



## Research Briefs

# A pilot study to evaluate mindfulness as a strategy to improve inpatient nurse and patient experiences



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## ABSTRACT

The purpose of the Mindful Nursing Pilot Study was to explore the impact of mindfulness training for nursing staff on levels of mindfulness, compassion satisfaction, burnout, and stress. In addition, the study attempted to determine the impact on patient satisfaction scores. The pilot was designed as a quasi-experimental research study; staff on one nursing unit participated in the 10-week mindfulness training program while another, similar nursing unit served as the control group. The intervention group showed improvement in levels of mindfulness, burnout, and stress as well as patient satisfaction while the control group remained largely the same. This pilot provides encouraging results that suggest that replication and further study of mindfulness in the workplace would be beneficial.

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## 1. Background

Hospitals seeking to remain viable in the current reimbursement environment must develop a laser focus on cost control and the effective use of limited resources. Subsequently, direct caregivers have been expected to do more with less, even as the acuity of the inpatient population has increased.

Caregivers struggle with the effects of their increasing workload, and report feeling overwhelmed and stressed (Anthony & Vidal, 2010; Penque, 2009). Preventable errors in patient care may result from front-line staff who are too rushed to stop, look and listen before they “touch” a patient (e.g., draw blood, give medications, take an x-ray, etc.). Such chronic stress can lead to burnout, compassion fatigue and a lack of engagement, potentially resulting in staff turnover which creates an additional cost to any organization (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002).

Some healthcare organizations are turning to mindfulness as a key stress management tool (Praissman, 2008). *Mindfulness* can be

defined as “paying attention on purpose, in the present moment, and nonjudgmentally, to the unfolding of experience moment to moment” (Kabat-Zinn, 2003, p. 145). For example, nurses at one academic, community-based hospital who participated in an 8-week Mindfulness Based Stress Reduction (MBSR) program demonstrated significant reduction in scores on two of three subscales of the Maslach Burnout Inventory. In addition, they reported significant increases in levels of mindfulness, as measured by the Mindful Attention Awareness Scale (MAAS) (Cohen-Katz, Wiley, Capuano, Baker, & Shapiro, 2005).

In a similar study, nurses and nurse aides in a large, urban geriatric teaching hospital participated in a shortened version of the traditional MBSR program. The intervention group experienced significant improvements in burnout symptoms, relaxation and life satisfaction compared to the control group (Mackenzie, Poulin, & Seidman-Carlson, 2006). Finally, a study conducted at a large, non-profit tertiary care hospital to test the effects of the MBSR intervention on measures of mindfulness, empathy, self compassion, serenity, work satisfaction and burnout among registered nurses found statistically significant changes in all post-intervention (Penque, 2009).

## 2. Purpose

The purpose of the Mindful Nursing Pilot Study was to explore the impact of mindfulness training for nursing staff on their levels of mindfulness, compassion satisfaction, burnout, and stress. In addition, the study attempted to determine the impact on patient satisfaction scores.

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### 3. Hypotheses

We hypothesized that the unit who participated in a 10-week mindfulness training program would show significant improvement in satisfaction and mindfulness, measured via two sub-scales from the Professional Quality of Life (ProQOL) Scale Version 5© and the Mindful Attention Awareness Scale (MAAS), as compared to the control unit. In addition, we anticipated that patient satisfaction would increase on the intervention unit.

### 4. Methods

#### 4.1. Design

The pilot was designed as a quasi-experimental study; staff on one nursing unit volunteered to participate in a mindfulness training program while staff on a similar nursing unit served as the control group. Recruitment strategies included interest meetings to provide staff with an overview of the study and to introduce the concept of mindfulness. Unit management championed the study and offered to assist with covering patients to allow staff to attend the classes during their normal shifts.

#### 4.2. Sample

Medical–Surgical units providing intermediate intensity of care were selected for the study. Forty-three employees from the intervention unit participated in at least one of the ten classes; participants included staff nurses, nurse aides, and clinical secretaries as well as the unit manager and supervisor. While participation was entirely voluntary, individuals were asked to commit to practicing what was covered in the classes.

