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Mindfulness-Based Stress Reduction in Advanced Nursing Practice:

A Nonpharmacologic Approach to Health Promotion, Chronic Disease Management, and Symptom Control

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Abstract

The aim of this article is to discuss how advanced practice nurses (APNs) can incorporate mindfulness-based stress reduction (MBSR) as a nonpharmacologic clinical tool in their practice. Over the last 30 years, patients and providers have increasingly used complementary and holistic therapies for the nonpharmacologic management of acute and chronic diseases. Mindfulness-based interventions, specifically MBSR, have been tested and applied within a variety of patient populations. There is strong evidence to support that the use of MBSR can improve a range of biological and psychological outcomes in a variety of medical illnesses, including acute and chronic pain, hypertension, and disease prevention. This article will review the many ways APNs can incorporate MBSR approaches for health promotion and disease/symptom management into their practice. We conclude with a discussion of how nurses can obtain training and certification in MBSR. Given the significant and growing literature supporting the use of MBSR in the prevention and treatment of chronic disease, increased attention on how APNs can incorporate MBSR into clinical practice is necessary.

Keywords

psychosocial/mental health; health promotion; meditation/mindfulness; alternative therapies; chronic disease; holistic nursing; mind–body techniques

Introduction

Due to changes resulting from implementation of the Affordable Care Act, advanced practice nurses (APNs) will assume a growing proportion of the responsibility for patient care over the next decade and beyond (H.R. 3590, Patient Protection and Affordable Care Act, 2010). Thus, it is critical that APNs continue to advance their knowledge and practices in the management of patient problems, including both pharmacologic and nonpharmacologic approaches.

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Over the past 30 years, both patients and providers have increasingly used complementary and holistic therapies for the nonpharmacologic management of acute and chronic diseases (Harris & Rees, 2000). Studies have shown that up to 40% of patients in the United States, and up to 44% in England, use one or more nontraditional therapies, some of which are prescribed by providers and some not (Eisenberg et al., 1998; Hunt et al., 2010). Mind–body practices such as acupuncture, chiropractic and spinal manipulation, massage therapy, yoga, tai chi, and mindfulness are among the most commonly used.

While there is a growing body of research establishing the benefits of many of these practices, mindfulness meditation—specifically mindfulness-based stress reduction (MBSR)—has robust evidence for its effectiveness in family, adult-gerontology, pediatric, women's health, and psychiatric-mental health populations (Ludwig & Kabat-Zinn, 2008). Moreover, research is beginning to demonstrate how health care providers can use MBSR to reduce stress, burnout, and medical errors.

The purpose of this article is to discuss (1) the theory and mechanisms underlying MBSR; (2) the use of MBSR for disease prevention, chronic disease management, and symptom management; (3) how APNs can use MBSR to promote personal well-being; and (4) how nurses can refer patients for these interventions, and if desired, become MBSR certified to incorporate mindfulness into their own clinical care of patients.

Background

Overview of MBSR

MBSR is a relatively recent addition to the nonpharmacological approaches for disease management. Originally developed by John Kabat-Zinn in 1979 and first published in 1982, MBSR is based on the Buddhist principle of mindfulness. Mindfulness, defined as an awareness that emerges with purposeful, nonjudgmental attention within the present moment (Kabat-Zinn, 2003), is a fundamental concept of most meditation practices. Individuals learn mindfulness techniques, such as breath awareness (focus on breath and observing thoughts without being caught up in them) and body scan (promoting awareness and acceptance of sensations in different parts of the body), to help them understand that painful sensations and associated negative emotions do not need to be fought, suppressed, or they need not inhibit them from living a meaningful life and accomplishing goals.

Theory and Concepts

Since the seminal 1982 publication, hundreds of studies have demonstrated the effectiveness of MBSR on health outcomes (Hölzel et al., 2011; MacCoon et al., 2012). However, the mechanism(s) through which MBSR works are still under investigation. Several psychological-based theories of mindfulness have been proposed, such as the Intentionally (I) Attending (A) with openness and nonjudgmental awareness (A) theory (IAA theory; Brown, Ryan, & Creswell, 2007; Shapiro, Carlson, Astin, & Freedman, 2006). In addition to psychological-driven theories of mindfulness, theories have also been based on therapeutic contexts, such as pain management (Day, Jensen, Ehde, & Thorn, 2014).

