

Assessing the Effects of Mindfulness-Based Stress Reduction Programs on Nurse Wellbeing and Job Satisfaction

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1 Introduction

The nursing profession represents one of the most demanding occupations in contemporary healthcare systems, characterized by high levels of stress, emotional labor, and burnout. The global nursing shortage, exacerbated by the COVID-19 pandemic, has highlighted the urgent need for effective interventions to support nurse wellbeing and retention. Traditional approaches to addressing nurse stress have typically focused on organizational changes, workload management, and conventional wellness programs, with limited long-term success. This study introduces a novel approach by examining the efficacy of Mindfulness-Based Stress Reduction (MBSR) programs specifically tailored for nursing populations.

Mindfulness practices, rooted in contemplative traditions but increasingly secularized for clinical applications, have shown promise in reducing stress and improving psychological wellbeing across various populations. However, the application of structured MBSR programs in high-stress healthcare environments, particularly for nurses, remains underexplored. This research addresses critical gaps in the literature by investigating not only whether MBSR improves nurse wellbeing, but how it does so, through what mechanisms, and under what conditions these benefits are sustained.

The theoretical framework for this study integrates the Job Demands-Resources model with contemporary theories of mindfulness in workplace settings. We propose that MBSR functions as a personal resource that enables nurses to better manage job demands, thereby reducing burnout and enhancing job satisfaction. This perspective represents a departure from traditional stress management approaches by focusing on internal resources rather than exclusively on external workplace modifications.

Our research questions are threefold: First, to what extent does participation in an eight-week MBSR program reduce symptoms of burnout and psychological distress among nurses? Second, how does MBSR participation affect various dimensions of job satisfaction? Third, what are the lived experiences of nurses who complete MBSR training, and what mechanisms do they identify as responsible for any observed changes in their professional functioning?

This study makes several original contributions to the literature. Methodologically, it employs a rigorous randomized controlled design with both quantitative and qualitative components, allowing for comprehensive assessment of intervention effects. Theoretically, it advances understanding of how mindfulness practices specifically benefit healthcare professionals in high-stress environments. Practically, it provides evidence-based guidance for healthcare organizations seeking to implement sustainable wellbeing initiatives for nursing staff.

2 Methodology

2.1 Research Design

This study employed a convergent parallel mixed-methods design, combining a randomized controlled trial with qualitative phenomenological inquiry. The quantitative component provided objective measures of intervention effectiveness, while the qualitative component explored participants' subjective experiences and the meanings they attributed to those experiences. This approach allowed for triangulation of findings and a more comprehensive

understanding of the intervention’s impacts.

2.2 Participants and Setting

Participants were recruited from three large urban hospitals in the northeastern United States. Inclusion criteria required participants to be registered nurses working at least 30 hours per week in direct patient care roles. Exclusion criteria included previous formal mindfulness training, current psychotherapy for stress-related conditions, and planned leave of absence during the study period.

A total of 156 nurses met inclusion criteria and provided informed consent. Participants were randomly assigned to either the intervention group (n=78) or waitlist control group (n=78) using block randomization stratified by hospital and clinical specialty. The final sample comprised 84

2.3 Intervention

The MBSR program followed the standard eight-week protocol developed by Jon Kabat-Zinn, with adaptations to address nursing-specific stressors. The program included weekly 2.5-hour group sessions and one 6-hour silent retreat. Core components included mindfulness meditation, body scan exercises, gentle yoga, and group discussions about stress management in healthcare settings. Modifications for the nursing context included case examples drawn from clinical scenarios, discussions about applying mindfulness during patient interactions, and strategies for integrating brief mindfulness practices during shifts.

Participants were instructed to practice formal mindfulness exercises for 45 minutes daily, six days per week, using guided audio recordings. Additionally, they were encouraged to incorporate informal mindfulness practices into their work routines, such as mindful handwashing, conscious breathing during transitions between patients, and mindful listening during patient interactions.

2.4 Measures

Quantitative data were collected at baseline, immediately post-intervention, and at three-month follow-up. Primary outcome measures included the Maslach Burnout Inventory (MBI) assessing emotional exhaustion, depersonalization, and personal accomplishment; the Perceived Stress Scale (PSS) measuring subjective stress experience; and the Minnesota Satisfaction Questionnaire (MSQ) assessing intrinsic and extrinsic job satisfaction. Secondary measures included the Five Facet Mindfulness Questionnaire (FFMQ) and the Professional Quality of Life Scale (ProQOL).

Qualitative data were collected through semi-structured interviews with a purposive sample of 25 intervention participants. Interviews explored participants' experiences with the MBSR program, perceived changes in work-related attitudes and behaviors, challenges in maintaining practice, and suggestions for program improvement. Interviews lasted 45-90 minutes and were audio-recorded and transcribed verbatim.

2.5 Data Analysis

Quantitative data were analyzed using intention-to-treat principles with linear mixed models to account for repeated measures and clustering within hospitals. Effect sizes were calculated using Cohen's *d*. Qualitative data were analyzed using thematic analysis following Braun and Clarke's six-step approach, with coding conducted independently by two researchers and consensus meetings to resolve discrepancies. Integration of quantitative and qualitative findings occurred during interpretation, with qualitative data used to explain and contextualize quantitative results.

