At-Home Ketamine-Assisted Therapy for Post-Traumatic Stress Disorder: A Real-World Retrospective Analysis

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Conflict of Interest: All authors are employed by Mindbloom, a provider of ketamine-assisted therapy. This analysis was conducted as a quality assurance and outcomes evaluation initiative.

Abstract

Background: Post-traumatic stress disorder (PTSD) is a common mental health condition affecting approximately 3-6% of the U.S. adult population annually,[1] and is characterized by intrusive symptoms, avoidance, negative cognitive and mood alterations, and hyperarousal following trauma exposure.[2] Ketamine shows promise as a treatment for PTSD in preliminary trials,[3] though real-world outcomes data remain limited, particularly for at-home, telehealth-supported delivery models.

Objective: This study describes PTSD symptom outcomes, including suicidal ideation, depression, and anxiety, among adults who received at-home ketamine-assisted therapy through Mindbloom, a telehealth ketamine therapy platform.

Methods: This retrospective analysis examined PTSD symptom change among 374 adults with moderate-to-severe PTSD (baseline PCL-5 ≥33) who completed at-home, telehealth-supported ketamine-assisted therapy between September 2024 and October 2025. Outcomes were measured from baseline to post-session 6. Secondary outcomes included depression (PHQ-9), suicidal ideation (PHQ-9 item 9), and anxiety (GAD-7). Clinical response was defined as ≥10-point PCL-5 reduction; remission was defined as post-treatment PCL-5 <33.

Results: Among the 374 patients who completed 6 sessions, the mean baseline PCL-5 score was 51.1, declining to a mean post-treatment PCL-5 of 28.3 (44.6% reduction, Cohen's d = 1.44). The clinical response rate was 79.7%, with 60.7% achieving remission (PCL-5 <33). Response rates increased progressively across treatment: 62.2% at post-session 2 (mean PCL-5 = 36.2, 29.2% improvement), 73.8% at post-session 4 (mean PCL-5 = 31.1, 39.1% improvement), and 79.7% at post-session 6 (mean PCL-5 = 28.3, 44.6% improvement). Among patients with baseline suicidal ideation (n=58, 15.5%), 83.0% reported improvement and 66.0% reported complete resolution by session 2, with 85.2% reporting improvement and 75.9% reporting resolution post-session 6. Secondary analyses showed significant improvements in

depression (51.2% reduction in PHQ-9 scores, n=157) and anxiety (50.6% reduction in GAD-7 scores, n=151). Side effects were reported in 4.3% of participants.

Conclusions: This real-world outcomes analysis describes improvements in PTSD symptoms, including rapid reductions in suicidal ideation, among adults receiving at-home ketamine-assisted therapy. Prospective, controlled trials are needed to establish causal efficacy.

Keywords: ketamine, ketamine-assisted therapy, at-home ketamine therapy, telehealth, PTSD, post-traumatic stress disorder, suicidal ideation, real-world evidence, retrospective analysis

Introduction

Post-traumatic stress disorder (PTSD) is characterized by intrusive symptoms, avoidance, negative cognitive and mood alterations, and hyperarousal following trauma exposure.[2] Current first-line treatments emphasize trauma-focused psychotherapies (e.g., prolonged exposure and cognitive processing therapy), with SSRIs as recommended pharmacotherapy options when psychotherapy is not available or not preferred.[4]

Ketamine is a non-competitive N-methyl-D-aspartate (NMDA) receptor antagonist[5] originally approved as an anesthetic. Over the past two decades, preliminary evidence has suggested potential efficacy for PTSD when administered at sub-anesthetic doses. Although intravenous ketamine has shown promise for PTSD in clinical trials,[3] at-home, telehealth-supported ketamine treatment for PTSD remains largely unstudied. This analysis provides a large, systematically collected real-world cohort that addresses this evidence gap.

The purpose of this retrospective analysis was to describe PTSD symptom outcomes in a real-world cohort of patients receiving at-home, clinician-supported ketamine-assisted therapy through Mindbloom. Secondary outcomes included depression, anxiety, and suicidal ideation.

Methods

Study Design and Setting

This is a retrospective, descriptive analysis of de-identified clinical outcomes data from Mindbloom's at-home ketamine-assisted therapy program. Data were extracted from the Mindbloom clinical outcomes database covering the period September 2024 through October 2025 (the period following implementation of systematic PCL-5 assessment for PTSD-focused treatment). The analysis examines symptom outcomes among patients who enrolled for treatment of PTSD.

