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Abstract:
In America alone Generalized Anxiety Disorder (GAD) is among the most common mental disorders (Orsillo, Roemer, & Barlow, 2003). Of those diagnosed, 5.1% will suffer from GAD for the rest of their lives. These people suffer significant losses both in quality of life and life satisfaction; they cope with symptoms that include anxiety, worry, rumination, and cognitive inflexibility. Historically, GAD has been a difficult disorder to treat, but emerging research shows that mindfulness-based therapies like Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT), and Classical Mindfulness (CM) may be effective in reducing the symptoms of GAD. This review discusses ways that mindfulness can be effectively incorporated with Cognitive Behavioral Therapy (CBT) and in what situations mindfulness can effectively replace CBT in treatments for GAD.

Generalized Anxiety Disorder (GAD) is one of the most common mental disorders in the United States of America, with many primary care facilities for mental health reporting that up to 40% of their clients are diagnosed with this disorder, and of those 40% afflicted with GAD, 5.1% of the clients will suffer from GAD for their entire lives (Orsillo et al., 2003; Roemer & Orsillo, 2002). When GAD was first introduced in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III), published in 1980, it was considered a miscellaneous diagnosis, one assigned to clients whose doctor could not identify the real problem (Roemer & Orsillo, 2002). GAD has since been included in later revisions of the DSM as its own diagnosis, with specific characteristics defining it.

The main characteristic of GAD is chronic worry about improbable, negative events unfolding (Roemer & Orsillo, 2002). This chronic worry has been characterized as a form of experiential avoidance, in which the client will avoid any experience that they suspect may trigger the feeling of worry. They repress these feelings in preparation for a negative experience that may never happen, but that they expect regardless (Orsillo et al., 2003). Hawley et al. (2014) suggests that worry has a ruminative nature, meaning that clients with

GAD will continually worry about negative past and future experiences.

Though often confused with worry, anxiety is another distinct symptom of GAD. While worry involves a series of mental processes, anxiety involves physiological symptoms like concentration problems, restlessness, and disrupted sleeping (Hoge et al., 2014). Another relevant characteristic of GAD, rumination, is closely linked with worry; however, Hawley et al. (2014) defines rumination as a cognitive process distinct from worry. Clients who experience rumination repeatedly focus their attention on past negative experiences by revisiting them obsessively trying to reason possible causes for those experiences.

Another relevant aspect of clients with GAD is that they usually exhibit deficits with their cognitive (or psychological) flexibility. This includes inhibition, the mental process of stopping a train of thought, and switching, the mental process of consciously bringing the attention back to a specific focus (Lee & Orsillo, 2014; Ruiz, 2014). A normal level of cognitive flexibility would allow an individual to perform these two processes without too much effort, but a person diagnosed with GAD may encounter significant trouble while attempting to

inhibit and switch thoughts.

Despite the varied symptoms, many treatments for GAD are emerging; mindfulness is perhaps one of the most effective. Mindfulness is composed of five generally accepted facets: observation, noticing both external and internal events; description, the ability to put words to those internal events; acting with awareness, giving full attention to whatever task is at hand without distraction; cultivating an attitude of non-judgment, accepting all thoughts without attaching pre-conceived notions or social conventions to them; and non-reaction to stimuli, all thoughts without regard to intensity are able to pass through the mind without positive or negative reaction (Curtiss & Klemanski, 2014; Hoge et al., 2014; Ruiz, 2014).

Mindfulness has a long history predating the DSM-III and begins instead with the Buddha. In its original form taken from Buddhist philosophy, mindfulness is the act of experiencing a thing or an event without any preconceived notions as to what that thing or event is. In this way, the person seeking mindfulness receives the least-corrupted experience possible, gaining both insight and a lasting spirit of calm (Rapgay, Bystritsky, Dafter, & Spearman, 2011). Following

Buddha's death, the concept of mindfulness was split between two purposes: vipassana, concentrating in order to achieve insight, and samatha, concentrating in order to acquire a lasting spirit of calm (Rapgay et al., 2011). Hundreds of years later, many different treatments for GAD have emerged from this split, including Classical Mindfulness (CM), Mindfulness-based Stress Reduction (MBSR), and Mindfulness-based Cognitive Therapy (MBCT) (Rapgay et al., 2011).

Almost all mindfulness-based therapies have descended from the vispassana school of thought. However, some practitioners of CM currently seek to return to the way mindfulness was performed previously. By recombining vipassana with samatha, twenty-first century proponents of CM seek to recreate the original Buddhist concept of mindfulness by giving samatha the names "bare attention" or "direct experience," and giving vispassana the name "detached, discriminative observation" (Rapgay et al., 2011). By combining these two forms of knowledge, practitioners of CM hope to give their clients greater alleviation from the symptoms of GAD (Rapgay et al., 2011).

