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Controlled Trial Evaluation of Exposure Duration to Negative Air Ions for the Treatment of Seasonal Affective Disorder

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Abstract

This study evaluated the effectiveness of 30 or 60 minutes of daily exposure to high-density or to zero-density (placebo condition) negative air ions over 18 days on the symptoms of seasonal affective disorder (SAD) in 40 participants under controlled laboratory conditions. Exposure to high-density negative air ions was superior to zero-density negative air ions in alleviating depression and the atypical symptoms of SAD. Also, more subjects in the high-density negative air ions groups met two different clinical response criteria than did those in the zero-density groups. Within the high density treatment group, both the short and long daily exposure reduced SAD symptoms. Exposure to negative air ions produced no negative side effects, and no ozone was produced by the ion generators. In both the high-density negative air ions and zero-density negative air ions groups, a significant placebo effect was found for most clinical measures. Finally, for the high-density negative air ion groups, subjects with a morningness chronotype responded better to treatment with high-density negative air ions than did those with an eveningness chronotype.

Keywords: seasonal depression, negative ionization, treatment efficacy, treatment safety, chronotypes

1. Introduction

Seasonal affective disorder (SAD) is a recurrent mood disorder with a characteristic pattern of onset and remission that has been classified as a variant of major depressive disorder (American Psychiatric Association, 1994). Episodes of SAD occur predominantly in fall and winter and are

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