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Ketamine in trauma therapy: exploring its context and applications

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Ketamine-induced dissociation in the context of psychotherapy may exert a therapeutic effect for (complex) PTDS by creating experiential distance through dissociation which allows trauma survivors to face and resolve traumatic material without being overwhelmed by it.

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What is complex Ptsd?

Exactly 40 years following the official recognition of posttraumatic stress disorder (PTSD) as a diagnosable mental health condition1, it is remarkable both how much and how little has changed. It seems that the recognition of trauma and its impact is ubiquitous. Accounts of traumatic incidents, their psychological toll, and a potpourri of treatments for traumatization are legion in the popular media. The research literature on trauma has expanded exponentially in the last few decades, from practically non-existent in the mid-twentieth century to literally thousands of publications per year in recent times. And yet, as practitioners who specialize in treating trauma-related disorders, we are regularly contacted by prospective clients, including those residing in the largest metropolitan areas of the U.S., who are unable to locate a mental health professional who truly seems adept at trauma treatment. Instead, they report dead-end courses of therapy and ill-timed or ill-conceived interventions that have exacerbated rather than ameliorated their trauma-related difficulties.

Although some forms of therapy for traumatization have been extensively researched and identified as highly efficacious, there is growing evidence that outside the laboratory, under real-world conditions, the level of

effectiveness of these approaches is considerably lower. Research studies show that in community settings, on average, around 50% of patients drop out of treatment prematurely.2,3 Due to the treatment, some patients even experience a worsening of symptoms and a decrease in various domains of functioning.3,4

Further complicating matters, it is well-documented that trauma is related to a host of syndromes other than (and often comorbidly in addition to) PTSD. Dissociative disorders, addictive and compulsive disorders, severe depression, and borderline personality disorder are among the most prominent but by no means the only diagnoses that can be associated with a history of trauma.5,6 When these disorders arise from trauma, failure to recognize this origin can seriously limit treatment effectiveness.

A less well-known but prevalent syndrome is Complex PTSD (C-PTSD), a constellation of difficulties first introduced by Harvard psychiatrist Judith Herman in the early 1990s.7 Long a source of controversy,8 research decisively supporting the validity of C-PTSD has only very recently emerged.9,10 This, in turn, led to the explicit acknowledgment of the disorder in the eleventh edition of the International Classification of Diseases (ICD-11).10,11 C-PTSD encompasses all the markers of PTSD but also includes a triad of features collectively designated *disturbances of self-organization*: an enduringly negative self-concept, ongoing problems in interpersonal relationships, and difficulties regulating emotions.12 The inclusion of C-PTSD in the classification scheme marks a particularly important turning point in trauma psychology in that some empirical studies indicate that C-PTSD is appreciably more common than the more limited set of difficulties comprising PTSD alone.12

C-PTSD was originally proposed to result from repeated or prolonged encounters with traumatic events.7 While this seems to be the case, research findings suggest that C-PTSD is in particular associated with extensive traumatic experiences in childhood.6, 12-14 Taking a closer look at this rooting in early-life adversity can change how we view this disorder. Namely, the three components of disturbances of self-organization can be understood not merely as direct consequences of the traumatic event, but also as developmental impairments resulting from being reared in interpersonal environments that do not adequately support psychological development.

The neurobiology of C-Ptsd

To appreciate the potential of psychedelic-assisted approaches to promote the psychological transformations undergirding the resolution of C-PTSD, it is vital to attain familiarity with the developmental neurobiology of the disorder. The neurological structures of the brain develop in networks of connectivity (intrinsic connectivity networks), each of which is associated with specific functions such as attending to tasks, recalling autobiographical information or past experiences, maintaining a self-concept, and attending to the external environment.20 Research has shown that secure attachment experiences, including receiving affection and attention, and caregiver responsiveness, are essential for the development and growth of the human brain and adaptive patterns of functional connectivity among its neurological structures.16,17

Research on the neurobiology and phenomenology of traumatization has shown that both, traumatic experiences and the absence of experiences like secure attachment, which are necessary for adequate development, can negatively affect biological processes in brain development and lead to aberrant patterns of neural function and connectivity.18,19 This includes issues with the proliferation and pruning of neurons and synapses, resulting in aberrant brain activity within and between specific neurological structures.21,22 Studies strongly support that these forms of adversity can impair the development of several essential neurological structures such as the hippocampus, amygdala, cingulate and insular cortices, and the prefrontal, temporal, and parietal cortices.23-25

Adults diagnosed with PTSD, dissociative, and borderline personality symptomology seem to have significantly altered functional connectivity between these neurological structures, which in turn can disrupt intrinsic connectivity networks.26-28 These disruptions can be seen to correspond to the range of symptom profiles such as hyperarousal, dissociation, depressed mood, negative thoughts, negative self-concept, and flashbacks which comprise PTSD, C-PTSD, and the range of comorbid trauma-related disorders.