Study Population

Patients were eligible for inclusion if they: (1) enrolled in Mindbloom's ketamine-assisted therapy program; (2) completed a baseline PTSD Checklist-5 (PCL-5) assessment; (3) had a baseline PCL-5 score ≥33 (threshold for probable PTSD diagnosis); and (4) completed a post-session 6 PCL-5 assessment.

The final cohort included 374 participants with both baseline and post-session 6 PCL-5 assessments (completers-only analysis) who enrolled and completed treatment between September 2024 and October 2025. Of 1,439 participants who initiated treatment with baseline PCL-5 ≥33, 374 (26.0%) completed the full six-session protocol with post-session 6 assessments. An additional 90 participants (6.3%) terminated treatment prior to session 6. The remaining 975 participants (67.7%) either did not complete post-session 6 assessments, were still in active treatment at the time of data extraction, or had incomplete data.

Secondary outcome analyses were conducted on subsets with available secondary outcome data. Depression outcomes were analyzed for participants who had both baseline PHQ-9 ≥10 and post-session 6 PHQ-9 assessments (n=157). Suicidal ideation was assessed among those with baseline ideation (PHQ-9 item 9 score >0; n=58). Anxiety outcomes were analyzed for participants with both baseline GAD-7 ≥10 and post-session 6 GAD-7 assessments (n=151).

Outcome Measures

Primary Outcome - PTSD Symptom Severity: Change in PTSD symptoms was measured using the PTSD Checklist-5 (PCL-5), a 20-item self-report measure of PTSD symptom severity. Each item is scored 0-4 (not at all to extremely), with total scores ranging from 0-80. Clinical response was defined as ≥10-point reduction in PCL-5 score, consistent with established thresholds for reliable change.[6] Remission was defined as post-treatment PCL-5 < 33, a threshold associated with lower likelihood of meeting PTSD diagnostic criteria.[7]

Secondary Outcomes: Depression severity was measured using the Patient Health Questionnaire-9 (PHQ-9), a 9-item self-report measure with each item scored 0–3 (not at all to nearly every day), total score range 0–27. Suicidal ideation was measured using PHQ-9 item 9 ("Thoughts that you would be better off dead or of hurting yourself in some way"). Anxiety was measured using the Generalized Anxiety Disorder-7 (GAD-7), a 7-item self-report measure with each item scored 0–3 (not at all to nearly every day), total score range 0–21. Clinical response for depression and anxiety outcomes was defined post-hoc as ≥5-point reduction from baseline on both the PHQ-9 and GAD-7, representing meaningful symptom improvement on these scales.

Treatment Protocol

Mindbloom provides at-home ketamine-assisted therapy through a telehealth platform with remote clinical supervision. Patients self-administer ketamine (sublingual or subcutaneous) at home under clinician oversight via telehealth, which differs from traditional in-clinic ketamine

infusion protocols. Treatment duration and session frequency are individualized based on patient response and clinical needs. For this analysis, outcomes were assessed across the first six sessions, typically completed over 4-6 weeks. The protocol includes:

- Pre-session preparation: Psychoeducation and preparation materials prior to first session
- Administration: Ketamine administered sublingually or subcutaneously with dosing individualized based on patient factors and clinician judgment. Standard session frequency is weekly, with flexible adjustment based on patient response and tolerance
- Clinical supervision: Real-time or asynchronous clinician support during and after each session
- Integration: Post-session integration practices, psychological support, and guided exercises between sessions
- Flexible scheduling: Patients maintain autonomy over session timing and frequency within clinical guidelines

Data Collection and Analysis

Participants completed PCL-5 assessments at baseline (prior to session 1) and post-session 6. Secondary outcome measures (PHQ-9, GAD-7, suicidal ideation item) were collected at the same timepoints for patients with comorbid presentations. For the full cohort, outcome trajectories are also reported for post-session 2 (early treatment) and post-session 4 (mid-treatment) timepoints.

Descriptive statistics were computed for each timepoint, including: number of respondents, mean baseline and post-treatment scores, mean change scores, percentage change, response rate (proportion with ≥10-point PCL-5 improvement), remission rate (proportion with post-treatment PCL-5 <33), and proportion with any improvement (≥1 point change). Effect sizes were quantified using Cohen's d, calculated as (mean baseline score - mean post-treatment score) / pooled standard deviation.

For suicidal ideation (PHQ-9 item 9), improvement was defined as ≥1 point reduction, and complete resolution was defined as achieving a score of 0. The proportion of patients meeting these criteria at each timepoint was calculated.

