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Effects of Exercise Training On Self-reported Sleep Among Young Women with Generalized Anxiety Disorder (GAD)

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Introduction

GAD and disturbed sleep are prevalent, debilitating, and frequently comorbid problems for which successful treatment remains limited. The adoption of regular exercise can promote sleep but whether it does so for GAD patients is unknown.

Objectives

To quantify the magnitude of the effect of six weeks of either twice weekly resistance (RET) or aerobic exercise training (AET) on self-reported sleep among GAD patients

Methods

Thirty sedentary women, aged 18-37 years, with a primary *DSM-IV* diagnosis of GAD were randomized to RET, AET, or wait list (WL). RET involved two weekly sessions of lower-body weightlifting. AET involved two weekly sessions of leg cycling matched to RET on exercise time, work performed and weekly load progression. Participants completed the Pittsburgh Sleep Diary daily for seven days at baseline and week six. Sleep outcomes included total sleep time (TST), bedtime, time in bed (TIB), sleep onset latency (SOL), wakefulness after sleep onset, and sleep efficiency, calculated as TST divided by TIB and expressed as a percentage. Hedges' *d* effect sizes and associated 95% confidence intervals (95% CI) were calculated for each exercise condition compared to WL. Twenty participants provided complete data and were included in analyses.

Results

RET decreased weekend TST ($d=-1.23$; 95%CI:-2.27, -0.18), TIB ($d=-2.01$; 95%CI:-3.29, -0.72), and SOL ($d=-2.05$; 95%CI:-3.34, -0.76), and increased weekend sleep efficiency ($d=1.32$; 95%CI:0.16, 2.47). AET reduced weekend SOL ($d=-1.87$, 95%CI:-3.17, -0.56) and TIB ($d=-1.45$, 95%CI:-2.68, -0.23).

Conclusions

Preliminary findings suggest that short-term exercise training improves self-reported sleep parameters among GAD patients.