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The Cutting Edge

WHAT MINDFULNESS BRINGS TO PSYCHOTHERAPY FOR ANXIETY AND DEPRESSION

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INTRODUCTION

Mindfulness, which can be described as deliberate and nonjudgmental attention to the present moment, is a practice that originated with ancient Buddhism. Beginning with the work of Kabat-Zinn in the late 1970s, mindfulness has captured the attention of the West from the yoga studio to the psychotherapist's office. Mindfulness is a central component of several psychotherapeutic approaches and the subject of numerous self-help books and courses. It is seen not only as a remedy for mental and physical health problems, but also as a pathway to enjoyment, wisdom, and connectedness. Although cognitive behavioral therapy (CBT) has strong empirical support for the treatment of anxiety and depressive disorders, there is considerable interest in developing alternative or complementary approaches for these common and chronic problems. Many professionals view mindfulness as an excellent candidate and have developed protocols that incorporate this practice. Mindfulness is thus both compelling and popular. Rather than approaching mindfulness as a potential panacea for psychological distress, however, it is important to reflect on the evidence for its effectiveness and the mechanisms by which it may work.

EVIDENCE FOR MINDFULNESS AS A PSYCHOTHERAPEUTIC CHANGE AGENT

In examining the effectiveness of mindfulness, we are fortunate that the public interest in the technique has been mirrored by scholarly interest. As a result, there are a large number of qualitative reviews and meta-analyses of mindfulness-based interventions. Hofmann et al.[1] recently examined mindfulness-based therapies for anxiety and depression, finding moderate effect sizes (.67 and .53, respectively) in samples with elevated anxiety and depression. Within this meta-analysis, however, are studies applying mindfulness in different ways. One of the most common is mindfulness-based stress reduction (MBSR), in which participants learn different forms of mindfulness practice and how to apply these in daily life. MBSR is typically taught in a class format consisting of 8–10 weekly sessions and a weekend retreat. It has been applied to a wide range of physical and mental health problems. Meta-analysis of MBSR alone also suggests a medium effect size.[2] Mindfulness-based Cognitive Therapy (MBCT) is another mindfulness-based therapy. MBCT uses the experience of mindfulness to help individuals to modify the maladaptive cognitive processes that underlie the vulnerability for depression. Originally developed as a relapse prevention strategy, the best evidence for MBCT is in preventing recurrence of depression among those who have had multiple past episodes.[3] A few studies point to its usefulness as an adjunct to pharmacotherapy for depressive and anxiety disorders to address residual symptoms; there are only a small number of studies evaluating MBCT as a primary intervention.[3]

Whereas MBSR and MBCT focus on mindfulness practice and its application, there is an additional set of approaches that combine mindfulness with behavior change strategies. Acceptance and commitment therapy (ACT) is a good example of such a hybrid, combining values based behavioral change with the experience of mindfulness to increase tolerance of unwanted internal experiences.[4] ACT has been studied in relation to a

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wide range of physical and mental conditions.[4,5] Although many of the early trials showed positive results, methodological limitations restricted conclusions to be drawn from these studies.[6] Two more recent large randomized trials have demonstrated ACT's equivalence to CBT. Forman et al.[7] treated outpatients ($n = 101$) with moderate-severe depression or anxiety and found no differences between ACT and cognitive therapy; both interventions led to large effect sizes for reducing symptoms and improving functioning and quality of life. More recently, Arch et al.[8] conducted a randomized trial of ACT as compared to CBT in a group of participants with heterogeneous anxiety disorders ($n = 128$) and showed similar outcomes associated with each treatment. The largest trial to date, which is a multisite randomized controlled trial of ACT as compared to a nonspecific psychotherapy control in a Veteran population, will be completed in 2013.[9] Another example of an intervention that combines mindfulness with cognitive and behavioral interventions is dialectical behavior therapy (DBT). DBT is the intervention with the best demonstrated efficacy for treatment of borderline personality disorder (BPD).[10] DBT is increasingly being applied to other conditions such as eating disorders[11] and, very recently, PTSD.[12,13] Taken together, these studies suggest that DBT holds promise as an effective intervention for psychological distress, although studies in anxious or depressed samples are lacking at present.

