Exploring effects and experiences of ketamine in group couples therapy

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ABSTRACT

Background: This study contributes to the understanding of the efficacy, safety, and experience of ketamine-assisted therapy. The paper documents how individuals describe the effects of a protocolized and personalized use of ketamine (‘the relational dose’) in the context of group couples therapy based on Imago Relationship Therapy (IRT). Little is known about simultaneously administering ketamine to both members of a couple in this context, and no research to date has been published on whether ketamine facilitates couples to better engage in and benefit from the therapeutic process. The paper includes both qualitative and quantitative results. Method: The study utilized a mixed methods approach. One approach was an inductive content analysis that produced overarching themes gleaned from participants’ check-ins pre and post their weekly ketamine sessions. Transcripts were examined to better understand ketamine’s effects on couples’ ability to engage in therapeutic dialogue and resolve challenging relationship issues, as well as themes related to the non-ordinary-state-of-consciousness (NOSC) experience. The second approach involved the analysis of pre-test, post-test, and follow-up data from the Couples Satisfaction Index (CSI). Results: The couples described a wide range of effects that ketamine produced in the context of their relational dialogue including: empathogenic effects, mystical/spiritual/psychedelic experiences, anxiolytic and antidepressant effects. They also affirmed ketamine’s ability to generate alternative perspectives, promote insight, heighten awareness, enhance vulnerability and communication, lower defenses, and produce novel somatic experiences. Participants’ description of ketamine effects included its short duration, rapid onset, idiosyncratic sensitivity to dose, cumulative effects, as well as transient and mild side-effects. Several t-tests were statistically significant, and indicated improved relationship satisfaction following the treatment. Conclusion: In the context of couples therapy, ketamine produced a wide range of therapeutic effects and possessed unique pharmacological properties as a rapid-acting novel psychoactive molecule. The drug may have profound therapeutic benefits when administered in the context of couples therapy, under clinical supervision, however more research should be carried out.

KEYWORDS

ketamine, couples, group therapy, ketamine-assisted therapy, psycholytic therapy, Imago
INTRODUCTION

Ketamine

The N-methyl-d-aspartate (NMDA) antagonist ketamine is licensed as an anesthetic used in human and veterinary medicine (Abdallah, Sanacora, Duman, & Krystal, 2015). More recently, ketamine has been used to improve mental health and wellbeing (Corringer & Pickering, 2019; McIntyre et al., 2020; Witt et al., 2020). Ketamine’s effects are rapid and have been shown to be effective against depression and suicidal ideation within a single day (Abbar et al., 2022; Serafini, Howland, Rovedi, Girardi, & Amore, 2014; Wilkinson et al., 2018). Ketamine targets glutamate pathways, increasing the synaptic release of glutamate while also promoting neuroplasticity (Abdallah et al., 2018). Possible adverse side effects of ketamine include nausea, confusion, vomiting, and dysphoria (Dilip, Chandy, Hazra, Selvan, & Ganesan, 2021).

Ketamine-assisted therapy (KAT)

Psychedelic-assisted therapy (PAT) includes the administration of psychoactive compounds which may promote empathogenic and/or mystical-type experiences in patients (Griffiths, Richards, McCann, & Jesse, 2006). Although not technically classified as a ‘psychedelic’, subanesthetic doses of ketamine induce a dose-related dissociation, sometimes described as bodily transcendence. It also can bring on a range of effects typically associated with psychedelic drugs such as psilocybin, LSD, and DMT, including feelings of unity, transcendence, increased empathy, and consciousness expansion (Dore et al., 2019; Vlisides et al., 2018). KAT can facilitate a healing process for a number of psychiatric syndromes, provide symptomatic relief in an accelerated manner, and facilitate introspection (Dore et al., 2019). Moreover, ketamine-assisted therapy (KAT), like PAT, combines the therapeutic effects of ketamine with the support and facilitation of experienced and trusted therapists. The therapy component of KAT allows the client to process insights gained through the ketamine experience with the therapist, supporting the integration of these newly gained perspectives for lasting symptom relief (Halstead, Reed, Krause, & Williams, 2021).

Challenges in defining ketamine experiences

There is no standardization in the protocols of use of ketamine, and much variability exists regarding appropriate dose and possible settings and contexts in which ketamine may be administered. To date, no publication has explored dosing protocols in depth. Practitioner experience seems to confirm that ketamine’s effects are not solely dose-related, effects are idiosyncratic, and the participant’s experience is strongly dependent on the environment, intention, and context of use (Williams, Reed, & George, 2020).

Furthermore, there is a lack of consensus surrounding optimal dosing in the ketamine community. More specifically, there is little agreement on what is meant by a “low,” “medium,” or “high” dose. For example, some studies report 0.1–0.75 mg/kg of ketamine can improve symptoms of depression when administered intravenously, while others report 0.7–1 mg/kg of ketamine when administered intramuscularly (Andrade, 2017; Glue, Gulati, Le Nedelec, & Duffull, 2011). There is considerable individual variation in sensitivity to ketamine as well as considerable variation in the dosage regimens favored by different providers (Cohen et al., 2018). Another variable is the level of outward presence versus inward journeying being sought in a particular context (Trujillo & Heller, 2020). Moreover, dosage can be obfuscated by routes of administration which have varying levels of bioavailability (Sinner et al., 2008).

Imago Relationship Therapy (IRT)

Imago Relationship Therapy (IRT) was developed in 1980 by Hendrix and Hunt and popularized in 1988 in their best-selling book “Getting the Love You Want: A Guide for Couples” (Hendrix & Hunt, 1999). Briefly, the theory in IRT is that, driven by an unconscious desire to heal the imperfect relationship we had with our original caretakers in childhood, we are unconsciously attracted to a partner who will eventually recreate some version of our original childhood predicament. To the unconscious mind, the first step toward healing the childhood wound is to recreate it. This usually leads to chronic conflict, unhappiness and other-blaming within the couple relationship.

