Chapter 5

MINDFULNESS-BASED STRESS REDUCTION

JEFFREY BRANTLEY

INTRODUCTION

Is there a connection between being healthy and being more consciously present? Do meditation practices that emphasize nonjudging awareness promote movement toward greater levels of health, including improvements in anxiety and related disorders? Can one successfully assume a larger degree of responsibility for one's own health by adopting a personal meditation practice? Is it possible to establish an effective and broadly replicable training program in mindfulness meditation that appeals to individuals of diverse social, medical, and spiritual backgrounds who share a common motivation to improve their personal health outcomes? Mindfulness-based stress reduction (MBSR) was born of such questions.

Indeed, MBSR was established in 1979 at the University of Massachusetts Medical Center in Worcester, MA, with two basic intentions (Kabat-Zinn, 2003). First, the program intended to become an effective vehicle for training individuals to practice mindfulness meditation and mindful yoga for reasons of health enhancement and stress reduction. Second, MBSR was developed as a model approach that could be adapted in a variety of health care contexts where stress, pain, illness, and disease were the primary concerns. Since its inception, MBSR programs have had an impact on an enormous number of participants and health care professionals, have generated a growing body of medical research, and have sparked fascinating discussions among researchers and meditators about the nature of the mind–body connection in health and illness.

MINDFULNESS: DEFINITION AND ROOTS

There are a number of definitions of mindfulness that have been discussed in the literature. Here, mindfulness is seen as an awareness that is nonjudging, friendly, and does not seek to add or subtract anything from the experience before it. Mindfulness arises as one pays attention—on purpose—in an allowing, accepting way to inner and outer experience unfolding in the present moment. Mindfulness is not limited to rigid or formulaic methods of meditation, but is available to be experienced in each moment and with every breath. Further, the capacity to be mindful lies in all human beings. Most important to practicing mindfulness, to being "mindful," is "commitment to reside as best one can from moment to moment in awareness with an open heart, a spacious, non-judging, non-reactive mind, and without trying to get anywhere" (Kabat-Zinn, 1994, 2003).

Teachers from diverse faith traditions have pointed to the importance of present moment awareness (Krishnamurti, 1969; Laozi & Mitchell, 1988; Ramana & Venkataramiah, 2000; Tolle, 1999). And, for over 2,500 years, Buddhists have systematically developed meditation methods emphasizing mindfulness. Because of the extensive body of Buddhist meditation experience, familiarity with Buddhist meditation practices by the original developers of MBSR, and because of the simplicity of the meditation instructions, the mindfulness practices taught in MBSR contexts have their origins in traditional Buddhist meditation. Although MBSR borrows from the Buddhist tradition instructions and understanding for teaching and practicing mindfulness, it does not seek to be "Buddhist" or to convert anyone to that tradition. MBSR is firmly rooted in principles of mindbody medicine, and offers itself to anyone who wishes to learn to enhance his or her own health (Kabat-Zinn, 1990).

Historically, the Buddha taught mindfulness to his followers. Among his earliest teachings, he detailed the meditation instructions for mindfulness practice: the Anapanasati Sutra (Rosenberg, 1998) and the Satipatthana Sutra (Smith, 1999). The Anapanasati Sutra details the meditation practice known as *awareness of breathing*, whereas the Satipatthana Sutra describes the *four foundations of mindfulness*, including mindfulness of body, feelings, mind, and dharma.

If mindfulness means bringing an accepting attention to present moment experience, then commentary from several well-known Buddhist teachers may provide further understanding of this process. Rosenberg (1998) likens mindfulness to a mirror that reflects accurately whatever appears before it. From his perspective, mindfulness is "preconceptual, before thought" (p. 15). The popular meditation teacher, Nhat Hanh (1987), emphasizes the importance of connecting with the present moment, and attitudes of welcome and friendliness in the practice of mindfulness. He says, "... this is the only moment that is real. To be here now, and enjoy the present moment is our most important task" (p. 4). Mindfulness is not about having more thoughts, but includes awareness of thinking as just another aspect of experience. As cited in Smith (1999), the 13th century Zen teacher, Dogen, puts it as follows: "You should therefore cease from practice based on intellectual understanding, pursuing words and following after speech, and learn the backward step that turns your light inwardly to illuminate your self." Feldman (1998), a popular contemporary Buddhist meditation teacher, offers a further perspective on meditation, including mindfulness practices: "There are several core principles which run through all meditative disciplines. Attention, awareness, understanding, and compassion form the basic skeleton of all systems of meditation" (p. 2).