But at the core of mindfulness theories are four fundamental concepts that work and occur simultaneously during mindfulness practice: awareness, attention, acceptance, and reperceiving. As described in a recent concept analysis of mindfulness (White, 2014), awareness is being deeply attentive to oneself in moment-to-moment experiences; attention is the act of staying with the moment-to-moment experience; and acceptance is receiving what arises without judgment, resistance, or avoidance.

Reperceiving can be understood as a shift in perspective similar to the act of detachment (Bohart, 1983) or decentering (Safran & Segal, 1990). Instead of becoming immersed with a bodily sensation or particular situation, the individual attends to the immediate experience, without judgment, leading to a shift in perspective about the situation. For example, consider a person with sickle cell disease during a vaso-occlusive crisis. Common thoughts may include the following: “I’m having a pain crisis, which means I may need to go to the emergency department for treatment, potentially get admitted as an inpatient, and be put on new medications, and I’m really upset about this happening.” In this case, the focus is on “what may happen” and the negative feelings associated with fears of future possibilities. Conversely, reperceiving keeps the focus on the present moment. The individual may scan the body to identify the location and intensity of the pain and the physical response (e.g., clenching fists, shallow breathing). Awareness of breath techniques and yoga help maintain focus on the present moment as opposed to thoughts of future scenarios, which may or may not actually occur. This interoceptive (internally focused) attention has been shown to improve overall well-being (Farb, Segal, & Anderson, 2013).

Mechanisms

Recent neuroimaging studies have started to identify how mindfulness practices influence neuro-cognitive pathways (Vago & Silbersweig, 2012) and brain morphology (Hölzel et al., 2011). Structural and functional magnetic resonance imaging studies have shown that mindfulness practice is associated with changes in the prefrontal cortex, the posterior and anterior cingulate cortex, the insular and amygdalae, and hippocampus. Specifically, after 8 weeks of MBSR, observed morphologic changes include increased cortical thickness and grey matter density in the posterior and anterior cingulate cortex, hippocampus, and insula (Farb et al., 2007; Hölzel et al., 2007; Hölzel et al., 2008; Hölzel et al., 2011; Lazar et al., 2005). Functional studies have demonstrated increased activation in these areas as well (Lutz et al., 2014). Conversely, studies have demonstrated decreases in both size and activation in the amygdala, which is primarily responsible for activation of the stress response (Desbordes et al., 2012).

Given that the anterior cingulate cortex and insula are involved with attention and body awareness (van Veen & Carter, 2002), and that areas of the prefrontal cortex are involved with acceptance and reperceiving (in addition to other higher level cognitive and emotional processing, e.g., emotion regulation, perspective taking, and compassion), these findings support the proposed theoretical concepts of awareness, attention, acceptance, and reperceiving as possible mechanisms of MBSR (Oschner & Gross, 2005; Schmitz & Johnson, 2007). In addition to these mechanisms, many more are being explored to better understand and answer what areas of the brain are involved with mindfulness and self-

regulation exercises like attention regulation, body awareness, emotion regulation, and perspective taking of self (Hölzel et al., 2011).

Data Sources

To explore the potential uses of MBSR for chronic disease management, symptom management, and how APNs may use MBSR practices to promote personal well-being for improved clinical care, an electronic database search was performed. The search was limited to English and published articles from 1982 (first publication of MBSR) through 2013. CINAHL and PubMed, PsychInfo, PsychArticles, Google Scholar, and EBSCO online databases were searched using keywords and subject headings. The main key phrases included were mindfulness-based stress reduction, MBSR, mindfulness, meditation, and mindfulness-based intervention. The search strategy yielded a list of approximately 500 citations. Because of the large number of findings, only the seminal and most recent works that discussed biological health outcomes for patient populations that are relevant for APNs were included. Limited psychological outcomes are reported, because most discussions of MBSR to date have focused on psychological outcomes, and numerous reviews have documented the efficacy of MBSR for improving psychological health and quality of life (see Keng, Smoski, & Robins, 2011, for most recent literature review). Therefore, the discussion below is not exhaustive but a brief overview of specific applications of MBSR that may be most useful for APNs. Based on the search results, the MBSR literature was classified by clinical applications: (1) preventive health and health enhancement, (2) chronic disease management, and (3) symptom management. Also included is a brief summary of the role of MBSR in supporting clinician well-being as it relates to enhanced clinical care.

