

A phenomenological investigation into the lived experience of ibogaine and its potential to treat opioid use disorders

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Background and aims: This study examined the lived experience of individuals who underwent ibogaine treatment for an opioid use disorder. *Methods:* Semi-structured interview questions probed for potential changes in pre-determined categories derived from a literature review. Participants' experiences with ibogaine were analyzed for commonalities and emergent themes. *Results:* Categories that emerged revealed themes about subjective neurological and physical effects, auditory and visual phenomena, impact on withdrawal and craving, and shifts in outlook on self and life. *Conclusion:* Ibogaine treatment provides a subjectively powerful physiological, emotional, and psychological experience, attenuates opioid withdrawal, and results in a more optimistic outlook on self and life.

Keywords: ibogaine, opioids, addiction, psychedelic, treatment

INTRODUCTION

Ibogaine is a naturally occurring indole alkaloid derived from the roots of *Tabernanthe iboga*, a bush common in the equatorial under forests of Western Africa (Stafford, 1993). Sparked by anecdotal testimonials, a growing body of empirical evidence suggests that ibogaine has significant healing potential (Alper, 2001; Alper, Lotsof, Frenken, Luciano, & Bastiaans, 1999; Alper, Lotsof, & Kaplan, 2008; Brown & Alper, 2017; Doblin, Doyle, & Mojeiko, 2003; Halpem, 2003; Mash, 2017; Noller, Frampton, & Yazar-Klosinkski, 2017; Sheppard, 1994; Szumlinski, Maisonneuve, & Glick, 2001).

Opioid use is currently considered an epidemic in the United States (Center for Disease Control and Prevention, 2011). In 2007 alone, costs associated with prescription opioid abuse were over \$55 billion (Center for Disease Control and Prevention, 2015). Heroin-related deaths in the United States rose 101.7% between 2010 and 2012 (Center for Disease Control and Prevention, 2014). Currently, an average of 78 people die every day in the United States as a result of prescription opioid overdoses (U.S. Department of Health & Human Services, 2016). Conventional methods of treating substance use disorders in general and opioid use disorders in particular need improvement (Amato et al., 2005; Grant & Dawson, 2006; Simpson & Savage, 1980; Veilleux, Colvin, Anderson, York, & Heinz, 2010).

Promising empirical evidence for ibogaine's potential to treat opioid use disorders continues to mount. In 1988, researchers demonstrated that ibogaine alleviates opioid withdrawal in rats (Dzoljic, Kaplan, & Dzoljic, 1988). In 1994, researchers showed ibogaine's ability to decrease

self-administration of morphine in rats (Glick et al., 1994). Initial findings in rat studies led to FDA approval of a phase I clinical trial for ibogaine in 1993, but safety concerns stalled the research (Mash, 2017).

The culmination of current research suggests that ibogaine's mechanism of action is novel (Alper, 2001; Brown & Alper, 2017; Glick, Maisonneuve, & Szumlinski, 2001; He et al., 2005; Koenig et al., 2001). Ibogaine's metabolite, noribogaine, resets neural circuitry involved in addictive behaviors to provide relief from opioid cravings and withdrawal (Baumann, Rothman, Pablo, & Mash, 2001; Mash, 2010; Mash, Ameer, Prou, Howes, & Maillet, 2016). Relief from withdrawal and craving reduces recurrences of future substance use (Horvath, 2004; Miller, Forcehimes, & Zweben, 2011).

The stalling of research and the demonstrated potential of ibogaine to alleviate opioid withdrawal led to a "vast uncontrolled experiment" of people seeking ibogaine treatment (Vastag, 2005, p. 345). Around half of the people seeking ibogaine treatment do so for opioid detoxification (Alper et al., 2008). With promising findings and an "underground railroad" (Mash, 2017, p. 1) of treatment already in existence, research that deepens our understanding of ibogaine is needed.

Significant risks to ibogaine treatment exist. There are at least 19 temporally associated deaths related to ibogaine

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(Alper, Stajic, & Gill, 2012). Ibogaine's LD50 is 264 mg/kg of body weight, over 10 times the therapeutic dose of 15–20 mg/kg of body weight (Kubiliene et al., 2008). The ibogaine research to date suggests that certain risk factors exist for individuals with preexisting medical conditions and for individuals who use opiates within 72 hr of ingestion. Currently, safety has not been thoroughly demonstrated in the scientific literature and is an area in need of further study (Alper, 2001; Alper, Beal, & Kaplan, 2001; Alper & Lotsof, 2007; Alper et al., 1999, 2008, 2012).

METHODS

Study design and participants

This study utilized a phenomenological method with emergent design to gather and analyze data (Auerbach & Silverstein, 2003). The study aimed to deepen the understanding of the subjective ibogaine experience and how it impacts individuals attempting to stop problematic opioid use. The phenomenological nature of the study followed established qualitative methods to organize the data gathered from in-depth interviews into categories and themes (Auerbach & Silverstein, 2003).