An overview of contextual trauma therapy

For about 30 years now, we have been working on an evolving conceptual framework for understanding C-PTSD and a treatment approach based on that conceptual perspective: Contextual Trauma Therapy.15 In several respects, the Contextual Trauma Therapy model is entirely consistent with the recently emerging major research findings regarding C-PTSD. We propose that C-PTSD results not only from deleterious events that have happened to a child (thus, trauma) but also from the lack of beneficial influences (thus, developmental deprivation). The traumatic impact of an abusive treatment is captured by the symptoms of PTSD. In addition, the three components of disturbances of self-organization encapsulate major consequences of developmental deprivation. These developmental deprivations can be attributed to having grown up in an insufficiently stimulating interpersonal context and the failure to meet the child's basic developmental needs for affection and validation. Hence the term *contextual* in Contextual Trauma Therapy.

This context of deprivation fosters vulnerability to being targeted for abuse, heightened risk for traumatization in response to instances of interpersonal violence, augment the likelihood for continued victimization (known as revictimization) later in life, and promote the forms of dysfunction that comprise disturbances of self-organization.

Consequently, Contextual Trauma Therapy theory proposes that the resolution of C-PTSD requires, first and foremost, the remediation of developmental deficits to bolster functional resiliency. Increases in resiliency and stability can be seen as a prelude to the potentially debilitating prospect of confronting and resolving traumatization. Due to many possible impairments in development, C-PTSD survivors can be limited in their adaptation and coping abilities and are therefore vulnerable to deterioration rather than resolution when confronted directly with intense traumatic material. To circumvent this, one may first tackle the three components of the disturbances of self-organization in C-PTSD by: 1) developing a consistent, trusting therapeutic relationship that can serve as a "laboratory" for acquiring interpersonal skills; 2) facilitating cognitive processing of irrational beliefs that sustain a negative self-image; and 3) training in behavioral skills to promote sufficient regulation of impulses and emotional expression.

Summing up, Contextual Trauma Therapy is an eclectic treatment, drawing on a large range of approaches that are guided by the central premise that disturbances of self-organization are not primarily attributable to deleterious events of childhood trauma but rather to having grown up in an interpersonal environment that did not adequately model and transmit adaptive capacities of self-organization. This being the case, trauma reprocessing alone cannot be expected to ameliorate these types of difficulties. On the contrary, because it is taxing and potentially destabilizing, a direct, intensive focus on trauma early in treatment can instead radically compound problems of self-organization.

The potential of Ketamine as an adjunct to therapy to foster resolution of C-Ptsd

The last decades were marked by substantial progress in the research on the application of psychedelics (such as psilocybin, ayahuasca, LSD, MDMA, and Ketamine) for the treatment of a wide range of mental health difficulties and psychological disorders. Among the classical and non-classical psychedelics, Ketamine is of

specific interest to us for several reasons. Most importantly, it was found to benefit patients with various psychological disorders including PTSD, dissociation, depression, anxiety, and substance use disorders.29-31

In contrast to classic psychedelics, Ketamine has been referred to as a “dissociative psychedelic” or “dissociative drug”. In fact, the dissociative effects of Ketamine were already highlighted around the time of its discovery and its initial use as an anesthetic.32 More recent studies describe how the administration of Ketamine provides dose-dependent dissociative experiences such as depersonalization, derealization, time distortion, and amnesia.33,34 And, interestingly, acute depersonalization and derealization after Ketamine have been found to predict the anti-depressant effects of the drug.35,36

Recent research on the neurobiological effects of Ketamine sheds light on how Ketamine may induce its therapeutic effects. Ketamine promotes neuroplasticity through both ‘synaptogenesis’ (creation of new synapses between neurons) and ‘neurogenesis’ (growth of new neurons).30 Furthermore, Ketamine directly affects receptors of the neurotransmitter glutamate, which seems to change the functional connectivity between several neurological structures (prefrontal cortex, hippocampus, anterior cingulate cortex, and basal ganglia), and thus alters the functional connectivity of large-scale networks in the brain through both respectively “decoupling” and “coupling” certain network hubs.37,38 In a therapeutic setting, this may help ameliorate the altered connectivity within and between neural structures that otherwise may be impaired due to the impact of trauma and curtailed development.

