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Article 17

Reducing Cravings: Implications for Treating Addictions Mindfully

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Abstract

Recent research on addiction and mindfulness-based treatments has shown that negative affect and cravings are key indicators of the probability one will relapse (Witkiewitz, Lustyk, & Bowen, 2013). Despite current evidenced-based treatments, relapse rates remain relatively high, at approximately 40-60% according to the National Institute on Drug Abuse (NIDA; 2010). Mindfulness-based practice may be useful when treating substance abuse disorders; however, little research has examined the specific relationship (Bowen, Witkiewitz, Chawla, & Grow, 2011). Findings from several studies demonstrate that a reduction in cravings and a decrease in negative affect (Rogojanski, Vettese, & Antony, 2011; Witkiewitz et al., 2013) occur when mindfulness-based practices are utilized. This paper will present an overview of the integration of mindfulness-based interventions in the treatment of substance abuse disorders.

Addictions Introduction

Addiction affects several neuronal circuits involving memory, learning, reward, motivation, and control (Hyman & Malenka, 2001), not to mention other biopsychosocial

factors. On average, the United States spends $600 billion dollars in health care costs, crime, and loss of productivity related to alcohol, marijuana, and illegal drugs each year (NIDA, 2012). Further, addictions are costly with regard to their effects on one's mental, physical, and economic health (Rehm et al., 2009). The Substance Abuse and Mental Health Services Administration (SAMHSA; 2013) found that approximately 8.2% of the population was diagnosed with substance dependence in 2013; this included both alcohol and illicit drugs. The 2013 National Survey on Drug Use and Health reported approximately 24.6 million Americans aged 12 or older were current illicit drug users, 60.1 million were binge alcohol users, and 21.6 million had a past year substance use disorder (SAMHSA, 2013). Furthermore, the findings indicated approximately 3.2% of adults aged 18 or older had a mental illness within the past year, and about 1% had a serious mental illness co-occurring with substance use. Individuals needing treatment for substance abuse in the United States remains problematic.

Standard treatments for substance abuse disorders include many of the evidenced-based treatments such as Cognitive Behavioral Therapy (CBT), Motivational Interviewing, Motivational Incentives, Medication Management, and Multidimensional family therapy (SAMSHA, 2013; Leigh, Bowen, & Marlatt, 2005). Another important component to substance abuse treatment is the stable and empirical evidence of self-help groups such as Alcoholics Anonymous (AA). As clinicians, it is incumbent upon us to incorporate aspects of all of these treatments in order to provide the most effective treatment possible. Despite these evidence-based treatments, or any treatment for that matter, relapse for drug addiction remains at approximately 40-60% according to the National Institute on Drug Abuse (NIDA, 2010). One further evidenced-based intervention that can be considered is mindfulness-based interventions, which may be an alternative or complement to these aforementioned interventions. This paper will address clinical interventions for substance abuse disorders with an emphasis on the mindfulness-based literature.

Mindfulness

Mindfulness-based practice may be useful when treating substance abuse disorders; however, little research has examined the specific relationship (Bowen et al., 2011). Mindfulness-based practices have been in the Western world for only a few decades, and they stem from Zen Buddhism (Hölzel et al., 2011). Over the past decade, there has been some exciting research and advanced technology, including brain imaging studies, which have shifted some of the counseling conversations with regard to clinical interventions (Chafos & Economou, 2014). For example, most brain imaging research has suggested that the practice of mindfulness is associated with responses to external stimuli, pain, and emotional responding (Brewer, Elwafi, & Davis, 2012). The practice of mindfulness focuses on cultivating nonjudgmental awareness to the present moment, and increased awareness, so as not to avoid uncomfortable feelings and situations (Kabat-Zinn, 1990). Kabat-Zinn (1990) integrated some of the non-religious principles of mindfulness with patients with chronic pain and illness at the University of Massachusetts Medical Center in 1979, where he and his colleagues found that mindfulness was an effective treatment for depression, anxiety, stress, pain, and various other mental health conditions (Grossman, Niemann, Schmidt, & Walach, 2004; Zgierska

et al., 2009). This new research on substance abuse and the use of mindfulness has found that negative affect and cravings are a key indicator of the probability one will relapse (Witkiewitz et al., 2013).