Mindfulness as taught in the MBSR format is especially informed by these elements of accurate reflection, being centered in the present moment, nonconceptual and direct experience, and attitudes of friendliness and compassion toward all experience.

THE MEDICALIZATION OF MINDFULNESS

Drawing from ancient traditions of mindfulness meditation as a vehicle for change and healing in human life, Jon Kabat-Zinn and his colleagues developed the health-focused, stress reduction approach known as mindfulnessbased stress reduction (MBSR), and offered the first classes at the University of Massachusetts Medical Center in Worcester, MA, in 1979.

The MBSR approach has always been intended as a complement, not an alternative to therapy. In 1979, the concept of teaching meditation for health was novel, yet in alignment with the emerging field of mind–body medicine. In its early years, the MBSR program required a referral from a physician before accepting a participant. This was a means of firmly establishing the program as a medically appropriate activity. This requirement has changed over the years as the medical use of meditation has become more accepted and widespread.

Over the past 25–30 years there have been four forms of meditation that have received attention from Western medical researchers (Freeman, 2001). As described by Freeman (2001), these forms are transcendental meditation (TM), respiratory one method (ROM), created by Herbert Benson,

M.D.; clinically standardized meditation (CSM), developed by Carrington and others; and mindfulness meditation. Mindfulness meditation differs from the other three forms of meditation significantly in that it emphasizes a "nonconcentrative method" (expanded attention and nonjudgmental observation; Freeman, 2001). Whereas TM, ROM, and CSM approaches to meditation underscore the concentration of attention as a key component of meditation, mindfulness approaches emphasize nonjudging awareness. With their emphasis on nonjudging awareness, mindfulness meditation practices also offer an importantly different meditative approach to health and illness in that they allow the meditator to make changing physical and psychological experience itself the object of attention in meditation (Kabat-Zinn, 1990).

Since the establishment of the MBSR program in 1979, Kabat-Zinn and his colleagues have taught over 15,000 participants to practice mindfulness meditation, not including those trained in over 250 similar programs around the world (Wylie & Simon, 2004). The program has been the subject of a best-selling book, and has been featured in a Bill Moyers television special, "Healing and the Mind." In addition, Kabat-Zinn and his colleagues have developed and delivered a variety of professional training programs in MBSR. About 5,000 medical professionals have now been trained in these programs, about 30–40% being physicians (Wylie & Simon, 2004).

Western psychology and psychotherapists have long been drawn to meditative practices, particularly Buddhist ones. This reference to "Eastern philosophy" includes Freud, and interests in Buddhist practices can be found in the work of Franz Alexander, Carl Jung, Erich Fromm, and Karen Horney, to name a few (Germer, Siegel, & Fulton, 2005). More recently, Linehan (1993) developed an approach to treating borderline personality disorder inspired by the Zen Buddhist tradition and its emphasis on mindfulness. Her program, dialectical behavioral therapy (DBT), integrates Zen principles and practices with cognitive-behavioral therapy.

The interest in applying mindfulness in clinical settings has grown tremendously over the past 25–30 years, with many professionals finding a vehicle in the pioneering work of Kabat-Zinn's MBSR program. A more recent trend is the development of mindfulness-based interventions that are empirically validated and more clinically specific. An example of this is the work of Segal, Williams, and Teasdale (2002) in researching and developing an intervention they call mindfulness-based cognitive therapy for depression.

The MBSR model, with its focus on physical as well as psychological conditions, offers an expanded dimension to the role of meditation practices in clinical settings. Because the MBSR approach explicitly emphasizes "stress" and "stress reduction," it opens the door to meditation practice for individuals interested not only in psychological conditions but also in physical ones, including illness. By openly inviting a heterogeneous population with a diverse set of medical conditions, MBSR has built a foundation for applying mindfulness in a wide variety of physical and psychiatric conditions.

