

Ketamine Enhanced Psychotherapy: Preliminary Clinical Observations on Its Effectiveness in Treating Alcoholism

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Ketamine is a dissociative anesthetic widely used by physicians in the United States and also a psychedelic drug that physicians can legally prescribe off-label within the United States for other therapeutic purposes. It has been used in Russia and elsewhere to successfully treat alcoholism and other psychological or psychiatric problems, but has not been researched for this purpose in the United States. Results of a series of clinical trials using ketamine for treating alcoholism in the United States are retrospectively reported, along with 2 case studies of how psychotherapy facilitated by this substance helped two individuals achieve abstinence through ketamine's transpersonal effects. Considering the massive problems caused by alcoholism, the need to begin formal research studies on ketamine psychotherapy for alcoholism is emphasized.

Alcoholism is undeniably one of the most destructive and costly problems that humans face, and most conventional efforts to treat it have, at best, achieved only modest success (Miller et al., 1995; Nathan, 1986). In fact, alcohol is the number one drug of abuse in the United States and, according to the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2004), more than 115 million Americans use alcohol on a regular basis and nearly 17.6 million adult Americans either suffer from alcoholism or have serious alcohol-related problems. Alcohol use is associated with liver disease, cancer, cardiovascular disease, fetal alcohol syndrome, highway fatalities, accidents, and suicide. NIAAA has estimated that around 200,000 deaths each year could be attributed to alcohol-related disorders and estimates of the total economic cost to the United States from alcoholism and alcohol-related problems are approximately \$185 billion per year.

Numerous studies have suggested, however, that the medical use of psychedelic drugs can effectively be used to treat alcoholism (e.g., Abramson, 1967; Grinspoon, 1986; Pahnke, Kurland, Unger, Savage, & Grof, 1970; Yensen & Dyer, 1993/1994). Unfortunately, the medical use of these powerful substances has been rejected in the United States, and most Western contexts, due to the costly “war on drugs,” which has exaggerated psychedelics’ potential for harm (e.g., see Cornwell & Linders, 2002) and extracted a huge cost on many individuals, as well as society as a whole (e.g., see Miron, 2004). This effort at suppressing psychedelics also minimized their potential value as “medicine,” even though there is voluminous research literature on the therapeutic efficacy and safety of psychedelic drugs when used by medical professionals for treating numerous psychological and psychiatric difficulties (Friedman, 2006). Our article focuses on the clinical potential of one psychedelic drug, ketamine hydrochloride (ketamine), for the treatment of alcoholism, as well as presents informally collected pilot data of its use for that purpose, as well as two case studies of its effective use.

Ketamine is a rapid-acting, nonnarcotic, nonbarbiturate drug, which produces extremely effective analgesia (e.g., it was the most widely used battlefield anesthetic in Viet Nam) and, since the 1970s, it has been commonly used in clinics and hospitals as an anesthetic due to its rapid onset and short duration of action, as well as its demonstrated safety (White, Way, & Trevor, 1982). In addition, ketamine is widely used at low doses for treatment of so-called breakthrough pain in patients with acute and chronic pain (due to its exceptional analgesic properties) and for management of neuropathic pain disorder, ischaemic limb pain disorder, refractory cancer pain, and as an adjunct to standard opioid therapy, as well as by emergency departments as a pediatric sedation tool for use with acutely injured children (Carr et al., 2004; Ellis, Husain, Saetta, & Walker, 2004; Green & Krauss, 2004; Howes, 2004; McGlone, Howes, & Joshi, 2004).

A key issue for any clinical, or research on the clinical, use of ketamine regards its safety. Many clinical studies have failed to detect any long-term impairment as a consequence of ketamine use (Siegel, 1978). Much of the more recent work on this

topic that failed to find significant safety risks employed very sophisticated methods to examine subtle signs of damage related to ketamine use, such as through thoroughly searching for signs of neuropsychological problems (Karst, Wiese, Emrich, & Schneider, 2005), behavioral sensitization (i.e., referring to progressive changes in behavior related to repeated exposure to a drug; Cho et al., 2005), and various miscellaneous problems as observed through “tests of episodic and semantic memory, schizophrenic-like and dissociative symptoms, response inhibition and measures of subjective effects, including mood, bodily symptoms and enjoyment of and desire for the drug” (Morgan, Mofeez, Brandner, Bromley, & Curran, 2004, p. 298). There is also considerable basic scientific research occurring on ketamine in the United States that uses both normal volunteers (Parwani et al., 2005), as well as pathological groups such as schizophrenic (e.g., Holcomb, Medoff, Cullen, & Taminga, 2005) and ketamine-abusing (e.g., Morgan et al., 2006) volunteers. That this basic research is occurring at major universities that have approved researching ketamine with both normal and pathological volunteers (and these numerous studies have presumably gone through institutional review board and other types of intensive scrutiny as required in these settings) suggests that ketamine can be safely used for clinical studies of its effectiveness for treating human psychological and psychiatric problems, such as alcoholism. One U.S. researcher, Krystal, is particularly noteworthy for leading a team of numerous investigators over many years in studying the biochemical aspects of ketamine, primarily focusing on perceptual and cognitive functioning (e.g., Krystal et al., 1994), but his group of investigators have also completed clinical studies that documented some antidepressant effects of ketamine (Berman et al., 2000). It should be noted that one of us (Krupitsky) has collaborated in researching ketamine psychopharmacology at Yale with Krystal (e.g., Krupitsky et al., 2001; Krystal et al., 2003). Despite ample evidence supporting the safety of ketamine when employed medically and in research settings, it is important to note that, when used recreationally in uncontrolled settings, such as at so-called raves, ketamine can lead to significant medical problems, such as excessive sedation and respiratory depression, especially if combined with depressants like alcohol, Valium, or gamma hydroxybutyrate (Ricuarte, 2005). Consequently, this article should not be interpreted as endorsing the use of ketamine in any way other than for research or clinical applications by qualified professionals.