MBSR for Health Promotion and Prevention

Chronic diseases are among the most prevalent and preventable of all health problems (Centers for Disease Control and Prevention, 2014b). Reductions or cessation of risky behaviors such as smoking, drinking, sedentary lifestyle, and unhealthy eating could prevent onset of common cancers (Flanders, Lally, Zhu, Henley, & Thun, 2003), liver disease (Mann, Smart, & Govoni, 2003), obesity (World Health Organization, n.d.-c), cardiovascular disease, and type 2 diabetes. Because APNs are usually the first to see patients presenting with new signs of illness in the outpatient setting, they are at the front lines and best suited to provide patients at risk for chronic diseases with preventive health education and recommend interventions (Centers for Disease Control and Prevention, 2011b).

Smoking

Approximately one billion people in the world smoke tobacco-related products, resulting in nearly 6 million deaths annually (World Health Organization, n.d.-b). Estimates show that fewer than 10% of U.S. individuals who attempt to quit smoking will be successful, in large part due to tobacco’s addictive nature (Centers for Disease Control and Prevention, 2011c). Emerging evidence suggests MBSR may be used in conjunction with standard therapies (e.g., medications, counseling, and combination therapy) to reduce tobacco consumption and cravings, and improve smoking cessation rates. In a pilot study of 18 tobacco-smoking

outpatients who averaged 19 cigarettes per day for 26 years, 56% (10/18) remained biologically smoke free 6 weeks after completing an 8-week MBSR course (Davis, Fleming, Bonus, & Baker, 2007). A similar study of 158 long-term smokers also found that increased mindfulness was associated with decreased nicotine dependence and nicotine withdrawal and increased sense of control over smoking (Vidrine et al., 2009). Two recent literature reviews on MBSR's for smoking cessation (Carim-Todd, Mitchell, & Oken, 2013; Chiesa & Serretti, 2014) have similarly concluded that preliminary evidence suggests mindfulness-based programs like MBSR can reduce addictive behaviors and substance abuse and consumption, but larger randomized controlled trials (RCT) are warranted.

Dietary Behaviors

Despite recommendations to reduce consumption of unhealthy fats, there has been little change in the amount of fat intake over the past 20 years in the United States or the United Kingdom (Centers for Disease Control and Prevention, 2014c; National Health Service, n.d.). Moreover, 24% of men and 26% of women in the United Kingdom are overweight or obese (Health and Societal Care Information Centre, 2013), and 35.7% of all American adults *are obese* (Centers for Disease Control and Prevention, 2014a).

As briefly described in the chronic disease management section of this article (diabetes section), MBSR may help patients modify their dietary behaviors. Specifically, MBSR programs that have been modified to address specific dietary concerns have shown promising results. A pilot study that tested a 6-week modified MBSR program for 10 obese adults found statistically significant decreases in body mass index (BMI; mean loss of 1.2 kg over 12 weeks; $p < .01$), large decreases in reported hunger at 6 weeks (μ [*SD*]: 7.6 [3.9] to 4.6 [3.5], $p = .02$), and improved cognitive restraint at 12 weeks (μ [*SD*]: 9.5 [4.6] to 4.5 [2.5], $p = .02$; Dalen et al., 2010). Conversely, a larger RCT of 47 obese women enrolled in a modified 9-week MBSR program found no statistically significant improvements in BMI or weight compared with a wait-listed control group (Daubenmier et al., 2011). However, the wait-listed control group gained weight over the course of the intervention and at follow-up, while the MBSR participants had no increases in weight or BMI.

There also is evidence to suggest that patients with eating disorders, such as binge eating, may benefit from MBSR. A feasibility study of 25 participants found that after completing a modified MBSR course centered on topics specific for binge eaters, there were statistically significant pre- to post-MBSR declines in binge eating severity, depressive symptoms, and state anxiety, as well as improved levels of self-acceptance (Smith, Shelley, Leahigh, & Vanleit, 2006).

