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**The mindfulness app trial for weight related behaviors and stress in university students: A randomized controlled trial**

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**Background:** University students are at risk of weight gain during their studies. Key factors related to weight gain in this population include unhealthy weight related behaviors due to stress. Mindfulness holds promise for weight management. However, there has not been a previous trial that has explored the effectiveness of a student-tailored mindfulness app for stress, weight related behavior's and weight. There is limited evidence that current mindfulness apps use evidence-based mindfulness techniques. A novel app was developed that combined evidence-based mindfulness-based stress reduction and mindful eating techniques that were tailored to university students, with student relevant themes for targeting weight behavior's, weigh and stress.

**Method:** A two arm Randomized Controlled Trial (RCT) of 11 weeks duration was undertaken at the University of Queensland. Students were randomized to the mindfulness app (N=45) or to a behavioral self-monitoring electronic diary (e-diary) (N=45) for diet and exercise. Analysis of covariance was used to compare differences in weight, stress, mindfulness, mindful eating, physical activity and eating behaviors between both groups.

**Results:** Neither the mindfulness app group nor the e-diary group lost weight nor there were no differences between groups at follow-up. The mindfulness app group had significantly lower stress levels (adherers only), lower emotional eating and uncontrolled eating as well as higher mindfulness and mindful eating levels overall (p-values<0.05). The e-diary group had Higher Metabolic Equivalents (MET) of moderate activity levels (p-value<0.05). However, the effect sizes were small. Regular adherence to the mindfulness exercises in the app was low in the group. The majority of students (94%) liked the app and found it to be acceptable. The most helpful reported meditation was the short breathing exercise observing the breath (39.5% preferred it) compared with other exercises.

**Conclusion:** A mindfulness app demonstrated effectiveness for stress, eating behaviors, mindfulness as well as mindful eating but the effect sizes were small. Future studies should be conducted over longer periods of time and with greater participant compliance.

**Biography**

Lynnette Lyzwinski is pursuing her PhD in Medicine at the School of Medicine at University of Queensland in the Department of Psychiatry and the Centre for Online Health. Her research interests include clinical trials and health promotions behaviors for promoting mental well-being and reducing lifestyle behavioral risk factors. She has special interests in mHealth, mindfulness and lifestyle medicine.

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