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Aerobic exercise as an augmentation therapy for inpatients with major depressive disorder

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Background: Physical exercise has been shown to reduce depressive symptoms when used in combination with antidepressant medication. We report a randomized controlled trial of aerobic exercise compared to stretching as an augmentation strategy for hospitalized patients with major depression.

Methods: Male or female patients, 18-80 years, with a DSM-IV diagnosis of major depressive episode in the context of major depressive disorder gave written informed consent and were randomly assigned to 3 weeks of augmentation therapy with aerobic or stretching exercise. Aerobic exercise consisted of 4 sessions per week of 30 minutes walking on a treadmill with a moderate intensity corresponding to 60-80% of maximal estimated heart rate. Patients assigned to stretching performed 4 sessions per week of 30 minutes light stretching exercises. Depression was rated weekly using the Hamilton Depression Scale (HAM-D 21 items), Clinical Global Impression Scale (CGI) (observer-rated) and Beck Depression Inventory (BDI) and Visual Analog Scale (self-rated) by a rater who was unaware of group assignment. Patients received antidepressant medication according to usual clinical practice.

Results: 28 patients fulfilled inclusion criteria and 15 agreed to participate. 3 dropped out before starting the exercise program. There were no dropouts during the study. There were no significant differences in background and demographic characteristics between the groups. In the aerobic group there were 4 (out of 6) responders with >50% reduction in pretreatment HAM-D score; 2 of whom achieved remission with final HAM-D scores ≤6. There were no responders among the 6 patients in the stretching group. For the self rated BDI, there were 2 responders in the aerobic group who were also remitters and none in the stretching group. Comparison of the rating scale scores over time showed a statistically superior effect of aerobic exercise for 3 of the 4 rating scales (CGI, BDI, VAS). No adverse effects were reported.

Conclusions: These findings suggest that aerobic exercise significantly improves the outcome of antidepressant treatment when added to antidepressant medication in hospitalized patients with major depressive disorder. Further studies in larger samples are needed before definitive conclusions can be drawn.

Biography

Bernard Lerer completed his medical studies at the University of Cape Town, South Africa, his residency in psychiatry at Hadassah-Hebrew University Medical Center, Jerusalem, Israel and a post-doctoral fellowship at Wayne State University, Detroit, MI. He is Professor of Psychiatry at Hadassah-Hebrew University Medical Center, Director of the Biological Psychiatry Laboratory, former Director of the National Institute for Psychobiology in Israel and Founding Editor in Chief of the International Journal of Neuropsychopharmacology. He is a veteran long distance runner who has completed 3 full marathons in the last 4 years.

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