Although there is a great deal of ongoing research on ketamine in the United States, as well as its widespread medical usage as an anesthetic, we do not know of any current work examining ketamine’s usefulness for the treatment of psychological or psychiatric problems, such as alcoholism and other drug addictions. There is little doubt that this is due to the fact that ketamine is being frequently seen not only as a dissociative anesthetic, but also as a psychedelic—meaning that it does not cause physiological dependence while reliably causing powerful alterations in consciousness (e.g., in mood, perception, and thought) in a way similar to what of-

ten occurs during dreaming, memory flashbacks, psychoses, and mystical experiences (Grinspoon & Bakalar, 1979). That there has been a long-standing prohibition on psychedelic research in the United States is well-known, although interestingly many research studies on the clinical effectiveness of psychedelics are now resuming in the United States (Friedman, 2006). One fact that makes ketamine especially interesting as a psychedelic drug for research and clinical practice is that it is currently legal for medical practitioners to use in the United States now (i.e., it can be legally prescribed “off-label”¹ by physicians for psychotherapeutic purposes, such as for the treatment of alcoholism). This legal status may greatly facilitate avoiding problems with getting approval for ketamine’s use in formal clinical research, as is the case with other psychedelics that require surmounting numerous bureaucratic hurdles, as well as encourage other professionals to explore its clinical potential through off-label use.

MECHANISMS OF KETAMINE

There is considerable divergence of opinion regarding how psychedelic substances in general might work beneficially within clinical settings. Most of the research currently occurring in the United States now views the active mechanisms of such substances solely from a biochemical perspective through which psychedelics are primarily seen as psychotomimetic agents affecting levels of key neurotransmitters, such as serotonin. Ketamine is particularly interesting in this way because, as a glutamate glutamatergic N-methyl-D-aspartate (NMDA) antagonist, it is often considered a more appropriate model of psychosis than serotonergic hallucinogens (e.g., lysergic acid diethylamide [LSD], psilocybin, and N,N-dimethyl-

¹“‘Off-label use’ means that a prescription drug is being prescribed for a purpose not listed on the product’s label. This is a common and acceptable practice by doctors. When done under a doctor’s care, off-label use of prescription drugs is legal and may be vital for optimal care in many disorders. The Food and Drug Administration (FDA) allows off-label use for prescription drugs it has already approved for marketing. This is permitted because the FDA approval process for any new prescription drug is very comprehensive. Rigorous testing is required to determine if a drug is safe and if it actually works for the disease or condition for which it is approved. The drug approval process is expensive and lengthy—often taking years for a drug to be thoroughly studied. For this reason, it is often not practical for the manufacturer to study more than a single use of a drug. This is why manufacturers typically market new medications for one specific condition. After approval by the FDA, it is not uncommon for research on a drug to continue. Over time, doctors and scientists may find that the drug is useful for additional conditions. If such a use is discovered, but doesn’t go through the FDA approval process, the drug’s manufacturer is not allowed to advertise or promote the drug for the new use. But doctors and researchers are allowed to share such information with each other and the public. Off-label use is up to a doctor’s discretion. It is your doctor’s responsibility to be well-informed about a drug before prescribing it for off-label use. This includes knowing about potential side effects and drug interactions.” (Mayo Clinic, no date, n.p.).

tryptamine [DMT]), prompting U.S. investigators to use ketamine-induced phenomena as a preferred model for studying psychoses in experimental research (Krystal et al., 1994).

In addition to approaching ketamine's mechanism as working primarily through neurotransmitters from a biochemical perspective, there are various other neurobiological mechanisms through which psychedelics may be operating. One fascinating strand of research suggests that hallucinations from ayahuasca may possibly be due to altered cortical oscillations in the visual pathway, a higher order (i.e., top-down as well as bottom-up) mechanism that these researchers speculated may also be activated with other psychedelics (Frecska, White, & Luna, 2003, 2004). Vollenweider (1992–1993) suggested, from positron emission tomography data, that ketamine appears to stimulate different cortical regions as compared to other psychedelic drugs (e.g., psilocybin) and schizophrenia (for which ketamine is, once more, often used as a model). It is concluded that the neurobiological mechanisms by which ketamine and other psychedelics operate are quite complex and not fully understood. This is despite that most research assumes relatively simple biological mechanisms for their actions (see Friedman, 2006).

In addition to producing analgesia, ketamine also produces other phenomena that warrant it being seen as a psychedelic, some of which can be seen as transpersonal (e.g., feelings of ego dissolution and loss of identity, intense visions, experience of the psychological death and rebirth of the ego, and feelings of cosmic unity with humanity, nature, the universe, and God); though these emergence phenomena of a transpersonal nature have been documented by multiple studies, they do not appear to cause lasting psychological problems for patients (White, Way, & Trevor, 1982). In fact, it is interesting to speculate that psychedelic drugs such as ketamine might be primarily useful due to their transpersonal, rather than neurobiological effects (e.g., see Friedman, 2006). This is also congruent with the conclusions of many that spiritual factors are crucial in treating alcoholism (e.g., Amodia, Cano, & Eliason, 2005; Robinson, Brower, & Kurtz, 2003).

Grof (1980, 1984) has perhaps developed the most comprehensive theory of psychedelic psychotherapy from this perspective. He wrote that psychedelics facilitate therapeutic experiences of symbolic death and rebirth of the ego, allowing clients to work through deep traumatic fixations in their unconscious. Grof designed a specific psychedelic psychotherapeutic approach, which he applied successfully with more than 750 patients. In this, he discouraged his clients from analyzing their psychological problems or clinical symptoms; instead, he assisted them in transcending their inflexible maladjustive patterns, placing a strong emphasis on their transpersonal growth potential.