This study included 10 US citizens who underwent ibogaine treatment at a medical facility in Mexico. The sample size of 10 is smaller than the 20–30 participants commonly recommended for qualitative studies (Marshall, Cardon, Poddar, & Fontenot, 2013). The smaller sample size was intentionally selected to be consistent with similar studies with similar designs and similar research problems (Carroll, 2008; Marshall et al., 2013). Additionally, the smaller sample size ensured sufficient time and depth was devoted to each participant's experience.

Interviews were conducted face-to-face three days post-treatment at Crossroads Treatment Center in Rosarito, Mexico (now located in the Bahamas), with the exception of the first interview, which was conducted at a location in San Diego, CA, three months after the participant's ibogaine treatment at Crossroads. Three participants were women and seven were men. Educational backgrounds ranged from 11th grade to a Masters degree. The age range for participants was 21–48 years (mean = 28.8 years). Seven participants were Caucasian, two were Hispanic, and one was African American.

Procedures and data analysis

Semi-structured interview questions elicited responses on the lived experiences of individuals who sought ibogaine treatment for an opioid use disorder (Appendix). The design of the interview questionnaire was developed by the authors and based in part on questionnaires from previous research (Doblin et al., 2003; Learner & Lyvers, 2004; Verheyden, Henry, & Curran, 2003).

Completed interview transcriptions were analyzed employing the constant comparative method, in which themes describing the subjective experience were identified in the data based on similarities in the participants' responses and subject to change as the study progressed

(Beharry & Crozier, 2008; Kidd, 2002; Maykut & Morehouse, 1994; Patton, 2015). Themes that emerged from analysis of interviews were utilized to develop categories (Kidd, 2002; Maykut & Morehouse, 1994). Emergent categories and themes described commonalities of the ibogaine experience that emerged across interviews, with the strongest themes being endorsed by all participants (Auerbach & Silverstein, 2003).

Validity and trustworthiness

Trustworthiness was evaluated on the established criteria in the field of qualitative research of credibility (congruency of findings with reality), dependability (ability of researchers to replicate study and achieve similar results), and confirmability (results reflect the participant's experience rather than researcher bias) (Shenton, 2004). A literature review was conducted to examine previous research findings and accurately describe the phenomenon under investigation (Shenton, 2004). Frequent debriefing sessions between the primary researcher, co-authors, and research colleagues were held to refine themes and categories, highlight methodological flaws, and help with recognition of researchers' biases and preferences. Steps to interpretation were outlined to maximize transparency.

Protection of human participants and ethics

Due to the retrospective nature of the ibogaine experiences of interest in this study, participants involved were unlikely to experience negative consequences as a result of participation (Halpern, 2007; Levi, 2002). Individuals could have potentially experienced minimal discomfort if answering questions related to their ibogaine experience or demographic information (e.g., gender, ethnicity, age, etc.) was uncomfortable. No participant reported any discomfort discussing her or his ibogaine experience.

Participants were made aware that they could withdraw from the study at any time without penalty. The study adhered to the "Ethical Principles and Code of Conduct for Psychologists" set forth by the American Psychological Association [APA] (2017). This study met the required parameters and was approved by the Institutional Review Board (IRB) at Alliant International University in San Diego.

Signing of the Informed Consent Agreement, which included permission to audiotape, provided the limits of confidentiality, and outlined the objectives, possible positive outcomes, and safety hazards, was a requirement for all participants. Disciplined attention was paid to the protection of the confidentiality of participants. The primary researcher conducted all interviews in person. The primary researcher was not employed by and had no prior affiliation with Crossroads Treatment Center.

RESULTS

A total of 13 themes related to the participants' ibogaine experiences emerged through data analysis and are organized into four main categories: (a) neurological and

physical effects, (b) auditory and visual phenomena, (c) alleviation of withdrawal and cravings, and (d) changed perspectives.

In addition to the 13 themes that emerged about the lived experience of participants, a theme of traumatic histories emerged in their backgrounds. Consistent with contemporary research showing that adverse childhood experiences significantly increase the likelihood of substance use disorders, 90% of the participants in this study reported using substances to cope with traumatic experiences in their histories (Anda et al., 2002; Bride & MacMaster, 2008; Follette & Pistorello, 2011; Khantzian, 1999; Maté, 2010; Miller et al., 2011).