In IRT the main tool to help couples reconnect, after they have come to understand Imago theory, is called ‘Imago Dialogue’. This is a highly structured dialogue where one person is designated the speaker (Sender) and the other person the listener (Receiver). The Sender follows a series of sentence stems that guide him/her to safely communicate the content of what they need to say while the Receiver is coached to “mirror” what they are hearing, that is, to feed back to the Sender what they are hearing without changing the meaning thereof.

There are dialogues designed to address such things as frustrations, appreciations, defenses, behavior change requests, caring behaviors and others. In each dialogue the Sender shares their feelings, thoughts, fears, and, importantly, how the current situation with their partner reminds them of their childhood situation, all this in a structure that keeps the Receiver safe from feeling blamed or attacked. This tool facilitates safe communication, puts conflict in a historical perspective, and encourages validation and empathy, thus improving the couple relationship.

Psychedelic-assisted couples therapy

Couples therapy is widely practiced and has previously been shown to be an effective method of improving relationship distress collaboratively (Bachler et al., 2017; Wilmots, Midgley, Thackeray, Reynolds, & Loades, 2020). However, research on the potential effectiveness of psychedelic-assisted couples therapy is sparse, and more clinical studies are needed. Psychedelic substances and non-classic psychedelic...
compounds, such as MDMA and ketamine, may possess empathogenic qualities, therefore it is possible that such agents could be useful in facilitating couples therapy. Empathogenic compounds may help couples process emotions together, and collaboratively engage in highly vulnerable conversations thereby facilitating a deepening of their connection.

To date, the only research conducted on the use of empathogenic agents in couples therapy has involved MDMA (3,4-Methylenedioxymethamphetamine). Anderson, Reavey, and Boden (2019) collected first hand data through interviews and diary entries from couples who ingested MDMA together recreationally in order to gain insight and further explore possible psychedelic healing aspects. Data analysis from 14 participants concluded that an emphasis on ritualizing the use of MDMA and creating specific boundaries for the experience provided safety and value for each partner’s needs. It was also found that shared MDMA experiences facilitate closeness, connection, and intimacy.

In the first study of its kind, Monson and her team (2020) explored the administration of MDMA alongside an already empirically accepted therapy, cognitive behavioral conjoint therapy (CBCT) for treatment of PTSD and found that MDMA can accelerate trauma recovery and improve overall relational satisfaction when both partners are involved in the process (Monson et al., 2020). Such improvements are believed to be due to MDMA’s properties of generating and enhancing oneness, connection, empathy, and communication.

Similarly, Wagner (2021) examined the reasons why, and how, a transtheoretical model of MDMA-assisted couple therapy may be an important contribution to couple therapy treatment options. Wagner writes that MDMA’s empathogenic qualities have been shown to be beneficial in four areas related to neurochemical and psychological effects on mental health: emotions, cognition, behavior, and somatic experience. Benefits in these four areas promote positive outcomes in eight categories related to couples counseling, including: combined empathy, increased communication, perception of social connection, non-avoidance, openness, safety, bonding, and relationship satisfaction (Wagner, 2021). Similar themes were observed by Colbert and Hughes (2023) who interviewed 8 adult couples who had used or were actively using MDMA in private settings with the intention of providing individual and relational enhancement. Their interview questions explored drug, set and setting and allowed open ended responses from participants to understand how they use MDMA for relationship building. Four common themes were identified from their findings: (1) Conscious Use, (2) A Tool for Exploring, (3) Planned Recovery, and (4) Difficult Experiences (2021). All couples reported positive experiences with this model of approach, even without a facilitator present as traditionally found in PAT settings.

Although ketamine at sub-psychedelic doses can act in a similar manner, this has gone largely unnoticed while MDMA has taken the spotlight as the epitome of relational medicine with its mechanisms of action being understood as promoting openness, and amygdala down-regulation (Scheidegger et al., 2016). No research has been published on the use of ketamine facilitated couples therapy.

The “relational dose” of ketamine

Although there is very occasional mention, buried in the older literature, of the fact that ketamine in the lower dose range can act as a heart-opening, defense-lowering empathogen, this has not been widely recognized amongst practitioners of ketamine assisted therapy (Kolp et al., 2014). The treatment team “rediscovered” this remarkable aspect of ketamine serendipitously through a personal couple experience, and then felt inspired to offer it to their couple clients.

Given the lack of consensus in the ketamine community of what exactly is meant by such terms as low-dose, high-dose, psycholytic-dose, psychedelic-dose, microdose, macrodose, etc., the treatment team has opted for the term “relational dose” to describe the particular ketamine experience they were aiming to provide for their clients. Successful achievement of the relational dose is based entirely on the experience of the client rather than based on mgs/kg or any rigid dosage formula although a range of dosage did evolve from client experiences (Kolp et al., 2014).

Clients were informed that the dosing goal was to induce a state where they felt an inclination to have an internal experience (in street parlance: a pull into the K-hole) while also being able to resist this and remain present to interact with their partner.

Ketamine use in Imago Relationship Therapy

Understanding that vulnerability is helpful while engaging in IRT and taking into account the treatment team’s previous experience of the empathogenic properties of relational-dose ketamine, strongly suggested that ketamine might be a useful catalyst to IRT. Accordingly, the treatment team began offering therapeutic sessions for couples with ketamine. They found that ketamine, similar to MDMA, lowered defenses, allowed couples to open up for dialogue, promoted trust, and assisted couples in becoming less fearful and more vulnerable. These initial findings confirmed that ketamine could be useful in the context of IRT by allowing couples to become more at ease in dialoguing about both the challenging and the positive aspects of their relationship (Schmidt & Gelhert, 2017). Ketamine fostered a sense of empathy both for oneself as well as for one’s partner, creating optimal conditions to engage in deep discussion around both partners’ thoughts, emotions, and behaviors (Dore et al., 2019; Mathai, Mora, & Garcia-Romeu, 2022).