In summary, the evidence to date suggests that mindfulness is a moderately effective intervention; mindfulness techniques are likely to be a sufficient way to address nonclinical concerns and a strong adjunct to other approaches. When used in combination with other change strategies, it appears to form a potent intervention. How can the efficacy of this set of techniques be understood based on what we know about the way in which mindfulness may foster change?

MECHANISMS OF CHANGES ASSOCIATED WITH MINDFULNESS PRACTICE

I argue that there are two components of mindfulness practice that are particularly useful in addressing problems with anxiety and depression—development of attentional control and a nonjudgmental stance toward internal experiences. Those who practice mindfulness intentionally and repeatedly shift their attention to a stimulus in the present moment. When a thought enters their mind or a stimulus attracts their attention, they are directed to simply notice the occurrence and refocus. Over time, the capacity to remain focused on the object of the meditation increases. Thus, one's ability to direct and sustain attention is strengthened, as supported by data on attentional processing after meditation[14] and neuroimaging data suggesting the meditation is associated with neural activation in regions associated with attentional processing.[15] Increased attentional control is important because mood and anxiety disorders are, in part, disorders of attention.[16] Anxious or depressed patients' attention is automatically drawn to mood congruent material, and they have considerable difficulty turning their attention away once focused on anxiety-provoking or negative information. For example, many people with depression focus their attention on the negative aspects of a situation and then find themselves unable to disengage their attention from that information. This process of focusing on and mulling over negative information may deepen low mood. By learning to direct and sustain their attention on a stimulus of their choosing (as opposed to where the mood dictates), people may build the capacity to intentionally refocus attention elsewhere rather than continuing to ruminate. Consistent with this, several studies have identified decreased rumination as a mechanism by which mindfulness changes mood.[17]

People who are practicing mindfulness also are taught to notice their present experience without judgment. By simply observing that different experiences come and go over time, the practitioner comes to know the transitory nature of our experience and realize that it is not always necessary to react. For example, anxious patients frequently respond fearfully to internal sensations that are associated with the anxiety response, which increases anxiety and therefore anxiety-related sensations, creating a vicious cycle. If such an individual were instead to note the sensation without judgment—to see it as one of many sensations that come and go throughout the day and are not threatening—this cycle would be circumvented. In addition, to the extent that anxious symptoms are deemed to be something to act on or flee from, feared stimuli are validated and avoidance is reinforced. If fear and anxiety are recognized as transient (and therefore more tolerable) states, avoidance becomes unnecessary. Similarly, if a depressed patient were to respond to a thought (e.g. "I am worthless") as one of many thoughts that come and go throughout the day rather than as having meaning, it would interrupt a long cascade of negative self-evaluative thoughts, again breaking the a depressogenic cycle. Further, taking an observer's perspective on one's thoughts can help a person to realize that thoughts are just thoughts rather than a reflection of reality.

MINDFULNESS AS A COMPLEMENT TO CBT

I have suggested that mindfulness alone is helpful, and this effect may operate in part through building attentional skills—strengthening the capacity to choose the focus of one's attention and to turn away from worry or rumination—or from learning that not all sensations or thoughts are meaningful or merit reaction. It appears, however, that the more potent interventions come from the combination of mindfulness with other cognitive and behavioral strategies. I argue that mindfulness can facilitate CBT in important ways. Cognitive therapy is

heavily reliant on rational discussion, and every experienced therapist has likely found him- or herself stuck at the point of "I know that it's rational, I just can't believe it." The experiential lessons of mindfulness may be a way out of that struggle.