Category I – Neurological and physical effects

Three themes emerged in Category I: (a) *subjective experience of localized brain activation*; (b) *physically draining experience*; and (c) *impaired psychomotor coordination, dizziness, and/or vomiting*. Seventy percent of individuals described the subjective experience of ibogaine “activating” specific areas in their brains. Participants often described the neurological activation they experienced as a “zapping” or “cleaning” of neurons. Some examples are included below:

It was almost like I could feel the area [ibogaine] was affecting. (Danny, 27)

It felt like the back of my brain was just on fire, that was really weird . . . with the receptor part of it. (Rose, 24)

I could hear it zapping different areas of my brain, and I could hear it in my ears. It was the most bizarre thing I've ever experienced, so I knew it was working . . . it was like in the sides, and the front, and the back mostly . . . it felt like zaps. (Nicole, 21)

There was a little NASA space guy that came flying in and he was zapping my brain . . . it felt like they were scrubbing my brain, they were just doing surgery . . . it felt like brain receptors being cleaned. (Justin, 33)

Eighty percent of participants described their ibogaine experiences as physically draining. Participants described feeling “heavy,” “sore,” and “wiped out,” with one participant saying the experience felt as though he “survived cancer.” The following examples further illustrate the draining aspect of the ibogaine experience:

After you take ibogaine you basically lay in bed at the clinic the whole next day, and the whole night . . . you just feel like crap, and you can barely sleep . . . It is also very taxing on your body and your energy goes down. (Ani 48)

You just feel wiped out the next day, like completely wiped out, your body's tired, your bones hurt. (Adam, 22)

[The ibogaine experience] kind of takes a toll on your body. It feels like you survived cancer or something. It feels like you're just beat to death. (Justin, 33)

Five of the 10 individuals interviewed reported impaired psychomotor coordination, dizziness, and/or vomiting during their ibogaine experiences. Participants discussed difficulties in walking and multiple vomiting episodes. Nicole (21) discussed how she felt “nauseous” and “threw up” during her ibogaine experience. Justin (33) shared that he felt like he was “spinning around the room” and was “kind of dizzy.” Danny (27) shared that he was “throwing up into a trashcan,” and that it was “extremely hard” for him to walk or “even talk.” Ani (48) described feeling “really light” and “disoriented” and said that moving made her feel “really dizzy” and “want to throw up.” Adam (22) stated, “you go stand up and you feel like you're 90 years old,” and that when he “went to the bathroom,” he was “still really dizzy.”

Category II – Auditory and visual phenomena

Category II consists of six themes, including: (d) *buzzing and/or vibration sounds at onset of experience*; (e) *entering into specific settings*; (f) *cyclical/organizational imagery in visions*; (g) *mix of dark/scary and joyful/peaceful imagery*; and (h) *the experience is difficult to describe*.

Eighty percent of participants discussed buzzing and/or vibration sounds at the onset of their ibogaine experiences. Participants described the buzzing/vibration sounds in various ways:

Once that buzzing starts, it's coming. (Rick, 34)

There's like a buzzing sound, like a swarm of bees over your head or something, just bzzzzzzzz. (Danny, 27)

It sounded like a little bug going across the sky, like zzzzzz, zzzzzz, zzzzzz. (Justin, 33)

My ears started ringing really loud . . . it kind of felt like someone just hooked up 5000 amps in me and I was just like, bzzzzzzzz. (Roger, 25)

It sounded like I could hear a motorcycle, I thought someone was on a motorcycle out on the street just sitting there revving it going vvvv-vvvv, vvvv-vvvv . . . And then my mind slipped and it was like maybe I should get on the motorcycle and go. And then I did, I got on the motorcycle, went, and that's when I kind of went into the whole experience. (Adam, 22)

Seventy percent of participants described entering into specific settings during their ibogaine experiences. Some participants likened the process of entering settings to the experience of a dream. Substantial variability in the content of the specific settings was noted between participants:

I was in hell . . . as a little girl, but like, in hell, it was part of a dream . . . almost like a hell, but the atmosphere almost looked like . . . an abandoned mental institute. (Rose, 24)

I was just there by myself in outer space. (Adam, 22)

I was flying through canyons and mountains. (Roger, 25)

I was in the woods, and there was this Indian man, who had led me to a campfire, and there was a bunch of other Indian men around and they were all doing their hopping dance that Indians do around the fire. (Danny, 27)

It sent me back to when I was very first born and felt like I was inside the womb . . . I fought the devil . . . he was telling me to give up and die, but I didn't want to and I somehow beat him. And that I thought was my addiction at the time . . . I was able to float up in the atmosphere and I felt my grandma, I just felt her presence everywhere and I realized that she was all around the whole time. (Justin, 33)

I had a vision that I was standing in a field, big big grassy field, blue sky, beautiful day . . . before I knew it I was going head down, down this tunnel, and it was a big tunnel and it was all black soil and you could see the roots coming out every once in a while from the soil . . . And then right underneath me was like, the biggest dragon I've ever seen . . . and his ears went back and he opened his mouth and I said no! Oh my god I do not belong here! And as soon as I said that I shot back up the tunnel. (Ani, 48)