Purpose of this study

The main purpose of this article is to report the effects and safety of ‘relational dose’ racemic ketamine when administered sublingually in conjunction with IRT in a clinically controlled group setting. More specifically, the study was
conducted to explore how incorporating ketamine as a therapeutic agent might influence IRT treatment outcomes. This study used quantitative and qualitative methods to assess therapeutic effects of the relational dose of ketamine.

**METHOD**

**The team**

The treatment team was composed of a licensed psychiatrist who has been doing psychotherapy-focused community psychiatry for almost thirty years (MC) and a Registered Nurse who has a Masters degree in Theological Studies (counseling stream) and is a Registered Social Worker (SM). Both team members have a long acquaintance working with altered states of consciousness because of their decades-long involvement with holotropic breathwork (a practice that moves people into altered states without the use of substances) (Grof & Bennett, 1992). They have been heavily involved with IRT since 2003 and presented basic Imago Couples Workshops to over 800 couples since 2007.

The research team, which analyzed the data and led the development of this manuscript consisted of a clinical psychologist (MW) and psychology doctoral candidate (JL) specializing in developing psychedelic-assisted therapy protocols, and three research assistants with extensive knowledge of and experience with psychedelic therapy and medicine (DZ, JG, MM).

**Recruitment**

After positive results from an initial experimental trial group in 2018, the team decided to offer ketamine-assisted group couples therapy workshops to couples who had previously completed an Imago weekend workshop with them. The facilitators sent invitations to graduates of these past workshops who were likely, based on clinical judgment, to be interested in continuing couples therapy by participating in ketamine-assisted group therapy.

**Exclusion and inclusion criteria**

Absolute exclusion criteria included a history of a psychotic illness, untreated or poorly controlled hypertension, severe cardiac disease or recent myocardial infarction, aneurysmal vascular issues, arterio-venous malformation, or history of hemorrhagic stroke. Other absolute exclusions included active hyperthyroidism, acute intoxication, mania, severe liver or renal dysfunction, an allergy or addiction to ketamine, pregnancy or possible pregnancy. Relative contraindications included a history of arrhythmia, bladder issues, and those with severe personality disorders. Neither the couple’s ages nor the longevity of their relationship played a role in selection.

Inclusion criteria included the absence of contraindicated medications, residence within reasonable driving distance of the treatment facility, previous attendance at an Imago workshop with the providers, interest in improving their relationship, and agreement to attend a 4-week program.

Prior participation in the clinical team’s Imago workshop ensured that couples were familiar with Imago Dialogue and had developed a sense of trust and safety in the facilitators. After that point the couples self-selected.

**Participants**

In the study, which began in September 2018 and lasted until March 2020, a total of 18 couples participated, comprising 36 individuals (see Table 1). Demographically, 86% of the participants were White, 7.7% were Asian, 3% were Black, 3% were Indigenous, and 3% were of Mixed Race. The average age of the participants was 51 years old (SD = 11). Being a homogenous sample of heterosexual couples, gender breakdown was 50% male and 50% female.

**Table 1. Participant demographics and psychiatric information**

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Note: DEP = Depression, ANX = Anxiety, N/A = No Answer, NO = No Diagnosis, Y, UNSP = Diagnosed but unspecified, SUD = substance use disorder, AAD = atypical antidepressant. Ages are approximate at the time of the workshop, and psychiatric diagnoses were self-reported therefore cannot be verified.
39% of the sample reported having a mental health diagnosis, 44% reported having no mental health diagnosis, and 17% did not answer.

Of the 39% who indicated having a diagnosis, 14% reported a diagnosis of depression, 3% reported a diagnosis of anxiety, and 11% reported both diagnoses. Two participants reported a diagnosis of PTSD, one of whom also reported having borderline personality disorder. One participant was diagnosed with an unspecified disorder, and one was diagnosed with alcohol substance use disorder. 36% reported taking psychiatric prescription medications at the time of intake. There was considerable variation in the initial relationship satisfaction of the participating couples, however all expressed some degree of dissatisfaction in their relationship and an interest in improving it.

Protocol

Participants attended four weekly group treatment sessions focused on IRT exercises augmented with ketamine dosing. Sessions were billed by the physician to the universal healthcare system as group therapy while participants paid the relatively low cost of the racemic ketamine. Outlines of the protocol content and schedule are shown in Tables 2 and 3. Couples completed the Couples Satisfaction Index (CSI) pre- and post-treatment, with several invitations to complete follow-up CSIs at various intervals ranging from 6 weeks following termination to 15 months.

Adaptive modifications to protocol

The treatment team, over the years that the treatment was offered, found themselves making small modifications and adjustments in the protocol in order to optimize the personalized and dynamic features of the treatment while maintaining the original general structure. These included the first three groups being administered a fifth dose of ketamine after their four sessions.

One individual chose to deviate from the standardized dosing regime by not ingesting ketamine during the couple’s final session. One participant had a medical contraindication to ingesting ketamine; their partner took all doses while she took none.

Dosing

Finding the optimum dose for any individual was complicated by the surprising amount of individual variation in sensitivity to the drug and significant differences in metabolic rate.

Dose was determined through individualized patient-centered dialogue and by assessing individual sensitivity, rather than relying solely on participants’ weight. Other factors considered included medical history, current medications, prior drug experiences, and level of anxiety at the prospect of experiencing ketamine. Taking an individualized approach, in contrast to using a one-size-fits-all approach (where the same mg/kg formula is applied to all patients), ensured that patients received an effective and appropriate dose for the purpose of relational dialogue.

Ketamine was administered to participants as a sublingual lozenge (SL), which they were instructed to hold in their mouth for 10 min, retaining and ‘swishing’ their saliva, until swallowing at the 10 min mark (For later groups the holding was increased to 15 min). The first session was dubbed a “calibration session” as it helped to determine each individual’s sensitivity to the medicine. The ideal level of consciousness being sought was one in which the individual felt called to an inward journey, but could choose to stay present with their partner, express their thoughts and feelings, and engage in Imago Dialogue.