In contrast to CM's movements toward bringing mindfulness back to its Buddhist origins, Buddhism has been

removed from MBSR and its processes, making it an entirely clinical treatment apart from religious tradition (Rapgay et al., 2011). MBSR consists of an eight-week course, with a different focus each week. Each focus has specialized mindfulness meditation activities designed to help clients cope with symptoms of GAD. MBSR is unique in this respect in that it does not directly treat symptoms of GAD, but trains clients in the skills necessary to cope with the symptoms on their own (Boettcher et al., 2014).

In a similar way, clients with GAD learn MBCT, incorporating the processes of MBSR, but with multiple differences. Curtiss & Klemanski (2014) have noted the main goal of MBCT is not to give clients adequate coping mechanisms but to stop potential relapses from ever occurring (Kim et al., 2009). Also, the format of the eight-week course in MBCT includes cognitive exercises like thought association in addition to mood and behavior associations, along with the mindfulness meditation practices of MBSR (Curtiss & Klemanski, 2014). MBCT and MBSR are similar, and much may be gained from either, but they still have major differences that clients must consider.

Both formal and informal practices are common in all

three of these treatments—CM, MBSR, and MBCT. Formal practices involve guided meditations or sitting meditation that last for a predetermined time. Informal practices involve short mental exercises that are not recorded, like consciously bringing the attention back to the task at hand (Hawley et al., 2014). Informal practices are much harder to measure, but both informal and formal mindfulness practices are essential components of all three of these treatments.

When taught by trained professionals to individuals suffering from GAD (either in person or through the Internet) CM, MBSR, and MBCT could all be companions to current Cognitive Behavioral Therapy (CBT). In many mild to moderate cases, one or more methods may be sufficient to replace CBT for many clients. This literature review will first consider mindfulness as an effective companion to current CBT treatments. It will then consider ways mindfulness could replace CBT treatments in many mild to moderate cases

Mindfulness as an Effective Companion to CBT

Although mindfulness-based CBT treatments could benefit from larger research studies, numerous smaller studies have shown promising results in using mindfulness as an effective companion to CBT. Evans et al. (2008), Hoge

et al. (2014), Kim et al. (2009), Lee & Orsillo (2014), Orsillo et al. (2003), and Ruiz (2014) have all concurred in various experiments that mindfulness is effective and provides positive results when combined with CBT. In addition to reducing the general symptoms of GAD, MBCT appears to be especially effective in treating clients with more severe GAD by specifically improving clients' levels of cognitive flexibility.

Hoge et al. (2014) conducted a study about the influence of decentering, or, in MBSR, the act of observing thoughts, feelings, and urges as transient, which prevents clients from internalizing negative experiences. However, in the course of the study, the researchers discovered that decentering, as a cognitive tool, is not necessarily a part of MBSR, but they discovered it to be a significant part of MBCT. The researchers suggested that further study into decentering could yield promising results about cognitive flexibility (Hoge et al., 2014). This suggests that there is still work to be done in developing both MBSR and MBCT to fully utilize the therapies.

Studies show that clients with GAD who use MBCT improve their cognitive (or psychological) flexibility, which researchers believe may be the most important improvement MBCT-using clients with GAD can make (Lee & Orsillo, 2014;

Ruiz, 2014). Lee and Orsillo (2014) compared three groups of participants with GAD in order to determine whether mindfulness could be used to effectively improve cognitive flexibility. One group used mindful breath exercises, another group used relaxation techniques, and the last group used thought-wandering exercises. The mindfulness groups showed significant overall improvement in their ability to both inhibit and switch their thoughts, signifying their cognitive flexibility improved. Additionally, the improved cognitive flexibility was directly correlated with decreased anxiety symptoms among the participants (Lee & Orsillo, 2014). Subsequently, Ruiz (2014) also performed a study on cognitive flexibility in clients with GAD, and after having participants fill out multiple self-report surveys, found significant correlations between cognitive inflexibility and pathological worry. Such research suggests that using MBCT techniques to treat cognitive inflexibility may significantly reduce severe symptoms of GAD like anxiety and pathological worry; although, more research is necessary before any definitive statement can be made.

Cognitive flexibility is not the only improvement that MBCT makes for clients with GAD. Evans et al. (2008) took the eight-week course outline of MBSR and added in cognitive

measures such as observation of the associations between worried thoughts, mood, and behavior. After the course, participants reported significant reductions in their general symptoms. Interestingly, the study also showed that the levels of increase in mindfulness were statistically insignificant, yet the reductions in symptoms remained statistically significant (Evans et al., 2008). This indicates that even a short course in MBCT may be associated with long-lasting improvements in clients with GAD.