THE MBSR APPROACH: A DESCRIPTION

Stress is the response to the demands placed on the body and mind. The MBSR approach is essentially NOT about developing any particular or special state of mind or body, but IS about being awake and aware of what is happening, of what is present—as fully as possible, in each moment. By paying attention wholeheartedly, attending directly to experience no matter how unpleasant it is, one learns that it is possible to relate differently to stress or pain, or, indeed, any situation (Moyers, Flowers, & Grubin, 1993).

How might individuals be trained to pay attention mindfully to stress and illness in their lives? What follows is a summary of the MBSR model as described by Kabat-Zinn (1990) and Santorelli (1999).

WHAT IS MBSR?

MBSR is not a medical or psychiatric treatment, nor is it intended to be. It is a psychoeducational approach that teaches participants to practice mindfulness meditation in the context of mind–body medicine for the purposes of stress reduction and improved health. Practicing mindfulness, one joins with one's health care provider, and becomes a potent ally in any treatment process he or she is receiving.

One does not have to be a Buddhist (nor even identify as "spiritual") in order to practice mindfulness in this model. The approach emphasizes the universality of mindfulness as a basic human capacity available to anyone who is willing to make the commitment to practice the meditation methods taught in the program.

The Attitudinal Foundation of Mindfulness Practice

A first core principle of MBSR is the belief that "no matter what your condition, here in the MBSR program, we believe that there is more right with you than is wrong with you." This statement summarizes the belief that each person has within him or her an enormous capacity for compassionate and accepting awareness, and that application of this awareness can lead to profound learning, healing, and transformation. It speaks to a paradigm for healing that acknowledges the sacred quality of the healing relationship, and respects each participant as a full human being, rather than as a patient with a problem. A second core principle is one of "being, not doing." Participants learn to recognize and to stop identifying with the habits of busyness and striving that drive so much of experience, and, instead, learn to "be." This means they stop, and simply pay attention without trying to change anything as experience unfolds in each moment—inside and outside the skin. A third core principle offered upon entering an MBSR class is to adopt the "way of not knowing." This simply means to drop all the ideas, judgments, and thoughts about experience, and to be willing to direct attention and to open awareness to direct phenomenal experience as it occurs in the present moment.

In addition to these core principles, there are seven key attitudes that form a foundation for mindfulness practice as taught in the MBSR approach: *nonjudging; patience; beginner's mind; trust; nonstriving; acceptance; and, letting go.* Nonjudging involves learning to recognize the mindstream of labeling and judging experience, and to let it go, as much as possible. When judging does happen, one learns simply to label it as it happens. "Judging, judging, judging." It is not necessary to "judge the judging," or to fight it.

Patience means having the willingness to allow things to unfold in their own time; having the willingness to stay with whatever process is happening in the moment. Beginner's mind involves holding an attitude of freshness toward each experience in the present moment—as if seeing it for the first time. It calls for the recognition that each breath, sensation, or experience is truly unique, happening in this moment, and has unique possibilities. Mindfulness practice fosters the learning to trust oneself and one's basic wisdom and goodness as they are revealed through the practice of mindful attention to mind and body.

Bringing a nonstriving attitude toward mindfulness practice involves letting go of the habit of trying to change things that are noticed during meditation. It means not trying to become anyone or anything else in meditation. For example, boredom, or pain, or sleepiness, or anything else is met by a nonstriving attitude. One need not take any action, but simply pay attention to the sensation or state as closely as possible.

The closely linked concept of acceptance entails means being willing to see things exactly as they are in this moment. It does not mean one has to like what they see, or become passive about everything. It just means starting with attention and the willingness to see things as they are right now.

Finally, the attitude of letting go involves cultivating the attitude of nonattachment. When one starts to pay attention to inner experience in meditation, the mind wants to push away or cling to certain thoughts and feelings. Letting go means letting experience be whatever it is and simply paying attention to it without suppressing it, elevating it or clinging to it.