The most common initial dose was 75 mg SL. This was adjusted up or down at subsequent sessions depending on the participant’s experience at the calibration session, and their individual preferences. Intranasal ketamine (10 mg per insufflation) was also available and allowed the addition of a small dose of ketamine for those who were underdosed or those who metabolized ketamine more quickly and were emerging from the altered state significantly before their partner. This allowed a prolongation of their stay in the relational dose range. Interestingly, the intranasal dose, when administered to a subject already under the influence of ketamine, was consistently found to be rapidly effective, usually experienced in less than one or two minutes.
The usual SL dosage range was between 50 and 125 mg (with a more extreme range of 40–175 mg) augmented intranasally as needed.

**Set and setting**

Music was played at low volume after participants were given their dose of ketamine. The playlist was carefully curated to be ambient and instrumental, and excluded music which would have been easily recognized. The purpose of the music was to improve mood and openness, foster a relaxed atmosphere, and minimize distraction from other couples in the room. Dyads sat in comfortable padded floor chairs and, during ketamine interaction, distributed themselves throughout the room in order to give each couple sufficient privacy. The room was large, warm, intimate, and mostly unfurnished.

**Encouraging group cohesion**

Table 3 details the timing of each 3 h session. The first 30 min was devoted to group sharing re the previous week and preparation for that evening’s ketamine experience. During this time, each person checked in about how they were doing as an individual, how they were experiencing their relationship, their retrospective insights on the previous week’s session, and their thoughts about dosing for the current session. After check-ins, couples moved to their own space in the room and sublingually held their lozenge while a reading appropriate to the week’s exercise was read aloud by a facilitator. The coached ketamine-Imago interaction then took place for about 90 min. With music in the background, each couple worked on the evening’s assignment with coaching as necessary. Assignments were provided via a small manual distributed during the first session, outlining suggested homework and exercises to complete for each of the 4 sessions.

Each week had a theme related to a specific Imago dialogue that participants were expected to engage in (see Table 2). As couples emerged from the acute ketamine effects, participants gathered for some nourishment and a closing share group where they began to integrate that evening’s experience of ketamine and Imago. This interaction facilitated a sense of group cohesion, mutual support, and learning. The structured format of the protocol helped to create a safe and supportive environment for participants to share these experiences and learn from each other.

**Measures**

**Couples Satisfaction Index.** The Couples Satisfaction Index (CSI; Funk & Rogge, 2007) is a 32-question psychometric instrument that seeks to measure the degree to which an individual is satisfied or dissatisfied with their romantic partner (Quinn-Nilas, 2023). The CSI was shown to have good convergent validity with other satisfaction-related measures and was psychometrically validated by Funk & Rogge. The measure explores the individual’s overall happiness with the relationship, whether needs and expectations are met, and other factors related to positive or negative couple dynamics.

**Data analysis**

The University of Ottawa Research Ethics Board approved studying and analyzing the clinical data collected from the couples workshops (H-05-22-7964). Participants’ reported experiences and opinions were coded using an inductive thematic content analysis approach. The qualitative analysis focused on the sharing between participants before and after facilitated ketamine experiences. These discussions were recorded and transcribed as part of medical records and were later approved for data analysis by the University of Ottawa (H-05-22-7964). Because facilitators were engaged with coaching during the relational ketamine interactions, the reported experiences are limited to what participants said during the pre- and post-sessions as they reflected on their experience. During these sessions, the treatment team carefully took notes, which they subsequently transcribed. Transcriptions were reviewed and coded. After coding transcripts half-way through, researchers discussed the initial findings, and the rest of the transcripts were then coded accordingly. Researchers reviewed results, built tables with sub-themes and descriptions of each theme, and chose exemplar quotes to best represent each theme.

**RESULTS**

**Couples satisfaction**

In addition to qualitative methodology, CSI scores were analyzed to confirm findings from the thematic content analysis. A series of paired sample t-tests were conducted to determine if the ketamine-assisted group couples protocol had any significant impact on CSI scores. All 36 participants completed the pre-treatment CSI; 33 completed the CSI post-treatment; and 26 completed the 6-week CSI. Thereafter, 24 participants sporadically completed follow-up CSIs, ranging from 3 months to 15 months. Results demonstrate a clear trend towards gradual increase in scores, indicating improved relationship satisfaction.

A series of paired samples t-tests was conducted to determine the impact of the protocol on CSI scores at different periods of time, including pre-treatment, immediately post-treatment, at 6 weeks follow-up, and last follow-up score completed (1.5–15 months). Mean length of time for the last follow-up score was 6 months (SD = 4.45). Four participants re-enrolled in the workshop a second time, and their second CSI scores were excluded from the analyses. One couple separated after the workshop and did not provide CSI follow-up scores thereafter.

As shown in Table 4, the difference in the mean score from pre-treatment to post-treatment, pre-treatment to 6-week follow-up, and pre-treatment to the last score available were all statistically significant. Mean scores from post-treatment to 6-week follow-up and post-treatment to last score completed increased but were not statistically significant.
Table 4. Changes in couples satisfaction index scores

<table>
<thead>
<tr>
<th>Analysis</th>
<th>N</th>
<th>Mean score</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Pre-Treatment</td>
<td>33</td>
<td>97.91</td>
<td>38.26</td>
<td>3.79</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2 Post-Treatment</td>
<td>33</td>
<td>111.39</td>
<td>32.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5 Month Follow-up</td>
<td>26</td>
<td>106.46</td>
<td>36.26</td>
<td>2.77</td>
<td>0.010</td>
</tr>
<tr>
<td>3 Pre-Treatment</td>
<td>24</td>
<td>109.08</td>
<td>33.94</td>
<td>2.76</td>
<td>0.011</td>
</tr>
<tr>
<td>Last Score Follow-up</td>
<td>24</td>
<td>126.17</td>
<td>25.65</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: p (2-tailed) denotes significance. Last score follow-up ranged from 1.5 to 15 months, with the last score recorded carried forward.