This leads to another specific advantage that ketamine has over other psychedelic substances (i.e., in addition to it being legally available through off-label prescription), namely its ability to reliably replicate near-death experiences (NDEs; Grinspoon & Bakalar, 1981; Lilly, 1988). For example, research in the United

Kingdom analyzed similarities between ketamine-induced transpersonal experience and NDEs, concluding that the intramuscular administration of 150–200 mg of ketamine can reproduce all of the features commonly associated with NDEs (Jansen, 1997, 2001). Also similar to NDEs, psychedelic ketamine experiences appear to be very transformative and can induce changes in spiritual development and worldview (Ring, 1984). Due to ketamine's availability for medical use in the United States now and its ability to reliably cause NDEs, which provides a plausible transpersonal mechanism to discuss its possible efficacy, it presents as an ideal psychedelic to research in the United States, especially because ketamine's clinical applications for successfully treating psychological and psychiatric problems have long been supported by research outside of the United States. Regarding the transpersonal mechanism that may be operating with ketamine, we speculate that it concerns the NDEs, which provides an opportunity for an intense life review that aids decision making and powerful experiential shifts in attitudes toward sobriety.

HISTORY OF KETAMINE IN PSYCHOTHERAPY

A number of international psychiatric investigators have utilized psychotherapeutic treatment with ketamine to create abreactive effects in psychotherapy. In Iran, ketamine narcopsychotherapy was shown very effective in treating various psychiatric disorders (Khorramzadeh & Lofty, 1973). Khorramzadeh administered ketamine to 100 psychiatric patients with various psychiatric and psychosomatic diagnoses, including depression, anxiety, phobias, obsessive–compulsive neurosis, conversion reaction, hypochondriasis, hysteria, tension headaches, and ulcerative colitis. He reported that 91 of his patients were doing well after 6 months, and 88 of the subjects remained well after 1 year. Khorramzadeh concluded that ketamine's abreactive or cathartic effect was related to its mind-expanding qualities. In Argentina, Fontana used ketamine as an adjunct to anti-depressive psychotherapy to facilitate regression to a prenatal level through a disintegration and death experience, which was followed with a progression experience that was seen as similar to a rebirth (Fontana, 1974). He emphasized the advantages of ketamine, which made it possible to achieve deep levels of regression. In Mexico, Roquet was the first clinician to employ ketamine psychedelic psychotherapy in a group setting (Roquet, 1974). He combined psychoanalytical technique with the healing practices of Mexican Indian ceremonies and created a new approach to psychedelic psychotherapy that he called "psychosynthesis" and which he used to mostly treat neurotic patients, although he described some success with personality disorders and selected psychotic patients.

Krupitsky first began using ketamine in the former Soviet Union in 1985 for treatment of alcoholism. He developed Ketamine Psychedelic Therapy (KPT) and treated more than 1,000 patients without complications. In one of his many con-

trolled studies, nearly 70% of his ketamine-treated patients remained abstinent from alcohol during a 1-year follow-up, in contrast to only 24% abstinence achieved in a control group treated with a more traditional form of therapy (Krupitsky et al., 1992). In a comprehensive clinical research review on this subject, he (Krupitsky & Grinenko, 1997) concluded that KPT is a safe and effective treatment for alcoholism and other drug dependencies, such as heroin and ephedrine, as well as effective for treatment of posttraumatic stress disorder, reactive depression, neurotic disorders, avoidant personality disorders, and was somewhat effective for the treatment of phobic neurosis, obsessive–compulsive neurosis, and histrionic personality disorder. Krupitsky and his colleagues (Krupitsky et al., 2002) recently conducted a double-blind randomized clinical trial comparing the relative effectiveness of high- (2.0 mg/kg IM) to low- (0.2 mg/kg IM) dose administrations of ketamine for the psychotherapeutic treatment of heroin addiction; 2-year follow-up data indicated that high-dose ketamine was more effective. Unfortunately, recent changes in the regulations governing such research in Russia have now brought Krupitsky's pioneering research efforts to a halt.

KETAMINE-ENHANCED PSYCHOTHERAPY

Inspired by Krupitsky, Kolp engaged in the clinical treatment of alcoholic clients using what he called ketamine-enhanced psychotherapy (KEP). His approach was explicitly meant to replicate Krupitsky's pioneering work and to extend it into another cultural context, the United States. As with Krupitsky's KPT technique, Kolp's KEP explicitly relied on the transpersonal effects of ketamine to facilitate psychotherapeutic change.

Although, once more, most psychedelic drugs are illegal to use in the United States, ketamine is a notable exception because it is readily available to physicians as an anesthetic that can be legally used off-label for psychiatric treatment. Consequently, Kolp employed ketamine in his private psychiatric practice in the United States from the fall of 1996 through the spring of 1999, administering it to more than 70 clients. This article summarizes how ketamine was used in this way and provides Kolp's informal retrospective observations on its effectiveness for treating alcoholism and other coexisting disorders. We emphasize that these clinical administrations were not conducted in a formal research context due to the widespread ban on psychedelic studies in the United States so, unfortunately, the original files on these clients are no longer available; however, in light of the recent resurgence of psychedelic research in the United States and our plans, as a research team, to now seek institutional review board approval and grant funding for formally pursuing studies on ketamine's effectiveness on alcoholism in the United States, a reporting of Kolp's empirical clinical observations is seen as warranted.

