, etc.). This review suggests that a biopsychosocial approach may indeed be the most effective treatment method for PTSD in survivors of human rights violations. However, this review also discovered a significant gap in the understanding and benefits of a holistic treatment approach, largely due to a severely limited evidence base. As global human rights violations become progressively worse, it is ever more important that scientific researchers, mental health professionals, and the international human rights community adequately understand the best way to address the complexities of PTSD.

Implications of the Results

Treatment Effectiveness and The Limits of Clinical Care

A key implication of this review is that effective PTSD treatment does not require exclusive delivery in formal clinical settings. Structured trauma-focused psychological interventions reduce symptom severity across diverse survivor groups, including adults and children. This offers actionable guidance for humanitarian and human rights organizations operating in under-resourced settings such as refugee camps and conflict-affected communities. Interventions including Narrative Exposure Therapy (NET), culturally adapted Cognitive Behavioral Therapy (CBT), and control-focused behavioral treatments can be delivered briefly

and in non-clinical environments. Rehabilitation does not need to depend solely on long-term specialist care, which is often inaccessible to the most vulnerable populations.

However, this review also clarifies why PTSD burden remains high even when treatment exists. Across trials, remission was frequently incomplete, and long-term diagnoses often persisted, particularly among survivors facing ongoing distress. These findings mirror real-world conditions in which survivors remain in unstable legal and social environments. Asylum uncertainty, family separation, housing insecurity, poverty, discrimination, and fear of deportation or retaliation operate as chronic stressors that perpetuate symptoms and undermine treatment gains. Clinical intervention alone cannot resolve trauma if structural determinants continue to signal danger. The gap between improvement and full recovery reflects not only clinical limits, but unresolved social determinants of health that impede durable rehabilitation.

The review's biopsychosocial framework is therefore especially relevant. The most sustained improvement occurred in the only fully integrated model combining psychotherapy, pharmacological support, and structured advocacy services—including legal assistance, housing support, and family reunification (Drožđek et al., 2014)—with benefits documented up to five years. This suggests that legal and social stabilization may function as central mechanisms of recovery. Interventions that restore safety and agency through immigration advocacy, documentation support, and material stability may transform short-term symptom reduction into lasting remission. For lawyers, caseworkers, clinicians, and NGO advocates, these findings support integrated service models in which mental health care is coordinated with legal and social assistance rather than siloed.

PTSD as a Structural Consequence of Human Rights Violations

The findings of this review have direct relevance to real-world human rights contexts because PTSD among survivors of severe violations is neither rare nor incidental. The included studies consistently examined populations exposed to torture, genocide, arbitrary detention, forced displacement, and systematic state violence—violations that directly lead to Post-Traumatic Stress Disorder (PTSD) and remain widespread in contemporary conflicts and migration crises (Blackmore et al., 2020). Across settings, PTSD is best understood not only as an individual psychiatric diagnosis, but as a predictable health consequence of structural violence and persistent threats to safety. For the international human rights community, documenting abuses is only one component of accountability. The downstream health consequences of violations shape community functioning, displacement patterns, and long-term reintegration. Survivors experience chronic hyperarousal, nightmares, intrusive memories, panic, and impaired social and cognitive functioning, and these symptoms often persist even after immediate physical safety is restored (Blackmore et al., 2020)

The consequences of human rights violations must therefore be explicitly acknowledged and addressed.

Implications for Human Rights Practice, Justice, and Research

The implications extend to how human rights institutions conceptualize remediation and justice. Responses often prioritize documentation, prosecution, and reparations, yet this review indicates that rehabilitation (and the right to recovery) requires equal emphasis. Survivors need not only recognition of harm, but structured pathways to restore functioning, rebuild social connections, and regain control over daily life. The stronger outcomes observed in culturally adapted CBT compared to traditional CBT further demonstrate that rehabilitation must be

culturally grounded. A one-size-fits-all approach risks reproducing the powerlessness that violations create. Cultural adaptation is therefore essential to equitable recovery.