Qualitative analysis

Two major categories emerged during the qualitative analysis: 1) Effects/Phenomenology of Relational Dose Ketamine in the Context of IRT and 2) Properties and Pharmacological Profile of Relational Dose Ketamine. Individuals frequently described how ketamine altered their consciousness in a variety of ways, and also discussed its various unique characteristics. Effects of relational dose ketamine were highly varied and included: an ability to facilitate deeper conversation, increase empathy between partners, produce psychedelic, mystical, and spiritual effects, and much more (Table 5). Properties of the drug in the relational dose range included: rapid onset, transience, cumulative effects (both short-term, and long-term), dose sensitivity/dose-related effects, post session persisting benefits, individual variation and transient mild adverse effects such as fatigue, headache, and nausea (Table 6). Figure 1 outlines the protocol leading to these outcomes.

Conversational lubricant

One major theme described was ketamine’s ability to enhance dialogues that are part of IRT. Multiple dyads reported that they were better able to engage in dialogue with their partners. Several others experienced feeling an ‘opening’ that contributed to improved discourse and many alluded to a relationship between their dose and their ability to have more productive dialogue. Reports also indicated that an excessive dose temporarily impeded the ability to engage in therapeutic dialogue but the capacity to re-engage was quickly regained as the ketamine was metabolized down to an appropriate relational level.

Insight/witness consciousness

The theme of insight, or witness consciousness, describes the ability of ketamine to facilitate improved awareness and objectivity of individual and couple dynamics, behavioral patterns, history, and other related issues. Some used the word ‘epiphany’ to describe their realizations on ketamine and others used the word ‘awakening.’ Common examples included describing a shift in their perspective and an ability to view their personal experiences more objectively, as well as the ability to be aware of strong feelings yet not be overwhelmed by them or need to act on them, but merely be aware of them and share them.

Increased empathy

Many participants reported having increased empathy, compassion, and love for their partner while experiencing the effects of ketamine which ultimately increased their connection as a couple. A few participants even described increased empathy and appreciation for the facilitators, with others expressing a desire to give back. Some described a ‘heart opening’.

Psychedelic and mystical effects

Mystical and psychedelic effects were commonly reported by participants. These effects were among the most varied and include a range of experiences such as seeing or hearing perceptual distortions, altered visual phenomena, heightened spirituality and connection to the universe, a sense of oneness, bliss, calmness, dissociation, increased empathy, and more. These effects were reported in those who had appropriate relational doses as well as those who were given mildly excessive doses, and were almost exclusively positive experiences.

Emotional changes and impact on mood

Another frequently endorsed theme was improved mood following ketamine sessions, which lasted between several days to three weeks. Many described feeling less agitated or irritated, becoming less angry (specifically with their partner), less reactive, and feeling more calm. Some even reported a reduction in their chronic depression. Participants also described positive changes in emotion and mood during the ketamine session and expressed appreciation for the therapeutic process.

Anxiolytic

Another common theme was reduced fear during and after the ketamine sessions, demonstrating ketamine’s efficacy as an anxiolytic. Several dyads reported that their diminished fear allowed them to better engage in the conversation, to speak more openly, to better communicate their needs, and to allow an increased level of vulnerability. Some couples reported that they were able to discuss difficult relationship issues that they would normally be too afraid to approach. This theme intertwined with feeling increased trust and safety with their partner during the session and in the following days. It was common for participants to report unusual calmness in their day to day lives between ketamine sessions.

Lowered defenses

Many participants experienced a reduction in defensiveness. The observing perspective induced by relational dose ketamine allowed most participants to notice their usual defenses and often choose not to use them. This theme was common and played a significant role in the depth and vulnerability that participants brought to their Imago dialogues.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
<th>Exemplar quotes</th>
</tr>
</thead>
</table>
| Conversational Lubricant      | Deepens engagement in communication and the therapeutic process; dialogue enhancer; facilitates increased openness, honesty, and vulnerability that creates ideal conditions for couples therapy                                                                                                           | Ketamine makes you take your mask off…  
The ketamine reduces my inhibitions…I’m more likely to just say whatever comes up  
Ketamine made it easier to move into dialogue                                                                                      |
| Insight/Witness Consciousness | Insightful experiences and added perspective while dosing; ability to observe the ego and behaviors, thinking, and emotions from a different perspective; realizations about self, others, dynamics, etc.                                                                 | I got a lot out of the session especially near the end…a whole bunch of light bulbs went off I am clearer about our base, our strength.  
Aware of the belief that it’s not okay if I’m not achieving something. Realizing I do want boundaries                                                                                                 |
| Increased Empathy             | Better relating to partner, seeing them from a different perspective, feeling increased appreciation, joy, love, empathy, and understanding towards partner; increased connection and ability to collaborate                                                                 | Under ketamine I felt a deeper sense of compassion and caring for Jim…wanting to touch him more  
Digging into that love thing, the love experience…overpowering…the drug helps me get there but it’s not the drug  
Our minds knew it but the ketamine helped our hearts to know it…I felt it in my chest – good                                                                 |
| Psychedelic and Mystical Effects | Mystical-type and psychedelic experiences including ineffability, transcendent-like/spiritual experiences, blissful states, visual effects, synesthesia, dissociation, etc.                                                                                   | Awe-inspiring experience  
A lot more visual… Bright, crisp, rich, surreal  
Overall, very pleasant                                                                                                               |
| Mood and Emotion              | Improvements in mood and emotions; antidepressant effects; calming properties                                                                                                                                  | Does it decrease my depression? Yes, for sure. We need to continue this  
Feeling more calm over the last two weeks – my mood is good, the relationship is easier                                                                                                           |
| Anxiolytic Quality            | Reduces fear and nervousness, increases feelings of safety, and trust, Increased vulnerability; calming; allowing better communication                                                                                                                                     | I feel safer  
I saw the fear and I could locate it in my body  
A good emotional release – more clear, less anxious, a wider range of emotions                                                                                                                   |
| Lowered Defenses              | Defenses become removed, lowered, or reduced; allows increased objectivity and better engagement in therapeutic process                                                                                           | Free of defenses almost right away – made me see how much I react usually  
I have not felt the charge in the body from that defense recently – I respect it very much – understand I don’t need to get rid of it though I don’t need it  
Ketamine makes me defenseless…                                                                                                         |
| Stimulatory Effects           | Increases focus, concentration, attention, motivation                                                                                                                                                        | I end up being hyper-focused on him not me  
After ketamine, better concentration, less irritable…  
Later, it leaves me with more energy and motivation                                                                                                                                          |
| Novel Somatic Experiences     | Therapeutically aligned effects on the body, physical sensations, relaxation, mind-body connection, less physical pain following the ketamine                                                                            | I felt anxious ahead of it – usually a body response but there was no anxious body at all – I didn’t have to calm it.  
Ketamine helped me back into my body – a point of non-attachment to it  
The basic body sensation stayed – a chance to say goodbye to some old stories, dark stories.                                                                                                   |
Table 6. Relational dose ketamine properties, and pharmacological profile when paired with couples therapy