How Is MBSR Delivered?

The typical structure of an MBSR program is to meet in a classroom setting once a week for 8 weeks. Each class is 2–2.5 hr in length. Activities in the class usually include instruction and practice of a variety of mindfulness methods, plus discussions aimed at strengthening the participants' meditation practice, the application of mindfulness to their specific situation, and linking principles of mind–body health and stress to the practice of mindfulness. Class sizes vary, but may number greater than 30 participants with a single instructor.

In addition to the weekly classes, the MBSR model includes an all-day session called the Day of Mindfulness. This is an intensive, silent meditation retreat experience in which program participants have the opportunity to practice meditation and yoga over several hours with minimal disruption or distraction.

Mindfulness is developed by paying attention on purpose, without trying to change or judge the object of attention. Crucial to the MBSR approach is the principle of making mindfulness a way of living or approaching life, rather than viewing it as a "technique." To this end, participants are taught a variety of practices to support mindfulness. Typically they learn mindfulness of breathing, body scan, mindful walking, mindful yoga, mindful attention to the entire field of sensory experience (open or choiceless awareness), and mindfulness of everyday activities such as eating, doing chores, or dealing with other situations of daily life. In addition, at various times over the 8-week program, meditation practices emphasizing qualities of kindness, compassion, equanimity, or spacious calm may be taught as supports to mindfulness practice itself.

A distinction is made between "formal" meditation and "informal" mindfulness practice. Formal meditation is time each day devoted specifically to practicing one or more of the methods taught in the course. Typically, participants are asked to make a commitment of 45 minutes to 1 hour each day of the 8-week program for formal meditation. Informal practice refers to bringing mindfulness to different situations of daily life. Building on the formal practice experience, the participants are encouraged to stop and pay attention nonjudgmentally and wholeheartedly wherever they find themselves in daily life. For example, this could mean bringing mindful attention to the breath while waiting in traffic, or while undergoing a medical procedure. Or, it could mean paying closer attention to the experience unfolding around a meal, or eating a snack. In any case,

the participants are encouraged to engage more fully and consciously with life as it unfolds.

EXPERIENTIAL LEARNING

The word "practice" is used frequently in the MBSR approach. Here, practice does not mean "rehearsal." Nor does it refer to an activity that is somehow different from real life. Practice in the MBSR context does not mean trying to become anything better, or trying to be someone else, or give a better performance. Rather, practice in the MBSR context does mean "... inviting ourselves to interface with this moment in full awareness, with the intention to embody as best we can an orientation of calmness, mindfulness, and equanimity right here and right now" (Kabat-Zinn, 1994).

This experience of approaching life mindfully can only be understood through the direct experience of the individual. No amount of reading or explanation can completely convey the experience of mindfulness through meditation any more than studying a map can completely convey the experience of being in a place. For this reason, to have substantial direct experience being mindful, the MBSR program demands a large commitment from participants to actually meditate daily at home, weekly in class, and over several hours in the day-long intensive. The aim for this commitment to formal and informal mindfulness practices is to cultivate a continuity of awareness in all activities and challenges of daily living (Kabat-Zinn, 2003).

TEACHER QUALIFICATIONS

Instructors in an MBSR program typically meet certain qualifications. Although there is at present no national certification or licensure requirement, MBSR instructors in the UMass program (and some others, including the author's program in the Duke Center for Integrative Medicine) are required to have a variety of educational and meditative skills and a significant base of experience. For example, the qualified instructor typically would have a Master's degree or higher in a health or education field; would have a minimum of 3 years of a daily, personal mindfulness mediation practice, including at least 2-week-long or longer intensive mindfulness meditation retreats; would have significant personal experience with yoga practice; and would have completed a training program for professionals in MBSR.

