THE EFFECT OF RECEPTIVE MUSIC THERAPY ON HEART RATE VARIABILITY IN HYPERTENSIVE PATIENTS

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Autonomic imbalance in favor of sympathetic arousal is believed to contribute to hypertension. Conversely, increasing baseline parasympathetic tone in hypertensive patients may contribute to normalization of blood pressure. People listen to music to positively alter mental states and to encourage relaxation. We hypothesized that specially designed music programs for hypertensives might alter parasympathetic tone as indexed by the high-frequency band in frequency domain based analysis of heart rate variability.

Background: Even though studies of the effect of music on anxiety and depression showed no difference between preset and self-selected music, other studies have shown that the nature of auditory stimulation does influence depression and insomnia outcomes.

The principle of blood pressure reduction following breathing paced by auditory stimulation was demonstrated by Schein et al.1 For this study which was conceived by an interdisciplinary team including scientists and artists, different music was composed and recorded for different diagnoses. The music was identical in style, but different in function and length. The compositions applied principles based on the influence of music on the regulatory quality of psychophysiological parameters demonstrated by Balzer et al.4

Methods: The hypothesis was tested by a waiting-list randomized trial involving 32 hypertensive patients aged 30-78 years and 29 patients with insomnia serving as controls. The intervention consisted of a four-week listening program requiring participants to listen to the specially designed music program five times per week once daily for 30 minutes. Patients were invited to the laboratory for a 90-minute standardized baseline, stress and relaxation session for three time points spaced five weeks apart (visit 1 to 3). Hypertensive patients were randomly assigned to an immediate treatment group (A), listening to music between visit 1 and 2, and a waiting list group (B) receiving no intervention between visit 1 and 2, and listening to music between visits 2 and 3. The control group of insomnia patients received music between visit 1 and 2.

Results: The primary outcome high-frequency power recorded at each visit showed a two-fold increase in treatment group A from visit 1 to 3 as compared to the waiting list group B and the control group. The data suggest a delayed onset of a clinically significant effect (effect size = 1.3 standard deviations) of receptive music therapy on the parasympathetic tone in hypertensive patients.


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