#### 4.3. Study measures

IRB approval was obtained, and surveys were distributed. The survey included questions from the two assessment tools noted above as well as self-reports of individual and unit stress levels. The MAAS has demonstrated high test–retest reliability, discriminant and convergent validity, known-groups validity, and criterion validity. Internal consistency levels (Cronbach’s alphas) generally range from .80 to .90 (Brown & Ryan, 2003). Similarly, the ProQOL has demonstrated good construct validity and internal consistency levels above the standard of .70 (compassion satisfaction  $\alpha = .88$ ; burnout  $\alpha = .75$ ; compassion fatigue  $\alpha = .81$ ) (Stamm, 2010). Analysis focused on the MAAS scores and two sub-scales from the ProQOL – Compassion Satisfaction and Burnout. Patient satisfaction was measured using results from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey.

#### 4.4. Intervention

The curriculum focused on three main practices: breathing as a primary mindfulness tool; developing awareness of thoughts and feelings; and tips on how to be fully present during patient interactions. Classes were held once a week on both day and night shifts for 10 weeks. To minimize disruption to patient care, classes lasted only 30 minutes. Each class included mindfulness education and practice, facilitated by nurses and others with mindfulness expertise.

#### 4.5. Analysis

JMP® software was used to analyze the survey results. Changes across time in both the intervention and control groups were compared using a 2-tailed t-test and one-way ANOVA.

### 5. Results

#### 5.1. Attendance

Participants were primarily female registered nurses with tenure of 10 years or less on their nursing unit. About 60% of the 43 participants attended five or more classes. Variable work schedules and the immediacy of patient care prevented most staff from attending all ten classes; therefore, classes were videotaped so staff could view them at their convenience. Weekly emails were sent to the participants to encourage their mindfulness practice; visual reminders were posted around the unit and were changed every 2 weeks to match the concurrent session topic.

#### 5.2. MAAS measure

The MAAS scores represent the average level of mindfulness across all respondents on a scale of 1–6, with higher scores reflecting higher levels of mindfulness. Though not statistically significant, post-intervention scores rose in the intervention group but remained the same in the control population (Table 1).

#### 5.3. ProQOL measures

The ProQOL assessment was scored based on two components: compassion satisfaction and burnout. For both measures the average score is 50. Higher scores on compassion satisfaction reflect greater professional satisfaction, whereas higher scores on burnout reflect feelings of not being effective in one’s position. Interestingly, burnout scores improved on the intervention unit, but both scores improved on the control unit (Table 1). Neither of these results reached statistical significance.

#### 5.4. Individual and unit stress levels

We included two questions about individual and unit stress levels, both self-reported on a scale of 0 (not stressed at all) to 10 (extremely stressed). The intervention unit showed improvement on both, while the control group remained largely unchanged. The reduction in stress levels for the intervention unit approached significance (Table 1).

**Table 1**  
Unadjusted means of outcome measures pre- and post-intervention.

Outcome measure	Pre-training	Post-training	t	df	p value <sup>c</sup>
<b>MAAS score</b>					
Intervention group <sup>a</sup>	4.2	4.4	−0.90	75	0.37
Control group <sup>b</sup>	4.7	4.7	0.25	65	0.81
<b>Compassion Satisfaction score</b>					
Intervention group <sup>a</sup>	53.20	52.93	0.30	75	0.76
Control group <sup>b</sup>	53.77	54.25	−0.55	65	0.58
<b>Burnout score</b>					
Intervention group <sup>a</sup>	46.20	45.71	0.60	75	0.55
Control group <sup>b</sup>	46.05	45.00	1.24	65	0.22
<b>Individual stress score</b>					
Intervention group <sup>a</sup>	5.0	4.2	1.69	75	0.10
Control group <sup>b</sup>	4.1	4.0	0.18	65	0.90
<b>Unit stress score</b>					
Intervention group <sup>a</sup>	5.8	5.1	1.30	75	0.20
Control group <sup>b</sup>	6.7	6.7	0.11	65	0.91

<sup>a</sup> Pre-training N = 46, post-training N = 31.

<sup>b</sup> Pre-training N = 28, post-training N = 12.

<sup>c</sup> p values are for changes over time within each group.

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