These findings have been corroborated by other studies. In a small eight-week MBCT course with GAD clients where participants were not allowed to meditate outside of the course, reductions in symptoms of GAD were significantly higher than the control group's reductions. At the end of the eight-week MBCT course, 16 of the 24 participants had entered remission from GAD (Kim et al., 2009). Results like these suggest that combining CBT with mindfulness techniques may be more effective than purely mindfulness-based approaches like MBSR. For example, clients treated with MBSR have not been shown to achieve remission, despite MBSR's demonstrated ability to improve general life experience for GAD-afflicted clients (Boettcher et al., 2014; Curtiss & Klemanski, 2014; Hawley et

al., 2014; Hoge et al., 2013; Ruiz, 2014). Orsillo et al. (2008) reported similar results: at the end of a nine-week MBCT course, they reported that 75% of participants reached high-end state functioning, along with significant reductions of GAD symptoms. With further research, results like these suggest that MBCT may prove a highly effective treatment for GAD.

By directly addressing traits like cognitive inflexibility in clients with GAD, MBCT offers a focused treatment that could possibly be more effective than both CBT and mindfulness therapies. MBCT also has the potential to reduce general symptoms of GAD at comparable rates as MBSR and CBT, creating a third option for GAD clients that could be just as, if not more, effective as traditional CBT treatments.

Mindfulness as an Effective Replacement for CBT

Mindfulness is clearly an effective companion to current CBT therapies, but many different kinds of Internet-based mindfulness—like MBSR or CM—might also be able to completely replace CBT as a treatment option for clients struggling with mild to moderate GAD. For individuals suffering from GAD who also lack the funds or the time to see a licensed therapist for a course in CBT, Internet-based mindfulness treatments have been shown to be just as effective

as traditional therapies, with the added benefits of cost and flexibility (Boettcher et al., 2014). The worry about a stigma against mental illness, especially against seeking help, could be significantly reduced by Internet-based mindfulness therapies, as clients can quietly participate in the mindfulness programs on their own. In addition, the client would not have to ask for financial help, eliminating another potentially shaming situation. Another benefit of an Internet-based program is that the client would not have to depend on anyone else for self-improvement, placing the responsibility directly on the client.

Despite the lack of substantial research into the efficacy of Internet-based mindfulness treatments, early studies show promising results. One such study, Boettcher et al. (2014), reports a significant decrease in symptoms of GAD in participants as measured by the Beck Anxiety Inventory (BAI), a common measure of anxiety symptoms. The participants did not only report symptom reduction, but also reported a higher average of satisfaction with their treatment as compared to a discussion forum control group counterpart. The mindfulness group also reported moderately improved satisfaction in life in general (Boettcher et al., 2014). These results compare favorably to several other mindfulness-based treatment studies,

suggesting that Internet-based mindfulness treatments may be just as effective as more traditional alternatives like CBT (Boettcher et al., 2014; Curtiss & Klemanski, 2014; Hawley et al., 2014; Hoge et al., 2013; Rapgay et al., 2011; Ruiz, 2014). This research suggests the possibility of replacing CBT with Internet-based mindfulness treatments as a therapy option for clients with mild to moderate GAD seems to be valid.

CM has also shown promising results that may indicate an effective replacement for traditional CBT treatments. Critics of CBT have noted that traditional CBT does not address the secondary guilt and worry felt by clients with GAD (Rapgay et al., 2011). This secondary wave of negative emotions is thought by many to be a main source of symptoms of GAD, and CM seeks to address this wave (Rapgay et al., 2011). Therapists teaching CM treat secondary guilt by training their clients in two specific skill sets: first in sustained, detailed, non-conceptually divided attention and awareness, and second in the ability to carry out experientially based insights (Rapgay et al., 2011). This indicates that clients trained in these skill sets will be able to focus on anything they choose without pre-conceived notions, and they will be able to relate experiences in a positive fashion. Rapgay et al. (2009) showed in a small

case study an example of how CM works in a therapy setting. After participating in 15 sessions of CM, in addition to daily assignments and completion of numerous self-monitoring reports, the client exhibited significant reductions in symptoms of GAD and an improved ability to cope with the remaining symptoms (Rapgay et al., 2011). Although this was only a small case study, it illustrates the potential of CM to possibly replace traditional CBT treatments in clients with GAD, as the client exhibited improvements similar to those treated with CBT.