MBSR AND RESEARCH: AN OVERVIEW

The sheer volume of research aimed at investing the impact of MBSR on the health and well-being of participants, as well as refinements in methodology, has increased markedly in recent years. A review of the current literature suggests that mindfulness interventions may have benefit for participants with a range of medical conditions. The following studies illustrate the broad range of positive impact reported using the MBSR approach. Participants have been found to experience improvements in stress reduction (Astin, 1997); chronic pain (Kabat-Zinn, 1982; Kabat-Zinn, Lipworth, & Burney, 1985; Kabat-Zinn, Lipworth, Burney, & Sellers, 1986); anxiety disorders (Kabat-Zinn et al., 1992; Miller, Fletcher, & Kabat-Zinn, 1995); relapsing depression (Teasdale, Segal, & Williams, 1995; Teasdale et al., 2000); eating disorders (Kristeller & Hallett, 1999); cancer (Speca, Carlson, Goodey, & Angen, 2000); fibromyalgia (Goldenberg et al., 1994; Kaplan, Goldenberg, & Galvin-Nadeau, 1993; Weissbecker et al., 2002); and psoriasis (Kabat-Zinn et al., 1998). Benefits have been found among a mixed group of medical patients (Reibel, Greeson, Brainard, & Rosenzweig, 2001); with a population of inner city residents (Roth & Stanley, 2002); and with premedical and medical students (Rosenzweig, Reibel, Greeson, Brainard, & Hojat, 2003; Shapiro, Schwartz, & Bonner, 1998).

Of additional interest, preliminary work by Davidson, Kabat-Zinn, and others (Davidson et al., 2003) report alterations in brain and immune functions produced by mindfulness meditation. These alterations in brain function are consistent with higher levels of well-being in participants, while immune function is reported to be enhanced in participants who meditate. The possible neuroanatomic basis for subjective feelings of wellbeing in meditators proposed by Davidson's work is consistent with other mindfulness research in which participants report increased levels of wellbeing (Brown & Ryan, 2003; Reibel et al., 2001; Rosenzweig et al., 2003).

There is much research still needed. Reviewers of the existing literature (Baer, 2003; Bishop, 2002) have detailed methodological shortcomings in current studies, and pointed out the need for more randomized control studies, and for clarification of mechanisms of action in mindfulness-based approaches. Despite these critiques, however, those same reviewers are in agreement that there already exist enough positive data to warrant further research activity.

MBSR AND ANXIETY

There have been a number of studies that have reported anxiety reductions in individuals who practice mindfulness meditation as taught in the MBSR format. Kabat-Zinn and colleagues (Kabat-Zinn et al., 1992) studied 22 MBSR program participants with diagnosable anxiety disorders. The participants were screened with a structured clinical interview and found to meet *DSM-III-R* criteria for generalized anxiety disorder or panic disorder with or without agoraphobia. Assessments, including self-ratings and therapists' ratings, were obtained weekly before and during participation in the MBSR program, and monthly during a 3-month follow-up period. Significant reductions in scores of anxiety and depression occurred for 20 of the participants. Changes were maintained at follow-up. The number of participants experiencing panic symptoms was also substantially reduced.

Miller and his colleagues (Miller et al., 1995) did a follow-up study of a subgroup of those same participants. In this study, 3-year follow-up data were obtained for 18 of the original 22 study participants. Maintenance of previous gains on a variety of scales, including Hamilton and Beck anxiety scales and the Hamilton panic score, was reported. Ongoing compliance with the meditation practice was also demonstrated, with 10 of the 18 reporting they continued to do a "formal" mindfulness technique 3 years posttraining in MBSR, and 16 of the 18 reporting they continued to practice the "informal" mindfulness technique of awareness of breathing in daily life.

Three studies have examined the impact of MBSR on the anxiety of patients with medical conditions. Speca and colleagues (Speca et al., 2000) taught mindfulness meditation modeled on the MBSR program format to a group of 90 patients heterogeneous in type and stage of cancer. They used a randomized wait-list control design to assess the impact of the intervention on participants. The intervention consisted of a weekly 1.5-hr class and home meditation practice. Patients in the treatment group reported significantly lower levels of anxiety, as well as decreased depression, anger, and confusion.