MBSR for Chronic Disease Management

Patients with chronic conditions must make daily choices about how to best self-manage their illness. MBSR is potentially useful for these patients, because the mindfulness practices can enhance self-efficacy in behavior and lifestyle management (Chang et al., 2004; Semple, Lee, Rosa, & Miller, 2010), in addition to improving physical and psychological outcomes associated with having a chronic condition. MBSR has been applied in the management of numerous chronic diseases, but for this section, we focus on how

MBSR may be useful in the management of chronic diseases with high worldwide prevalence: (1) hypertension, (2) type 2 diabetes, and (3) the human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS).

Hypertension

Approximately 20% of the worldwide population has high blood pressure (BP; BP > 140/90), and in 2010, one out of three adults (67 million) in the United States had either hypertension or prehypertension (Egan, Zhao, & Axon, 2010; World Health Organization, 2002). In addition to prescribing anti-hypertension medication, current treatment for both prehypertension and hypertension includes lifestyle modifications like exercise, weight loss, dietary changes, and stress reduction. MBSR may be an additional behavioral approach to help patients manage their BP. Studies have demonstrated significant reductions in BP and BMI, in addition to anxiety and depression related to hypertension (Curiati et al., 2005; Griffiths, Camic, & Hutton, 2009; Parswani, Sharma, & Iyengar, 2013). A recent study of prehypertensive, unmedicated outpatients found statistically and clinically significant reductions in both BP (135/83 to 124/81) and BMI (25.2 to 23) after taking an 8-week MBSR course, and these improvements were maintained at 3 months postintervention (Hughes et al., 2013).

Type 2 Diabetes

Since 1980, diabetes has increased by 133%, and the World Health Organization predicts that by 2030 the number of diabetic-related deaths will double (Centers for Disease Control and Prevention, 2011a; World Health Organization, n.d.-a). Evidence is growing that MBSR may help stabilize glycemic levels. A prospective observational study by Rosenzweig et al. (2007) found that after completing an 8-week MBSR program, type 2 diabetic patients had significant reductions in HbA(1c), mean arterial pressure, and general improvements in quality of life. From baseline (Week 0) to postintervention follow-up (Week 12), HbA(1c) decreased from a mean of 7.5 to 7.02 ($p = .03$; $d = .88$) and mean arterial pressure from 100 mmHg to 94 mmHg ($p = .009$; $d = .48$). Similarly, symptoms of depression dropped by 43% ($p = .03$, $d = .086$), anxiety by 37% ($p = .33$, $d = .43$), and general distress by 35% ($p = .07$, $d = .60$). In addition to glycemic control, MBSR may also help with dietary modification. After completing an 8-week MBSR program, diabetic outpatients reported significant improvements in cognitive control over eating behaviors and self-efficacy of diabetes management, had greater reductions in sugar and trans fat intake, and increased their consumption of fiber (Miller, Kristellar, Headings, & Nagaraja, 2014).

HIV/AIDS

Worldwide, approximately 35 million people now live with HIV/AIDS, and the number of newly affected in 2011 exceeded 2.2 million people (Joint United Nations Programme on HIV/AIDS report, n.d.). For persons infected with HIV/AIDS and receiving antiretroviral therapy (ART), MBSR may provide some relief from ART side effects. Compared with wait-listed controls, HIV+ patients who participated in an 8-week MBSR program experienced a 39.1% reduction in ART symptoms at 3 months postintervention, and 46.2% reduction in ART symptoms 6 months postintervention (Duncan et al., 2012). MBSR has

also led to improvements in T and NK cells. In a nonrandomized, pre–post comparison study by Jam et al. (2010), HIV+ patients showed significant improvements in their CD4 counts after participating in an 8-week MBSR program. Creswell, Myers, Cole, and Irwin (2009) also have demonstrated comparable results; MBSR buffered CD4+ T lymphocyte decline in HIV+ adults who participated in an 8-week MBSR program. Last, in a quasi-experimental study by Robinson, Matthews, and Witek-Janusek (2003), HIV+ adults assigned to MBSR had clinically significant increases and activity of NK cells compared with a comparison group. Taken together, MBSR is a potentially useful tool for reducing the number of side effects related to taking antiretroviral medication and buffering against further declines in immune function.