Safety data were extracted from post-session clinical assessments. Side effects were tabulated, and treatment termination rates prior to protocol completion were documented.

Results

Participant Flow and Characteristics

Of 1,439 participants who initiated at-home ketamine-assisted therapy with baseline PCL-5 ≥33, 374 (26.0%) completed post-session 6 assessments. The remaining 1,065 participants either did not complete post-session 6 assessments, were still in active treatment at the time of data extraction, or terminated treatment prior to session 6 (6.3% of enrolled). Mean baseline PCL-5 score was 51.1, indicating moderate-to-severe PTSD symptom severity.

The 374 completers had a mean age of 45.4 years (SD = 10.1, range 20–79 years), with 32.7% (n = 122) male and 67.3% (n = 251) female; biological sex was unknown for one participant.

Primary PTSD and Suicidal Ideation Outcomes

Table 1A presents PTSD symptom severity outcomes across treatment. Among all 374 completers, the mean PCL-5 score declined from 51.1 at baseline to 28.3 at post-session 6, representing a 44.6% reduction (Cohen's d = 1.44). Clinical response (≥10-point improvement) was achieved by 79.7% of participants; 60.7% achieved remission (PCL-5 <33). Overall, 92.2% reported any improvement (≥1-point reduction).

Treatment demonstrated progressive improvement: clinical response rates increased from 62.2% at post-session 2 to 73.8% at post-session 4 and 79.7% at post-session 6.

Suicidal ideation outcomes are presented in Table 1B. Among the 58 participants (15.5% of the full cohort) with baseline suicidal ideation, rapid improvement was observed. By post-session 2, 83.0% reported any improvement (≥1-point reduction) and 66.0% achieved complete resolution (score = 0). At post-session 6, 85.2% reported improvement and 75.9% achieved complete resolution.

Secondary Outcomes: Depression and Anxiety

Table 2 presents depression and anxiety outcomes for participants with baseline severity meeting inclusion thresholds. Among 157 participants with baseline PHQ-9 ≥10, mean depression score declined from 16.8 to 8.2 (51.2% reduction), with 78.3% achieving clinical response (≥5-point improvement). Among 151 participants with baseline GAD-7 ≥10, mean anxiety score declined from 15.4 to 7.6 (50.6% reduction), with 73.5% achieving clinical response (≥5-point improvement).

Table 1A. PTSD and Suicidal Ideation Outcomes

Outcome	Baseline	Post-Session 2	Post-Session 4	Post-Session 6
Mean PCL-5 (n=374)	51.1	36.2	31.1	28.3
% Reduction from baseline	—	29.2%	39.1%	44.6%
Improvement*	—	85.0%	90.7%	92.2%
Clinical response†	—	62.2%	73.8%	79.7%
Remission‡	—	40.1%	54.2%	60.7%
Cohen's d	—	—	—	1.44

*Improvement: ≥1-point PCL-5 reduction from baseline.
†Clinical response: ≥10-point PCL-5 reduction from baseline.
‡Remission: PCL-5 <33.

TABLE 1B. Suicidal Ideation Outcomes

Outcome*	Baseline	Post-Session 2	Post-Session 4	Post-Session 6
Improvement†	—	83.0%	79.2%	85.2%
Complete resolution‡	—	66.0%	66.0%	75.9%

*Among participants with baseline suicidal ideation (n=58).
†Improvement: ≥1-point reduction in PHQ-9 item 9 score baseline.
‡Complete resolution: PHQ-9 item 9 score of 0.

Table 2. Depression and Anxiety Outcomes

Outcome	N	Baseline Mean	Post-Session 6 Mean	% Reduction	Clinical Response*
PHQ-9	157	16.8	8.2	-51.2%	78.3%
GAD-7	151	15.4	7.6	-50.6%	73.5%

*Clinical response: ≥5-point reduction from baseline.

Safety and Tolerability

Side effects were reported by 4.3% (n = 16) of participants at post-session 6. When side effects occurred, they were typically mild and transient. The most frequently reported side effects were memory impairment (1.3%), shortness of breath (0.8%), chest pain (0.5%), lower abdominal pain (0.5%), and increased blood pressure (0.5%). Treatment termination (any reason) prior to session 6: 6.3% of enrolled participants (n = 90 of 1,439).

Discussion

This retrospective analysis describes outcomes in 374 adults who completed at-home ketamine-assisted therapy for PTSD through Mindbloom's telehealth platform. Several findings merit emphasis.

