



## Exercise Biochemistry Review

---

Proceedings of IBEC 2018, Beijing, China, October 23-25  
PO-281

### **Vibration Training Restores Food Intake and Body Weight in a Rat Model of Depression**

Guangcong Peng, Luodan Yang, Chongyun Wu, Jun Hou, Limei Zhang, Mengyun Xiao, Chunyi Wu, Quanguang Zhang  
South China Normal University

**Objective** Stress is well known to negatively affect body weight and food intake in animal models, but the underlying mechanisms have not yet been well elucidated and effective treatment is lacking. This project was initiated to study the potential beneficial effect of vibration training, a novel neuromuscular training method, in the treatment of depression.

**Methods** Adult Sprague-Dawley male rats were randomly divided into the following three groups: 1) naïve control group, 2) depressive disorder group, and 3) depression with vibration training treatment group. To develop a depression phenotype, rats were individually and gently restricted in a modified, well-ventilated tube for 4 h every day for 21 days. Animals in vibration training treatment group were subjected to 30 min of vibration training (30 Hz, 5 days / week) for continuous 5 weeks. Body weight, physical and mental condition, and food intake were recorded daily and the data were statistically analyzed and compared between groups.

**Results** 1. Daily body weight and food intake measurements revealed that both parameters decreased rapidly after the initiating daily restraint stress, compared with control group. Intriguingly, both body weight and food intake of the depressive disorder group with 5-week vibration training were significantly improved. 2. The secretion of serotonin and dopamine in animals with chronic restraint stress were decreased compared with normal animals, and this attenuation was significantly prevented by vibration training.

**Conclusions** The present study demonstrates that vibration training is capable of restoring food intake and body weight in a rat model of chronic restraint stress-induced depression.