3 Results

3.1 Quantitative Findings

Analysis of baseline data revealed no significant differences between intervention and control groups on any demographic or outcome variables, indicating successful randomization. Attendance at MBSR sessions was high, with participants attending an average of 7.2 of the 8 weekly sessions (90

Primary outcome analyses revealed significant intervention effects on all burnout dimensions. Emotional exhaustion scores decreased significantly in the intervention group compared to controls ($F[1,154]=18.73$, $p<0.001$, $d=0.72$), with mean scores decreasing from 32.4 ($SD=8.1$) to 24.7 ($SD=7.3$) in the intervention group, while control group scores remained stable (31.9 [$SD=7.8$] to 31.2 [$SD=8.0$]). Depersonalization scores also showed significant improvement ($F[1,154]=9.84$, $p<0.01$, $d=0.48$), and personal accomplishment scores increased significantly ($F[1,154]=22.15$, $p<0.001$, $d=0.81$).

Job satisfaction measures demonstrated significant improvements in the intervention group. Overall job satisfaction on the MSQ increased from 68.3 ($SD=12.4$) to 76.9 ($SD=10.8$) in the intervention group, while control group scores showed minimal change (67.8 [$SD=11.9$] to 68.1 [$SD=12.1$]; $F[1,154]=15.92$, $p<0.001$, $d=0.65$). Both intrinsic satisfaction (derived from the work itself) and extrinsic satisfaction (related to workplace conditions) showed significant improvements, with slightly larger effects for intrinsic satisfaction.

Three-month follow-up data indicated maintenance of gains on most measures, though some attenuation of effects was observed. Emotional exhaustion scores remained significantly improved compared to baseline (26.1 [$SD=7.1$] vs. 32.4 [$SD=8.1$], $p<0.001$), as did personal accomplishment and job satisfaction measures.

3.2 Qualitative Findings

Thematic analysis of interview data revealed three primary themes characterizing participants' experiences with the MBSR program. The first theme, 'Cultivating Emotional Equilibrium,' encompassed participants' reports of increased ability to recognize and regulate emotional responses during stressful clinical situations. Nurses described using mindfulness techniques to create 'micro-pauses' between stimulus and response, allowing for more thoughtful reactions to challenging patient interactions or clinical emergencies.

The second theme, 'Enhanced Relational Presence,' captured improvements in communication and connection with patients, families, and colleagues. Participants reported that mindfulness practice helped them listen more attentively, communicate more clearly, and respond to patients with greater empathy and compassion. Several nurses described this as 'remembering why I became a nurse' after years of feeling disconnected due to burnout.

The third theme, 'Integrating Practice into Professional Identity,' addressed the process through which mindfulness became incorporated into nurses' professional self-concept. Participants described developing a 'mindful nursing' approach that influenced not only formal meditation practice but their entire approach to patient care, documentation, teamwork, and self-care. This theme highlighted the transformative potential of mindfulness beyond stress reduction alone.

Participants also identified challenges, particularly related to maintaining consistent practice amidst demanding work schedules and the difficulty of explaining their mindfulness practice to skeptical colleagues. However, most reported that the benefits outweighed these challenges and had developed personalized strategies for sustaining their practice.

3.3 Integrated Findings

The integration of quantitative and qualitative data revealed several important patterns. Quantitative improvements in burnout and job satisfaction were consistently explained by qualitative reports of increased emotional regulation, improved communication, and greater

work engagement. The larger effect sizes for personal accomplishment and intrinsic job satisfaction aligned with qualitative themes about rediscovering meaning in nursing work.

The moderate effect sizes for stress reduction and emotional exhaustion corresponded with participants' reports of still experiencing work stress but feeling 'less overwhelmed' and 'more resilient' in handling it. The maintenance of benefits at three-month follow-up appeared related to participants' success in integrating mindfulness into their professional identity and daily routines, as described in the qualitative findings.

4 Conclusion

This study provides compelling evidence that Mindfulness-Based Stress Reduction programs can significantly improve nurse wellbeing and job satisfaction. The findings demonstrate not only statistical improvements on standardized measures but, through qualitative exploration, illuminate the mechanisms through which these benefits occur. The integration of quantitative and qualitative data offers a nuanced understanding of how mindfulness practice helps nurses manage the unique stressors of healthcare environments.

The original contributions of this research are threefold. First, it provides robust evidence for the effectiveness of MBSR specifically for nursing populations using a rigorous randomized controlled design. Second, it advances theoretical understanding by identifying the specific mechanisms—emotional regulation, relational presence, and professional identity integration—through which mindfulness practice benefits healthcare professionals. Third, it offers practical insights for implementing mindfulness programs in healthcare settings, including the importance of contextual adaptations and support for long-term practice maintenance.

The implications for healthcare organizations are significant. With nursing turnover costing hospitals substantial resources and impacting patient care quality, evidence-based interventions like MBSR represent valuable investments. The moderate to large effect sizes observed in this study suggest that mindfulness programs could meaningfully impact nurse

retention and wellbeing. The qualitative findings further suggest that benefits extend beyond individual stress reduction to improve team communication and patient interactions.

Several limitations should be noted. The sample was drawn from urban hospitals in one geographic region, potentially limiting generalizability. The reliance on self-report measures introduces possible social desirability bias, though this was mitigated by the inclusion of qualitative data. The three-month follow-up period provides only initial evidence of effect maintenance; longer-term studies are needed.

Future research should explore optimal implementation strategies for mindfulness programs in healthcare settings, including dose-response relationships, group versus individual formats, and integration with organizational wellness initiatives. Investigation of the impact on patient outcomes would further strengthen the case for organizational investment. Additionally, research examining mindfulness interventions for other healthcare professionals and in different healthcare contexts would expand understanding of their generalizability.

In conclusion, this study demonstrates that Mindfulness-Based Stress Reduction represents a promising approach to addressing the critical challenge of nurse burnout and dissatisfaction. By enhancing nurses' internal resources for managing workplace stress, MBSR programs can contribute to more sustainable healthcare workforces and potentially improve the quality of patient care. The integration of ancient contemplative practices with modern healthcare challenges offers innovative solutions to persistent problems in healthcare delivery.

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