Sixty percent of participants described seeing cyclical/organizational imagery in visions during their ibogaine experiences. For some, the organizational imagery served as a sort of anchor throughout their ibogaine experiences:

I would keep coming to these points, it was like everything would start to look like a roulette wheel . . . and it would seem like I was looking up and there was one way out of this spinning circle and it was just straight up, and I would eventually shoot up through this clear path. (Danny, 27)

It started getting really repetitive, it was almost like a slide-reel of different things going through my head . . . I remember thinking 'I'm never going to get out of this endless repeated cycle.' And I think that's what it meant towards my life, I've been doing the same things over, and over, and over. (Adam, 22)

Picture your head like a computer, or like a filing cabinet, and your memory is just stored files, and how you recall what happened, how much of an affect it has on you and such. And it felt like I was opening this drawer and going through those files, and little by little reorganizing everything in my head. Even to past issues of abuse and all kinds of stuff that was killing me, it just washed away, like leave it, let it go, it's gone, it will never happen again, so don't let it hurt you anymore, not for one second longer. (David, 33)

Eighty percent of participants described experiencing a mix of dark/scary and joyful/peaceful imagery during their ibogaine experiences. The nature of the juxtaposed imagery greatly varied across participants.

Justin (33) "had to fight the devil" before he saw "a trilogy symbol" that he felt was "joyful" and symbolized "mind, body, and spirit." Other examples of the mixed imagery include:

It's a dark spirit . . . almost like fog, but like black fog . . . it was dark, but it wasn't like it wanted to hurt you, it was no bullshit, it wasn't here to play games it was here to do what it was supposed to do . . . I remember seeing a girl, like a girl's hand holding my hand. And that picture stuck out to me . . . it was kind of beautiful . . . it was an experience that I'll cherish. It was amazing. (Roger, 25)

I remember specifically seeing a blackish face, it had horns on it, it had this tongue out, and it was bright red, but its eyes were just staring at me . . . it scared the shit out of me . . . I came to the realization that this is out of my control, I'm terrified, there's nothing I can do about it, and once that happened, it was a much smoother ride. One of the faces came over and was like, 'everything's fine, just lay down, you're gonna be okay.' (Danny, 27)

I saw things that I can't even explain. Lots of lights, and all kinds of Gods . . . I felt kind of scared, Some fear, but also, you know, acceptance of things . . . just being accepting of who my dad is instead of trying to get acceptance from him. I think I've grown up my whole life trying to get acceptance from my dad and now feeling like I can be fine with who I am and be more accepting of who my dad is, because that's who he is. (Rick, 34)

Ninety percent of participants expressed difficulty articulating the details of their ibogaine experiences. Despite the vivid, emotionally intense imagery during the ibogaine experience, it was difficult for participants to recall and describe specific content. Rick stated that after his ibogaine experience, he was "trying to figure out what the heck just happened." David said his experience was "just insanity." The difficulty describing the ibogaine experience is further articulated in the following quotes:

I'm not understanding everything that [ibogaine] had to show me . . . it was a wild experience. (Roger, 25)

I can't recall too many specific things I saw. I know I saw a lot of them . . . You see one thing, then another thing, and another thing, and another thing, and you see so many different things that you can only remember a handful of them. There was probably 200-300 different visions that I saw that night, it was insane. I know I saw a lot of them. I remember thinking 'I can't wrap my head around what's happening.' (Danny, 27)

Category III – Alleviation of withdrawal and cravings

Category III consists of two themes, including: (i) *nearly immediate and lasting attenuation of withdrawal symptoms* and (j) *minimal to no cravings during or after the experience*. One hundred percent of participants endorsed nearly immediate and lasting attenuation of their withdrawal symptoms during and after their ibogaine experiences. Some participants reported that ibogaine "eliminated" their opioid withdrawal symptoms. Others said that their withdrawal was minimized "extremely." The following examples further illustrate alleviation of withdrawal:

I would've been tearing my hair out, you know, hot and cold and crazy with withdrawal symptoms without ibogaine. (Ani, 48)

It was something else man, I can still remember the feeling of it just like, I'm not sick, how am I not sick? . . . I was like, dude, I haven't had morphine in apparently 36 hours, haven't had anything in 36 hours and I feel fine? This is crazy, this is what I was hoping would happen . . . nothing I've ever done before has worked like this. I've been to treatment four other times I think, and I was like, this is not the way this goes . . . but I did not have any withdrawal symptoms other than lack of sleep. (Danny, 27)

All participants endorsed minimal to no cravings during and after their ibogaine experiences. Adam reported that his cravings usually lasted “30–40 min,” but after his ibogaine experience, he was “able to get rid of them in a minute or two.” Regarding cravings, Justin said ibogaine “removes them from your brain.” About three months after his ibogaine experience, Danny said the following about craving:

The ibogaine experience was difficult, but after that, it's been easy . . . I haven't had struggles, I haven't had cravings . . . or drug dreams, or really no obsessive thoughts. It's just been extremely easy, and the only thing I can attribute that to is ibogaine, for sure, because I've done this countless other times. On my own or with suboxone, cold turkey, or going to rehab, or outpatient, I tried everything. The only thing that I can attribute that to is ibogaine for sure.