Reibel and colleagues (Reibel et al., 2001) examined the effects of MBSR on health-related quality of life and physical and psychological symptoms in a population of 136 patients with mixed medical conditions. Participants reported a 38% reduction in general psychological distress, a 44% reduction in anxiety, and a 34% reduction in depression at the end of the program. Thirty percent of the participants responded to a 1-year follow-up survey, and reported maintenance of initial improvements in all three psychological domains.

Tacon and colleagues (Tacon, McComb, Caldera, & Randolph, 2003) reported results of a pilot study of 20 women with anxiety and heart disease, randomized to control and study groups of 10 participants each. Because anxiety correlates significantly with morbidity in heart disease, this study sought to assess the effectiveness of an MBSR approach in reducing anxiety in women with heart disease. Although there were some mixed findings from this study (e.g., no significant differences on a measure of health locus of control), significant reductions were found in the study group comparing pre- to postintervention anxiety scores.

Finally, given the relationship between stress and anxiety, two additional studies that focused on premedical and medical students experiencing stress bear mention. Shapiro and colleagues (Shapiro et al., 1998) used a randomized wait-list control method to measure stress and mood disturbance in a group of premedical and medical students. They reported significant reductions in state and trait anxiety among the participants who participated in MBSR. Similarly, Rosenzweig et al. (2003) reported significant reductions in total mood disturbance, including tension and anxiety, post-MBSR intervention, for 140 2nd-year medical students as compared to 162 control participants.

A PERSONAL MINDFULNESS EXERCISE

Because mindfulness is best understood as a direct experience, this chapter ends with a personal mindfulness meditation exercise. Actual understanding of mindfulness comes only through the repeated practice of mindfulness and the importance of this practice for both participants and instructors is emphasized in MBSR. Intelligent academic discussion and research will also likely benefit when investigators have direct experience of mindfulness meditation through practice. In the spirit of promoting deeper understanding of mindfulness, and greater benefits for all, the following meditation exercise is offered.

(*Note*: As you do this exercise, you may wish to have someone read these meditation instructions to you, or even to record your own voice reading the instructions to support you. It helps if whoever reads the instructions would pause for a breath or two between each sentence. Also, pause a bit longer, perhaps 3–4 breaths, between each paragraph of the instructions.)

Outer Posture

Take a comfortable seat (or lie down if you are physically unable to sit comfortably for any length of time). Adjust your posture and body so that you can relax and remain alert. Let your posture embody ease and the dignity befitting any activity directed at healing and awakening. Let your eyes be at least half closed; fully closed may be even better. Don not let the eyes roam and distract your attention. Do something comfortable with your hands. Perhaps the position the hands take could reflect a sense of ease, relaxation, and safety—of having exactly what you need now, in this moment.

INNER POSTURE

Set your burdens down. Release both the inner and the outer ones. For the period of this meditation, it is not necessary to try to change things, or to become somebody or something else. There is nothing else to accomplish.

Just paying attention—acknowledging in a friendly, sensitive way what is present—is good enough. You are not postponing life when you meditate. Meditation is about being more open and connecting with life. The only time life happens is now—in the present moment.

As you meditate, as best you can, allow yourself to soften and open. Resting in an open, receptive heart. Connecting with your natural inner qualities of awareness and spaciousness. Exploring the sense of inner spaciousness that can contain all experiences. Recognizing the friendliness and compassion present within this spaciousness.

PRACTICING MEDITATION: MINDFULNESS OF BREATHING

Begin by gathering your attention in the sensations of your body. Feeling the sense of mass and heaviness, and the points of contact of body with the floor or chair. Noticing and allowing the sensations in the feet, the hands, and the face. Noticing sensations in other regions of your body, and allowing those. Now, gently move attention closer to the sensations of your breath. Not controlling the breath in any way, but simply allowing it to flow into and out of the body. Focusing attention at the place in your body where it is easiest to feel the actual sensations of the in-breath, a pause, the out-breath, another pause, and the next in-breath. Perhaps this place is the tip of your nose, or your abdomen, or your chest, rising and falling with each breath.

Paying attention to the direct, bare sensations of breath moving. Noticing long breath, short breath, rapid, slow, rough, smooth breath. Noticing the unique quality of each breath.

