Effects of mindfulness-based stress reduction on depression, anxiety, stress and mindfulness in Korean nursing students

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A B S T R A C T

Background: Nursing students often experience depression, anxiety, stress and decreased mindfulness which may decrease their patient care effectiveness. Mindfulness-based stress reduction (MBSR) effectively reduced depression, anxiety and stress, and increased mindfulness in previous research with other populations, but there is sparse evidence regarding its effectiveness for nursing students in Korea.
Objectives: To examine the effects of MBSR on depression, anxiety, stress and mindfulness in Korean nursing students.
Design: A randomized controlled trial.
Participants/Setting: Fifty (50) nursing students at KN University College of Nursing in South Korea were randomly assigned to two groups. Data from 44 students, MBSR (n = 21) and a wait list (WL) control (n = 23) were analyzed.
Methods: The MBSR group practiced mindfulness meditation for 2 h every week for 8 weeks. The WL group did not receive MBSR intervention. Standardized self-administered questionnaires of depression, anxiety, stress and mindfulness were administered at the baseline prior to the MBSR program and at completion (at 8 weeks).
Results: Compared with WL participants, MBSR participants reported significantly greater decreases in depression, anxiety and stress, and greater increase in mindfulness.
Conclusion: A program of MBSR was effective when it was used with nursing students in reducing measures of depression, anxiety and stress, and increasing their mindful awareness. MBSR shows promise for use with nursing students to address their experience of mild depression, anxiety and stress, and to increase mindfulness in academic and clinical work, warranting further study.

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Introduction

Over 29% of college students reported depression in Korea and the United States (American College Health Association-National College Health Assessment [ACHA-NCHA], 2013; Chung and Kim, 2010). Depression is known to lead to societal problems or to suicide. Indeed, suicide is a serious problem in Korea and is the leading cause of death of Koreans in their twenties (Statistics Korea, 2012). In the U.S., to identify effective depression prevention strategies, the American College Health Association (ACHA) has implemented the nationwide mental health needs of college students and promoted the health programs (Buchanan, 2012).

Anxiety and depression are often experienced simultaneously. Depression affects about 67% of college students with anxiety, and anxiety was a major predictor of depression for nursing students (Mahmoud et al., 2012; Song, 2011). Anxiety has been shown to be affected by emotion-oriented coping styles including emotional responses, self-preoccupation, and fantasizing reactions; thus, it is likely that an adaptive coping program such as mindfulness-based stress reduction (MBSR) program may decrease depression, anxiety, and stress (Shikai et al., 2009; Warnecke et al., 2011).

Stress is an important psycho-social factor in the educational process that may influence academic performance and student well-being (Jimenez et al., 2010). Significantly profound stress is experienced by nursing students as they work with patients in the clinical setting. The most stressful aspect of student nurses' clinical practice was seeing the pain and suffering of the patients (Jimenez et al., 2010). However, for nursing students, the level of academic stress was even higher than that of clinical stress (Chan et al., 2011). Nursing students who graduate from nursing schools often take positions as nurses in stressful or anxiety-provoking roles in the provision of patient care; furthermore,

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their patients may be experiencing similar emotions. Thus, nursing students need to know how to manage their stress and emotions. A program teaching self-management of stress and anxiety such as MBSR may provide benefits to the students in their academic program and, if practiced, it may enhance their future professional nursing practice.

Mindfulness is viewed not as something to get or to acquire, but as an internal resource that already exists, patiently awaiting to be reawakened (Center for Mindfulness, 2014). Increased mindfulness has been found to be related to improved psychological functions, and it led to reductions in suffering; it has been shown to be an important predictor of depression in nursing students (Baer, 2009; Song, 2011).

MBSR programs have been shown to be effective (Chen et al., 2013; Dobkin and Zhao, 2011; Warnecke et al., 2011), however, the potential benefits of MBSR to decrease depression, anxiety, stress and increased mindfulness are less well-established among nursing students in Korea. Therefore, the purpose of this study was to examine whether MBSR is effective, and has potential as an intervention to decrease depression, anxiety and stress, and to improve mindfulness of Korean nursing students.

Background

MBSR programs have been studied, and scientific evidence has been generated demonstrating that they can have a profound benefit via the mind-body connection; the practice of mindfulness results in an increase of awareness, by purposefully paying attention in the present moment, and nonjudgmentally unfolding experiences, moment by moment (Center for indfulness, 2014; Kabat-Zinn, 2003). MBSR was developed in a behavioral medicine setting for populations with a wide range of chronic pain and stress-related disorders (Baer, 2009). As pointed out by Baer, a standard MBSR program is conducted as an 8 to 10-week course, meeting 2–2.5 h weekly coupled with home practice most days. An all-day intensive mindfulness session for 7–8 h in one day is held around the sixth week. Several mindfulness meditation skills are taught. The body scan is a 45-min exercise in which attention is directed to any areas of the body while lying down. Sitting meditation is instructed to sit in a relaxed and wakeful posture with closed eyes and to pay attention to the sensations of breathing. Hatha yoga is taught to help one achieve awareness/mindfulness of bodily sensation during movements and stretches. Participants also practice mindfulness for walking, standing and eating.