Cognitive therapy for anxiety or depression involves detection and modification of maladaptive thoughts. Typically, the patient is sent from the session with a thought record and asked to notice when negative or anxiety-provoking thoughts occur. Not all patients are easily able to detect their anxious thoughts, and mindfulness may facilitate this. Feldman et al.[18] found that mindfulness (as opposed to relaxation or an alternate type of meditation) led to more frequent detection of ruminative thoughts. By facilitating the detection of maladaptive thoughts, the material becomes more accessible for challenging and modification. In addition, having observed through mindfulness that any of a number of thoughts can pass through one's mind may foster the insight that thoughts are simply thoughts and do not necessarily reflect the truth. This realization may facilitate the challenging of maladaptive thoughts.

Mindfulness may support behavior change. Arch and Craske[19] presented a student sample with a set of slides that are designed to elicit negative affect and instructed them to worry or to engage in focused breathing (a brief mindfulness-based exercise). Those who used the breathing technique not only reacted less strongly to the slides, but also were more willing to view additional slides. Extending this work to the clinical setting, mindfulness may facilitate exposure or behavioral activation. This may be because there is less fear of thoughts or sensations that may arise while engaged in the activity or because it has become less necessary to react when a thought or sensation does arise.

NEXT STEPS

As I have described, public interest in mindfulness has been mirrored by scholarly interest. There are many trials using approaches that involve the practice, and many studies of its mechanisms. Nonetheless, additional work is needed. Empirical data on mindfulness approaches lags behind the well-established approaches in terms of the number of methodologically rigorous trials that have been completed. Imaging has been used to understand brain changes associated with the mindfulness, but much of the work has been done in long-term practitioners of mindfulness. Imaging and neuropsychological assessment approaches hold promise for better understanding the changes that occur during typical mindfulness-based interventions. Finally, we have some evidence for the purported mechanisms of change, but a clearer understanding will come from additional work in this area. Based on the extant literature, I believe that there is considerable promise for this technique and that studies in this area would be a worthy investment.

I have described a very broad research agenda that will span many years, but consumers and professionals are ready to begin incorporating mindfulness now, and I think this is reasonable practice based on current knowledge. I suspect that there are two phases in learning mindfulness and that the therapeutic benefits of these phases differ. The first phase, I believe, is largely intellectual. Not unlike rational thoughts that may be generated in CBT, as people are learning mindfulness they learn things such as "sensations that you feel will come and go" or "dwelling in the past or future robs you of the present experience." These may be new insights that can be incorporated into one's coping strategies, and they can be reinforced and incorporated into therapy as alternative thoughts or in support of behavioral change. This type of learning can be accomplished by enrolling in a mindfulness class that may increasingly be available via the Internet,[20] or picking up a book or CD.

I propose that the second phase is experiential. It may begin at any time after the practice starts and likely continues to develop as long as the practice continues. This phase produces firsthand knowledge (as opposed to rational understanding). For example, a sensation may be understood as being only a sensation and not the total experience at that moment or a thought can be known as something that passes through one's attention but need not define the day. This experiential knowledge, I believe, is the more potent outgrowth of mindfulness practice because it is no longer a subject of debate. To accomplish this aim, it is critical to find a style of practice that is sustainable, and the greatest gains are probably to be had by those who are most committed to their practice.

My opinion is that mindfulness is not a fad but will ultimately hold an important place among psychological interventions—as it has in the spiritual traditions for thousands of years. Its impact will be idiosyncratic. At best, mindfulness can be life-altering, having a dramatic impact across multiple domains of one's life. More typically, it will be a useful tool for negotiating symptomatology and supporting resilience. At worst, it may be something that a provider tries that does not really do much yet does not cause harm. For this reason, care of the future will need to focus on identifying approaches that best match the preferences of the individual.