Category IV – Changed perspectives

Category IV consists of three themes, including: (k) *increased self-acceptance/decreased self-critical thought patterns*; (l) *more spiritual outlook*; and (m) *ibogaine would be effective in helping others*.

One hundred percent of participants reported an increased sense of self-acceptance and decreased self-critical thought patterns after their ibogaine experiences. The following quotes illustrate increased self-acceptance and decreased self-criticism:

[Ibogaine] gave me more self-love . . . I'm not so hard on myself. (Justin, 33)

I realized I that I'm something special. (Jimmy, 21)

[Ibogaine] made me proud to be who I am . . . it literally put deep depression away really quickly. (David, 33)

There were a lot of times when I hated myself, you know? That's why I would cut, because I was angry, [ibogaine] kind of gave me the sense to be proud of who I am, you know? (Adam, 22)

I used to be really hard on myself for taking so many pills, but now I'm not going to do that anymore. (Ani, 48)

I'm going to be nicer to myself and not take any abuse. (Nicole, 21)

I'm less self-critical, for sure, I feel unstoppable. (Rose, 24)

Seventy percent of participants reported a more spiritual outlook after their ibogaine experiences. For this study, the term spiritual is based on an established understanding characterized by feelings of connection to others and the universe (Griffith & Griffith, 2002; James, 1902; Maslow, 1970; Masters & Houston, 2000; Strassman, 2001; Walsh & Vaughn, 1993). The following quotes illustrate spiritual aspects to participants' ibogaine experience:

I will be reaching out to others rather than just reaching inwards. (Adam, 22)

[Ibogaine] made me realize I need to meditate because I'd gone to heaven and come back. (Jimmy, 21)

I'm going to meditate, I'm going to study more about Buddhism. (Rose, 24)

I'm getting into [spirituality], I'm reading a book on Krishna consciousness, I'm going to start meditating a lot, I'm practicing yoga to get in tune with my body and myself. (Rick, 34)

It was that realization of oneness with things . . . I felt just a connection . . . for some reason on ibogaine . . . I felt like a really strong connection with all that, almost like a delicacy. Everything was interwoven so perfectly, but it's so delicate, if any one thing was different it would be just a totally different scenario. (Danny, 27)

As a result of their ibogaine experiences, 100% of participants reported a deepened conviction that ibogaine would be effective in helping others:

One night changed like a four year long period in my life in 36 hours. I couldn't tell you how it works, but it's something else. People definitely need to know about it . . . People are dying all the time, there's an epidemic right now with [opioids] in our country . . . I don't see a way out of it unless people start thinking of alternative methods, because what's going on right now isn't working, it's just not. (Danny, 27)

I think everybody can really benefit from it . . . If 70% of people did this, oh my gosh, the world would be so different . . . Open, and understanding, and working through their issues that are deep-rooted, instead of just holding it down and satisfying themselves with instant gratification, technology, media, just really being centered and going within to find that peace. (Nicole, 21)

A lot of people don't wanna' get off the drug cuz' you can't do the withdrawals. Like, when you feel the withdrawals you'll just go get rid of those. And [ibogaine] helps you, you get right through that, it's crazy . . . it gives you the ability to get away from [opioids], and I think people would benefit from it, yeah. (Adam, 22)

There's probably a lot of people that want to change and they just don't have the resources or they don't know that this is even available, they can't even believe that it's possible. I know it's kind of hard to believe, but [ibogaine] works. I'm a firm believer in it. I think if people had the resources a lot more people would do it, given the chance it could effect a lot more people. (Justin, 33)

Follow-up

Because the focus of the study was on the lived experience of ibogaine, the importance of responding to follow-up contact was not emphasized. Follow-up calls and e-mails were conducted within six months of the initial interview. The calls and e-mails sought feedback from as many participants as possible on the credibility of the identified themes being a true reflection of their ibogaine experiences. Despite not being an emphasized aspect of the study, two participants responded to follow-up attempts. Both participants reported doing well and did not disagree with any of the categories and themes in this study. Both participants emphasized the value of continuing care in their ongoing success.