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
<th>Exemplar quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dose Effects</strong></td>
<td>Dose-dependent effects, dose-sensitive properties, optimal dose range promoting conversation without producing intense mystical experience</td>
<td>The same dose as the first time … very connected – it was strong and flexible – not strong and harsh. Amazing experience. I was being pulled away to excess I had &quot;the moods&quot; again this time from giggly to very sad but I could bring myself back</td>
</tr>
<tr>
<td><strong>Rapid and Ongoing Effects</strong></td>
<td>Descriptions of immediate effects such as increased ability to engage in dialogue, strong effects setting in quickly</td>
<td>I went in deep and quick with the ketamine Amazed by how open I feel – without doubt or guilt – a sense of purity – it just IS and I like it It has opened so much up to the surface, I can see everything clearly – I hope it stays, but stress buries it all again – I will try to keep the high going</td>
</tr>
<tr>
<td><strong>Short Duration of Psychoactivity</strong></td>
<td>Reports of the short duration of ketamine, ketamine wearing off, needing to boost with I/N ketamine for rapid metabolizers</td>
<td>It opened me up, it was good – wore off a bit quickly It seemed very short It was so brief, almost like it never happened, but it was pleasant.</td>
</tr>
<tr>
<td><strong>Individual Variation</strong></td>
<td>Metabolic rate, individual sensitivity, idiosyncratic responses, personal influence on the drug's effects such as personality, health, etc.</td>
<td>I should have taken 75 and not the nasal – it took me to the same place as last week – I don't want to go that deep The medicine came on strong, very briefly, then it settled and it wore off pretty quickly. I think I need more. I'm pretty sensitive to drugs</td>
</tr>
<tr>
<td><strong>Side Effects</strong></td>
<td>Mild and very transient side-effects were reported including fatigue, nausea, headaches, blood pressure, anxiety, dose-related issues</td>
<td>A trip – very visual – distracted me from interacting. I couldn't go there, blocked by this vision and aural effects. Incapacity. I was nauseated before and then my blood pressure went up so my anxiety went up. Also the nausea was around and didn't stop till we ate. There was more residuals this week not so well for me when I got home – nausea and a bad headache – the next morning I felt very low – possibly PMS exaggerated – felt that way for a couple of days</td>
</tr>
<tr>
<td><strong>Post-Session Persisting Benefits</strong></td>
<td>Tendency for the effects of the ketamine-assisted couples workshops to induce psychological, emotional and behavioral changes that persist past the sessions anywhere between one day to several weeks</td>
<td>The space between us was smaller, I felt closer. I am making a conscious choice to leave less, to go out with her, to leave together We are okay – better – we fight better – we don't use the Imago dialogue [...] Ketamine clearly helps my depression for two or three weeks. SSRIs never helped so quickly or so much</td>
</tr>
<tr>
<td><strong>Cumulative Effects</strong></td>
<td>Experiences building off one another, sessions becoming more impactful from session to session</td>
<td>Enjoyed it again – built on the last one This experience reinforced the first three – didn't feel new but it deepened how I see my relationship The dosage was fine and I'm getting more relaxed about it</td>
</tr>
</tbody>
</table>

**Stimulatory effects**

Ketamine was described as having a stimulant-like quality at times, and was reported to have moderate as well as more subtle stimulatory effects. Specifically, some participants described feeling energized and mildly disinhibited post-session, and insomnia on the night following the session was also reported. More subtle stimulant-related effects included a perceived increase in motivation, concentration, and ability to focus attention. These alterations may have contributed not only to an increased ability of participants to share deeply and cogently, but may have also improved their availability as listeners, to better attend to what their partner was sharing.
Novel somatic experiences

Some participants described having unusual bodily experiences, which were often psychosomatic in nature, such as being able to locate fear in their body or experiencing the absence of a bodily response. These somatic reactions enhanced the therapeutic process between partners and strengthened the participant’s mind-body connection. Several participants reported decreases in chronic pain following their ketamine experiences, demonstrating ketamine’s multifaceted potential, including analgesia.
Dose effects

Many participants reported the dose-dependent effects of ketamine or dose sensitivity as a major feature of the drug. When in the optimal therapeutic range they were able to engage in therapeutic dialogue with their partner more readily and openly. An excessive dose caused temporary distraction or as some described, led them to feel ‘called away.’ Participants reported that an insufficient dose minimized the benefits of ketamine. Not infrequently participants benefited from augmentation of their initial dose, using ketamine nasal spray, as an effective means of reaching and remaining in the optimal therapeutic window.

