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# Three-Year Follow-up and Clinical Implications of a Mindfulness Meditation-Based Stress Reduction Intervention in the Treatment of Anxiety Disorders

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**Abstract:** *A previous study of 22 medical patients with DSM-III-R-defined anxiety disorders showed clinically and statistically significant improvements in subjective and objective symptoms of anxiety and panic following an 8-week outpatient physician-referred group stress reduction intervention based on mindfulness meditation. Twenty subjects demonstrated significant reductions in Hamilton and Beck Anxiety and Depression scores postintervention and at 3-month follow-up. In this study, 3-year follow-up data were obtained and analyzed on 18 of the original 22 subjects to probe long-term effects. Repeated measures analysis showed maintenance of the gains obtained in the original study on the Hamilton [$F(2,32) = 13.22$; $p < 0.001$] and Beck [$F(2,32) = 9.83$; $p < 0.001$] anxiety scales as well as on their respective depression scales, on the Hamilton panic score, the number and severity of panic attacks, and on the Mobility Index-Accompanied and the Fear Survey. A 3-year follow-up comparison of this cohort with a larger group of subjects from the intervention who had met criteria for screening for the original study suggests generalizability of the results obtained with the smaller, more intensively studied cohort. Ongoing compliance with the meditation practice was also demonstrated in the majority of subjects at 3 years. We conclude that an intensive but time-limited group stress reduction intervention based on mindfulness meditation can have long-term beneficial effects in the treatment of people diagnosed with anxiety disorders.*

## Introduction

The lifetime prevalence of anxiety disorders in the United States is estimated to be between 15% and 25%. Symptoms of anxiety are often associated with and/or exacerbate many common medical conditions. Current treatment strategies for the various anxiety disorders include psychopharmacology, cognitive therapy, cognitive/behavioral therapy, relaxation training, self-hypnosis, biofeedback, meditation, supportive psychotherapy, psychodynamic psychotherapy, and other forms of psychotherapy. In the current climate of cost containment, effective time-limited group interventions may serve an important clinical and cost-reducing complementary role to more traditional, time-consuming, and expensive forms of therapy.

Several studies have suggested the effectiveness of various meditation techniques in reducing symptoms of anxiety in individuals with non-DSM-III-R-defined anxiety [1–4]. A previously reported study from our clinic of 22 medical outpatients who met DSM-III-R criteria for generalized anxiety disorder or panic disorder with or without agoraphobia demonstrated clinically and statistically significant improvements in subjective and objective symptoms of anxiety following an 8-week intensive outpatient group stress reduction and relaxation intervention based on mindfulness meditation [5]. The improvements were shown to persist at 3-month follow-up. The current study was designed to follow up on the 22 subjects in the original study at 3 years to investigate the long-term effectiveness of this brief, intensive group intervention in the treatment of individuals with anxiety disorders.

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