The observed clinical response rate of 79.7%, defined as ≥10-point PCL-5 reduction, suggests substantial clinical benefit in this open-label cohort. The mean PCL-5 reduction of 44.6% (Cohen's d = 1.44) indicates a large magnitude of symptom improvement, particularly meaningful given the significant functional impairment and quality-of-life burden associated with PTSD. The progressive improvement across sessions, with 62.2% response by session 2, 73.8% by session 4, and 79.7% by session 6, demonstrates both early treatment engagement and sustained benefit across the protocol.

Among the 58 patients (15.5%) who reported baseline suicidal ideation, 85.2% reported improvement by session 6, with 75.9% reporting complete resolution. Given the burden of suicide risk in PTSD populations, this finding is noteworthy; however, the uncontrolled design precludes attribution of improvement to ketamine specifically.

Safety appeared favorable: side effects were reported in only 4.3% of participants and were typically mild and transient. The low incidence and benign nature of reported adverse events support the tolerability of at-home ketamine-assisted therapy for PTSD, though systematic safety monitoring across larger cohorts remains important.

Previous peer-reviewed research has demonstrated the safety and effectiveness of at-home, telehealth-supported ketamine therapy for anxiety and depression.[8-9] This analysis extends these findings to PTSD, suggesting the model may represent an alternative pathway for individuals with barriers to in-clinic treatment. Future research should examine whether this treatment setting influences adherence, outcomes, or access for underserved populations.

Limitations and Study Design Considerations

This analysis has several important limitations:

1. **Completers-only design:** This design reflects a completers-only analysis: the 374 participants who completed the full protocol represent 26.0% of the 1,439 who initiated treatment. This approach differs from intent-to-treat analyses and may reflect factors including early treatment response, sustained engagement, and completion motivation. Outcomes should be interpreted within this methodological context.
2. **No control or comparison group:** Without a control or comparison group, we cannot distinguish the effects of ketamine from natural recovery, placebo effect, expectancy, passage of time, concurrent psychotherapy, or other concomitant treatments. Prospective randomized controlled trials would be required to establish causal efficacy.
3. **Open-label, unblinded design:** Patients were aware of receiving active ketamine treatment, precluding blinding and potentially biasing self-reported outcomes.
4. **Real-world heterogeneity:** Treatment dosing, route, frequency, and timing were individualized, limiting specification of treatment parameters and generalizability of dose-response findings.
5. **Secondary outcome measures:** Depression (PHQ-9) and anxiety (GAD-7) were secondary outcomes measured in subsets of the cohort with available data. It should be noted that suicidal ideation was assessed using a single PHQ-9 item rather than a validated multi-item suicidal ideation scale; this may limit the sensitivity and specificity of this finding.
6. **Limited side effect monitoring:** Safety data relied on patient self-report in clinical settings. Systematic pharmacovigilance or structured safety assessments would enhance safety surveillance.
7. **Short follow-up duration:** This analysis does not assess durability of response beyond session 6 or long-term outcomes.
8. **Generalizability:** Participants were self-selected individuals seeking ketamine treatment with access to telehealth technology. Findings may not generalize to other populations, settings, or treatment modalities.
9. **Off-label use:** Ketamine is FDA-approved only as an anesthetic. Clinical use for PTSD represents off-label prescribing by licensed clinicians based on clinical judgment.

Disclosures

Funding: This analysis was conducted by Mindbloom as an internal quality assurance and outcomes evaluation initiative. No external funding was received.

Conflicts of Interest: All authors are employed by or affiliated with Mindbloom, Inc., the provider of the ketamine-assisted therapy program evaluated in this analysis.

Data Availability: De-identified data can be made available upon reasonable request to the corresponding author, with a statistical analysis plan, and a fully executed data use agreement.

IRB Review: BRANY IRB of Bioethics Research Administration, New York determined this research to be exempt from IRB review under exemption category 4(iii), as the study involves de-identified clinical data.

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Supplementary Material

Appendix A: PCL-5 Scoring and Interpretation

- Score range: 0-80
- Subclinical: 0-32 (no probable PTSD diagnosis)
- Mild PTSD: 33-46
- Moderate PTSD: 47-59
- Severe PTSD: 60+

Appendix B: Effect Size Interpretation (Cohen's d)

- 0.2 = Small
- 0.5 = Medium
- 0.8 = Large
- 1.2+ = Very large

The observed effect size of 1.44 indicates a very large improvement in PTSD symptom severity.