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REFERENCES

1. Hofmann SG, Sawyer AT, Witt AA, Oh D. The effect of mindfulness-based therapy on anxiety and depression: a meta-analytic review. J Consult Clin Psychol 2010;78:169–183.
2. Grossman P, Niemann L, Schmidt S, Walach H. Mindfulness-based stress reduction and health benefits: a meta-analysis. J Psychosom Res 2004;57:35–43.
3. Chiesa A, Serretti A. Mindfulness based cognitive therapy for psychiatric disorders: a systematic review and meta-analysis. Psych Res 2011;187:441–453.

4. Hayes SC, Luoma JB, Bond FW, Masuda A, Lillis J. Acceptance and commitment therapy: model, processes, and outcomes. Behav Res Ther 2006;44:1–25.
5. Powers MB, Zum Vörde Sive Vörding MB, Emmelkamp PMG. Acceptance and commitment therapy: a meta-analytic review. Psychother Psychosom 2009;78:73–80.
6. Öst L-G. Efficacy of the third wave of behavioral therapies: a systematic review and meta-analysis. Behav Res Ther 2008;46:296–321.
7. Forman EM, Herbert JD, Moitra E, Yeomans PD, Geller PA. A randomized controlled trial of acceptance and commitment therapy and cognitive therapy for anxiety and depression. Behav Modif 2007;31:772–799.
8. Arch JJ, Eifert GH, Davies C, Vilardaga JCP, Rose RD, Craske MG. Randomized clinical trial of cognitive behavioral therapy (CBT) versus acceptance and commitment therapy (ACT) for mixed anxiety disorders. J Consult Clin Psychol 2012;80:750–765.
9. Lang AJ, Schnurr PP, Jain S, et al. Evaluating transdiagnostic treatment for distress and impairment in veterans: a multi-site randomized controlled trial of acceptance and commitment therapy. Contemp Clin Trials 2012;33: 116–123.
10. Stoffers JM, Völlm BA, Rücker G, Timmer A, Huband N, Lieb K. Psychological therapies for people with borderline personality disorder. Cochrane Database Syst Rev 2012;8:CD005652.
11. Bankoff SM, Karpel MG, Forbes HE, Pantalone DW. A systematic review of dialectical behavior therapy for the treatment of eating disorders. 2012;20:196–215.
12. Harned MS, Korslund KE, Foa EB, Linehan MM. Treating PTSD in suicidal and self-injuring women with borderline personality disorder: development and preliminary evaluation of a dialectical behavior therapy prolonged exposure protocol. Behav Res Ther 2012;50:381–386.
13. Priebe K, Krüger A, Steil R, Dyer A, Bohus M. Dialectical Behavior Therapy for Patients With Post-Traumatic Stress Disorder Related to Childhood Sexual Abuse (DBT-PTSD). Paper presented at the annual meeting of the International Society for Traumatic Stress Studies. Los Angeles, CA; 2012.
14. MacLean KA, Ferrer E, Aichele SR, et al. Intensive meditation training improves perceptual discrimination and sustained attention. Psychol Sci 2010;21:829–839.
15. Baron Short E, Kose, S, Mu Q, et al. Regional brain activatin during meditation shows time and practice effects: An exploratory fMRI study. Evid Based Complement Alternat Med 2010;7:121–127.
16. Teachman BA, Joormann J, Steinman SA, Gotlib IH. Automaticity in anxiety disorders and major depressive disorder. Clin Psychol Rev 2012;32:575–603.
17. Ramel W, Goldin PR, Carmona PE, McQuaid JR. The effects of mindfulness meditation on cognitive processes and affect in patients with past depression. Cogn Ther Res 2004;28: 433–455.
18. Feldman G, Greeson J, Senville J. Differential effects of mindful breathing, progressive muscle relaxation, and loving-kindness meditation on decentering and negative reactions to repetitive thoughts. Behav Res Ther 2010;48:1002–1011.
19. Arch JJ, Craske MG. Mechanisms of mindfulness: emotion regulation following a focused breathing induction. Behav Res Ther 2006;44:1849–1858.
20. Glück TM, Maercker A. A randomized controlled pilot study of a brief web-based mindfulness training. BMC Psych 2011;11:175–187.