Findings have suggested a reduction in cravings and a decrease in negative affect are developed when mindfulness-based practices are utilized (Rogojanski, Vettese, & Antony, 2011; Witkiewitz et al., 2013). There are many ways one might practice mindfulness, which include, but are not limited to, meditation, focusing, and the body scan (Kabat-Zinn, 1990; McCown, Reibel, & Micozzi, 2011). For clinicians, there are several resources which focus on the third wave of cognitive and behavioral therapy (Germer, Siegel, & Fulton, 2013), learning to live in the present moment and practice aspects of Acceptance and Commitment Therapy (ACT; e.g., Harris, 2008), or possibly delving into some Eastern texts to emphasize the importance of the roots of mindfulness (e.g., Pema Chodron, Thit Nhat Hanh, or Eckart Tolle).

Researchers (e.g., Linehan, 2014; Hayes, Strosahl, & Wilson, 2011) have found that by teaching clients to have more body and mind awareness, clients develop more self-control and regulation. Mindfulness can also help clients tolerate unpleasant experiences rather than avoiding the feelings and experience or abusing substances in an attempt to avoid the present moment. These teachings help individuals gain better insight and build a better relationship with their thoughts and feelings. Through practice, the individuals learn that the unpleasantness eventually subsides (Brewer et al., 2011; Brewer et al., 2012; Witkiewitz, Bowen, Douglas, & Hsu, 2012).

Mindfulness-Based Relapse Prevention (MBRP)

Following the completion of a substance abuse treatment program, relapse is common; arguably, relapse is a part of treatment. In fact, some practitioners have added "relapse" to the stages of change (Prochaska, DiClemente, & Norcross, 1992). Mindfulness-based relapse prevention (MBRP) is useful as an intervention following the completion of a substance abuse treatment program (Bowen et al., 2011). MBRP incorporates mindfulness meditation practices with cognitive-behavioral strategies to support the client's recovery. This intervention proposes a series of techniques designed to develop self-awareness and acceptance of thoughts and feelings to cope with high-risk situations that might place an individual at risk to abuse substances again (Bowen et al., 2011).

MBRP is a manualized program conducted over a period of 8 weeks in group settings. There are didactic components and many psychoeducational tools in the background and introductory phase, which also includes the use and effectiveness of the practice of mindfulness. For example, the leaders educate the participants on Zen Buddhism; the fundamental aspects of mindfulness, such as living in the present moment, nonjudgmentally and on purpose (Kabat-Zinn, 1990); some of the brain imaging studies that indicate structural changes in the hippocampus and amygdala following practice of mindfulness (Chafos & Economou, 2014); and begin to demonstrate some practice such as describing a pen (or any regular object), body scan, or watching the breath.

The sessions also teach healthy coping mechanisms that will prevent relapse. At the end of the eight sessions, clients are encouraged to continue the practices of mindfulness on their own, and there are many assignments provided (e.g., the goal to

have a 30 minute mindfulness practice daily). It is important to note here that like all of the cognitive and behavioral therapies, MBRP provides clients with homework to complete outside of the session (Bowen et al., 2011).