DISCUSSION

This phenomenological study elucidated common aspects of the ibogaine experience based on results consistent with previous qualitative research. Also of note are results that differ from existing research. Contextualized within similar research, our results further suggest general commonalities to the ibogaine experience that could be integrated into a broader treatment protocol that improves clinical outcomes in the treatment of opioid use disorders.

Previous studies reported three phases (visionary, evaluation, and integration) to the ibogaine experience (Alper, 2001; Heink, Katiskas, & Lange-Altman, 2017). No participants in this study reported a subjective experience of such phases, suggesting that phases may be observable to providers but may not be consistently subjectively experienced by those undergoing treatment.

Similar to the results in Category I of this study, most participants in the study by Heink et al. (2017) reported feeling dizzy, difficulty moving, and feeling drained/heavy, and some reported vomiting. No participants in this study reported hesitancy about taking booster doses, whereas 35% did in the aforementioned study. The subjective experience of localized brain activation described by participants in this study is not documented in existing research.

Consistent with the results of Category II in this study where all participants experienced visions, 97% experienced hallucinations according to the study by Heink et al. (2017) and most experienced visions according to the study by Schendberg et al. (2017). A buzzing or vibration at the onset of the experience is a phenomenon reported in existing research (Heink et al., 2017; Schendberg et al., 2017). Similar to other studies, the content of the visionary experience for the majority of participants in this study contained symbolism and carried personal meaning and significance (Alper, 2001; Heink et al., 2017; Schenberg et al., 2016, 2017; Mash, 2010).

Previous studies on ibogaine relate the visionary aspect of the experience to a waking dream (Alper, 2001; Heink et al., 2017). Some participants in this study described the experience as dream-like, and most discussed visionary (hallucinogenic) aspects of ibogaine in terms of entering into various environments. The occurrence of dream-like visions during ibogaine experiences is supported by animal studies in which EEG results of animals under the influence

of ibogaine produced brain rhythms consistent with rapid eye movement sleep (Depoortere, 1987; Marrosu et al., 1995; Schneider & Sigg, 1957). If an ibogaine protocol is developed and psychotherapy is a part of it, as it is in the MDMA research protocol (Mithoefer, 2017), then it may be worth considering the inclusion of therapeutic methods of dream work. Approaches to dream analysis worth consideration may include Waking Dream Therapy (Epstein, 1999) or Jungian Analysis (Stein, 2010).

Similar to the results in Category III of this study, previous research indicates that ibogaine dramatically reduces opioid withdrawal and craving (Alper, 2001; Brown & Alper, 2017; Glick et al., 2001; Heink et al., 2017; Noller et al., 2017; Parker & Siegel, 2001; Schenberg et al., 2016; Schneider & Sigg, 1957; Sershen, Hashim, & Lajtha, 2001). A unique and appealing aspect of the ibogaine experience is its attenuation of opioid withdrawal. This study's results are consistent with ibogaine's apparent ability to offer fast-acting, sustained relief from the discomfort of withdrawal.

Craving is a recently added diagnostic criterion of substance use disorders (APA, 2013). Therefore, reducing and managing craving is an important part of treatment. The significant reduction or complete elimination of cravings experienced by all participants in this study is consistent with existing literature in which most participants report similar reductions (Alper, 2001; Alper & Lotsof, 2007; He & Ron, 2006; Heink et al., 2017; Mash et al., 2001; Mash, 2010; Parker & Siegel, 2001).

While existing research describes a common experience of reliving past, often difficult/traumatic memories during an ibogaine experience (Alper, 2001; Heink et al., 2017), this phenomenon did not emerge as a theme in this study. However, 80% of participants in this study experienced a mix of dark/scary and joyful/peaceful imagery, and emotional distress is a noted phenomenon in other research (Heink et al., 2017; Schenberg et al., 2017). Exposure to feared stimuli is a major component of many effective anxiety and trauma treatments, and trauma and anxiety frequently co-occur with substance use disorders (Kaczurkin & Foa, 2015; Lancaster, Teeters, Gros, & Back, 2016; Maté, 2010; Miller et al., 2011). The potential exposure to fearful and distressing experiences and memories during an ibogaine experience occurs with some consistency and may facilitate treatment of co-occurring problems.

All but one participant commented on how the ibogaine experience was difficult to describe. The participants' difficulty describing their ibogaine experiences is consistent with existing studies that outline a highly variable, rapid, and subjective nature of phenomena that individuals have difficulty recalling in totality (Alper, 2001; Alper et al., 2001; Alper & Lotsof, 2007; Levi, 2002). Identifying methods that help increase retention of the details of the ibogaine experience (e.g., journaling and audio recording) could improve postexperience integration.