Rapid and ongoing effects

Many described the rapid onset of ketamine effects. Participants made comments such as ‘the ketamine hit me quickly’ and ‘going deep with the ketamine fast.’ Furthermore, some participants reported a sense of rapid anxioysis which allowed them to dive deeper into relational issues. In addition to the drug’s rapid psychoactive effects, its ability to produce meaningful changes in behavior, cognition and mood was a recurring theme. Many noted a stronger connection and understanding of each other, increased ability to communicate and share emotions, and a decrease in interpersonal tension during the treatment sessions.

Short duration of psychoactivity

Participants frequently reported the ketamine experience as a transient state of altered consciousness with a return to baseline relatively quickly (within 1–2 h). This altered state had largely dissipated by the end of the post-ketamine group check-in. Though the effects wore off quickly and the experience felt brief, this did not seem to negatively impact outcomes.

Individual variation

While experiences and revelations showed similarities across dyads, each participant and each couple had a unique experience. As the sessions unfolded, participants tended to be increasingly aware of what dose worked best for them and accordingly took an increased role in determining that session’s dose. There was significant variability in metabolic rate between individuals with some going into and coming out of the experience quickly while others moved in and out more slowly. The optional intranasal booster helped to keep both members of the couple in the relational space during the same time.

Side effects

Several participants reported minor side effects during their treatment. Most side effects were mild such as headaches or nausea, which generally lasted for a short duration during or after their ketamine session. Transient side effects, such as anticipatory anxiety and increased blood pressure leading up to their ketamine session or short-term fatigue following their session, were reported by several participants. Other side-effects included infrequent instances of mild insomnia usually lasting one night and occasionally two. When dose was too high, participants reported temporary difficulty staying present for their Imago dialogue – being “called away” to the more transcendent and mystical effects of the drug.

Post-session persisting benefits

While the duration of psychoactive effects from relational dose ketamine was short, many participants experienced persistent positive emotions and therapeutic benefits following the sessions. Couples often reported a newfound ability to effectively communicate with their partners, even during times of conflict, which continued beyond their ketamine sessions. Parenthetically, it is interesting to note that, some months after the termination of the treatment, two of the participants separately approached the facilitators requesting ongoing ketamine treatments. They described how the four weekly relational doses had ameliorated their chronic depression where no other treatments had worked nearly as well.

Cumulative effects

Several participants described the cumulative effects of ketamine, noting that the experiences built on one another, becoming progressively deeper and more therapeutic. Many participants discussed changes they noticed in thought or behavior patterns as a result of the previous week’s ketamine session. Examples included more productive arguments or positive mood changes. While the duration of the drug’s psychoactive properties was brief, many other effects were noted to persist beyond the session such as calmness, feeling closer to their partner, feeling less reactive, being less defensive, along with increased trust and feelings of safety.

DISCUSSION

The findings described in this article suggest that relational dose ketamine in the context of couples therapy can be an effective catalyst of the therapeutic process both intrapersonally and interpersonally. Analysis revealed that in the context of the protocol followed during the group sessions, ketamine had a multifaceted effect profile, facilitating conversation and vulnerability, promoting feelings of peace and calm, enhancing mood, reducing anxiety, lowering defenses, generating psychedelic and mystical experiences, and more.

The properties of ketamine were observed to be diverse and wide-ranging. The therapeutic technique of IRT in combination with relational dose ketamine synergistically produced highly impactful experiences within couples. Scores from the CSI suggest the protocol was effective and resulted in improvements that endured for at least six weeks and as much as seven months following the completion of the group treatment. Relational dose ketamine appeared to potentiate therapeutic experiences, accelerate progress, and deepen vulnerability, trust, safety, and communication, even
as some participants experienced mild and transient side effects.

**Strengths of mixed methodology**

Qualitative analysis of the transcripts allowed for a deep examination of the common themes across individuals’ experiences, thereby painting a fuller picture of the phenomenology of relational dose ketamine when administered in couples therapy. The inductive content thematic analysis effectively generated two major themes: 1) effects of relational dose ketamine in the context of coupled therapy and 2) the properties and psychopharmacology of relational dose ketamine. More in-depth analysis of these broad themes then produced sub-themes in each category ultimately allowing a better understanding of ketamine’s effects and properties in the study context, which included facilitation by a psychedelically-informed team of clinicians.

Quantitative data from the CSI suggests that the ketamine-assisted group couples therapy protocol resulted in significant symptomatic improvements. These gains were realized immediately after the completion of the sessions and were maintained for at least six weeks following. In addition, a general trend of increased scores for several months following treatment was observed. The range of t-tests conducted, which yielded statistically significant results, suggest that the ketamine-assisted group couples protocol holds promise as a clinical intervention for those suffering from couple dissatisfaction.

**Phenomenology of relational dose ketamine in couples therapy**

The phenomenology of relational dose ketamine in the study context was revealed to be highly complex, multifaceted, and rich. Individuals reported a range of effects spanning cognitive and perceptual changes, mood enhancement, increased ability to engage in dialogue openly and honestly, mystical-type effects, deepened empathy, improved focus, concentration and energy levels, as well as significant somatic and bodily experiences. It is difficult to discern the causality of these experiences, however one could postulate that the combination of ketamine’s anxiolytic and antidepressant effects, combined with its propensity to be stimulatory and mildly psychedelic, in a context of safety, brought forth the experience of deepened trust, reduced defensiveness, and heightened vulnerability, which led to improved communication and connection between partners.