Clinical Depression

General medical inpatients in both North America and Europe experience levels of depressive symptoms that exceed population averages (Creed et al., 2002). Approximately 5% to 10% of inpatients will present with signs and symptoms of depression (Himelhoch, Weller, Wu, Anderson, & Cooper, 2004), while rates of depression may exceed 20% for patients with chronic illnesses (e.g., coronary heart disease, diabetes, and chronic pain; Anderson, Freedland, Clouse, & Lustman, 2001; Thombs et al., 2006). MBSR has shown great success in reducing depressive symptoms. A recent meta-analysis of 39 MBSR studies conducted between 1992 to 2009 found large effect sizes for depressive symptom reduction in those diagnosed with major depressive disorder (Hedge's $g = 0.95$; 95% confidence interval [CI] = 0.71–1.18, $p < .01$), and moderately strong effect sizes for those without major depressive disorder but with elevated levels of depressive symptoms (Hedge's $g = 0.59$; 95% CI = 0.51–0.66, $p < .01$; Hofmann, Sawyer, Witt, & Oh, 2010). These findings suggest that MBSR is applicable for a variety of patients in reducing depressive symptoms, regardless of primary diagnosis, and for patients both with and without major depressive disorder. Therefore, patients who are experiencing acute depressive symptoms (e.g., related to prolonged hospitalization, poor prognosis, terminal illness, and slow recovery time) or have major depressive disorder may greatly benefit from MBSR.

MBSR for Symptom Management

Stress

Defined as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing" (Lazarus, 1999, p. 19), stress is common among patients and closely associated with immune functioning. Regardless of diagnosis, the majority of inpatients will experience some degree of stress related to their hospitalization. Patients admitted through the emergency department may become stressed due to long waiting times, and once admitted, they may experience stress before or during a nursing procedure (e.g., catheter or tube placement, intravenous line insertion), or while in a preoperative suite awaiting surgery. In general, patients usually experience both physiologic stress due to their illness and psychological stress due to being in the hospital and the meaning of the illness in their life.

Reductions in stress are some of the most robust findings of MBSR (Hofmann et al., 2010). A meta-analysis of 11 studies conducted between 1999 and 2003 (771 individuals, 388 of whom received MBSR) found consistently strong effect sizes in stress and anxiety reduction regardless of disease, in addition to reductions in depression, sleep, quality of life, and pain perception (Grossman, Niemann, Schmidt, & Walach, 2004). There have been additional studies that have noted disease-specific reductions in reported stress in patients with cardiovascular disease (Curiati et al., 2005; Griffiths et al., 2009; Parswani et al., 2013), irritable bowel syndrome (Gaylord et al., 2011; Zernicke et al., 2013), HIV/AIDS (Duncan et al., 2012), diabetes (Rosenzweig et al., 2007), and cancer (Birnie, Garland, & Carlson, 2010; Minor, Carlson, Mackenzie, Zernicke, & Jones, 2006). One unique study in particular tested a brief mindfulness-based intervention for reducing psychological stress in patients before receiving psoriasis treatment (Kabat-Zinn et al., 1998). During ultraviolet therapy, participants listened to brief MBSR audiotapes that were specifically designed to align with the therapeutic sessions (e.g., mindfully visualizing the intensity of the light and how it progressives throughout therapy while being aware of breathing, bodily sensations, ambient sounds, and thoughts and feelings). Compared with a control group, patients who listened to the MBSR audiotapes experienced a 35% reduction in mean global psychological distress, in addition to statistically significant improvements in their psoriatic lesions.

Acute Pain

Acute pain accounts for more than two thirds of emergency department visits, and approximately 40% of all postsurgical patients still experience immediate postoperative pain even with pharmacological management (Cordell et al., 2002; Sommer et al., 2008). Left untreated, acute pain can cause emotional and psychological distress for the patient and may have detrimental effects on the course of disease or treatment (e.g., delayed wound healing due to increased sympathetic tone, increased risk for thrombosis, pneumonia due to impaired breathing, and mortality; Chapman & Turner, 1986; Feldner et al., 2006; Liebeskind, 1991).