As a result of their experiences, all participants in this study described a renewed sense of hope and self-confidence, both of which are associated with positive outcomes in substance use treatment (Alavi, 2011; Mathis, Ferrari, Groh, & Jason, 2009). All cognitive-behavioral therapies share at their core the propositions that cognitions affect behaviors, and that desired behavior change can be

achieved through altering cognitions (Dobson & Dozois, 2010). Heink et al. (2017) did not report increases in self-acceptance but reported that 85% of participants experienced a relief from guilt. If ibogaine is found to reduce guilt and increase self-acceptance, it could be a powerful adjunct to cognitive-behavioral therapies that aim to change self-defeating thought patterns. Further research into ibogaine's affect on cognitions is suggested.

Seventy percent of participants reported a more spiritual outlook on life during and after their ibogaine experiences. The spiritual potential of ibogaine experiences is well documented in existing literature (Alper, 2001; Alper & Lotsof, 2007; Mash, 2010; Pinchbeck, 2002; Schenberg et al., 2016). The term spiritual, as used in this study, parallels established domains of mystical experiences, such as merging with ultimate reality, transcendence of time and space, ineffability, unity of all things, deeply felt positive mood, and a sense of sacredness (Griffiths, Richards, McCann, & Jesse, 2006; Pahnke, 1963; Richards, Rhead, Dileo, Yenson, & Kurland, 1977; Turek, Soskin, & Kurland, 1974; Watts, 1962). Carl Jung conceptualized the craving for and use of substances as “*the equivalent on a low level of the spiritual thirst of our being for wholeness,*” an intrinsic effort to connect with something greater than or outside self (McCabe, 2015, p. 9).

In two of the most widely utilized approaches to recover from substance use disorders, the 12-Steps and SMART Recovery, spirituality and the pursuit of meaning are respectively emphasized as vital aspects of long-term success (Alcoholics Anonymous, 2001; SMART Recovery, 2013). Ibogaine's potential to generate experiences that are difficult to describe, are personally meaningful, and result in a more spiritual outlook suggests that future research investigate its potential to occasion experiences that are similar to psilocybin and result in sustained increases in personal meaning (Griffiths et al., 2006; Morris, 2006). All participants in this study and 97% of participants in the study by Heink et al. (2017) reported feeling positively changed as a result of their ibogaine experiences.

Study limitations

Although the small sample size ($n = 10$) was intentionally selected to ensure an adequate investigational depth into each interview, the sample size is nonetheless a limitation of this study. Due to the small sample size, generalizability of this study's results is not possible.

Despite efforts to assure credibility, dependability, and confirmability, there are several limitations to the methods of this study. Participants were gathered from a treatment facility (Crossroads) founded and operated by two co-authors of the study. To minimize potentially biased input, the contributions of the co-authors from Crossroads were editorial and did not include input into the identification of themes or reporting of results.

The voluntary nature of the selection process may have resulted in participants eager to share positive ibogaine experiences, which could have influenced the results in a positive direction. Due to the lack of an established treatment protocol, the use of ibogaine in treatment settings varies greatly depending on where an individual undergoes

treatment (Alper, 2001). The treatment protocol likely differs significantly between Crossroads and other ibogaine treatment facilities. The inclusion of diverse participants from a variety of cultural and religious backgrounds was hoped for to enhance the breadth and applicability of the findings. Ultimately, most participants were Caucasian men with Christian backgrounds. The inability to draw upon a random sample of participants resulted in a sample of convenience and limits the transferability of results obtained.

The bias of some authors is toward ibogaine as a possibly effective tool to augment and enhance work in clinical settings in general, and with opioid use disorders in particular. This perception may have resulted in the filtering of negative information. To counter this, specific and established methods of ensuring credibility previously discussed were employed, and co-authors with more skeptical outlooks on ibogaine (Bucky and Horvath) were included.

Implications for treatment

The current variability in implementation of ibogaine treatment makes it difficult to study. There is a need for research that establishes and refines an ibogaine treatment protocol. Currently, MDMA-assisted psychotherapy is following a treatment protocol (Mithoefer, 2017) as researchers work toward FDA approval. The MDMA protocol is generating favorable outcomes treating PTSD (Emerson, Klosinski, Feduccia, Jerome, & Doblin, 2016) and could serve as a useful model in the development of an ibogaine-assisted psychotherapy protocol.

Empirical evidence indicates that ibogaine consistently provides significant attenuation of opioid withdrawal symptoms and protracted relief from cravings (Alper, 2001; Alper & Lotsof, 2007; Heink et al., 2017; Mash et al., 2001; Mash, 2010; Parker & Siegel, 2001). Given that two of the most prominent factors leading to problematic patterns of opioid use are avoidance of withdrawal and alleviation of craving (Amato et al., 2005; Kosten & George, 2002), ibogaine offers potential to improve treatment of opioid withdrawal and to disrupt patterns of use by reducing craving.