No need to control the breath, or to make anything special happen. Simply allowing the breath to flow naturally as you bring a more sensitive and continuous focus to the unfolding sensations and patterns.

There do not have to be any distractions. Whenever your attention wanders, notice that. You have not done anything wrong. Gently return attention to the breath. If you feel especially bothered or distracted, kindly and patiently breathe *with* the distraction. No need to fight the distraction, or to struggle to ignore it. Let it be just as it is as you focus attention on your breath, breathing with the experience. Letting your breath flow in and out, over and under, around and through the distraction as you maintain your primary focus on the changing breath sensations.

Sitting with the breath, *and everything else*. Focused and calm, attending to the breath, and *allowing everything else* for the time of this meditation. Softening, acknowledging, and holding all experience in this moment, in the ever-changing patterns of the breath. Letting the breath and the meditation support you. Continue meditating for as long as you like. When you are ready to stop this practice, gently open your eyes and begin to move your fingers and toes. Notice how you feel without judgment.

CONCLUSION

Mindfulness is a basic human capacity. In 1979, Jon-Kabat-Zinn and his colleagues at the University of Massachusetts Medical Center in Worcester, MA, began a program for teaching mindfulness meditation and mindful yoga to medical patients referred by physicians. They called this program MBSR. In the 25 years since that time, thousands of people have learned to practice mindfulness meditation in the service of health enhancement and stress reduction through participation in MBSR programs worldwide. Despite this history, the health applications and understanding of mindfulness as a healing practice is still in its infancy. However, after 25 years of MBSR activity, the healing potential of simply being present with compassionate attention is being discovered and appreciated by Western medicine.

REFERENCES

- Astin, J. A. (1997). Stress reduction through mindfulness meditation. Effects on psychological symptomatology, sense of control, and spiritual experiences. *Psychotherapy & Psychosomatics*, 66(2), 97–106.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science & Practice*, 10(2), 125–143.
- Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction? *Psychosomatic Medicine*, 64(1), 71–83.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality & Social Psychology*, 84(4), 822–848.
- Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., et al. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine*, 65(4), 564–570.

Feldman, C. (1998). Thorsons principles of meditation. London: Thorsons.

- Freeman, L. W. (2001). Meditation. In L. W. Freeman & G. F. Lawlis (Eds.), Mosby's complementary and alternative medicine: A research-based approach (pp. 166–195). St. Louis, MO: Mosby.
- Germer, C. K., Siegel, R. D., & Fulton, P. R. (2005). *Mindfulness and psychotherapy* (1st ed.). New York: Guilford.
- Goldenberg, D. L., Kaplan, K. H., Nadeau, M. G., Brodeur, C., Smith, S., & Schmid, C. H. (1994). A controlled study of a stress-reduction, cognitive–behavioral treatment program in fibromyalgia. *Journal of Musculoskeletal Pain*, 2(2), 53–66.

- Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry*, 4(1), 33–47.
- Kabat-Zinn, J. (1990). Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness. New York, NY: Delacorte Press.
- Kabat-Zinn, J. (1994). Wherever you go, there you are: Mindfulness meditation in everyday *life*. New York: Hyperion.
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science & Practice*, 10(2), 144–156.
- Kabat-Zinn, J., Lipworth, L., & Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of Behavioral Medicine*, 8(2), 163–190.
- Kabat-Zinn, J., Lipworth, L., Burney, R., & Sellers, W. (1986). Four year follow-up of a meditation-based program for the self-regulation of chronic pain: Treatment outcomes and compliance. *Clinical Journal of Pain*, 2, 159–173.
- Kabat-Zinn, J., Massion, A. O., Kristeller, J., Peterson, L. G., Fletcher, K. E., Pbert, L., et al. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *American Journal of Psychiatry*, 149(7), 936–943.
- Kabat-Zinn, J., Wheeler, E., Light, T., Skillings, A., Scharf, M. J., Cropley, T. G., et al. (1998). Influence of a mindfulness meditation-based stress reduction intervention on rates of skin clearing in patients with moderate to severe psoriasis undergoing phototherapy (UVB) and photochemotherapy (PUVA). *Psychosomatic Medicine*, 60(5), 625–632.
- Kaplan, K. H., Goldenberg, D. L., & Galvin-Nadeau, M. (1993). The impact of a meditation-based stress reduction program on fibromyalgia. *General Hospital Psychiatry*, 15(5), 284–289.
- Krishnamurti, J. (1969). Freedom from the known. New York: Harper & Row.
- Kristeller, J. L., & Hallett, C. (1999). An exploratory study of a meditation-based intervention for binge eating disorder. *Journal of Health Psychology*, 4(3), 357– 363.
- Linehan, M. (1993). Cognitive-behavioral treatment of borderline personality disorder. New York: Guilford.
- Miller, J. J., Fletcher, K., & Kabat-Zinn, J. (1995). Three-year follow-up and clinical implications of a mindfulness meditation-based stress reduction intervention in the treatment of anxiety disorders. *General Hospital Psychiatry*, 17(3), 192–200.
- Mitchell, S. (1988). Tao te ching: A new English version. New York: Harper & Row.
- Moyers, B. D., Flowers, B. S., & Grubin, D. (1993). *Healing and the mind*. New York: Doubleday.
- Nhat Hanh, T. (1987). Being peace. Berkeley, CA: Parallax Press.
- Ramana, M., & Venkataramiah, M. S. (2000). Talks with Ramana Maharshi: On realizing abiding peace and happiness. Carlsbad, CA: Inner Directions.
- Reibel, D. K., Greeson, J. M., Brainard, G. C., & Rosenzweig, S. (2001). Mindfulnessbased stress reduction and health-related quality of life in a heterogeneous patient population. *General Hospital Psychiatry*, 23(4), 183–192.

- Rosenberg, L. (1998). *Breath by breath: The liberating practice of insight liberation* (with D. Guy). Boston, MA: Shambhala.
- Rosenzweig, S., Reibel, D. K., Greeson, J. M., Brainard, G. C., & Hojat, M. (2003). Mindfulness-based stress reduction lowers psychological distress in medical students. *Teaching & Learning in Medicine*, 15(2), 88–92.
- Roth, B., & Stanley, T. W. (2002). Mindfulness-based stress reduction and healthcare utilization in the inner city: Preliminary findings. *Alternative Therapies in Health* & *Medicine*, 8(1), 60–62.
- Santorelli, S. (1999). *Heal thy self: Lessons on mindfulness in medicine.* New York: Harmony/Bell Tower.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford.
- Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine*, 21(6), 581–599.
- Smith, J. (1999). Radiant mind: Essential Buddhist teachings and texts . New York: Riverhead Books.
- Speca, M., Carlson, L. E., Goodey, E., & Angen, M. (2000). A randomized, wait-list controlled clinical trial: The effect of a mindfulness meditation-based stress reduction program on mood and symptoms of stress in cancer outpatients. *Psychosomatic Medicine*, 62(5), 613–622.
- Tacon, A. M., McComb, J., Caldera, Y., & Randolph, P. (2003). Mindfulness meditation, anxiety reduction, and heart disease: A pilot study. *Family & Community Health*, 26(1), 25–33.
- Teasdale, J. D., Segal, Z., & Williams, J. M. (1995). How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behaviour Research & Therapy*, 33(1), 25–39.
- Teasdale, J. D., Segal, Z. V., Williams, J. M., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting & Clinical Psychol*ogy, 68(4), 615–623.
- Tolle, E. (1999). *The power of now: A guide to spiritual enlightenment*. Novato, CA: New World Library.
- Weissbecker, I., Salmon, P., Studts, J. L., Floyd, A. R., Dedert, E. A., & Sephton, S. E. (2002). Mindfulness-based stress reduction and sense of coherence among women with fibromyalgia. *Journal of Clinical Psychology in Medical Settings*, 9(4), 297–307.
- Wylie, M. S., & Simon, R. (2004). The power of paying attention. *Psychotherapy Networker*, 28(6), 59–67.