Because all data presented here are based solely on Kolp's reconstruction of his work, this report may have some inaccuracies and cannot be independently evaluated since the original data are missing.² As mentioned previously, there is a lack of any known formal research in the United States exploring ketamine's potential for clinical applications in treating psychological or psychiatric problems, such as alcoholism; this lack is seen as warranting the publication of informally collected pilot data, despite that it does not meet the usual standards of such research. It should also be viewed in the context that most reports in the United States on ketamine's possible efficacy for treating psychological and psychiatric problems are anecdotal case studies, such as the recent report of a severely depressed patient who was supposed to be treated with two sessions of electroconvulsive therapy (ECT) in which ketamine was used as anesthesia, which is common due to ketamine's low anticonvulsant effects; the patient reported dramatic improvement in her mood, even though it was determined later that no ECT had actually been provided due to a procedural malfunction, suggesting ketamine alone might be effective in this context (Ostroff, Gonzales, & Sanacora, 2005).

METHOD, RESULTS, AND PRELIMINARY DISCUSSION

Because this pilot data was collected informally and progressed through many iterations in method, the various methods along with their results are sequentially discussed in this section. The clients Kolp treated were both males and females, all within 21–64 years old, who identified alcohol as their drug of choice and satisfied the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (*DSM-IV*; American Psychiatric Association, 1994), criteria for alcohol dependence. Kolp followed all patients treated with KEP for as long as they continued the treatment and had individual and group sessions with them on a regular basis, from once a month to once every 3 months. In addition to being diagnosed with alcohol-

²Kolp received approval to conduct research on ketamine-assisted therapy on alcoholism in 1996 through the James A. Haley Veterans Hospital in Tampa, but implementation of this research was delayed until the fall of 1999 due to organizational restructuring. Subsequently, he did not conduct formal clinical studies but, while waiting for the changes at the VA Hospital to enable this research to take place, he began using KEP in his private practice. He did not keep formal research files on his private KEP patients, as that was not required for solely clinical work. Unfortunately, he sustained serious injuries in March 1999 that left him totally disabled until June 2002, during which time he retired from private practice and granted custody of his medical records to another psychiatrist for continuation of patients' care, as it is required by the law. After Kolp returned to a part-time private practice in June 2002, he learned that the selected custodian of these records had moved out of the area without any forwarding address and attempts to contact him proved unsuccessful. These data are now being presented to lend substantiation to what was at first only anecdotal evidence in the form of Kolp's informal communications to this articles' coauthors, who felt it was important for him to reconstruct his work as best as it could be done.

ism, Kolp estimated that 90% of his clients had concurrent addictions (e.g., to caffeine, sugars, fats, nicotine, cannabis, benzodiazepines, opiates, and amphetamines) and nearly half had coexisting psychological problems (e.g., generalized anxiety disorder, social phobias, primary insomnias, acute and repeated stress disorders, pain disorder, panic disorder, depressive disorder, posttraumatic stress disorder, tension and migraine headaches, somatization disorder, and chronic fatigue syndrome). The following section describes the five different courses of treatment employed by Kolp and their outcomes, which are summarized in Table 1. The Krupitsky et al. (1992) study was used as a benchmark to guide Kolp's work. In that study, 186 alcoholic male patients were divided into two groups, 86 who received ketamine and a control group of 100. After 1 year postcompletion of this ketamine intervention, 60 participants (69.8%) were fully abstinent from alcohol, 24 (27.9%) had relapsed, whereas data were missing from 2 (2.3%); in the control group, abstinence from the use of alcohol was observed in only 24 participants (24%), whereas the remainder continued abusing alcohol.

Method 1: Individual Outpatient Treatment Without Residential Component

Initially, KEP was offered as part of a time-limited individual outpatient treatment that consisted of 10 sessions administered in the following stages:

Session 1	Assessment for appropriateness of treatment with KEP.
Sessions 2–5	Establishment of a therapeutic alliance and preparation for the transpersonal experience.
Session 6	Formulation of the psychospiritual goal for the ketamine session.
Session 7	Induction of the transpersonal experience through the administration of ketamine.
Sessions 8–10	Integration of the transpersonal experience.

The course of treatment was structured on a weekly basis with one session per week. Sessions 1–6 and 8–10 were 50 min long and session 7 (ketamine administration) was 3 hr long. For a few clients who had to commute a significant distance to receive KEP, the timeframe was shortened and sessions were conducted more intensively (i.e., from two to five sessions per week). Altogether, KEP was administered to approximately 20 patients in a framework of an individual treatment on an outpatient basis.

Results and discussion 1. The initial success rate obtained was significantly lower than the one reported by Krupitsky (1992). Kolp using method 1 only achieved an abstinence rate of approximately 25% at the end of the 1st year, which

TABLE 1
KEP Treatment Method Summary

<i>KEP Method Number</i>	<i>Modality</i>	<i>Approximate Number of Patients Treated</i>	<i>Number of Ketamine Administrations</i>	<i>Number of Sessions</i>	<i>Session Timing</i>	<i>Change from Previous KEP Method</i>	<i>Approximate 1 Year Abstinence Rate (%)</i>
1	Individual outpatient treatment without residential component	20	1	10 weekly sessions	Weekly, 50 min	Original	25
2	Group intensive treatment with residential component	15	1	30 hr of therapy weekly	Daily, all day	Became group residential	35
3	Group residential treatment with revised exclusion criteria	10	1	30 hr of therapy weekly	Daily, all day	Excluded persons with extensive histories of psychedelic drug use	50
4	Group residential treatment with revised exclusion criteria and increased intensity	10	1	60 hr of therapy weekly	Daily, all day	Increased to 2 weeks and excluded persons with extensive histories of psychedelic drug use	60
5	Group residential treatment with revised exclusion criteria, repeated ketamine Tx and increased intensity	15	2	90 hr of therapy weekly	Daily, all day	Increased to 3 weeks, added second ketamine session and excluded persons with extensive histories of psychedelic drug use	70

Note. KEP = ketamine enhanced psychotherapy.

was no better than treatment outcomes of other interventions he had practiced in the past without including ketamine. Kolp attributed his initial failure to replicate Krupitsky's data to a significant difference in their respective programs, most notably the fact that Krupitsky treated all his clients in a highly structured residential setting utilizing group psychotherapy, whereas Kolp's patients were treated with individual psychotherapy in an unstructured outpatient setting.

