

## **Effects of A 12 Week Walking Intervention on Exercise Barriers in Obesity Using an Anti-Gravity Treadmill**

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### **ABSTRACT**

Exercise barriers in people with obesity, such as low quality of life, physical activity enjoyment, and self-efficacy may contribute to an increased sedentary lifestyle. However, the use of an anti-gravity treadmill that is able to support and elevate weight during exercise to reduce these barriers has not been examined. **PURPOSE:** To examine how an anti-gravity treadmill during 12- weeks of aerobic exercise effects Physical activity enjoyment (PAE), physical functioning, self-efficacy, and quality of life (QOL) in people with obesity. **METHODS:** 26 participants (10 male, 16 female) participated in a self-directed 12 week walking program using an anti-gravity treadmill. Participants were randomized into two groups (N=13/group): weighted (W), exercising at 100% of their weight, or unweighted (UW), who self-selected their workout weight. PAE, self-efficacy, QOL, and timed up and go test (TUG) and a 6 minute walk test were administered pre and post. The QOL questionnaire has different subsections that were used for analysis: overall quality of life, physical health, psychological, social, and environmental. Analysis included participants that completed the pre and post visits (N=17): W (N=9) and UW (N=8). **RESULTS:** Weight and BMI for W (107.7kg, 36.0kg/m<sup>2</sup>) and UW (109.8kg, 37.7kg/m<sup>2</sup>) were not significantly different (P>.05). However age was significantly different, W (27.6 years) and UW (36.4 years) (p=.028). Total duration, and total energy expenditure were not significantly different between groups W (617.5 min, 8501.6kcal) and UW (712.2 min, 9209.7kcal), respectively, (P>.05). After adjusting for baseline values, there wasn't a significant difference between groups in PAE, self-efficacy, TUG, and the 6 minute walk test (p>.05). As a group, UW scored 13.1 points higher than W on overall quality of life (F=6.601, P=.023). Psychological, social, and environmental subscales of QOL were not significantly different when adjusting for pre values (P>.05). However, physical health QOL was significantly different when adjusting for pre values (F=6.761, P=.020). **CONCLUSION:** This pilot study confirms that using an anti-gravity treadmill with the unweighting feature can significantly increase overall quality of life and physical health quality of life in people with obesity.