Neuroimaging

As noted above, there is much new research demonstrating the biological effects of a mindfulness practice including gray matter, hippocampus, and amygdala changes. For example, a recent publication described the increased gray matter upon engaging in meditation, whereby clients with borderline personality disorder had a reduction of symptoms, especially in areas of the brain that are associated with impulsivity and emotion regulation (Chafos & Economou, 2014). Individuals with substance abuse disorders have impaired top-down processing and bottom-up processing (Witkiewitz et al., 2012). Top-down processing and bottom-up processing are two distinct ways the brain processes information in order to make perception possible. Further, top-down processing suggests that individuals perceive the large picture before breaking it down into the smaller piece, whereas bottom-up processing individuals see the small parts that make up the large whole. The processing style (i.e., top-down or bottom-up) is imperative to understanding the science behind substance abuse disorders due to perspectives, in our opinion. That is, neurological processing, brain anatomy, and brain damage have clinical implications for how patients perceive their environment. There have been findings that suggest individuals suffering from addictions have similarities with patients who have had ventromedial prefrontal cortex damage (Noël, Van Der Linden, & Bechara, 2006). The damage in the ventromedial prefrontal cortex has been linked with poor decision making (Noël et al., 2006), which could explain the behavioral piece of substance abuse disorders whereby patients are unable to make healthy decisions (e.g., not attending a high-risk situation).

Mindfulness-based intervention research has shown an increase in higher executive control within the top-down process of typical automatic responses that is coupled with cravings and the bottom-up process (Hyman & Malenka, 2001; Witkiewitz et al., 2012; Xue, Tang, & Posner, 2011). Many of these processes are directly related to perception and would occur as part of the subjective experience. Brain regions involved in top-down processing are the prefrontal cortex, anterior cingulate cortex, orbitofrontal cortex, dorsal stratium, and amygdala (Hyman & Malenka, 2001; Witkiewitz et al., 2012; Xue et al., 2011;). Bottom-up processing involves the dorsolateral prefrontal cortex, anterior cingulate cortex, ventral striatum, insula, and amygdala (Hyman & Malenka, 2001; Witkiewitz et al., 2013; Xue et al., 2011).

Mindfulness-based interventions include forms of present moment awareness; paying attention in a particular way—on purpose, in the present, and nonjudgmentally (Kabat-Zinn, 1990). When mindfulness-based practices were implemented, individuals with addiction disorders had increased self-awareness, improved attention, improved self regulation, and were found to cope more effectively with discomfort. These findings were concluded following randomized control trials and published outcome studies on addiction (Brewer et al., 2009; Brewer et al., 2012; Rogojanski et al., 2011; Witkiewitz et al., 2013). In turn, studies showed a positive correlation between the practice of

mindfulness with addiction disorders, not only at the subjective level, but also at the biological level.

Conclusion

Substance abuse disorders are a very costly disorder and on average the United States spends $600 billion dollars in healthcare costs, crime, and loss of productivity related to alcohol, marijuana, and illegal drugs (NIDA, 2012). While there has been a shift in the literature with regard to the emphasis on evidence-based treatment for substance abuse disorders (Bowen et al., 2011; Brewer et al., 2009), relapse is often still a part of treatment. In fact, the National Institute of Drug Abuse (NIDA, 2010) reported 40–60% of individuals on average relapse.

The integration of mindfulness-based interventions into one's daily life does help to increase self-awareness and acceptance of negative thoughts and feelings, rather than avoiding the self or the negative thoughts and feelings (Kabat-Zinn, 1994). Much literature (Chafos & Economou, 2014; Hyman & Malenka, 2001; Linehan, 2014) has found that the continual avoidance and suppression of thoughts and feelings (i.e., whether negative or positive) can lead to an increase of negative symptoms (e.g., mood lability) and make one more vulnerable to relapse (Brewer et al., 2012). It is incumbent upon counselors to be trained in various techniques in order to increase the possibility of connecting with a client as well as providing the most effective treatment possible. To that end, counselors should not treat individuals suffering from substance abuse disorders without the proper training and supervision.

Lastly, there is compelling research detailed in this paper demonstrating that the implementation of mindfulness-based interventions are effective when working with substance abuse disorders. Some recommended interventions include: meditation, observing and describing an object, mindful walking, focusing, and many others. The efficacy of mindfulness is supported in the literature and has shown significant changes to several brain structures (e.g., the amygdala, anterior cingulate cortex, and the ventral striatum) following the practice of these mindfulness-based interventions (Bowen et al., 2011; Brewer et al, 2012). The aspiration of counselors offering these types of mindfulness-based interventions is for the client to have a minimum of 30 minutes per day of a mindfulness-based practice.

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