Basic MBSR techniques can be taught to reduce pain sensitivity and state anxiety related to acute pain in as little as 3 days. In an experimental study by Zeidan, Gordon, Merchant, and Goolkasian (2009), an abbreviated 3-day (20 min/day) mindfulness intervention was delivered to 27 healthy participants. Compared with an active control condition (distraction via math problems), those that received the abbreviated MBSR sessions had significantly reduced pain sensitivity, $F(1, 21) = 94.69$, $p = .01$, $n^2 = .82$, significantly lower state trait anxiety, $F(1, 20) = 116.86$, $p < .01$, $n^2 = .85$, and showed significant increases in mindfulness, $F(1, 20) = 23.33$, $p < .01$, $n^2 = .54$. This study suggests that after receiving only 1 hour of mindfulness training, individuals can successfully decrease their sensitivity to acute pain. This suggests that APNs could deliver abbreviated MBSR sessions to patients on hospital admission, preemptively reducing their sensitivity to acute pain they may experience over the course of their stay.

Chronic Pain

Defined by the American Psychological Association as “pain that lasts longer than six months and affects how a person lives their daily life” (Molitor, Keck, & Nordal, 2004), approximately 17% of all patients seen in primary care settings report chronic pain (Gureje,

Von Korff, Simon, & Gater, 1998). Additionally, reports of chronic pain in pediatric admissions have increased by over 800% from 2004 to 2010 (Coffelt, Bauer, & Caroll, 2013). When compared with other chronic conditions such as diabetes, coronary heart disease, stroke, and cancer, more people suffer from chronic pain (116 million in the United States and 10 million in the United Kingdom) than these conditions combined (GfK NOP British Pain Society, n.d.; Institute of Medicine, 2011). Financially, treatment costs between $11 and $20 billion annually for just chronic back pain in the United Kingdom (Maniadakis & Gray, 2000), and in the United States, the amount of money lost in productive time exceeds $61.2 billion (Stewart, Ricci, Chee, & Morganstein, 2003).

The first study that demonstrated efficacy of MBSR in reducing chronic pain (33% reduction in mean total of a pain rating index) was with a diverse group of chronic pain patients 30 years ago (Kabat-Zinn, 1984), and since that first publication, numerous studies have underscored these seminal findings. MBSR has been shown to reduce pain intensity (Grossman, Tiefenthaler-Gilmer, Raysz, & Kesper, 2007; Rosenzweig et al., 2010), increase gray matter density in areas of the brain that regulate pain perception (Carrasquillo & Gereau, 2007; Hölzel et al., 2010; Hölzel et al., 2011), improve acceptance of chronic pain and continual engagement of daily living activities (Morone, Greco, & Weiner, 2008), and decrease depression and anxiety related to chronic pain (Astin, Shapiro, Eisenberg, & Forys, 2003; Gardner-Nix, Backman, Barbati, & Grummitt, 2008; Pradhan et al., 2007; Sagula & Rice, 2004; Sephton et al., 2007). What is most important about these findings is that they are long-lasting. Sustained benefits of improved coping, decreased somatic complaints and depression, and reduced pain intensity have been found up to 3 years after MBSR program completion in chronic pain patients (Grossman et al., 2007). Thus, chronic pain patients who experience related psychical and/or psychological symptoms also may greatly benefit by participating in an MBSR program.

Sleep

Getting a full night of undisturbed sleep is a common problem for hospitalized patients. Compared with nonhospitalized persons, inpatients are more fatigued on awaking, report worse sleep quality and quality of life, and show more circadian rhythm disruption (Davidson, MacLean, Brundage, & Schulze, 2002; Fernandes, Stone, Andrews, Morgan, & Sharma, 2006). MBSR can improve a number of factors related to sleep. Various studies have shown MBSR can improve reported quality of sleep (Carlson & Garland, 2005), decrease the number of sleep disturbances (Gross et al., 2004), and increase sleep duration (Garland et al., 2014). In addition, a literature review of 38 articles on MBSR and sleep concluded that there is evidence to support MBSR is associated with improved sleep and with decreased cognitive processes (e.g., worry) that may interfere with sleep (Winbush, Gross, & Kreitzer, 2007). These data suggest that MBSR may be a potentially powerful tool to help hospitalized patients suffering from poor sleep.