Effects of MBSR on Depression and Anxiety

In previous studies examining the effects of MBSR on depression and anxiety, about one-half (8 out of 15) of the studies reported a statistically significant reduction in anxiety or depression after MBSR (Toneatto and Nguyen, 2007). Hazlett-Stevens (2012) reported that MBSR had potential beneficial effects in the treatment of anxiety and depression, and also as an alternative treatment for comorbid anxiety and depressive disorder symptoms. In the literature review of the effects of MBSR on depression and anxiety research, MBSR was found to be an effective program for the management of anxiety and depression in clinical populations (Niazi and Niazi, 2011).

Effects of MBSR on Stress

In a systematic review on the effects of MBSR, most studies found the positive findings for persons with substance use disorders, breast cancer, premed students and health care professionals (Song et al, 2010). For example, in one small study with 36 nurses, the practice of MBSR resulted in reduced levels of stress (Bazarko et al., 2013).

Effects of MBSR on Mindfulness

In a review of literature on mindfulness studies conducted with samples from the general population, the practice of MBSR resulted in significant increases in mindfulness (Nyklíček and Kuijpers, 2008; Dobkin and Zhao, 2011; Robins et al., 2012). Shirey (2007) reported that teaching an evidence-based strategy such as mindfulness may facilitate student handling of stress, and mindfulness was negatively related with depression, anxiety and stress in nursing students (Song, 2011). Mindfulness studies employing MBSR for nursing students are few and the effects of MBSR on nursing students are less well-known.

South Korean nursing students similar to U. S. counterparts experience depression, anxiety, stress and mindfulness which may affect their academic and clinical performance. Therefore, this study was designed to examine the effects of the MBSR program on depression, anxiety, stress and mindfulness of nursing students in South Korea.

Methods

Design and Sample

A two-group randomized controlled, pretest-posttest design was used. Eligible participants were around 460 undergraduate nursing students (1st–4th grades) from KN University College of Nursing in South Korea. The treatment (MBSR) group participated in an 8-week MBSR course; the other group comprised a wait-list (WL) control group. None of the students in either group had been previously exposed to MBSR. Participants met the following inclusion criteria: no regular meditation and yoga practice within the past 6 months; no current psychiatric symptoms; and no physical contraindications to exercise. Sample size was employed by G*power 3 program which provides improved effect size calculators (Faul et al., 2007), and had determined the minimum number of subjects to study the effects of intervention. The required sample size was 26 per group: Significance level (α = .05), large effect size (d = .80), and power (80%). Fig. 1 shows the flow of the participants' enrollment and randomization: 52 nursing students were needed for this study, however 50 participants responded which is 10.9% of all nursing students and each group of 25 was randomized (two participants less than our desired sample size). On the basis of 25 students for the MBSR group, 2 students were excluded that could not find time or take the class at the designated time to participate in this program. After intervention, one participant withdrew for religious reasons and one was withdrawn for not attending intervention session for more than 3 times in the MBSR group. Two students in WL group failed to follow-up at 8 weeks. Thus, the analysis was done with 21 participants in the MBSR group and 23 participants in the WL group.

Instruments

Depression, anxiety and stress were measured with the Depression, Anxiety and Stress Scale-21 (DASS-21; Psychology Foundation of Australia, 2013). The scale has 21 items in three scales: depression (DASS-D), anxiety (DASS-A) and stress (DASS-S). DASS-21 is a short version of the original 42-item questionnaire, comprising 7 items per scale. The items are scored on a 4-point Likert-type scale of 0 to 3 (0 = not at all, 3 = most of the time), and the total scores for each scale are to be multiplied by the sum of 2. Possible range for each scale is from 0 to 42, with higher scores indicating more depression, anxiety and stress. Cronbach's alphas for depression, anxiety and stress were found to be .82, .90 and .93, respectively (Henry and Crawford, 2005). In the present study, Cronbach's alphas were .81, .72 and .80 for depression, anxiety, and stress.

The Mindfulness Attention Awareness Scale (MAAS) Korean version that was developed by Park (2006) was used as a measure of mindfulness. This scale contains four subscales, including present awareness, concentration, non-judgmental acceptance and de-centered attention;