Finally, the review exposes another significant research gap. Despite the vast number of individuals displaced by conflict and persecution, only 32 studies evaluating treatment effectiveness were identified. Moreover, the evidence rarely clarifies who benefits most. Although participants represented more than 25 countries and diverse forms of violence, studies did not meaningfully analyze outcomes by gender, age, socioeconomic status, or cultural background. This limitation has practical consequences, as violations often target groups differently, such as sexual violence, politically motivated detention, or racialized state violence, yet subgroup effectiveness remains unclear. Future research must assess not only overall efficacy, but which survivors access care, who benefits, and who remains underserved.

Altogether, severe human rights violations produce predictable, severe, and enduring mental health consequences. Trauma-focused psychotherapy reduces symptoms and should be integrated into humanitarian response systems. Yet sustained recovery depends on social stability, cultural safety, and legal protection. PTSD should therefore be understood not solely as an individual pathology, but as a multidimensional consequence of structural violence requiring coordinated clinical, social, and legal remedies.

Limitations of the Included Studies

Several limitations constrain the interpretation of this review. First, the evidence base is highly heterogeneous. Studies used different diagnostic criteria, outcome measures, intervention lengths, and follow-up periods, with sample sizes ranging from single-case reports to large trials. This variability prevents meaningful cross-study comparison and limits confidence in relative

treatment effectiveness. Second, although many studies were randomized, the overall literature includes observational designs, pilot trials, and uncontrolled interventions, reducing causal certainty. Some of the strongest reported effects were derived from non-randomized studies.

Geographically, the evidence base was concentrated in European resettlement contexts and the United States, with limited representation of populations currently experiencing large-scale human rights violations. Notably underrepresented were groups such as Uyghur Muslims in China, Rohingya refugees from Myanmar, Palestinians in Gaza and the West Bank, Sikhs and Muslims in India, Tigrayans in Ethiopia, and Afghan civilians displaced by Taliban control. The absence of research conducted directly within these high-risk populations limits the global applicability of the findings and raises concerns about whether existing treatment models adequately reflect the needs of survivors in active conflict and persecution settings.

Cultural adaptation was also inconsistently defined and measured, making it unclear whether improved outcomes were attributable to specific therapeutic mechanisms or general cultural alignment. Publication bias and the concentration of studies in specialized trauma clinics further limit generalizability, particularly to under-resourced humanitarian settings. Finally, only two studies implemented fully integrated biopsychosocial models, making any claim of their superiority premature. Collectively, these limitations indicate that current conclusions should be interpreted as provisional rather than definitive.

Limitations of this review

This review also has several important limitations. First, the search strategy was restricted to PubMed, meaning relevant studies indexed in other databases may have been excluded. This may have limited the comprehensiveness of the evidence base. It is important to note that the

inclusion of the four systematic reviews was an attempt to mitigate this limitation. Second, only English-language studies were included, introducing potential language bias and excluding research conducted and published in non-English-speaking contexts, an important consideration given the global nature of human rights violations. Finally, as a single-author review, all screening, data extraction, and synthesis were conducted by one researcher. The absence of independent replication or inter-rater verification increases the possibility of selection bias and subjective interpretation in study inclusion and analysis.

Conclusion

This thesis examines whether biopsychosocial treatment models offer a more effective pathway for addressing PTSD among survivors of human rights violations. Across the three biopsychosocial domains, the evidence consistently demonstrates that structured, trauma-focused psychological interventions remain the most empirically supported foundation of care. While culturally adapted and integrative approaches show promise, particularly in promoting engagement and long-term stabilization, the limited number of fully operationalized biopsychosocial trials prevents definitive claims of superiority. Rather than confirming a dominant model, this review exposes a critical gap between theoretical endorsement of holistic care and rigorous empirical validation. For survivors whose trauma is embedded not only in memory but also in displacement, legal precarity, and structural instability, treatment cannot be conceptually isolated. Moving forward, human rights institutions and mental health clinicians must move beyond isolated symptom reduction and toward methodologically robust, culturally grounded, and structurally informed interventions that reflect the lived realities of human rights violations. In doing so, research can more meaningfully align clinical practice with the ethical imperative to restore dignity, stability, and long-term recovery to those most profoundly harmed

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