Method 2: Intensive Week-Long Group Treatment With Residential Component

Subsequently, Kolp modified his treatment approach to include KEP along with group psychotherapeutic programming offered as part of a week-long intensive residential rehabilitation program. Kolp started placing the patients in a structured community housing and directed two separate week-long rehabilitation programs, which were administered from Sunday (5:00 p.m.) through the following Saturday (11:00 a.m.) and had the following schedule:

Day 1—Sunday	Arrival/Orientation
Day 2—Monday	Body Needs
Day 3—Tuesday	Mind Needs
Day 4—Wednesday	Soul Needs
Day 5—Thursday	Ketamine-Enhanced Psychotherapy
Day 6—Friday	Holotropic Breathwork
Day 7—Saturday	Grounding/Departure

The original residential program offered more than 30 hr of psychoeducational and encounter groups, interactive classes and didactic lectures. A sample day was as follows:

6:00 a.m.	Wake Up
6:00 a.m.–6:30 a.m.	Personal Purification Ritual
6:30 a.m.–7:30 a.m.	Yogic Stretching
7:30 a.m.–8:30 a.m.	Breathing Exercise and Meditation
8:30 a.m.–9:00 a.m.	Breakfast
9:00 a.m.–10:00 a.m.	Interactive Psychoeducational Group
10:00 a.m.–12:00 p.m.	Growth-Oriented Encounter Group
12:00 p.m.–1:00 p.m.	Lunch
1:00 p.m.–2:00 p.m.	Interactive Psychoeducational Group
2:00 p.m.–4:00 p.m.	Growth-Oriented Encounter Group
4:00 p.m.–5:00 p.m.	Mindful Cooking Class
5:00 p.m.–6:00 p.m.	Dinner
6:00 p.m.–8:00 p.m.	Self-Support (“Wisdom Circle”) Group

8:00 p.m.–9:00 p.m.	Guided Imagery/Meditation
9:00 p.m.–10:00 p.m.	Journaling
10:00 p.m.	Bedtime

In total, KEP was administered to approximately 15 patients in a framework of intensive week-long group treatment within a highly structured milieu of community housing.

Results and discussion 2. After restructuring the treatment settings and utilizing group process, the success rate improved, although less dramatically than Kolp had hoped, to an approximate 35% abstinence rate 1 year following completion of the treatment program. The results were still only about half of Krupitsky and Grinenko's (1992) reported success rate, so Kolp frequently consulted with Krupitsky (E. Krupitsky, personal communications, 1997) about the poor results to help identify the reasons for the considerable difference. Eventually, Kolp and Krupitsky attributed the probable cause of this discrepancy to the fact that psychedelic substances were virtually unknown in the former Soviet Union and that the vast majority of Krupitsky's patients had never had a prior psychedelic experience before their ketamine treatment. In contrast, a significant number of Kolp's alcoholic clients had a history of polysubstance abuse that included psychedelic drugs. Kolp and Krupitsky speculated that the novelty of the psychedelic experience may be essential to successful outcomes using ketamine. Kolp also corresponded with another European scientist specializing in ketamine research, Dr. Karl Jansen (personal communication, February, 1997), who also agreed with this conclusion and recommended that clients with a past history of abuse of psychedelic substances not be admitted for KEP.

Method 3: Intensive 1 Week Group Treatment, Residential Component, and Exclusion Criteria

Consequently, the exclusion criteria were reset and only those clients who had no history of use of psychedelic substances were accepted into the KEP program. Kolp quickly discovered that more than two thirds of his alcoholic patients had previously tried psychedelic drugs, though many had used psychedelics only occasionally and in the remote past. As a result, the admitting policy was softened for pragmatic reasons and again some clients with a history of use of psychedelic substances, such as those who had used them but only many years previously or who had used psychedelic substances infrequently in a sacramental way, were still accepted. The modified residential program offered more than 30 hr of psychoeducational and encounter groups, interactive classes, and didactic lectures. In sum, KEP was administered to approximately 10 patients, who had no history of

heavy use of psychedelic drugs, in a framework of intensive week-long group treatment within a highly structured milieu of community housing.

Results and discussion 3. The success rate using method 3 increased to about 50%. However, it still did not match Krupitsky's treatment outcomes. Kolp then postulated that these results might be hampered due to the shorter duration of his course of treatment as compared to Krupitsky's approach in which patients were treated on an inpatient basis for at least 1 month.

Method 4: Intensive 2-Week Group Treatment, Residential Component, and Modified Exclusion Criteria

Kolp further modified his residential treatment program, lengthening its duration to 2 weeks and increasing therapeutic time to more than 60 hr of psycho-educational and encounter groups, interactive classes, and didactic lectures. Altogether, KEP was administered to approximately 10 patients, who had no history of heavy use of psychedelic drugs.

Results and discussion 4. Kolp observed that, although the length of the treatment program had doubled, treatment outcomes only increased to approximately 60% successful abstinence rate at the end of the 1st year. Despite this improvement, Kolp was still not satisfied with the aforementioned rate of success, because the results were still lower than Krupitsky's.