The mild and transient side-effects experienced by some participants occurred prior to dosing, during dosing, and/or after dosing. Prior to dosing, the main concern was anticipatory anxiety which sometimes transiently increased blood pressure. When hypertension was a significant concern, medication was sometimes administered to mitigate any adverse effects. During dosing, but more commonly following dosing, individuals sometimes reported nausea or dizziness. In some cases, an unwanted effect was dosing beyond the relational dose, the temporary effects of which are described above. Following the experience, several individuals reported issues with insomnia, headache, and fatigue. All of these adverse effects were mild and transient, lasting usually a few hours, occasionally a day or two. It is interesting to postulate that some of these effects may have been related to psychosomatic processing of psychedelic experiences.

**Properties and psychopharmacological signature of relational dose ketamine**

A range of recurring themes regarding the psychopharmacology and signature of ketamine was extracted from participant transcripts. These properties together make ketamine a highly unique compound, and suggest its therapeutic potential when used as a catalyst in the context of psychotherapy. Ketamine effects are highly dose-dependent. In the relational dose range, empathogenic (heart-opening) experiences are common, compared to effects in the high dose range which tend to induce an inward, out-of-body experience (Dore et al., 2019). The optimal relational dose for any one individual can be challenging to ascertain, but augmenting the experience with nasal spray can be helpful. When dosed to excess, individuals temporarily “feel called away” to have an experience more typical of a transformational dose.

It is apparent that ketamine in sublingual and nasal administration maintains the property of being rapid-acting, as it does in the high range via other routes of administration such as intravenous or intramuscular. The duration of drug effect varies, however, it is common for the psychoactive effects to last approximately 45–90 min. However, some of its effects on psychology, behavior, emotion, and relational dynamics persist for days and sometimes for weeks post-dosing. The variability of ketamine’s effects is itself a feature of the drug and depends on a range of factors including the individual, the environment, and other variables. Many participants reported cumulative effects, finding that the benefits of the sessions were additive over time. It is difficult to discern to what degree benefits are the result of ketamine, the psychotherapy, or both in combination. More research should be carried out to address this issue.

**Clinical considerations**

In the relational dose range, paired with IRT, ketamine appears to produce reliable therapeutic benefits. There are a range of clinical considerations that are worth noting for clinicians and researchers interested in including this powerful medicine in their practice. As iterated above, the molecule is multifaceted both in its effects and properties, being empathogenic, anxiolytic, antidepressant, psychedelic, mystical, psychosomatic, rapid-acting, and yet being generally very safe and gentle, particularly in the relational dose range and with the support of an experienced treatment team. Relational doses tend to be better tolerated than larger doses, which are still overall well tolerated. Most participants do not experience adverse effects and when side effects do occur, they are usually mild and transient. Ketamine has
very few drug-drug interactions and can be co-administered with a wide range of psychiatric medications including SSRIs, most mood stabilizers, and antipsychotics. The drug is legal though “off-label” when used for mental health issues in the United States and Canada, as well as many countries around the world. Clinicians can acquire the drug in a pharmacy and therefore procure a pure, unadulterated, and medical-grade substance guaranteeing its safe profile and also allowing for precision regarding dose adjustment. Although cost varies, racemic ketamine is inexpensive. Moreover, the drug lends itself well to treating multiple individuals or couples at a time such as in this case where four couples were treated at once with minimal challenges.

Limitations of the study

With respect to generalizability, it is imperative to note the small sample size as the total number of couples treated was 18, or 36 individual participants, 2 of whom repeated the treatment. A majority of participants were white Canadians, which further limits the generalizability of this approach to other ethnic and cultural groups (Michaels, Lester, de la Salle, & Williams, 2022). Given that race and cultural heritage directly affect how one responds to psychedelic medicines, the study also is limited in its findings regarding pharmacokinetics and pharmacodynamics (Fogg, Michaels, de la Salle, Jahn, & Williams, 2021).

Other limitations include geographic factors and time constraints built into the study. In order to participate, individuals needed to live within a reasonable distance to the treatment facility in order to safely travel home post-treatment. Another requirement involved the time commitment as participants needed to commit up to four hours each week for four weeks above other responsibilities such as work and caring for children. This was influenced by socioeconomic status as some couples had to arrange child care during this study. A major time commitment was also required from the facilitators.

An unexpected limitation during the final participating group was the COVID-19 lockdown which began during the last group’s treatment sessions. Check-in and share group sessions were conducted virtually. After significant consideration about the ethics of online psychedelic therapy and discussion with participants regarding their comfort level with virtual sessions, it was decided to conduct ketamine sessions online to avoid disrupting the treatment schedule (e.g., Halstead et al., 2021). Facilitators were present via Zoom throughout the duration of the ketamine sessions for safety and monitoring purposes.

Other potentially confounding factors that could not be controlled by the clinical team included whether participants used drugs recreationally, pursued couples counseling, or partook in other activities that may have altered CSI scores.

CONCLUSION AND FUTURE DIRECTIONS

In the protocol described herein, relational dose ketamine may be a useful catalyst to IRT. Its rich phenomenological profile and unique blend of properties make it a drug of significant potential value for the potentiation not only of couples therapy, but many other psychotherapeutic practices. By inducing a range of cognitive, emotional, and behavioral changes, the drug in this dose range appears to create the ‘perfect storm’ that can allow for deepened empathic relating with partners and therapists, increased vulnerability, honest communication of needs and issues, and open dialogue. In the transcripts, participants often reported profound therapeutic outcomes as a result of the drug’s unique qualities and the support of skilled facilitators.

We strongly urge clinicians and researchers to conduct similar studies to explore the relational dose range of ketamine for the purpose of ‘opening’ clients to various psychotherapeutic contexts (Rush et al., 2022). We also suggest more research on combining one-on-one psychotherapy with relational dose ketamine to treat a range of conditions including depression, anxiety, posttraumatic-stress disorder, bipolar depression, and perhaps in the future, psychotic conditions. Future research must also be inclusive of other diverse populations, including couples and individuals who are BIPOC, 2SLGBTQIA+, non-monogamous, and those with severe and persistent mental health conditions.

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REFERENCES