Accordingly, these neurobiological changes correlate with the individual’s altered experience of consciousness after Ketamine, such as reduced anhedonia (the inability to feel pleasure), time distortion, and depersonalization.37,39 As part of the debilitating symptomology of C-PTSD and other trauma-related disorders, dissociative experiences are typically associated with experiences of both trauma and deprivation. When provoked by Ketamine, in contrast, dissociation appears to exert a therapeutic effect through neurobiological and phenomenological alterations in consciousness. We believe that this is because there are two qualities of Ketamine that are therapeutic for this population: 1) experiential distance produced by Ketamine’s dissociative effects allows trauma survivors to face and resolve traumatic material without being overwhelmed by it, and 2) ketamine’s neuroplasticity-promoting properties provide a foundation for developmental remediation.

While dissociation is usually thought of in terms of manifestations such as depersonalization and amnesia, we find it conceptually useful to keep in mind that the word dissociation essentially means disconnection. Dissociation can manifest as disconnection from one’s own subjective experience (as in depersonalization, where the person’s thoughts, feelings, sensations, and so on seem not to belong to them), from one’s surroundings (as in derealization, in which the person feels their surroundings are distant and unreal), or from other people (the relative absence of the ability to feel an experiential bond with others, a common characteristic of various forms of insecure attachment).

For traumatized individuals, dissociative capacities appear to act as a two-edged sword. They have a protective function in coping with the chronic psychological, emotional, and physical distress associated with constant childhood adversity and traumatization. However, the automaticity of dissociation as a protective mechanism can also create chronic difficulties in life. Gratifying relationships, maintaining employment, and general success in day-to-day living require the ability to tolerate varying levels of stress and maintain experiential presence. Such experiential presence is further required to access positive emotional states associated with mutual connection, fulfilling relationships, joy, spontaneity, and creativity. As it is exactly this experiential presence that is disrupted by dissociation, it is hard for patients with chronic dissociation to thrive and live a happy, fulfilling life.

An integral component of treating C-PTSD is helping affected individuals reduce dissociative reactions to episodic distress by supporting them develop the capacity for experiential connection to the self, others, and the surrounding environment. In children, these capacities are acquired through the felt connection to attentive and responsive parents, which stimulates the development of rich and adaptive neuronal connections in the brain.40 The development of a therapeutic and collaborative relationship, a cornerstone of both Contextual Trauma Therapy and trauma therapy in general, is essential to fostering these neuronal and corresponding experiential connections. Our clinical experience strongly suggests that ketamine-assisted therapy can greatly accelerate this process.

Therapeutic implications

We have been fortunate to make contact with ketamine centers that have enthusiastically welcomed our participation in providing ketamine-assisted therapy to some of our existing clients with C-PTSD. In conjunction with our exploration of the relevant biopsychological research literature, it is our impression at this point that the therapeutic potential of Ketamine for people with C-PTSD may represent a paradox, an instance of fighting fire with fire. Although episodes of dissociation are a major source of difficulty for those with C-PTSD, the dissociative qualities of Ketamine appear to be integral, both on a phenomenological and a biopsychological level, to remediating developmental gaps and warps.

Phenomenologically, the calming influence of ketamine-induced dissociation may provide enough experiential distance to neutralize habitual difficulties such as distrust, feelings of unsafety, and compromised capacities to tolerate distress and regulate emotions. Ketamine's calming influence may even make it appreciably easier to confront traumatic material and become desensitized to it.

In biopsychological terms, the decoupling of disturbed neurological connections and promotion of new, more productive ones may lead to enduring treatment gains in radically less time than trauma-responsive psychotherapy alone. Our limited experience thus far with ketamine-assisted therapy for C-PTSD is consistent with these suppositions. We have seen remarkable leaps in psychological development and trauma resolution after relatively few ketamine-assisted sessions. Now it remains for additional clinical observation and empirical findings to determine whether our initial clinical impressions are borne out.

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