Method 5: Intensive 3-Week Group Treatment With Residential Component and Repeated Administration of Ketamine

Kolp again consulted with Krupitsky (E. Krupitsky, personal communication, October, 1998), and learned that Krupitsky started using ketamine sessions twice during the course of treatment. Subsequently, during the later part of 1998, Kolp started administering KEP two times during the residential treatment program, which continued using community housing. In addition, he extended the length of the rehabilitation treatment program from 2 weeks to 3 weeks (90 treatment hours), increasing the amount of time devoted to existential and transpersonal group psychotherapies, as well as life skills training (e.g., communication skills, problem solving, relapse prevention, relationship skills, anger management, and decision making), substance abuse education, training in optimal lifestyles related to physical health (e.g., nutritional education, focusing on food purchase and preparation decisions), and various nonverbal therapies (e.g., wilderness, art, and music approaches to therapy) to provide the patients with alternative means of self-

expression and problem resolution, all within a general context of motivational enhancement efforts. Kolp used this method with approximately 15 patients.

Results and discussion 5. With these additional changes, Kolp's treatment outcomes started approaching Krupitsky results, as approximately 70% of all Kolp's clients maintained stable abstinence for a year after completion of the treatment program. In addition, nearly half of these clients who responded well to KEP and recovered from their alcoholism also maintained remarkable abstinence from their concurrent addictions, as well as showed good improvement in many coexisting psychological disorders and psychosomatic illnesses. Regarding those who failed to respond well to KEP using method 5, Kolp noted that approximately half of these nonresponsive clients presented with a history of what he called severe "control" issues and/or persistent difficulties in maintaining long-term interpersonal relationships.

TWO CASE STUDIES

To illustrate more deeply how KEP affected some clients, two representative case studies are presented. At the pilot stage of data gathering, these case studies can be very useful in both understanding how KEP might be effective in treating alcoholism, especially through the transpersonal experiences that are reported, as well as in guiding the future course of KEP.

Case Study 1

P.A. was a 47-year-old, bitterly divorced father of four children when he sought KEP for his alcoholism. P.A. partook of alcohol for the first time at the age of 14, started consuming it on a regular basis by the age of 16, and developed a pattern of daily drinking by the age of 19. He began experiencing intermittent "black-outs" at the age of 21 or 22 and started using alcohol as "an eye-opener" at the age of 36 or 37. His tolerance gradually increased and he eventually began consuming up to 1.5 cases of beer (36 12-oz. bottles) per day. P.A. admitted to driving after consuming enough alcohol to be impaired and missing work because of a hangover on a regular basis. He also reported having verbal and physical fights with his former spouse and remorsefully acknowledged neglecting the needs of his four children, which ultimately led to the breakup of his marriage after 22 years.

P.A. resolved to seek treatment for his alcoholism at the age of 27, after he was arrested for driving while intoxicated. P.A. was treated in four different treatment programs at the ages of 27, 35, 38, and 42. His first treatment was a 28-day hospital-based program. The second one included a 1-week inpatient detoxification with a follow-up in a halfway house for 3 months. The third time, he admitted himself to a residential rehabilitation program for 1 month, and the last time, he was

treated in an outpatient program for 6 months. Treatment programs 1, 2, and 3 used the 12-step principles of Alcoholics Anonymous, whereas treatment program 4 was based on a study of the Bible.

Unfortunately, despite his repeated antialcohol treatments, intermittent participation in AA meetings, and regular visits to a church study group, P.A. had invariably failed to maintain sobriety. His longest remission was 10 months after his third treatment, and his other three remissions were very limited. P.A. maintained sobriety for only 2 months after his first treatment and for 6 months after his second treatment (the remission time-span included his 3-month stay in the halfway house). During his last treatment, he relapsed while still undergoing therapy, 1 month before his scheduled discharge. P.A. shared that he continued having “irresistible cravings” for alcohol, which eventually led to his repeated relapses.

In addition to his alcoholism, P.A. developed nicotine and caffeine dependencies. He started using tobacco at the age of 16 and, within a few months, started smoking on a daily basis, consuming from 20 to 30 cigarettes per day. The habit progressively escalated and, in his early 30s, he was smoking up to three packs of cigarettes per day. P.A. began using caffeinated beverages at the age of 9 or 10 and started consuming caffeine on a daily basis at the age of 15 or 16. His tolerance gradually increased and, since his late 20s, he had been ingesting from 10 to 12 cups of coffee per day, in addition to one 2-liter bottle of Mountain Dew per day. P.A.’s dependencies on nicotine and caffeine were not addressed at all during his four previous treatments, nor did he ever make an attempt to stop using either substance on his own.

P.A. was initially detoxified from all three substances on an outpatient basis and was admitted to our residential program for further treatment. He undertook the actual KEP procedure during the 2nd week of the program and described his ketamine-induced transpersonal experience as follows:

First, my mind was pulled out of my body and was thrown into a void. Then, my mind started dissolving into the void and soon nothing was left except my soul. I continued alone, existing in an infinite but empty black space. I realized I had died and immediately my entire alcoholic life started flashing before me. I relived all the dismay of my life as a drunkard and remorsefully witnessed waking up in my own puke, suffering from repeated hangovers, continually hurting my body, stupidly destroying my precious mind. ...

Even worse, I could also observe the consequences of my drunkenness on other people and watched the ripple effects of persistently humiliating my family, repetitively insulting my neighbors, making an ass of myself in public time after time. ... Deeply ashamed, I started begging God to forgive me and let me have the very last chance to stop my self-destructive behavior. All of a sudden, I emerged from the void into an infinite ocean of unconditional love. I was filled with bliss and became aware that I am forgiven. I also realized that I was about to be re-born and took the oath to live a healthy life from now on. ...

On his discharge, P.A. reported that his cravings for alcohol, nicotine, and caffeine were completely gone. He also reported increased confidence in his ability to maintain sobriety and felt positive he would never resume drinking and smoking. His follow-up in 6 months confirmed his ongoing abstinence from all three substances. In addition, P.A. reported marked improvement in psychological and social functioning. On his 12-month follow-up, P.A. continued to maintain stable sobriety and reported that he and his former wife had become involved in couple's reconciliation therapy.