Considerations for continuing care

A possible increase in self-acceptance resulting from an ibogaine experience, as seen in this study, could help facilitate cognitive-behavioral therapy aimed to break self-critical thought patterns related to maladaptive core beliefs. The engagement of longer-term CBT as part of continuing care after ibogaine treatment may be worth further investigation.

The use of journaling and/or audio recording by participants during their ibogaine treatment could increase retention of the details of the experience. Increasing detailed recall of the visionary (dream-like) aspects of ibogaine experiences may facilitate integration during ongoing psychotherapy. It may be worth investigating the potential utility of including techniques borrowed from methods of dream analysis in post-ibogaine psychotherapy. Elements of logotherapy (Frankl, 1959) may help individuals identify and work with personally significant and meaningful aspects of ibogaine experiences.

The results of this study suggest some common subjective aspects of ibogaine experiences. Continued research into ibogaine's potential to improve the treatment of opioid use disorders is suggested. The attenuation of opioid withdrawal and craving make ibogaine particularly desirable for individuals who want to stop using opioids problematically. Development of an ibogaine treatment protocol that extends beyond the detoxification period is worth consideration.

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APPENDIX: SEMI-STRUCTURED INTERVIEW GUIDE

1. Tell me about yourself and what your life was like growing up.
 - a. Relationships with parents, siblings, friends?
 - b. How have the relationships changed over the years?
 - c. Who are you still close to? Why/Why not?
 - d. Family traditions? Views on substances?
2. What is important to you?
 - a. Morals?
 - b. Beliefs?
 - c. Values?
 - d. Life goals?
3. What do you think is the meaning and purpose in life?
 - a. How has your perspective changed since your ibogaine experience?
 - b. Why did it change (if it did)?
4. Tell me about your sense of spirituality.
 - a. Has your concept of spirituality changed over the years?
 - b. How is it different than religion, if at all?
 - c. How do you express your spirituality?
 - d. How have your methods of expressing your spirituality changed, if at all?
5. Describe your outlook on life.
 - a. Prior to treatment?
 - b. After treatment?
 - c. Any change?
6. Describe how you've changed since your ibogaine treatment.
 - a. What about your experience do you think led to those changes?
 - b. How do you feel about the changes now?
 - c. What major events occurred in your life that you directly attribute to your ibogaine experience, if any?
7. Describe for me the experience you had from the beginning.
 - a. Length?
 - b. Distinct phases?
 - c. Can you describe any sensations you could remember from your experience?
 - d. Perceptual disturbances?
 - e. Differences in thought patterns?
 - f. Emotional experiences? Insights?
8. Describe how you felt generally before treatment.
 - a. What made you decide to try this treatment?
 - b. What were your expectations about this treatment?
 - c. Quality of relationships with others?
 - d. Fears? Hopes?
 - e. Emotional state/mood before treatment?
 - f. Patterns of use before treatment?
 - g. Substance of choice before treatment?
9. Describe how you've felt since treatment.
 - a. How did you feel immediately following?
 - b. How did it impact you?
 - c. How do you feel about the impact now?
 - d. What, if any, internal conflicts did you process during or as a result of your ibogaine experience?
 - e. Can you describe those internal conflicts? If you feel those conflicts are resolved, can you describe how you resolved them?
 - f. Can you describe your understanding of the causes and sources of your opioid-use disorder?
 - g. Increase or decrease in awareness of emotions? More or less emotionally expressive? More or less empowered over your emotions?
10. Describe how ibogaine-assisted therapy effected your behavior.
 - a. What habits did you break?
 - b. Start new habits?
 - c. Use of opiates? Other substances?
 - d. Activity level?
 - e. Initiation of novel experiences?
 - f. Changes others have noticed?
11. Describe how ibogaine impacted your view of yourself.
 - a. Identify or sense of self?
 - b. Effect on consciousness, self-awareness, goals, and ambition?
 - c. Expanded or narrowed sense of self?
 - d. Self-criticism?
12. Describe how ibogaine impacted your thought patterns.
 - a. How do you think about things differently than you did before?
 - b. Describe changes in your approach to problem solving?
 - c. Describe changes in your creativity?
 - d. Describe changes in your decision-making?
 - e. Describe your sense of "reality?"
 - f. How did it impact your values (importance of money, status, religion, politics, power, and knowledge)?
13. Describe your interests before and after your ibogaine experience.
 - a. Law, ethics, philosophy, music, art, film, history, mathematics, literature, spirituality, ecology, and psychology? Anything else?
 - b. Hobbies?
14. Are there any other ways that your ibogaine experience impacted you that has not been discussed?
 - a. Overall, did your ibogaine experience have a positive or negative effect on you?
 - b. Overall, did your ibogaine experience teach you anything that you have not yet shared? If so, please describe.