MBSR may prove to be the most effective of the mindfulness-based therapies that could potentially replace CBT as a treatment option for clients with mild to moderate GAD. It has no cognitive characteristics in its eight-week course, yet participants in numerous studies have shown major reductions in stress and other symptoms of GAD (Boettcher et al., 2014; Curtiss & Klemanski, 2014; Hawley et al., 2014; Hoge et al., 2013; Ruiz, 2014). Hoge et al. (2013) conducted an eight-week MBSR course and reported that participants with GAD experienced up to 66% reduction in symptoms. The study also reported that mindfulness meditation resulted in increases in positive self-statement agreements. In addition, it reported reductions in "pain unpleasantness," meaning that

memories of painful experiences became less disturbing and currently painful experiences became easier for clients to cope with (Hoge et al., 2013). Additional benefits of mindfulness have been reported as well. Hawley et al. (2014) showed that statistically insignificant improvements in levels of mindfulness resulted in statistically significant improvements in overall life quality. Their research also showed that the frequency of formal and informal mindfulness practice outside of the MBSR course might not have significant influence over symptom reduction (Hawley et al., 2014). This implies that clients with GAD who put minimal amounts of effort into an MBSR course would reap greater symptom reduction than from putting far more effort into a CBT course that may not yield symptom reductions as significantly.

Even more impressively, there have been several studies about MBSR that may show that even individual components of the treatment could be viable replacements for CBT in treatments for GAD, including increased cognitive flexibility. Curtiss & Klemanski (2014) found that deficits in the non-reaction to stimuli facet of mindfulness showed some validity in predicting symptoms of GAD. With this knowledge, therapists could treat those symptoms by specifically targeting those non-

reaction deficits and improve the coping abilities of GAD clients by increasing their ability to non-react in the face of triggering stimuli. Ruiz (2014) showed that deficits in the cultivating an attitude of non-judgment facet of mindfulness could be possible predictors of pathological worry in clients with GAD. Just as with the non-reaction to stimuli facet, this information could be invaluable to caregivers while treating clients with GAD by allowing them to focus their efforts on fixing deficits in non-judgment. These two specific facets of mindfulness imply that there may be some validity in the idea that simply improving a facet of mindfulness could be sufficient to replace traditional CBT treatments in clients with mild to moderate GAD; although, more research would be necessary to confirm this assumption.

More research studies focused on the efficacy of these mindfulness-based treatments as replacements for CBT are necessary, but they show promising preliminary results. The ease of Internet-based mindfulness treatment could be a comfort to many clients with GAD, and both CM and MBSR treatments, under the guidance of a trained professional, may provide significant, permanent reduction in unpleasant symptoms (Boettcher et al., 2014; Curtiss & Klemanski, 2014;

Hawley et al., 2014; Hoge et al., 2013; Rapgay et al., 2011; Ruiz, 2014). MBSR shows particular potential for possibly replacing CBT, as even certain facets of the MBSR treatment course show great efficacy with validity and reliability, in predicting and treating major symptoms of GAD (Curtiss & Klemanski, 2014; Ruiz, 2014). Further research into this area of GAD treatment would prove invaluable to the psychological field.

Conclusion

Although researchers of mindfulness would benefit from continued research into the effects of MBCT, MBSR, CM, and other mindfulness-based therapies, early studies suggest promising results in treating GAD. MBCT seems to be particularly effective in treating clients with GAD who exhibit more severe symptoms like poor cognitive flexibility, as well as treating the more general symptoms of GAD (Evans et al., 2008; Hoge et al., 2014; Kim et al., 2009; Lee & Orsillo, 2014; Orsillo et al., 2003; Ruiz, 2014). Internet-based mindfulness treatments have also been shown to have effective treatment potential, with the added benefits of being free, and helping the client avoid the fear of facing a negative stigma (Boettcher et al., 2014). Early case studies appear to show the validity of CM treatments of GAD, which involve treating harmful emotions not covered

by CBT or MBSR (Rapgay et al., 2011). MBSR is perhaps the most popular of mindfulness-based therapies, because of its possible ability to completely replace CBT as a treatment option for GAD clients (Boettcher et al., 2014; Curtiss & Klemanski, 2014; Hawley et al., 2014; Hoge et al., 2013; Rapgay et al., 2011; Ruiz, 2014). Significantly, the individual facets of MBSR show some validity in being able to predict and treat symptoms of GAD (Curtiss & Klemanski, 2014; Ruiz, 2014). Whether mindfulness-based therapies are combined with CBT or used to completely replace CBT, the body of research shows promising results for the treatment of clients with GAD.

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