Case Study 2

J.C. was a 39-year-old female, a social worker specializing in the treatment of incest survivors. She requested KEP for treatment of her alcoholism. J.C. did not try alcohol until the age of 28, when she started drinking infrequently, consuming one or two alcoholic mixed drinks three or four times per year. She reported that her drinking remained very mild until the age of 33, when she developed a binge pattern of drinking. Not only did she begin consuming up to 10 mixed drinks per day (her favorite drink became gin and tonic), but she also started drinking alcohol for 2 to 3 consecutive days. Her binge drinking rapidly escalated and, within 5 years, the binge duration lengthened to 5 to 7 days, whereas her tolerance level reached up to 2 liters of 80-proof distilled spirits per binge. Nevertheless, J.C. was able to meet her work and family responsibilities, as she managed to binge only during her vacations and limited her binges to four times a year. Her last binge, however, lasted for 10 days and she had to miss work, which had never happened before and prompted her to seek antialcohol treatment.

J.C. described a past history of "food addiction" since the age of 9, which she developed shortly after her stepfather started sexually abusing her on a regular basis, two to four times a month, always while he was intoxicated. J.C. reported the sexual abuse to her mother at the age of 10; however, her mother did not believe her and the incest lasted for another 3 years. When she was 13, her stepfather was finally arrested for molesting another schoolgirl from their neighborhood. The man was killed in jail within 1 week after his imprisonment, and J.C. never had a chance to confront her abuser.

J.C. reported that she developed daily food binges by the age of 10, when she began eating abnormally large quantities of food during a short period of time. Her foods of choice became milk fats (cheese, butter), sweets (sugar, candies), and white flour (breads, pastas), either separately or in combination (i.e., cakes, ice cream, cookies). At the same time, she felt a loss of control over her eating. She did not purge afterward by vomiting, excessive exercising, or using diuretics or laxatives, but she reported eating more rapidly than usual, even when not physically hungry, until she was uncomfortably full. In addition, after J.C. entered puberty, she started having recurrent feelings of guilt after episodes of overeating and began eating alone out of embarrassment at the quantity of food she was eating.

J.C. was referred for individual psychotherapy at the age of 13 to address the issue of sexual abuse. She continued weekly counseling for 2 years and monthly counseling for another 3 years. In addition, she started participating in an incest survivors' group at the age of 15 and remained part of the group for 3 years. Despite her ongoing counseling, J.C. continued her daily food binges and was eventually diagnosed with compulsive overeating at the age of 18. At that time, she was admitted for 2 months to a residential program specializing in eating disorders. During her residential treatment, she learned always to measure the size of her regular daily meals and to avoid consuming "trigger fare" (all varieties of sweets, white flour products, and caffeinated beverages). J.C. was also introduced to Overeaters Anonymous (OA) fellowship and started participating in the OA meetings on a regular basis, from 2 to 5 times a week.

J.C. had only partial response to the intensive residential treatment. Although she stopped bingeing on sweets and white flour products, she continued having food binges on milk fats and also started bingeing on processed animal protein (salami, ham, pastrami, and so on). At the age of 25, J.C. admitted herself for 6 months to another long-term program in a halfway house, where she was diagnosed with binge eating disorder and major depression. While in the program, she was treated with a combination of cognitive-behavioral therapy, interpersonal psychotherapy, and pharmacotherapy (Prozac). After her discharge from the halfway house, she continued treatment with Prozac (80 mg daily) and regular participation in OA meetings from two to three times a week. J.C. maintained stable remission from food binges, yet she continued having strong cravings for "comfort" food (milk fats and sweets) and suffered from recurrent depressive episodes.

During that time, J.C. discovered that alcohol could help her to stop feeling badly about herself much better than Prozac did, and she started using alcohol to help her cope with her craving for comfort food. In the beginning, she was using alcohol very cautiously, as she was afraid of becoming "a drunkard like my stepfather," whom she continued hating passionately; nevertheless, within several years, J.C. developed the aforementioned binge pattern of drinking. As the severity of her binge alcoholism progressed, she also restarted bingeing on food at the age of 38. Although she avoided trigger foods and milk fat, she restarted bingeing on processed animal protein and, in addition, began bingeing on large amounts of salted products (e.g., pickles, olives, etc.) during her alcohol binges.

J.C. was admitted to Kolp's residential program within several weeks after her last and longest binge on alcohol. She did not require detoxification and undertook the KEP procedure during the 2nd week of the program. J.C. had the following ketamine-induced transpersonal experience:

My body dissolved and I became a tiny bubble of living energy floating away into the darkness of the land of the dead. I saw other energy bubbles around me and realized they were the souls of dead people. I collided with another bubble that was very gloomy and recognized my dead step-father. I started looking inside of his soul and

could observe his entire life. I saw him being terribly abused by his father and two uncles, who victimized him during his own childhood and adolescence.³ I could feel his resentment and rage, his powerlessness and guilt, his loneliness and sorrow. I became conscious how tormented his soul was and, for the first time, I was able to forgive him abusing me.

I immediately felt that a big thorn was lifted from my heart and started feeling radiant and liberated. Instantaneously, I moved from the darkness into the luminous white light and became one with God. I felt profound peace and became filled with unconditional love. This experience seemed to last an eternity and, for the first time in many years, I became joyful and hopeful again. I knew I have a long and happy life ahead of me.

On discharge, J.C. reported that her cravings for alcohol and comfort food were entirely vanished. She felt optimistic and uplifted, filled with positive energy and renewed hope. On her 6-month follow-up, she reported her ongoing abstinence from alcohol and food abuse. She also reported increased interest in spirituality and a higher level of psychological functioning. On her 12-month follow-up, J.C. continued to maintain stable sobriety and noted the complete absence of cravings for both alcohol and comfort food. She also shared that for the first time in her life, she started having interest in a romantic relationship and began dating a man she met in her church.