Provider Development and Self-Care

Growing demands for health care combined with provider shortages, long work hours, and worsening population health contribute to increased stress and burnout among health care workers, including nurses. Highest estimates report that 40% of nurses and 20% of

physicians will experience burnout at some point during their career (Bruce, Conaglen, & Conaglen, 2005; Vahey, Aiken, Sloane, Clarke, & Vargas, 2004). Moreover, studies have shown that provider burnout is associated with higher frequency of medical errors, higher rates of depression, decreased quality of life, lower personal accomplishment, and higher turnover rates (West et al., 2006; West, Tan, Habermann, Sloan, & Shanafelt, 2009). Patient satisfaction with quality of care is also lower among providers reporting higher levels of burnout (Aiken et al., 2012). An increasing number of studies have demonstrated that MBSR may improve physical and emotional health as well as reduce work-related distress among health care providers. Multiple RCTs have shown that compared to wait-listed control groups, nurses and physicians who participate in four to eight sessions of MBSR report significantly lower levels of stress, fewer symptoms of burnout (emotional exhaustion), and increased life satisfaction, empathy, and self-compassion (Cohen-Katz et al., 2005; Mackenzie, Poulin, & Siedman-Carlson, 2006; Shapiro, Astin, Bishop, & Cordova, 2005). Based on these findings, some experts have suggested that mindfulness may be a powerful tool to enhance the patient–provider relationship, improve cognitive processes involved in decision making and diagnosis, and promote resilience (Groopman, 2007; Ludwig & Kabat-Zinn, 2008).

How to Incorporate MBSR in Clinical Practice

Referrals

Based on the existing advanced practice nursing regulatory model (which includes the essential elements of licensure, accreditation, certification, and education), nurses are in an ideal situation to make patient referrals to MBSR programs (Advanced Practice Registered Nurses Consensus Work Group, 2008). In the existing advanced practice nursing regulatory model, the major population foci are family, adult-gerontology, pediatric, neonatology, women's health/gender-related, and psychiatric-mental health populations. As described, MBSR has already been implemented and tested within family, adult-gerontology, pediatric, women's health/gender-related, and psychiatric-mental health populations to help treat a variety of symptoms across both acute and chronic illnesses with great success (Ludwig & Kabat-Zinn, 2008). APNs who practice within these areas are thus in an ideal situation to help identify patients who may benefit from referral to an MBSR program.

Informal Patient Teaching and Education

Advanced practice registered nurses who practice in the hospital or community can also incorporate mindfulness informally into their own practice. Nurses can enroll in MBSR programs to acquire basic knowledge and exercises, which can then be disseminated to their patients. For example, a nurse can guide an anxious patient through a breathing or body-scan exercise. Most major hospitals and universities offer MBSR programs that nurses can enroll in. Within the United States alone, there are almost 1,000 certified MBSR instructors and mindfulness research centers that offer mindfulness-based programs in all 50 states (University of Massachusetts; http://w3.umassmed.edu/MBSR/).

Formal Training and Certification

Last, for nurses that want to become certified MBSR instructors and conduct their own MBSR classes or workshops, they must attend the Center of Mindfulness and Stress Reduction clinic at the University of Massachusetts. Currently, the University of Massachusetts has the only program in the United States that grants MBSR certification. Run by John Kabat-Zinn and associates, training occurs over the course of 2 years, is composed of both online and in-person classes, and runs upwards of $3,000 to complete all training certification requirements. Although the process of becoming certified does not require an additional degree, certification cannot simply be done in just a few weeks or months. And even after one becomes certified, it can take years of additional practice to become comfortable enough to instruct patients that have severe symptoms or distressing thoughts.

Conclusion

There is strong evidence to support that MBSR can improve a range of biologic and psychological outcomes in a variety of medical illnesses; therefore, current and future APNs should be familiar with the benefits of MBSR for both their patients and themselves. Advanced practice and registered nurses have important relationships with their patients in both inpatient and outpatient settings that make them ideal candidates to make referrals to MBSR, as well as receive training and certification in MBSR so they can share the practice with their patients in the context of individual and group medical appointments. Future studies should investigate implementation of MBSR into advanced clinical nursing practice to develop best practices.

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