CONCLUDING DISCUSSION

After five iterations in using different methods of KEP, Kolp was finally able to clinically replicate Krupitsky et al.'s (1992) Russian findings with U.S. clients in effectively treating alcoholism, as well as possibly also helping a variety of co-occurring addictions, psychological disorders, and psychosomatic illnesses. To achieve these outcomes, however, administering various adjunctive therapies in addition to KEP was required, suggesting that ketamine alone was not sufficient as a therapeutic agent in this context. However, ketamine used adjunctively within a carefully crafted set and setting did seem to show promise for treating alcoholism in the United States. We speculate that ketamine can open certain types of important doors to recovery but, without additional experiences, these doors will not be entered or, perhaps, will only be revolving doors providing temporary, but not long-lasting, transformations. Of course, with pilot data that is informally gathered with no use of control groups or blinds (e.g., placebos), nothing definitive can be

³J.C. shared that she learned that her dead stepfather was sexually and physically abused by his father from official court records, but that her intellectual knowledge of the stepfather's history of abuse did not help her resolve her problems, whereas she attributed her significant improvement to the transpersonal experience that was facilitated by KEP.

concluded about the effectiveness of KEP from this data. In addition, any possible conclusions are further compromised because these data were presented and analyzed in a retrospective manner without the benefit of written records to substantiate them. Nevertheless, based on the solid research on ketamine's usefulness in psychotherapy conducted in Russia and elsewhere, it is interesting to speculate that Krupitsky's approach may be culturally transferable to the United States. In addition, the representative case studies strongly suggest that a transpersonal explanation for KEP's possible efficacy might be warranted. It is again noted that most of the cutting edge research using ketamine psychedelic psychotherapy that was performed in Russia by Krupitsky over many years utilized such a transpersonal perspective in its application.

To explore the possible usefulness of KEP in the United States more fully, beyond what appears to be some initial clinical success by Kolp, it is crucial to replicate these results in larger, well-controlled studies. We have designed the protocol of a prospective single-site, double-blind, placebo-controlled, randomized, parallel group clinical trial of the efficacy of KEP as an enhancement to standard treatment of alcohol dependence. Following patient selection and consent procedures, it is planned that alcoholic clients will receive two sessions with ketamine or placebo on the 8th and 15th days of standard treatment in a 3-week residential program with long-term outcomes measured every 6 months following discharge for 2 years. One unique aspect of our planned study is that we explicitly hypothesize that transpersonal factors, such as changes in level of self-expansiveness (Friedman, 1983) and spirituality (MacDonald, 2000) are the essential active ingredients in KEP and these will be carefully measured, along with other important factors. One major limitation of our proposed study is that it will be impossible to actually blind the participants as to whether or not they are receiving ketamine, due to its powerful effects that cannot be masked. A second major limitation will be the difficulty in separating out the possible salutary effects of the various concurrent therapies planned for augmenting the KEP. Many of these therapies could well be successful enough in their own right, with or without ketamine, for treating alcoholism and both the quantity and quality of these therapies seemed to be crucial in Kolp's approach.

One interesting conundrum for future research and clinical applications of KEP relates to the cultural differences between using ketamine in Russia as opposed to in the United States, namely it appears that more alcohol clients in the United States might present with a history of recreational use of psychedelics, including ketamine, which seems to possibly dilute the effectiveness of KEP. It is interesting to speculate that prior psychedelic use that has occurred in a recreation context, such as in getting "high" while riding roller coasters or engaging in social partying rather than in a sacred—or at least therapeutic—context, may result in KEP somehow having diminished transpersonal potency. Another conundrum is related to a finding that alcoholics may actually have less intense experiences with ketamine due to physiological changes that occur from chronic alcoholism (see Krystal et al., 2003).

However, considering the tremendous price tag to many individuals in our society, and to the society as a whole, of untreated alcoholism, we hope that a formal research approach such as we are proposing will occur soon. We think the solid evidence from Krupitsky's pioneering studies in Russia on the effectiveness of ketamine for treating alcoholism there, as well as the preliminary but cautiously optimistic observations from Kolp's work in the United States that are informally reported here, strongly warrants such formal research proceeding. The major impediments to conducting this research include obtaining an institutional review board willing to approve the off-label use of ketamine in a formal research context and the need for receiving financial support from clinical grant-funding sources to do the type of large-scale study that is required in this type of research. Although these impediments may present significant barriers to conducting the type of scientific research in the United States that would be required for mainstream scientific credibility to be received, the fact that ketamine can legally be prescribed off-label now, and therefore can be presumed relatively safe, does circumvent many of the prejudicial concerns against conducting research that affect most other psychedelics in the United States. Furthermore, ketamine's legal availability to medical professionals in the United States now avoids the complex bureaucratic morass that is required in researching other psychedelic substances in which simply obtaining stringently restricted drugs for research purposes can take years to negotiate.

Also, with the new regulations in Russia barring research employing ketamine psychotherapy, there is an urgent need to continue this important research tradition elsewhere. Krupitsky is working hard to get permission to continue his studies in Russia and hopefully this prohibition there is just a temporary impedance. However, the recent lifting of the ban on formal research on psychedelics in the United States, where a number of important psychedelic studies are now occurring in major universities (Friedman, 2006), has led to an exciting opportunity for expanding the impressive Russian ketamine studies into a new cultural context, the United States.

Finally, as Friedman (2006) speculated, the psychotherapeutic importance of psychedelics may well lie in their ability to foster transpersonal experiences that have salutary effects. If these experiences can be brought forth in a reliable way through ketamine and other similar psychedelic drugs, the benefits that might inure could well dramatically change the way that addictive problems and other psychological conditions are treated, as well as have much broader and positive social implications.

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